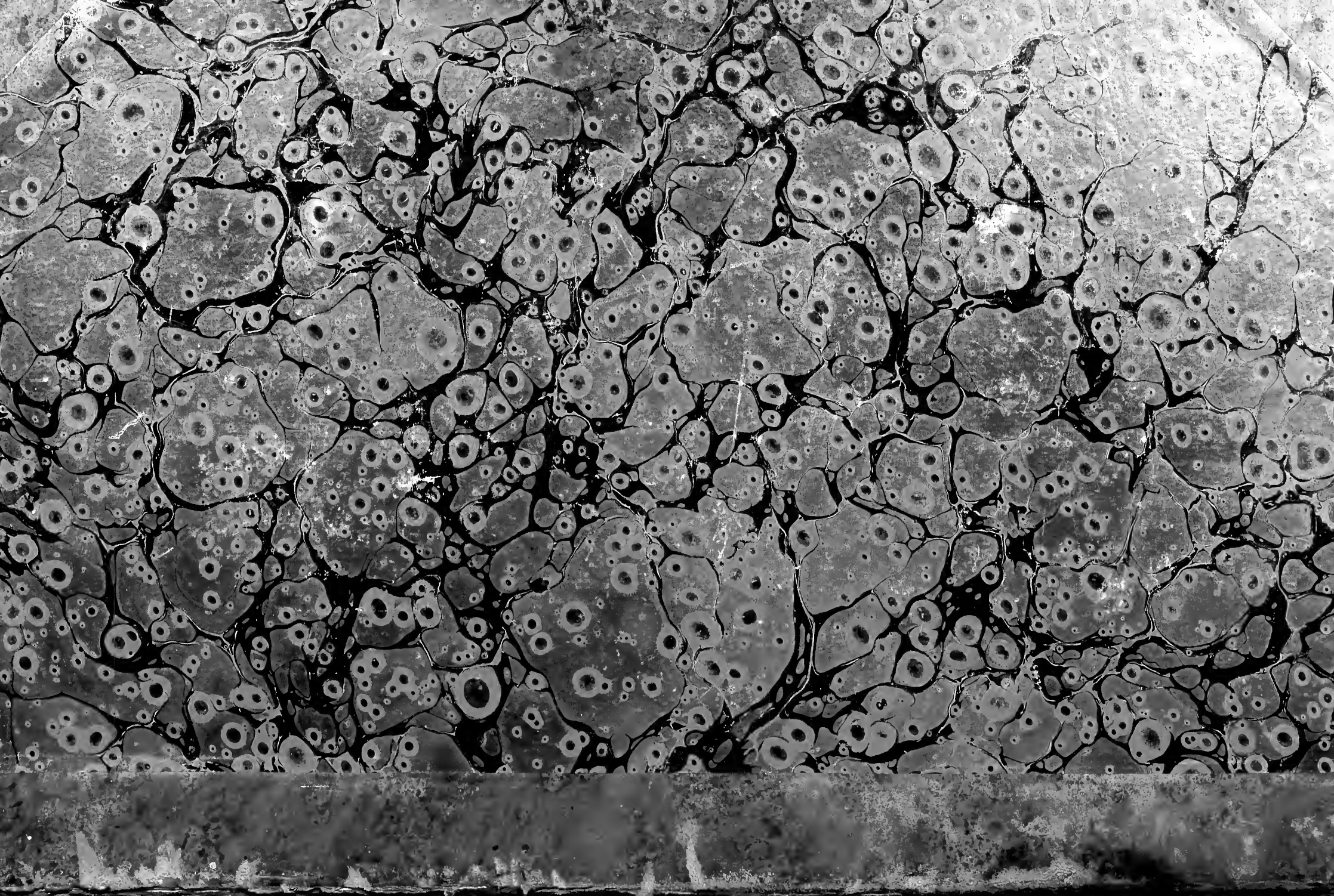

THE

SOUTHERN CULTIVATOR,

A MONTHLY JOURNAL,

Devoted to the

INTERESTS OF SOUTHERN AGRICULTURE.

DESIGNED TO IMPROVE THE MIND,

TO

ELEVATE THE CHARACTER OF THE TILLERS OF THE SOIL,

AND TO

INTRODUCE A MORE ENLIGHTENED SYSTEM OF CULTURE.

EDITED BY JAMES CAMAK.

VOL. III.

AUGUSTA, GA.
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1845.

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SOUTHERN CULTIVATOR.

VOL. III. AUGUSTA, GA., JANUARY 1, 1845. No. 1.

For the Southern Cultivator.

ANNUAL FAIR OF THE PLANTERS' CLUB OF HANCOCK.

SPARTA, November 1 and 2, 1844.

Mr. Editor:—The Executive Committee of the Planters' Club of Hancock, transmit to you for publication, the following synopsis of the proceedings on the days of the Annual Fair:

The Club convened at the Female Academy, on Friday the 1st, when many citizens from this and the adjoining counties had met to witness the examination of the various kinds of domestic fabrics and stock, which were examined by the several committees; and on Saturday, the committees reported and premiums and honors awarded; and an address, both interesting and instructing, was delivered by James Thomas, Esq., to a large collection of ladies and gentlemen.

The premiums and honors awarded, were:—

To Mrs. Sam'l. A. Pardu, for 8 yds. best homespun, for gentlemen's wear $3.00
Mrs. L. S. Bass, for 2 yds. do 2.00
Mrs. A. C. Whitehead, for 3 yds. do 1st honor.
Mrs. Jones, of Warren co., for 4 yds do 2d "
Miss M. A. Battle, for 5 yds. do 3d "
[Miss B. has made 95 yds., same kind of goods, since 1st July last.]
A lady of Warren co., for 8 yds. homespun, ladies' wear, $1.00
" for a beautiful silk and satin bed quilt, (exhibited by T. Neal, Esq.) 3.00
Miss Susan Jones, of Warren co., for 2d best do 2.00
Mrs. Mansfield, for a pair black silk hose, (domestic manufacture,) 1.00
Miss C. F. Haynes, for an open work linen cambric handkerchief, 1.00
Mrs. O. H. Lanier, for a lady's knit collar, 1.00
Mrs Richards, for a beautiful bead purse, 1.00
Miss Garrett, for a knit cap, 50
Miss Mary Coleman, for a pair worsted mitts, 50
Miss A. L. Battle, " " silk mitts, 50
Mrs. O. H. Lanier, for 8 yds. handsome knit edging, 50
Miss C. Smith, for 2 imitation coral baskets, 50
Mrs. Martha Anne Lewis, for the best acre of corn (96¼ bushels)—a silver cup, 10.00
Thomas C. Grimes, for the 2d best do (64 7-10 bushels) 5 00
Edmond M. Pendleton, for the 3d best acre of corn, (52⅝ bushels,) $3.00
Benj. T. Harris, for the 4th best do (48⅝ bushels,) honor.
*R. S. Hardwick, for the 5th best do (14 bushels,) honor.
William Terrell, for the best acre of wheat, 25⅜ bushels,) $10— in a silver cup.
E. M. Pendleton, for the 2d best do (19 bushels,) $5.00
Thos. C. Grimes, for the 3d do (16 bushels) 3.00
James P. Knowles, for the best boar, 3.00

There were some very fine stock hogs exhibited by Harwick, but not for premiums.

Thomas C. Grimes, for 2 Durham bulls, and one Durham cow, $10.00
William Terrell, for a native stock milch cow, 2 00
Do do do honor.
Benj. T. Harris, for a milch cow, 3.00
Thomas Neal, for his bay horse, Wonder, 5 years old, 5.00
James Mitchell, for his black horse, 5 years old, 3 00
Sam'l. A. Pardu, for his bay horse, De Witt, 4 years old, 3.00
James B. Edwards, for his bay filly, 4 years old, 3.00
R. S. Hardwick, for his bay filly, 4 years old, 2.00
Thomas C. Grimes, for his filly, 3 years old, 3.00
James McCason, for his sorrel filly, 3 years old, 2.00
John F. Brooke, for his filly, 3 years old, honor.
L. S. Brooking, for his bay filly, May Blossom, 2 years old, 3.00
John F. Brooke, for his colt, 1 year old, 3.00
F. D. Gonder, for his filly, do do 2.00
Thomas Neal, for his brood mare, Lucinda and colt, 5.00
do for his do Spangle and colt, 2.00
Richard P. Sassnett, for best acre of cotton, (2037 lbs.)—$10, in a silver cup.
Benj. T. Harris, for the 2d best do (1728½ lbs.) 5.00
R. S. Hardwick, for the 3d best do (1600 lbs.) 3.00

The officers for the ensuing year, are

Myles G. Harris, President.
Thomas Whaley, 1st Vice President.
Charles R. Knowles, 2d " "
J. P. Whitehead, 3d " "
Tuttle H. Audas, Secretary.
Nathan C. Sayre, Corresponding Secretary.

Resolved, That the proceedings of the Fair be published in the Southern Cultivator and Milledgeville papers.

TUTTLE H. AUDAS, Secretary.

The great political excitement in the country, at the time of the Fair, did not add anything to the great cause of agriculture, though our Fair was very respectably attended; and as the excitement has now ceased, our people begin to talk on the subject of agriculture more than ever, and seem determined to direct some of their energy and force to something that will be more profitable than cotton, by dividing their labor. And as there will not be a President to elect next November, we expect our Fair to be by far the most brilliant that we have ever had. Our prospects are now brighter than at any time heretofore. The cause of agriculture must and will prevail. Yours, with respect,

T. H. A.

*See the mode of culture by Hardwick, to be published hereafter.—*Secretary.*

LIST OF PREMIUMS OFFERED FOR THE ANNUAL FAIR IN 1845.

The Annual Fair of the Planters' Club of Hancock, will take place at Sparta, on Friday and Saturday before the first Monday in November, 1845, when the following premiums and honors will be awarded:

For the best acre of upland corn, a silver cup—value, $10.00
" 2d do do 5.00
" 3d do do 3.00
" 4th and 5th do do honors.
For the best low ground corn, without manure, $5.00
" 2d do do 3.00
" 3d do do 2.00
" 4th and 5th do honors.
For the best acre of wheat on upland, a silver cup—value, $10.00
" 2d do do 5 00
" 3d do do 3.00
" 4th and 5th do honors.
For the best cotton on upland, a silver cup—value, $10.00
" 2d do do 5.00
" 3d do do 3.00
" 4th and 5th do honors.
For the best oats on upland, $3.00
" 2d do do 2.00
" 3d, 4th and 5th do do honors.
For the best acre of potatoes, $3 00
" 2d do do 2.00
" 3d, 4th and 5th do do honors.
For the best acre of turnips, $3.00
" 2d do do 2.00
" 3d, 4th and 5th do do honors.

By a rule of the Club, competitors for premiums on crops will be required to give the *modus operandi* of culture, the quantity and quality of manure applied, and evidence that the land reported on contains only one acre or acres, and the crop accurately measured.

For the best jack, a premium of $5.00
" 2d do do 3.00
For the best Georgia raised mule, 3.00
" 2d do do do 2.00
For the best mule colt, 3.00
" 2d do do 2.00
For the best stallion, 4 years old or upwards 5.00
" 2d do do do 3.00
" 3d, 4th and 5th do do honors.
For the best 3 year old colt or filly, $3 00
" 2d do do 2.00
" 3d, 4th and 5th do do honors.
For the best 2 year old colt or filly, $2.00
" 2d do do 1.00
" 3d, 4th and 5th do do honors.
For the best brood mare, with or without a colt, $5.00
" 2d do do 2.00
" 3d, 4th and 5th do do honors.
For the best bull, 3.00
" 2d do do 2.00
" 3d, 4th and 5th do do honors.
For the best 2 year old bull, $2.00
" 2d do do 1.00
" 3d, 4th and 5th do do honors.
For the best cow producing the largest quantity of milk without regard to blood, $5.00
" 2d do do do 3.00
" 3d do do do 1.00
" 4th and 5th do do honors.
For the best cow, having regard to blood, $5.00
" 2d do do 3.00
" 3d do do 2 00
" 4th and 5th do do honors.
For the best 2 year old heifer, $2.00
" 2d do do 1.00
" 3d, 4th and 5th do do honors.
For the best ram, $2.00
" 2d do do 1.00
" 3d, 4th and 5th do honors.
For the best Ewe, $2.00
" 2d do do 1.00
" 3d, 4th and 5th do honors.
For the best boar, $3.00
" 2d do do 2.00
" 3d, 4th and 5th do honors.
For the best sow, $3.00
" 2d do do 2.00
" 3d, 4th and 5th do, honors
For the heaviest fat hog agreeable to age, $5.00

" 2d do do do 3.00
" 3d do do do 2.00
" 4th and 5th do do do honors.
For the heaviest pig, agreeable to age, from 6 to 12 months, $5.00
" 2d do do 3.00
" 3d do do 2 00
" 4th and 5th do do honors.
For the best piece of 8 yards homespun, gentlemen's wear, $3.00
" 2d do do 2 00
" 3d do do 1 00
" 4th and 5th do do honors.
For the best 10 yards do for ladies' wear, $3 00
" 2d do do 2 00
" 3d 4th and 5th do do honors.
For the best counterpane, $3.00
" 2d do do 2.00
" 3d 4th and 5th do honors.
For the best piece of 10 yds. domestic silk $5.00
" 2d do do 3 00
" 3d do do 2.00
" 4th and 5th do do honors.
For the best article of negro clothing, $3.00
" 2d do do 2.00
" 3d 4th and 5th do do honors.
For the best negro blanketing, $2.00
" 2d do do 1.00
" 3d 4th and 5th do do honors.

The Club have set apart $20, to be awarded by their committees to articles manufactured by ladies and not embraced in their list of premiums, such as caps, capes collars, stockings, gloves purses, and such other articles as the taste and fancy of ladies may induce them to present.

Resolved, That no animal, nor article, shall for the future be permitted to take a premium of the same class or number the second time, but may be exhibited and take in any class or number above the rank that they were placed at the previous fair—and that this resolution be published with the next premium list.

The Club being impressed with the great importance to the country, of raisng their own pork and wool, will in addition to the foregoing premiums offer for the greatest amount of pork, not less than 300 lbs net, raised for each member of family, including whites and blacks, a silver cup—value $10.00
For the 2d highest amount in pounds, 5.00
" 3d do do 3 00
" 4th and 5th do (none to be less than 300 lbs,) honors.
For the greatest number of pounds of wool raised (clean) to the number in family, including whites and blacks, a silver cup, $10.00
" 2d do do do 5.00
" 3d do do do 3.00
" 4th and 5th do do do honors.

TUTTLE H. AUDAS, Secretary.

From the South Carolina Temperance Advocate.

PROCEEDINGS OF THE STATE AGRICULTURAL SOCIETY.

COLUMBIA, November 25, 1844.

The State Agricultural Society met, agreeably to notice, and the delegates having enrolled themselves, the Society was organized by the President, and proceeded to business.

The alteration of the Constitution, requiring the formation of an Executive Committee, composed of the officers of the Society and three members, was called to the attention of the Society; on motion, the President appointed Hon. J. B. O'Neall, Hon. F. W. Pickens and J. W. Roper, as the Committee, with the officers.

The following documents were presented to the Society and respectively referred to the Executive Committee and the Committees appropriated for each:

The Black Oak Agricultural Society forwarded a Report of one of their Committees on Manures.

A Report of the Officers and members of the Cambridge Agricultural Society.

The Wateree Agricultural Society sent a report on Potatoes—also one on Corn—to be referred to the Committee of awards on Potatoes and Corn.

From the Newberry Agricultural Society, praying that the next meeting of the State Agricultural Society be held in the village of Newberry.

A document containing marling facts and estimates, from Edmund Ruffin, late Agricultural Surveyor of South Carolina.

The entire proceedings of the New York State Agricultural Society, was forwarded through Col. A. Summer, together with sundry documents relative to the diffusion of agricultural knowledge.

Mr. McCarthy moved that the thanks of this Society be tendered to the officers of the State Agricultural Society of New York, for the volumes and documents relative to Agricultural subjects which they have presented to this Society, and that the Secretary be hereby instructed to present copies of *similar* publications and documents of this Society to the officers of the aforesaid State Agricultural Society of New York.

A communication was presented from F. D. Quash, Corresponding Secretary of the South Carolina Society, asking the aid of the State Agricultural Society, in petitioning the Legislature for the continuance of the Agricultural Survey of the State.

Also, a letter from Edmund Ruffin, in reply to one from the President, returning the thanks of this Society to him for his services as Agricultural Surveyor of the State.

Also, a letter from R. W. Aliston, concerning the account of an experiment in the culture of *Rice*, and the production of an acre.

Also, one from A. H. Seabrook, one of the competitors for the premium for the greatest amount of Sea Island Cotton, having reference to quality and valuation.

Also, one from W. Wright, of York, a competitor from York for the premium for the greatest amount of wheat per acre.

Also, one from D. J. Mesuain, of York, for the premium for the greatest amount of corn per acre.

The Hon. J. B. O'Neall presented the following, as an amendment to one of similar purport offered by Mr. Roper, viz:

Resolved, That an application be made by the President to the Legislature, requesting them to make an appropriation equal in amount to the sum contributed by the members and delegates of the State Agricultural Society, to be, by the State Agricultural Society, expended in premiums at its semi-annual and annual meetings, and for such other Agricultural purposes as they may think proper.

This motion was discussed by Col. Edwards, Hon. J. B. O'Neall and Mr. McCarthy, and agreed to.

Dr. Gibbes commnnicated that the Committee appointed at the last meeting of the Society, for the purpose of memorializing the Legislature for the continuance of the Agricultural and Geological Survey, respectfully Report:—That they have discharged the duty, and that the Memorial is prepared and ready to be presented to the Legislature.

The President called the attention of the Society to a communication addressed to the Hon. Geo. McDuffie, W. McWillie and W. B. Seabrook, from Col. F. W. Davie.

Hon. J. B. O'Neall moved that a Committee of five be appointed, with the President as chairman, to report upon this communication at the semi-annual meeting of this Society.

The following gentlemen were in consonance appointed: Geo. McDuffie, W. McWillie, J. B. O'Neall and Wm. J. Alston.

The Society adjourned till 7 o'clock on Tuesday evening.

TUESDAY EVENING, Nov. 26.

The Society convened as ordered, and the proceedings were read by the Secretary.

The President announced the following Committees:

For the best cultivated Farm.—J. B. O'Neall, Newberry; L. A. Beckham, Chester; E. G. Palmer, Fairfield; Wm. Cain, Black Oak; J. Lartigue, St. Peter's.

Short Staple Cotton.—John H. Means, Fairfield; Joel Smith, Abbeville; Thos. H. Pope, Newberry; Wm. J. Taylor, Kershaw.

Long Staple Cotton.—John Rivers, St. Andrews; J. Fickling, St. Lukes; Dr. P. Palmer, St. John's Berkley; Wm. M. Murray, St. John's Colleton.

Rice—R. W. Roper, St. Philip and St. Michael; P. W. Frazer, Prince George; John Harlston, St. John's Berkley.

Corn and other Grain.—R. F. W. Alston, Prince George; Edward Harleston, Anderson; P. S. Brooks, Edgefield; W. McWillie, Kershaw; J. M. Felder Orangeburg; A. Hibben, Christ Church.

Potatoes.—Dr. P. Palmer, St. John's Berkley; —— Maxwell, Anderson; A. Summer, Newberry; N. L. Griffin, Edgefield; Paul Grimball, St. John's Colleton; B. B. Porter.

Silk.—William Summer, Newberry; Samuel Earle, Greenville; W. G. Simms, Barnwell; W. Giles, York; E. P. Smith, Spartanburg.

Domestic Fabrics.—Dr. R. W. Gibbes, Columbia; B. F. Perry, Greenville; W. J. Alston, Fairfield; F. W. Pickens, Edgefield; Dr. Guillaird, Anderson.

Marl.—Wm. M. Murry, Dr. R. W. Gibbes, R. W. Roper.

The communications were then respectively referred to the Committees, together with the certificates or premiums.

Mr. McCarthy moved the following:

Whereas the opinion has become impressed upon the public mind, that all useful advancement in Agricultural improvement and in the arts of rural economy, mainly depend upon the collection of the numerous facts which are furnished by observation and experiment, and by the discoveries of practical science; and inasmuch as many of the States of this Union are in advance of our own, in both experimental and scientific knowledge, in all the branches of industrial labor, through the instrumentality of local and State Societies, aided, in many instances, by the encouragement which is afforded by legislative assistance:

And, whereas, it is expedient that this Society should avail itself of all the lights and information which have been obtained elsewhere, by means either of individual or associated experiment, or by scientific discovery; and an object of special interest at this time is to ascertain, from indubitable sources, what has been the experience of those States in reference to the benefits resulting from legislative assistance, in which appropriations in aid of Agriculture have been made:

Be it therefore Resolved, That a Committee of five members be hereby appointed, of whom the Corresponding Secretary shall be chairman, who shall be charged with the duty of instituting a correspondence with such of the States as they shall think proper, by communications, addressed to the Governors, Secretaries of State, or to the Presidents of local or State Societies, for the purpose of acquiring such information as will enable them to present to this Society at its next meeting, a full and authentic report upon the following points:

1. What assistance has been offered by legislation in the States to the advancement of Agriculture and the arts of Husbandry.

2. In what manner and under what regulations and restrictions has this assistance been rendered.

3. What benefits to Agriculture have been derived from legislative appropriations, and in what way has their application proved most available.

4. Has the apparent and practical benefit derived from the fostering aid of government, afforded sufficient encouragement to induce the States to continue its appropriations for a succession of years.

5. Have the States, or any of them, caused Agricultural or Geological Surveys, and Reports to be made, and to what effect? And what

benefits have resulted to Agriculture from these services.

These resolutions were sustained by the mover and carried. The following is the Committee under the above resolution :—Dr. R. W. Gibbes, Ed. G. Palmer, Whitfield Brooks, W. Gilmore Simms, A. H. Boykin, R. W. Roper.

Mr. A. G. Summer moved that a sufficient portion of the Hall of this House be appropriated for the accommodation of the Ladies on Thursday evening, at the Anniversary of this Society, which was agreed to.

The Secretary moved that a committee be appointed by the President to inquire into the means of this Society, and report at its next meeting—and the following gentlemen were appointed: Wm. J. Alston, J. Lartigue, I. DuBose.

The Society adjourned till Thursday evening, 7 o'clock.

—

THURSDAY EVENING, 7 o'clock.

The Society convened as appointed, and being organized, the Secretary read the proceedings of the last meeting.

The reports from the several Chairmen were now offered, as follows :

The Committee to whom it was referred to award the premium for the best conducted farm, beg leave to report: That the only claim presented to them was that of Whitfield Brooks, Esq. On examining the description given of it by the officers and members of the Cambridge Society, your Committee are of opinion that Col. Brooks has not only most fairly and fully entitled himself to the premium, but also, that the description of his plantation should be published, as an example worthy of imitation.

JOHN BELTON O'NEALL, Chairman.

—

The Committee on Potatoes respectfully report: That but one individual came forward to compete for the premium on this crop, Mr. R. Cameron, of the Wateree Agricultural Society, who presented a certificate of the crop raised by him, from the Wateree Agricultural Society. His crop was four hundred and thirty-six and three-eighths bushels per acre. Your Committee accordingly recommend that he receive the premium offered by this Society.

Your Committee would particularly notice the fine specimens exhibited to the State Agricultural Society, by Col. R. F. W. Allston, and regret that he did not furnish the Society with an estimate of his crop.

PETER P. PALMER, Chairman.

—

The Committee on Corn and other Grain beg leave to report: That for the premium on Corn there were two competitors; one showing a production of 86 bushels and 19½ quarts, from one acre, duly attested by the Secretary of the Agricultural Society in Kershaw District—the other showing a production of 105 bushels and 18 quarts from one acre, but unaccompanied by any certificate of any officer of the Agricultural Society of York District. Under the circumstances your Committee are unable to award any premium. They take occasion to suggest that the Society, in future, should require of applicants for the premiums of this Society, to produce a statement of the culture used by the proprietor or overseer—a statement certified by the President or Secretary of the local Agricultural Society, of the measured quantity of land, (45,000 square feet to the acre,) also of the measured *quantity* and weight per bushel of the grain.

There was but one applicant for the premium on Wheat. The Committee do not regard the production as very great, but were pleased with the evidence afforded of the enterprize and perseverance of the farmer in manuring his land and cultivating his grain. His treatment is given during three years, and the whole is duly certified.

The Committee recommend that the premium for Wheat be awarded to Col. Wm. Wright of York District.

Your Committee further recommend, that the very interesting letter of Gen'l. Jamieson, on Millet, to the Society, be published, with the proceedings of this meeting.

R. F. W. ALLSTON, Chairman.

—

The Committee on Rice have received but one communication upon its mode of culture, and from the facts and results detailed in the Report, consider the means employed in the culture, scientific and useful. The result of the quantity of land planted and tended, according to the statement rendered, was at the rate of seventy-eight and three-quarter bushels per acre. This, although by no means an unprecedented quantity, is yet very large, and from the quality of the Rice, entitles the grower, Mr. R. F. W. Allston, to the premium. The suggestions of Mr. Allston, as to the propriety of offering a premium for the discovery of the cause of the rust and chalk in Rice, is left by the Committee to the wisdom of the Society to determine. All the facts contained in the documents upon which this Report is predicated, are so fully detailed, that your Committee deem it unnecessary to enlarge further upon the subject.

All which is respectfully submitted.

R. W. ROPER, Chairman.

—

The Committee on Long Cotton regret there was no competitor for the premium. One sample only has been submitted to their inspection by Mr. Archibald Seabrook, of Edisto Island, of very superior quality, both in length and fineness of staple, grown from selected seed. It appeared that Mr. Seabrook, raised 5440 lbs. of cotton in the seed, to eight acres, which was designed for this premium. Upon this land, 160 piled single horse cart loads of marsh were put in August, 1843, immediately after being cut and partly listed in, merely to prevent the depredations of cattle, and, (as he expresses himself,) "to allow the marsh to rot on the ground intended for cultivation." In this way the saline and other ingredients not evaporable were preserved. By exposure, too, for several months, to the combined action of air, light and moisture, the process of decomposition in the spring is regular, and the matter becomes food for the plants early in the season. It requires of this quality of cotton 1500 lbs. in the seed, to make 300 lbs. of clear ginned cotton. At this rate, if the cotton commands the lowest prices at which it has been valued by two disinterested factors in Charleston, it will realize in money $95 to the acre. Your Committee therefore recommend the premium to be awarded to Mr. Archibald H. Seabrook, of Edisto Island.

JNO. RIVERS, Chairman.

—

The Committee on Silk respectfully report that they examined the specimens presented to them, and would recommend that the premium be awarded to Mrs. Mary W. Dantzler, of Spartanburg District, for the white Silk Vesting, manufactured and presented to the inspection of the Society. Her lot consisted of Vesting Cloth, and a fine net Shawl, of single silk, beautifully made.

They would notice favorably a net shawl from Miss Cassandra Poole, of Spartanburg, of equal beauty with the one mentioned above, which was the work of her own hands, from the feeding of the worms, to the netting of the shawl. Also, from Miss Harriet D. Davis, of Abbeville, a net Shawl of sewing silk, which displayed great care in its manufacture—also a silk pocket. From Miss S. M. Davis a pair of Silk Hose; and from Mrs. Sam'l. Reid, a pair of Silk half Hose. From Mrs. P. H. Baskin, of Abbeville, a beautiful plaid Shawl, of wove silk. From Wm. H. Villard, of Aiken, forty net Shawls of various patterns, the work of his daughter, Miss P. H. Villard. From Mrs. and Miss Crosby, of Lowndesville, Abbeville District, a few specimens of Silk Cloth, mixed with wool, and from Mrs. Reid, a piece of Cloth of the same kind.

Your Committee are sorry that the limited means of the Society prevent them from bestowing premiums of a secondary value to others of those who have favored the Society with their beautiful articles of domestic industry and delicate handiwork.

WM. SUMMER, Chairman.

—

The Committee on Domestic Fabrics report that they have examined carefully the specimens submitted to them, and recommend for premiums the following articles: A specimen of Cotton Bagging, of manufactured cotton, from the Pendleton Factory, which the Committee considers the best and most substantial article of the kind ever seen by them—a specimen of Worsted Cloth, manufactured by Mrs. Baskin, of Abbeville, and one of checked Cotton Homespun, by the same lady, both of which are highly creditable to the skill and industry of that lady.

ROBERT W. GIBBS, Chairman.

—

The Committee on Marl, to whom were referred several communications, viz: Mr. Edmund Ruffin's "Marling Facts and Estimates"—Mr. Ravenel's account of the number of acres marled, and certain experiments in his neighborhood—Mr. Brisbane's and Mr. Holmes's experiments—report: That they find all these papers of great value, and recommend that they be published in the Planter.

They also report that they have awarded the Ruffin Premium to Mr. Holmes, of St. Andrews', for his well conducted experiments in marl, as applied to Cotton, Corn, and Potatoes.

WM. M. MURRAY, Chairman.

—

These awards were made, and the cups awarded; and on motion of Maj. Felder, it was ordered, that a ten dollar silver cup be awarded at the next Anniversary, to the lady who displays the best silk dress, of her own manufacture.

Hon. Judge Butler was appointed to address this Society at its next semi-annual meeting, on the last Wednesday in July.

At the instance of an invitation extended from the Newberry Agricultural Society, it was agreed that the semi-annual meeting in July of this Society, be held in Newberry village.

The following officers were elected for the ensuing year:

Whitemarsh B. Seabrook, President.
Hon. J. R. Poinsett, Anniversary Orator.
Chan. B. F. Dunkin, 1st Vice-President.
Chan. Harper, 2d " "
Whitfield Brooks, 3d " "
Hon. J. B. O'Neal, 4th " "
Hon. P. Butler, 5th " "
Hon. J. M. Felder, 6th " "
Dr. R. W. Gibbs, Corresponding Secretary.
Dr. J. B. Davis, Recording Secretary.

The President returned thanks for the continuance of his seat.

On motion of Dr. Gibbes, it was

Resolved, That this Society recommend to its members, and to the local Societies of the State, the necessity of sustaining the Southern Agriculturalist, published in Charleston, and the Carolina Planter, published in Columbia.

Hon. R. W. Roper, now delivered an able Address, which, after a motion of thanks, was ordered to be published.

Thanks were returned to Mr. Russell for his display of flowers at the Exhibition.

The Society now adjourned, to meet at Newberry Village, on the last Wednesday in July.

J. B. DAVIS, Rec. Sec'ry.

A Venerable Bible.—At the Anniversary meeting of the American Bible Society, an old divine from New Hampshire, called *Father Robbins*, held in his hand the identical Bible upon which the members of the *First Congress* and President Washington were sworn into office, and containing the names of all those old worthies written on its pages. These, said Mr. Robbins, were Bible times—and these, Bible men, and God blessed and prospered their labor; and under these men the country was prosperous. God grant, sir, said he, that we may again have such rulers and such times!

WOOL-GROWING.

There is every evidence that we shall have for years to come, a large and profitable demand for wool. The establishment of a reasonable protective tariff for the raw material, as well as the manufactured article, will, if persevered in, of which we can not allow ourselves to entertain a doubt, afford remunerating prices to the wool-growers of our country, till we have reached a production fully equivalent to the demand. What data may be assumed, as furnishing a correct estimate of the proper maximum of supply, would probably puzzle the shrewdest writers on political economy. We have, as elements properly entering into this estimate:

1. The quantity now raised in the United States beyond the coarse Smyrna and South American wools, costing 7 cents and under per lb., at the place whence last imported, on which the duty now levied is 3 cents per lb., and 5 per cent. ad valorem. On all wool costing over 7 cents per lb., the duty is 3 cents per lb., and 30 per cent. ad valorem.

2. The gradual substitution of a better grade of wool, (as the supply augments and becomes cheaper,) for carpets, blankets, and many of the coarser fabrics, which are now made from the coarse wool above mentioned; as it is an established fact, that an equal weight of a fine staple, is much more durable than the same quantity of an inferior grade.

3. The supply of the finer sorts of Saxon wool, now imported for the best qualities of broadcloth, cassimeres, &c. I am not aware of the quantity of this description of wool annually imported under our present tariff, but judge it to be considerable, from the fact that I was assured last year, by a manufacturer, that he had just ordered 50,000 lbs.; and a dealer told me that he had imported from London (the great wool market not only for England, but for the continent of Europe also) a much larger amount, for consumption in the eastern states, during the last season.

4. The rapid increase of our own woollen manufacturers, (our tariff remaining as it is,) and the manufacturing within ourselves, of nearly all the finer descriptions now imported, of broadcloths, cassimeres, fancy goods, shawls, booking, carpets, and rugs of the choicest qualities, (Brussels, Royal Wiltons, &c.,) blankets, worsted stuffs, bombazets, bombazines, mousselines de laine, &c., &c.; the raw material for which, is in all cases, furnished of a foreign growth.

5. The increasing demand from the increase of our population.

6. A demand augmented beyond the ratio of increasing population, consequent upon the prosperity of the country and the diffusion of wealth, which must inevitably accrue to our country, if we have the wisdon to maintain our present pacific relations abroad, and our protective policy at home.

7. The application of woollen fabrics to new and unforeseen purposes, as our manufacturers advance; such as their use by paper makers, carriage-makers, &c.; and their substitution for leather, cotton, silk, furs, &c.

8. The eventual exportation of wool, and the manufactured article to foreign countries.

That the exportation of wool from the United States is not a remote or improbable event, the policy of our own, and foreign nations continuing as they now are, will satisfactorily appear to intelligent minds, on a slight investigation. We have as peculiar advantages for the production of wool in this country:

1. Millions of acres of unoccupied land, every way precisely adapted to this object, a large portion of which, is not suited to any other profitable production. Thus we have, in addition to the measureless acres of prairie and other fertile, tillable land in the west and south, the great chain of the Alleghany, and its collateral mountains, reaching through twelve degrees of latitude and as many of longitude, throughout nearly their whole length and breadth, but especially as they recede from the north; all of which vast piles, and the innumerable valleys that everywhere skirt their sides, and which are now entirely unused, or occupied only to a very limited extent, are destined, ere long, to the support of countless flocks.

2. The adaptation of our soil and climate to the growth of a fine staple of wool; and the foregoing together with a dry and rolling surface of land, and innumerable supplies of fresh water, which almost everywhere abound, secure to sheep a healthful growth, and vigorous constitution.

3. The economy of labor in prodncing wool. The average time of an intelligent, able-bodied man throughout the year, will, on a good farm, well arranged for the purpose, and with suitable fixtures, provide the winter food, and give all the attention required, to a flock of 500 at the north, 600 in the middle, and probably, even more than this in the southern states.

We have examples the present season, of a choice Saxon flock producing 2⅞ lbs. of wool each, at an average price of 68 cents, or nearly $2 per head; and of another Merino flock producing over 5 lbs. per head at 48 cents, or $2.50 each. This would yield, for the productive labor of a single individual, inclusive of capital for the flock, land and fixtures, (and many flock-masters consider the lambs a full equivalent for all these,) from $1,000 to $1,500 per annum. What other agricultural occupation will produce one half as much? The above statement is predicated on the choicest sheep; but as these are as easily supported as the worst, it is not presuming to much on the intelligence of Americans, to suppose they will not long hesitate to follow where it is manifest their interest leads.

4. The cheapness of transportation. A pound of good wool in the European market is worth from 30 to 100 cents, and some, when thoroughly cleansed, even much more than this. Flour and grain is worth from 2 to 4 cents per lb., and beef, pork cheese, lard, &c., from 5 to 10 cents; and although from its increased bulk the former may be charged at double the ship-freight of the latter, yet this would be hardly appreciable in its market value; while, with the other agricultural products, it sometimes reaches beyond 50 per cent. of their worth, even in the place of consumption.

5. England is the great wool market for the world, and although it is computed she has 50,000,000 of sheep, they but partially supply her own manufacturers. And England manufactures a vast amount of the finest kinds of wool, scarcely a pound of which she raises within her own island territory. Her supply for all this comes from abroad, and after the quantity sent by her Australian and other provinces, she will as readily take of the United States as any foreign nation. It is probable that a large portion of her sheep lands are unsuited to the production of fine wool, and it is certain her management and policy are decidedly against it. Food for her millions of human beings, as well as food for her woollen machinery, is her object; hence her policy, and the almost universal practice of keeping the mutton sheep, the long and middle wools, neither of which can ever make anything but the coarser fabrics. The duty now levied on wool in England is but one cent per lb. on its value of 24 cents or under, and two cents per lb. on wool costing over 24 cents per lb.

6. The restrictive policy adopted almost throughout Europe, with regard to our agricultural products, while they amount to an entire prohibition of nearly every article of human consumption, (wholesome, nutricious, and abundant food, being generally deemed by their rulers articles of superfluity to the ruled,) yet what is essential to them as articles of traffic or of manufacture, out of which money can be made, as cotton, wool, &c., they readily admit on favorable terms. A large part of Europe is now so fully stocked with people, as to be incapable of multiplying sheep in the ratio of the demand for their fleeces. And if the peace policy is to to be continued there, as we see no improbability of its being, its increase of inhabitants must soon drive out sheep where they now exist. The ratio of supply will be, therefore, inversely as the demand. Where, then, can that deficiency be as well made up as in America? and what more rational than for the shepherds of hundreds there, to transfer their flocks to this country, and become the shepherds of thousands here?

With all our peculiar advantages, then, of cheap land, every way adapted in climate, soil, and position, to the healthful maturity of the animal, and the perfection of the staple of the wool; the large returns for the labor bestowed; the trifling cost of transportation; the incapacity of the largest manufacturing kingdom in the world, (now and always most dearly and most extensively connected with us in commerce,) for raising any of the fine wools, which enter largely into her consumption; and finally, the restrictive policy of foreign nations, which exclude our bread-stuffs and eatables, but admit, wherever they can use them, advantageously, the raw material for their manufactures, there is every probability, ere long, of a large demand for wool abroad.

One word to our sheep-owners, as to the kind of wool to be grown. The finer you can get the wool, with a large fleece, and good constitution in the animal bearing it, the more profit. In the neighborhood of good markets for mutton, there is an exception in favor of the mutton sheep to the extent of the demand for the carcase. And it is probable there can be thus raised, all the long wools required for our worsted stuffs, if not, it will be profitable extending the long wools into the interior, to the full supply of that demand. But remote from markets, the best Merinos, and most hardy Saxons, are beyond all doubt the most profitable. It will pay liberally to the flock-master, to select the very best the United States affords, and we could wish, and hope, they may see their own interest in immediately selecting some of the best specimens from the royal flocks in France and Spain, to refresh and re-invigorate the flocks, impaired by injudicious mixtures in our own country.

It may be proper enough to add, that *soil* has much to do with the softness and perfection of the fleece. A clay or loamy soil improves the fibre of the wool, making it finer and more soft and pliable; a sandy or silicious, and a calcareous or limestone soil, renders it stiff and harsh. The first improves, the last deteriorates, not only the fleece of the individual, but also the progeny. Thus, time may produce an essential change in the character of the race, without reference to any other consideration, than the quality of the soil on which they are reared and sustained.

Climate, and the rutting time, we ought to look to also, on every philosophical principle, as having an influence on the fibre of wool. No exception occurs to us of animals in equatorial regions, possessing a large, close, and fine covering; and none in the arctic, of such as have thin, hairy coats. Nature seems to have made no exceptions to this most rational and merciful arrangement. Should we not therefore look, with every probability, to our fine-woolled sheep sustaining the character of their fleece at the north, and to a deterioration of the same class at the south, in future generations? We know that the reverse of this is claimed by some observing and intelligent breeders of much experience, but we apprehend without sufficient data. We can easily conceive of sheep removed southward, improving the softness of their fleece from the increased perspiration and yolk thrown into it, from the higher temperature to which they are subjected. But this is a forced and unnatural effect, which nature, by her slow yet certain operations, we think, will effectually exert herself in removing from successive generations. By taking advantage of the period of conception, and having this take place when the parents are under the influence of the severest cold of the climate, which should be continued with the dam during gestation, if possible, may we not expect that the fœtus will have impressed upon it, which it will maintain through its maturity, a constitution and covering best suited to the condition of its incipient existence?—

Reason, we think, must teach us to look for such a result; and by this means, the prejudicial effects of climate may be arrested, or partially postponed; though in the end, the forementioned result seems inevitable. What but the scorching sun of Africa has given its present constitution to the negro; and the mildness of the temperate zones the character and constitution of the Circassian and European races? It is readily admitted, that the mountainous region of the South is not liable to this objection, as their increasing altitude diminishes the temperature, and is a full equivalent to a removal north. Nor do I see any reasonable objection to the rearing of the fine-woolled sheep on the low lands of the south, as any anticipated deterioration of staple, may be, in a great degree, obviated by the use of bucks reared in the north.

When the great advantage is considered, of the ease and economy of renovating soils and sustaining them in a high degree of fertility, by the keeping of sheep, I need not urge the system upon the intelligent agriculturist. Indeed, where lands have been cropped interminably, with wheat, rye, and corn, at the north, and wheat, corn, tobacco, and cotton, at the south, I know of no other self-sustaining system of renovation, that can be adopted. Lime and plaster, where economically obtained, may do it partially, but other manures will be necessary to carry out the work of regeneration. Where shall they be procured at a cost that will enable their owners to sustain a successful competition with the occupants of newer and more fertile lands, somewhat more remote? We can conceive of nothing more suited to the object than sheep. They clean the land of almost every noxious weed, drop most of their manure on the highest lands where most needed, and require little attention, for all of which they pay double; first, in the produce of a lamb, and second, in their fleece. They are also certain to build up, in an intelligent, industrious community, a manufacturing policy, which gives a profitable and pleasant employment to a supernumerary population; affords an enlarged market for miscellaneous agricultural productions, and in addition to all their collateral advantages, furnishes to the country, their fabrics at a cost, lessened by all the expenses of a double transportation. Surely, it is needless to urge the adoption of a system, fraught with so much advantages, upon the intelligent planters of the south and west, a people who have, in less than half a century, extended the annual production of cotton, from 2,000,000 to 600,000,000, lbs. The energy displayed in augmenting a single crop, three hundred fold, in so brief a time, is adequate to the succesful adoption of any policy, commended to them by so many intrinsic advantages.

R. L. Allen.

Buffalo, Sept. 20, 1844.

MEANS OF CHECKING RUNAWAY HORSES.

When a Canadian family party, travelling in winter over ice-covered rivers and swamps, is so unlucky as to cross a place where the horse sinks, they save him from drowning, and themselves from sharing the same fate, by pulling a rope so arranged that it instantly chokes him. The water being thus prevented from entering his gullet or windpipe; he floats on the surface, and it only requires a long and firm pull to bring him to solid ground, when, the rope being relaxed, he quickly recovers his wind, and is ready once more to start on his journey. This plan of saving a horse by suffocating him is spoken of by the Canadians as an equally effectual and safe means of attaining the desired end, and it is in universal practice. A similar means of stopping runaway, and subduing infuriated horses, whether in riding or driving, has lately been adopted by Mr. Miller, an ingenious saddler, of Lothian-street, Edinburgh, not in consequence of any knowledge of the Canadian plan, but as an original idea. It consists of a rein composed partly of thread-covered cat-gut and partly of common leather, one end of which is attached to the bridle at the top of the horse's head, while the other rests at the pummel of the saddle, or on the splash board or coach box, as the case may be. Running upon the cat-gut part by means of loops, is a short cross-piece of cat-gut, which rests against the windpipe of the animal, ready to be pulled up against that organ by taking hold of the nearer end of the rein. A quick and firm pull, to stop the breathing of the animal is all that is necessary to bring him to an instantaneous pause. He may be in a state of panic, and running off with the bit between his teeth in spite of every ordinary means of checking him; but no sooner does he feel the stricture on his breathing, than he is conscious of being outwitted and nonplussed, and becomes instantly as quiet as a lamb; at the same time he keeps quite firm on his legs—the check not being by any means calculated to bring him down. On the contrary, the position in which it places the horse, his shoulders being brought up, and being pressed back upon his haunches, the check is indeed eminently calculated to keep him up. A horse in a gig fitted up with a safety rein, was lately paraded before ourselves in one of the streets of Edinburgh, and the animal was several times in the height of his career (once when coming rapidly down hill,) brought to a sudden stand. We understand that the safety rein is coming rapidly into use; and friends as we are to every thing that tends to diminish evil, and promote the convenience and agreeableness of human life, we cannot but wish to see it in universal application. We feel assured, that henceforth, by means of this rein, accidents from running away, or other violent conduct of horses, may be altogether prevented.—[*Chambers' Edinburgh Jour.*

From the American Agriculturist.

THE POLICY OF AMERICAN FARMERS.—No. 1.

If the farmers of the United States are ever to reap the full benefit of their labor, they must do something beyond raising the largest amount of products, at the least amount of expense. An enlarged and comprehensive view of our circumstances and commerce as a nation, and its internal and foreign relations, and a general, systematic, and concerted action, on the part of the agricultural interests, founded upon such information, is indispensable to their realizing all the advantages to which they are entitled.—We see this intelligent and embodied effort in every other profession and craft; the clergy, acting through regular and frequent assemblies, for the more effectual promotion of their more benevolent objects; the physicians, associating for the protection of their profession under law, and securing to it the highest amount of intelligence; the lawyers, in controlling legislation so as to secure to the profession the largest bill of fees; the mercantile and commercial interests, by their boards of commerce and other active and well remunerated agents, influencing national laws and commercial regulations for their own benefit; the manufacturing and mechanical interests, by concerted movements, effecting the same objects for their own pursuits; and even the laboring classes, by the well-drilled and efficient *strikes*, not unfrequently compelling an attention to their own interests, beyond their intrinsic merits. The farmers, it is true, are well, indeed amply, protected by an impost on the objects of cultivation in this country sufficient to exclude every article they are now engaged in producing. The staple productions, grain, vegetables, beef, pork, cotton, &c., have always been fully protected, and by the late tariff the duties have been so increased on wool, hemp, silk, and some other products, to which Americans have been recently turning an increased attention, that they can now defy competition from abroad. It is not the want of higher duties on their crops, which they now require; it is a well-organized, efficient, intelligent, central board, supported by funds from the general government, which, procuring information from every portion of our wide-spread union, and from every foreign nation, with which we can have any profitable traffic, will be enabled to suggest new and profitable objects of cultivation; give additional value to such as are already receiving attention, and mature and communicate for acceptance, such modifications of adopted systems, as the constantly varying circumstances of the country require. Such a board was recommended by the illustrious Washington, in his last message to Congress, Dec. 7, 1795, and had his wise counsel been at that time adopted, and efficiently carried out to the present time, we might confidently have looked for a success and intelligence in American agriculture, far beyond anything that the world can now exhibit.

That the creation of such a board, is at any time within the power of our landed interests, is clearly manifested in the fact, that every officer of our government, legislative or executive, is either directly or indirectly elected by the popular vote, and at least two-thirds of this vote is given by those whose entire support is derived from agriculture, and one-half of the remaining third is under their controlling influence, so that not less than five-sixths of the popular voice can be brought to bear in favor of any measure calculated to promote this object. The neglect, hitherto, to secure the rightful interests of this great pursuit, evinces an apathy and indifference, alike discreditable to the intelligence and patriotism of the agricultural community. R.

Improved Farming in Virginia.—Mr. H. R. Robbey, near Fredericksburg, Va., gives us the following favorable account of the effect of agricultural papers in improving the husbandry of its neighborhood: "When I commenced farming, I determined to try the new system of husbandry, because I saw the old plan would not do; farmers were all going backwards, or getting poorer every year; my new neighbors laughed at me, when they saw me occupying so much of my time in hauling mud and sods from the swamps to put in my manure pile, and asked where I got that notion from. My reply was, from the Cultivator. They laughed still more, and called me the book farmer, said I would soon find out my folly, and go back to the good old custom, as they call it. Many of those men have acknowledged since, that I have been pursuing the right plan. I have now eight barrels of corn growing, where six years ago one barrel could not be grown; and all my information has been derived from agricultural papers. Some of my neighbors, for two or three years past, have been taking the Cultivator, and you can perceive an improvement upon their farms already. They are now not content to put up with the bare necessaries of life. A spirit of improvement seems to have taken hold of them; they begin to cultivate improved varieties of fruit for market and their families; thus adding profit and pleasure, where neither could be found before they began to read agricultural papers."—*Alb. Cultivator.*

Wool Growing and Cotton Manufacturing in Mississippi.—The following is from the Natchez Courier of the 11th ult:

"We were yesterday shown, by our valued friend, Samuel T. McAllister, Esq., a couple of samples of Wool sent to him by Mr. James Brown of Yazoo county. The Wool was of the finest, softest texture, far surpassing any we have ever seen. We were surprised when told that such an article had been raised in Mississippi, where, until the few years past, but little attention had been given to such products, the cultivation of Cotton having occupied the entire time of our farmers. Mr. Brown sends Mr. McAllister a bale of Wool weighing 400 lbs. of excellent quality, which he desires to exchange for Cotton Goods of Mr. M.'s manufacture, and writes that he will be able in a few months to send him another bale of Wool of superior quality.

"It is certainly pleasing to see that our planters are beginning to take an interest in Mr. McAlister's enterprise of manufacturing, and to see what advantage patronizing him will be to them. Mr. M. is progressing finely with his factory, having as much employment as his force can despatch, and making various articles of a quality inferior to none in the Union."

PREMIUMS FOR THE BEST MANAGED FARMS.

To the Editor of the Marlborough Gazette.

Having already received notice from two gentlemen, competitors, addressed to me as first named of a committee to award the premium offered for the best managed farm in the county, it seems proper that I should state, in this the most convenient form to all parties, that it will not be in my power to undertake the trust with which the Agricultural Society of Prince George's has honored me. I am not the less grateful for the compliment which such an appointment conveys, for it assuredly implies a belief that the persons so delegated have not only taken a deep interest in the general subject of agriculture, but that their fondness for it and conviction of its paramount importance, has led them to inquire into and reflect upon what *constitutes good management*, both as to principles and practical details.

It is not easy to imagine any duty that requires better judgment or more unyielding impartiality than that of *awarding such a premium*. How many things are to be considered! The extent of the farm to be compared, not only with others, but with the resources at the command of the proprietor—such as capital in money, in labor, in natural fertilizers, and in elements requisite for compounding manures, &c. The time the farm has been in possession of its present proprietor, with its original and present condition, and in that connection what have been his extraneous aids and facilities, and how far improvements have resulted from his own sagacity and forethought, or from the knowledge and experience of his manager—for the manager sometimes makes heavy crops under an improving system of husbandry, not by the directions, but *in spite of the owner*.

All these and many other things are to be taken into the account, and, after all, there will be liability to error, as well from overlooking important facts, as from giving undue weight to minor considerations; still, with such colleagues as were on that committee, I would, if my duties here would permit, most gladly have joined in the inspection of the farms to which they are invited, expecting to derive, not only peculiar pleasure in visiting their proprietors, but much information from observing their practice, and from being associated with gentlemen of so much experience and judgment. Indeed, it is difficult to conceive any thing more agreeable and recreating to a passionate amateur of the *country*, and all that belongs to country life, than would be a comparison of the claims of competitors for *such premiums*. The thorough sifting that should be given to the candidate would be a caution to all indolent and *unthinking* planters! The catechism should be begun by a close examination of his personal agency in the concern, to know how much of the results were the fruits of his own *thoughts* and directions. But that agency is not always to be measured by the time of a man's rising, or the constancy of his presence on the farm. There are some men who have things so *systematized*, that they can manage better when sick, or occasionally from home, than others who rise before day and are "fretting and fuming" from morning to night. The gentleman, Col. N. Bosley, of Hayfields, who took the premium "presented by the hands of General Lafayette," for the best managed farm of that year, was half his time bed-ridden, and had no overseer; but he knew every day what was doing, where it was doing, how it was doing, and *why*—yes, and that's the great point—*why* that particular thing was being done at that particular time. He made an independent fortune with *hay* as his staple, on a very hilly, stony farm, sixteen miles from Baltimore.

I had lately, by special invitation, and by the kind permission of my *Boss*, the satisfaction to dine at Indian Hill, the premium farm of Massachusetts, to the proprietor of which the premium was awarded, not only for the *best managed farm*, but for the best *specimen of under draining*, and the best system of *keeping farm accounts*. Who might not be prouder of such premiums than of military achievements, and sometimes negative service without achievements, for which our wise, thoughtful, republican Government, representing two-thirds farmers, awards the *highest honors, the largest life salaries, hospitals, pensions, &c.*

The proprietor of that farm, where I met some of the most accomplished agriculturists of Massachusetts, is half the year absent in the South. But he has things so set down and systematized, that he is constantly and exactly informed of what is going on. Every man is *numbered*, and every job of work to be done is *numbered*, and he knows that on a given day number so and so was at work on job No. 7, or 3, or 2, as the case may be. His people all rise at five, A. M., by the *ringing of a bell*, as in a ship or a factory; and breakfast by candle light, he taking his seat, when at home, at the head of their *breakfast* table, just to see that all are there, and that *all is right*. After all is fairly under way, he is ready for his own family breakfast table, where, as well as throughout the house, you find a neatness, good order, and abundance, corresponding with if not even excelling the out-door management. In fact, the neighbors do hint that "two heads *are* better than one!" Certain it is, that I never saw a more unique, antique, venerable looking mansion outside, nor one *in* which reigns a more charming air of quiet order, good management, and domestic taste and harmony.

To economize time, even the kindling is in the kitchen "the overnight." The hash is ready only to be "warmed up," and breakfast with coffee is all ready for the laborers in the "twinkling of an eye" after the bell rings at five.

The laborers—willing, steady, and constant—are all white men, generally Scotch, sometimes Irish, hired by the month. On that point I refer to his answers to questions propounded by the Society. When all is going on, as it goes every day, as smooth as clockwork, Mr. Poore, rich "in all the qualities that give assurance of a man," is then ready to take his family or his guest, as he did me, in his coach and "four in hand," and that in his own hand of preference, any where over delightful roads and a magnificent country at the rate of eight miles an hour! I only mention it to show that "best management" does not imply eternal drudgery, and the absence of all social enjoyment. At Indian Hill farm, as on every farm in New England, there *is a place for everything and everything is in its place*. You don't see a bridle on the ground here and a swingletree in another place; sheep skins and sometimes the sheep themselves eaten up by dogs, and harness lying out in the weather; axes scattered here and hoes everywhere; carts broken and doors and gates off the hinges; negroes hunting here and there for the spade, or for him that had it last, to know where he left it; galled horses with clogs on their feet and yokes on their necks; and oxen, as I this morning actually saw a yoke in Washington, one pulling one way and the other the other way with all his might, with a negro on each side armed with sticks to drive them from one side to the other. There (in New England) one yoke does at least as much as three do here. They are all fat enough for beef the year round, and are driven rather by *signs* and with very light whips than by violence. One must go to New England to have an idea of the power, the docility, and the great usefulness of a single yoke of oxen.

At Poughkeepsie, in the plowing match, there were seven single span of oxen and two of horses started for the premium, each managed by a plowman without a driver; the prize was taken by a span of *oxen!* The whip of the plowman was lighter than the *beach switches*, which I remember well, and to my great terror were kept standing in the corner of a log-cabin school-house in Calvert county, under the dread government of the never-to-be-forgotton Robert Spicknall.

How much I should have been gratified could our committee, with the estimable and efficient Secretary of the Society, have been with me to witness many things that I saw on an almost literally flying visit to Massachusetts and New York. I could "spin a yarn" worth hearing out of it, if I had time; one that might make the woof and the web of an address, for which I see "by the papers" I have been "set down" for your next meeting; but close confinement here, and the disordered state of my health, will not allow me to comply with the wishes of the society in that respect.

Among other places, I made a visit to Marshfield, and there ate *chowder*, made chiefly of codfish, taken in the "deep waters of the dark blue sea," by the hand, hook and line of the great American commoner himself.

Arriving before dinner he took us first through his cornfield, by way of an *appetiser*, and what with the thickness of the corn and the number of the pumpkins on the ground, you might as well have been dragged through a Mississippi canebrake. I could not help thinking what glorious music a good pack of hounds would make in it, in pursuit of a gray fox or a wild cat. A large portion of the field would undoubtedly yield eighty bushels of corn to the acre, and yet corn of the same *height* with us would not produce twelve bushels. Mr. W. was proud and had reason to be of his large field of "*swedes*," his twelve beautiful heifers, and of his Southdown sheep, of the stock he selected in England, of which he generously tendered as many as I would accept, which was a buck and two ewes, to go into Prince George's county. But of all things he seemed to be fondest of and most familiar with his *noble oxen!* some six or eight yoke, that would average, in the shambles, at least twelve hundred. He seemed, too, to felicitate himself particularly in the shade of a venerable and *magnificent elm* near his house, "*Religione patrum multos servata per annos*," its graceful branches extending over a diameter of a hundred feet.

You will receive in this hasty letter the answers of Mr. Poore, of Indian Hill, to the questions propounded by the Society. It is probable that many of your readers will peruse them with as *much benefit*, if not interest, as they would do *—some other things.*

Respectfully,

J. S. SKINNER.

EXTRACT

From Mr. Whipple's Address before the Merrimack Co. Agricultural Society, at Warner, N. H. Oct. 14.

"We are very much in the habit of cultivating too much land. Certain it is that one acre well cultivated and richly manured, will produce more than two acres indifferently cultivated—and then you save about half the labor—a very important item. The farms in this county and in the State, now under cultivation, are capable of producing, by proper and judicious managemennt, from 25 to 50 per cent. more than the present yield. I think I do not exaggerate in my estimate. There is one store in Concord which sells annually twenty thousand barrels of flour. Suppose th t is one-fifth part of the quantity sold in the State—then there would be one hundred thousand barrels of flour consumed yearly. Estimate this at the lowest price, say $5 per barrel, and you have the sum of $500,000 expended for the single article of flour, beside the other grain which is brought into the State. Could you believe this? Half a million of dollars is yearly paid from this State, for bread stuff raised by western farmers. Certain I am from inquiry, that the estimate I have made is small.

"You ought to raise your own bread stuffs; you might easily supply the wants of every consumer in the State. There is no reason, no excuse why we should be dependent upon our western farmers for such an immense amount of bread stuffs. We have soils well adapted for the growth of every kind of grain, and we as farmers, are as capable of producing large crops as the farmers of neighboring States. That there should be such a deficiency for our home consumption, is altogether unaccountable. We ought to encourage our sons and young men to remain here on the beautiful hills and vallies of our own native State and cultivate our lands, instead of advising them to go West. It is a

mistaken notion, that young men can do better West than they can do here. We have lands enough in this State, if properly divided, to give labor to double the present population. We have advantages here that you cannot have in the western country; and all that is wanted is a contented mind and a determination to make our own New Hampshire a vender of bread stuffs rather than a purchaser. There is something radically wrong in suffering such an import of bread stuffs into this State; and by you, gentlemen farmers, the wrong must be righted. We have water power here that will make us independent, if we only cultivate the soil and supply the wants of the consumers who are engaged in our manufacturing establishments. We shall always find a ready market for everything that the farmer raises."

From the Albany Cultivator.

THE OLIVE.

Messrs. Editors:—Dr. Olin, describing the soil and productions of Palestine, speaks thus of the olive:

"But this is the proper region for the olive and the vine. Anciently, these hills were covered with orchards of fruit trees and vineyards, and the world does not, probably, produce finer grapes, figs and olives, than are annually gathered about Hebron and Bethlehem. One acre of the flinty surface of the Mount of Olives, carefully tended in olive trees, would yield more, through the exchanges of commerce, towards human subsistence, than a much larger tract of the richest Ohio bottom tilled in corn. Most persons know little of the variety and importance of the uses to which the fruit of the olive is applied in the Eastern nations and in some of the Southern countries of Europe. Large quantities of the berries are used by the inhabitants, and exported as food; but the principal value of the olive consists in the delicious oil that is extracted from its fruit. This is used upon the table and in cookery, as the substitute for both butter and lard. It is universally burned in lamps, and instead of candles, which are nearly unknown in the east. It is the principal material used in making soap."—*Olin's Travels, Vol. II., p.* 430.

Mr. Jefferson, in 1787, wrote as follows:

"The olive is a tree the least known in America, and yet the most worthy of being known. Of all the gifts of Heaven to man, it is next to the most precious, if it be not the most precious. Perhaps it may claim a preference even to bread, because there is such an infinitude of vegetables which it renders a proper and comfortable nourishment. In passing the Alps, at the Col de Tende, where there are mere masses of rock, wherever there happens to be a little soil, there are a number of olive trees, and a village supported by them. Take away these trees, and the same ground in corn, would not support a single family. A pound of oil, which can be bought for three or four pence sterling, is equivalent to many pounds of flesh, by the quantity of vegetables it will prepare and render fit and comfortable food. Without this tree, the country of Provence and the territory of Genoa would not support one half, perhaps not one-third, their present inhabitants. The nature of the soil is of little consequence, if the soil be dry."

"In Italy, I am told, they have trees of two hundred years old. They afford an easy and constant employment through the year, and require so little nourishment, that if the soil be fit for any other production, it may be cultivated among the olive trees without injuring them."

"Notwithstanding the great quantities of oil made in France, they have not enough for their own consumption, and therefore import from other countries. This is an article, the consumption of which will always keep pace with its production. Raise it, and it begets its own demand. Cover the southern States with it, and every man will become a consumer of oil, within whose reach it can be brought, in point of price. If the memory of those persons is held in great respect in South Carolina, who introduced there the culture of rice, a plant which sows life and death with almost equal hand, what obligations would be due to him who should introduce the olive tree, and set the example of its culture!"—*Mr. Jefferson's letter to Thomas Drayton, dated Paris, July* 30, 1787.

"I am persuaded there are many parts of our lower country where the olive tree might be raised, which is assuredly the richest gift of Heaven. I can scarcely except bread. I see this tree supporting thousands among the Alps, where there is not soil enough to make bread for a single family."—*Mr. Jefferson's letter to Mr. Wythe, dated Paris, Sept.* 16, 1787.

Here is surely ample testimony as to the estimation in which the olive was held in modern times, by those acquainted with its uses. If evidence is wanting as to the estimation in which the ancients held it, we have only to refer to the frequent mention made of it in the historical parts of the Bible, and the beautiful allusions to it so frequent by the Hebrew poets—to the beautiful fictions among the Greeks about its origin, one of which is mentioned by *Apollodorus Atheniensis*, who tells us how, in the reign of Cecrops, Neptune, smiting the earth with his trident, made the sea flow at his feet; how Minerva, determined to outdo his marine godship in beneficence, called on Cecrops to bear witness to what she was going to do, and made an olive tree spring from the ground; how these divinities quarreled about the value of their respective gifts to Attica, and Jupiter, to settle it, appointed twelve gods to determine the question, which august jury of divinities gave a verdict in favor of Minerva; and to the rank assigned to it by Collumella among the Romans, as being the first among trees. Yet in the whole of the United States, I know of but two or three instances, in which attempts have been made to introduce the culture of this tree. Long ago, indeed, the colony of Greeks settled at New Smyrna, in E. Florida, had planted the olive, and only sixty years ago there were large trees marking the site of that settlement. Recently, Mr. Cooper, of St. Simons, and Mr. Spalding, of Sapelo, Georgia, have tried its cultivation, I think, with success; and in the garden of Mr. Rose, at Macon, I saw recently a flourishing tree which had thus far withstood the winters there. I suppose the general impression that it would not endure, without injury, the cold of our winters, has deterred cultivators from turning their attention to it; as it is known that the severe winter of 1807 destroyed a large part of the olive trees in the south of France; and as it is known too, that Humboldt, in his essay on the geographical distribution of plants had set down the olive as requiring a climate with a mean temperature of 57 deg. 17 m., the greatest cold being 41 deg. 5 m. Mr. Jefferson, however, says that when killed by frost, it will spring up again from the roots; so also says Mr. Hillhouse; and such is the experience of Mr. Spalding and Mr. Cooper. If the varieties cultivated in France were the only ones to be had, even their comparative tenderness ought not to be an objection to attempting their cultivation here. For all experience shows, and philosophy teaches, that plants of temperate climates, in time, by frequent reproduction from seed, adapt themselves to colder climates, in which, at first, they invariably perished. The Melia Azedarach furnishes a familiar illustration of this fact; and applying to the well known characteristics of the olive tree, the first and second of the laws of temperature, with respect to its influence on vegetation, as laid down by M. De Candolle, we may confidently conclude therefrom that it will adapt itself to our climate even sooner than the Melia.

Happily, however, there are varieties to which this objection cannot be made. "In the southern part of the Crimea, which lies between the latitude of 44 deg. and 46 deg. two varieties of olives have been discovered, which have existed there for centuries. They yield great crops and resist the frost."

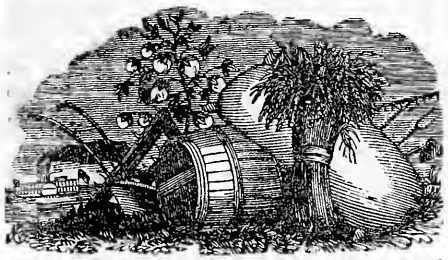
"These olives have been cultivated in the Royal Imperial Garden of Nikita, to preserve and multiply the species, with plants which had been received from Provence, and have endured the rigorous winters of 1825 and 1826, while those of Provence, in the same exposure, perished even to the root. Measures have been recently taken in France for the introduction into that country of these two precious varieties, *which are capable of resisting ten or twelve degrees of cold below the zero of Reaumur's thermometer---equal to five degrees above the zero of Fahrenheit."---Kenrick's Amer. Orchardist, 3d ed., p.* 333.

The nurserymen of the United States incur great expense in introducing such exotics as the Cedar of Lebanon, Garoga elyptica, Paulownia imperialis, Pinus deodara, &c. &c.:—all of which are very beautiful trees; but when they are said to be very beautiful and very rare, all is said of them that can be, with truth, except that they are very expensive. It is true that purchasers are found who are willing to pay high prices for them; and in this, those who import them, find their remuneration. By incurring an expense, not more, it is believed, than has been incurred in the introduction of any of the exotics above named, the olive of Nikita may be introduced. And if it stand the rigor of our climate, as it does that of its native region, may we not hope to see it, in a few years, spreading over the southern States, adding to the comforts and the wealth of our people? Once introduced, its propagation is a matter so very simple, that it may be easily disseminated to any extent in a very short time. Such men as Dr. Cloud, of Alabama, Dr. Phillips and Mr. Affleck, of Mississippi, I would suppose would not rest until they secured the introduction of the olive into their States, respectively. Mr. Affleck, especially, will surely not consider Ingleside complete, until an olive grove shall have been added to his establishment.

Dampier and Lord Anson, the former as far back as 1688, had described the Bread Fruit, as a most invaluable production of the Ladrone Islands. In 1787, persons in London, interested in the West India Islands, prevailed on the King of Great Britain to order a ship to be fitted out at the expense of the nation, for the purpose of introducing the Bread Fruit as an article of food, into the West India Islands. The first voyage, under Lieut. Bligh, was a failure. But the object was ultimately accomplished. The result, from some cause or other, did not answer the expectations of those who had taken an interest in it; yet they never regretted having made the effort, nor the charge made by it on the public treasury. Is it not a matter of higher importance to the southern States of our confederacy that the Nikita olive should be procured at the public expense? Look over the list of seeds and plants brought home by the Exploring Expedition—esttmate the whole at the highest value that can properly be set upon them, and altogether, so far as real utility is concerned, they are not equal to the value of the Nikita olive. Yet how they are cherished—with what care and expense they are preserved! The government of Great Britain incurs heavy expenses to introduce the Bread Fruit into the West India Islands; the government of France takes measures to introduce the Nikita olive into that country. Shall our government, established in all its branches, on principles of utility, and professing to be regulated in all its movements, exclusively by these principles, lag behind the old and decaying monarchies of Europe in enterprises like these? Shall it be said that in our republic, its exploring expeditions, undertaken professedly for the public good, shall belie the character of all our institutions, by preferring, in their collections, articles of show to those of utility? Jas. Camak.

Athens, Ga., March 10, 1844.

☞The Baltimore American says, the Post-Office Committee in the House of Representatives, it is believed, will present a bill reducing the rates of letter postage to *five* and *ten* cents, for distances under and over one hundred miles.



The Southern Cultivator.

AUGUSTA, GA.

WEDNESDAY, JANUARY 1, 1845.

☞ Those *Agricultural* journals with which we exchange will oblige us by directing to us at Athens in future.

Together with the gratulations appropriate to the season, we present to our friends the first number of the third volume of the Southern Cultivator. The favor with which the two preceding volumes have been regarded, encourage us to entertain high hopes for the future, that our efforts in aid of Southern Agriculture may have some agency in redeeming it from the reproaches it has had to submit to, in times past, and in awakening those engaged in it to a sense of their true interests.

Why do Southern fields and Southern rural dwellings so generally wear the aspect of exhaustion and dilapidation? The cause is to be sought for, certainly, neither in our climate nor our soil. For the climate of the Southern States—of Georgia, especially—is, beyond all question, the most delightful, in every respect, in the world. Travellers who have visited the south of France and Italy bear testimony to its superiority to the climates of those countries. Scientific gentlemen have recorded their observations in proof of the same fact. The late Professor Nicollet, had, in the service of the French Government, before he came to Georgia, visited nearly all the climates of the earth. He had no hesitation in declaring his preference of the climate of Middle Georgia to all others he knew anything of. And M. Valney, many years ago, stated without qualification that the climate of the United States, on the 35th degree of N. latitude, was, according to his experience, the best in the world. To all this may be added the uniform testimony of every Southern man who goes abroad, and, from personal observation, makes a comparison between other climes and our own.

And what a soil originally! Leave out of the comparison the alluvions of the Mississippi valley, and the Southern States, as regards native soil, were not surpassed by any other country:—and even now, after years of butchery, by careless and unskilful hands, in the means of improvement, and the facility of their application, and the certainty of success, the South is surpassed by few other lands under the sun. No one need hesitate one moment about the resuscitation of his soil. The means are at hand, if he will but make an intelligent search for them. The marl of the tide-water region, the clay and green sand of the middle country, the lime and plaster of the mountain district, and the luxuriant vegetation so peculiar to Southern climes, supply the means of improvement in ample abundance.

What country is there that can boast of so great a variety of useful and valuable productions in the same extent of territory. In Georgia, for instance, we have rice and sea island cotton and sugar on the sea coast; cotton and wheat, tobacco and silk, if we choose, in the middle country; wheat, gold, iron, coal, lime, plaster, and marble among the mountains; corn everywhere. On the whole earth, can this be equalled?

And how have these signal advantages been improved by our people? Let our worn-out fields and deserted homesteads answer, proving too conclusively that where nature is overbountiful, man is sure to be a spoiled child. The time has come, and now is, when the old practices which have led to this state of things must cease. Our planters must put in practice a new system of domestic economy. The present rates of profit on capital invested in agriculture will not allow of indulgences for the future like those we have enjoyed in times past. Comparative exemption from care, trusting to agents, buying luxuries and even food from abroad, unskilful and slovenly cultivation, clearing new land and wearing it out—all these things must have an end. Planters who intend to bid defiance to the sheriff, and expect to be able to look poverty in the face without dismay, must look closely after their own affairs, depending on their own skill and energy in the management of them; must dispense with mere luxuries; must make at home their own food and clothing; must apply themselves to collecting all the information they can get about the best modes of reclaiming and cultivating land; and to putting into rigid practice what they shall thus learn. Depend upon it, this change has to be made, and the sooner it is begun by all, the better will it be for all. And when it shall have been accomplished—when our planters shall properly esteem the importance of their pursuit, remembering the estimate that one thousand millions of men depend on it for sustenance, that nine-tenths of the fixed capital of the civilized world is vested in it, and that they are a part of the two hundred millions of men whose daily toil is spent in its operations:—when they shall adopt and act on the idea that plants are living bodies, requiring food for their sustenance and proper development, just as much as animals do:—when they shall distinctly understand that, the problem they have to solve, is, how to get the greatest possible amount of produce from an acre of ground, with the least possible outlay of labor, and the least possible amount of injury to the soil:—when our planters shall understand all this, shall steadily pursue the course that is forced upon them by this understanding, and by the present state of the agricultural markets of the world, and shall have put into practice the system of domestic economy suited to the new condition in which they are finding themselves placed, the sun will not shine on a more productive soil, nor on a happier or more thrifty people.

There is everything to encourage our planters in undertaking this reformation. No principle is better established, than that a soil originally fertile, though exhausted, may be easily, not only restored to its original fertility, but may be even pushed far beyond that point. It is true in theory, and is also true in practice. The success of the Flemish system of husbandry, both at home and in the county of Norfolk, England, and the experiments of Von Voght in Germany, prove what may be done even with barren soil. In England, every thirty-four acres of land has now to produce food for twenty people; yet Mr. Smith, of Deanston, a practical man, the inventor of the subsoil plow, says, "it is not at all improbable that Britain may become an exporting country in grain, in the course of the next twenty years." And we have the authority of Alison for saying that the introduction of the garden culture of Flanders, and the terraced culture of Tuscany throughout England, would at once double the already enormous production of her soil. In Virginia, the emigrants from New York are rapidly reviving the poorest worn-out lands of some of the poorest counties. Already some of our planters in Georgia are making ten bales of cotton to the hand on lands that had been exhausted. Ninety-six and a quarter bushels of corn have been gathered from one acre in Hancock county. Indeed, no man has yet attempted to prescribe a limit to the productive powers of the soil. Add to this, the fact that agriculture is rich in the trophies science has conquered for it, during the last few years. In nothing is the present age more remarkable, than in the improvements science has made in the commonest implements, and the light it has thrown around the commonest processes. For instance, how best to stock a plow—the best shape for the share and mould-board—the direction of the line of draught from the collar—the angle a hoe should make with its handle—why wheat will not thrive best on food that suits corn—the comparative value of food for cattle, in reference to the products of milk, cheese, butter, or fat—the nature of rust in wheat. There was a time when such things were thought to be beneath the dignity of science. But that time is past. Science is now beginning to be esteemed, by the tillers of the ground, as it really is—the refinement of common sense, guided by enlightened experience. And the time is rapidly approaching when it will accomplish for agriculture as much as it has done for commerce and manufactures, through its most wonderful agent the steam engine.

To aid, as far as may be in its power, in bringing about this most desirable state of things, will be the constant endeavor of the Cultivator. How far we shall succeed depends, in a good degree, on those to whose service our exertions are to be devoted. No man likes to work for thankless employers: neither will any man work for nothing, if he can help it. We don't plead exemption, in this respect, from the common feeling. If, therefore, the planters of the South expect to derive full benefit from this publication, they must sustain it zealously by both word and deed. We will do our duty faithfully, to the best of our ability, trusting confidently that the reciprocal duty of the public will be as faithfully discharged.

PLANTERS' CLUB OF HANCOCK COUNTY.—It gives us great pleasure indeed to publish, as we do in this number, the account of the late Fair of the Planters' Club of Hancock County. This Club, we believe, was the first that was formed in this State, and the result of its efforts thus far, is certainly such as ought to induce planters in other counties to form similar associations. Near one hundred bushels of corn gathered from one acre! It is not long since such a product was thought to be utterly impossible in Georgia. Now there can be no doubt about it; the Club have awarded a premium for the production of ninety-six and one-quarter bushels: and we do not at all doubt that in less than five years, the members of this same Club, continuing their enlightened efforts for the improvement of their county, will be called upon to award a premium for the production of *over one hundred and fifty bushels* to the acre.

We felicitate the Club on their determination to include pork and wool hereafter in the list of objects to be presented for premiums. This is exactly as it should be, and will lead the way in Georgia, we have no doubt, to a state of things in which we shall not be dependant on others for these articles of prime necessity.

Need we suggest to the intelligent members of the Club, that in undertaking to produce wool, the very first movement must be to exterminate the whole race of rascally dogs with which the country is infested from Dan to Beersheba. We have known attempts at wool-growing fail utterly from not doing this one thing.

The Clubs of Hancock, Greene and Morgan, are, we believe, the only ones at present in the State. But we confidently expect that in a very few years, almost every county in the State will have its club, and that all of them will be but branches of a great STATE AGRICULTURAL SOCIETY.

In Kohl's Travels in Ireland, page 115, Harper's edition, there is a reference to the uses to which sea-weed is applied by the People on the coast of Antrim. "One kind of a sea-weed," he says, "much liked for manure, is the *Laminaria digitata*, called sea-wrack, which is considered so serviceable, especially for potatoes, that it is a saying in Antrim that a sack of sea-wrack will make a sack of potatoes; although, in general, it is rather the quality than the quantity of this useful root that is improved by it. After every storm on this coast, the people come down in crowds from the mountains, to gather the sea-wrack for their potatoes, and in calm weather they run out far into the sea, and cut it under the water with sickles. Sometimes they take the little mountain horses in with them; but when the shore is too rocky for this, they lade their own human backs with the salt dripping manure."

It must occur to every one on reading this account, that the efficacy of this manure, in improving the quality of the potatoe, must be owing to the salt it contains. If this be so, the application of common salt with the manure usually applied, at the time of planting, must have a good effect. It is, at all events, worth the time and trouble of making the experiment, to know what the effect of the application will be in our climate. As the time for planting the Irish potatoe is approaching, may we not hope that experiments will be made, and that the result will be made known to the public through the medium of the Cultivator.

HEMP.—It has long been a matter of surprise to us that the culture of hemp was not attempted on the rich lands of northwestern Georgia. What we know of these lands compels us to believe that success must certainly attend the attempt whenever made. With a desire to aid those who may think of trying it, we intend to publish in the next number of the Cultivator, an essay on the culture of hemp, and its preparation for market, by the Hon. Henry Clay, of Kentucky. This will be followed by Judge Beatty's prize essay on the same subject, and various other papers, until nothing shall be left that is necessary to a full understanding of the whole matter.

There is great encouragement just now to undertake the culture, in the fact that the old tedious and laborious process of braking by the hand is about to be superseded, by a machine recently invented, by which, with an ordinary horse power, four hands can brake 200 lbs. per hour. The machine is called "Butler's Hemp Brake," and can be bought in Nashville, Tenn., for twenty dollars.

For the Southern Cultivator.

MR. EDITOR:—I herewith send to you the form of an abbreviated Almanac, which you might believe appropriate for an insertion in the first number of your third volume. It presents a facility of reference, which no other that I have ever seen does. The calculations have been made by myself, and I will guarantee its correctness. You can, however, dispose of it as you may think proper.

Very respectfully, Yours,

THOMAS GAILLARD.

Claiborne, Ala., November 20, 1844.

ALMANAC TO A. D., 1900.

Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Sunday.
47	53	48*	49	44*	45	46
52*	59	54	55	50	51	57
58	64*	65	60*	61	56*	63
69	70	71	66	67	62	68*
75	81	76*	77	72*	73	74
80*	87	82	83	78	79	85
86	92*	93	88*	89	84*	91
97	98	99	94	95	90	96*
			1900			

February, March, November.	February, August.	May.	January, October.	January, April, July.	September, December.	June.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

EXPLANATIONS.—In the left hand Table, find the day which corresponds with the given year. *Example:* Saturday with the year 1845. In the right hand Table, under the given month, will be found the days of the month on which that day falls. *Example:* In January, 1845, Saturday falls on the 4th; therefore Wednesday will be the first day of the month. N. B.—In a Leap Year, the star (*) points out the corresponding January and February to be referred to.

COUNTING-HOUSE CALENDAR FOR 1845.

MONTHS.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
JAN'Y..				1	2	3	4
	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	
FEB'Y..							1
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	
MARCH.							1
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					
APRIL..			1	2	3	4	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30			
MAY...					1	2	3
	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31
JUNE ..	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30					

MONTHS.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
JULY..			1	2	3	4	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31		
AUG...						1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	31						
SEPT .		1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30				
OCT ..				1	2	3	4
	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	
NOV ..							1
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30						
DEC ..		1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31			

"KEEP IT BEFORE THE PEOPLE,"

That the outrages perpetrated on PROPERTY IN THE SHAPE OF TREES, are at last arousing legislative and judicial vengeance. The robberies practiced openly upon gardens and orchards and door-yards, have long and keenly annoyed those who devote care and labor to the cultivation of fine fruits and the embellishment of their homesteads. This species of pilfering, so common with children, exerts a pernicious influence on the minds of the young and old; for those who plunder their neighbors this way while young, are commonly more or less tainted with thievish propensities in maturer life. "Train up a child in the way he should go, and when he is old he will not depart from it." Mark, then, the influence of example—of good and evil example—upon the minds of youth:—"We do not know," says the New York Express, "when we have been more pleased with a judicial decision than that which we find recorded in one of our late London files. A boy fifteen years of age, was convicted and heavily punished for breaking a bough from one of the trees in a public garden. The sitting magistrate, in passing sentence on the offender, took occasion to use the following strong and sensible language: "that although the damage in this particular instance was small, yet the practice of breaking trees occasioned great damage; and the inhabitants of the different squares were put annually to great expense, in consequence of these depredations. *Persons had no more right to take a branch from one of these trees, than they had to go into one of the houses and steal a piece of plate.*" We hope this will be 'recorded for a precedent,' in every court in this country."

There is a beautiful circumstance connected with agricultural emulation. In many of the pursuits of life, one man gets rich by making another man poor,—climbs the ladder by putting his feet on another man's shoulder; or he builds his own building out of the fragments of his neighbor's which he has undermined. This is often a crying injustice, and inflicts many bitter mortifications, or arouses vindictive and tiger passions. Emulation in agricultural improvement enkindles no such baleful fires. A man can make no improvements in husbandry, without at once extending the knowledge and advantage of them to others. The enlargement of the capacities of the soil and every increase of its productions, confer an immediate benefit upon the whole community.—*Selected.*

For the Southern Cultivator.

REPORT OF THE TILLAGE AND PRODUCT OF ONE ACRE OF LAND IN CORN IN 1844.

By Edmund M. Pendleton.

My land is a stiff red clay foundation, and rather a sandy soil; has been in cultivation a number of years; much worn, and never manured, in my knowledge, till the present crop, except once in the hill, with stable manure and a few loads of oak leaves to make the ground friable. It lies on the summit and slope of a hill, facing south, and of course is high and dry; a part of it was quite stony withal. Gathered a crop of wheat and hay from it last year, and plowed in the stubble with a turning plow in November; hauled out about sixty-five two-horse loads stable manure with scrapings of farm-yard, hog-pen, &c., in February; a part fermented and a part not; spread over the ground broadcast and plowed in with a turning plow and subsoiled immediately. Planted corn 3d March, three by two and a half feet, three grains in a hill, and a small handful of cotton seed put on the corn, and covered with the plow. Hoed as soon as up, and thinned to one stalk in the hill; then plowed with a colter as deep as possible. Had a bad stand and replanted early in April, subsequently added a little cotton seed to the feeble stalks; gave it three more hoeings, but no plowing. Gathered fodder the last of July, and pulled the corn late in August, which was fully ripe.

The land was measured by Tuttle H. Audas, and the corn by Henry Rogers, Esq., which amounted to fifty-three bushels and three pecks. Had it been cultivated as ordinarily and without manure, it could not have produced, in my opinion, exceeding ten or twelve bushels; so that I have nearly or quite quintupled the production of my acre.

As I paid out no money for manure except for cotton seed, I value it according to the amount of labor expended in procuring it. At this rate, the manure and hire of hand and horse in the cultivation of the acre and gathering the crop, amounted to twenty four dollars. The value of the corn, fodder and tops, at spring prices, would amount to about thirty-four dollars---making a nett profit, on one acre, of ten dollars, and the land permanently improved for years.

Sparta, December 26, 1844.

Large Yield of Cotton.--On the first of September, we received a letter from A. M. Cliett, of Houston county, in which he stated that from one acre of land, planted and cultivated, in part, on the plan of Dr. Cloud, he had gathered in the month of August, 1028 pounds of nice seed cotton, and that the stocks were bending under the weight of the unmatured bolls. Mr. C. promised to furnish us at a subsequent time with a more detailed account of the culture, &c., and the yield. We hope he will not omit to do so, when we shall take pleasure in laying them before our readers.---*Southern Cultivator, Nov.* 27.

Mr. Editor:---As I promised you I should give a fuller account of my improved lot of cotton, and as I am now done gathering it, I here will give you a precise account of the planting, manuring and the working, as well as the yield, which was injured by the drought and early frost; but according to the price, I made a sufficiency.

I live in the pine woods, on the top of the highest hill in the neighborhood, and mine is thought to be poor land, in which opinion I agree. It is mixed with black-jack, and some red-oak and white-oak runners. On the top of this hill I planted my cotton, the Texan burr---the first I have ever seen myself; but I see others have it. Last year my two acres were planted in potatoes, sugar cane, and a part in cotton, except about one-fourth of an acre, which I cleared this year, and planted in cotton to get as much as two acres square. I ran it off, or laid it off, four feet and a half one way, and three feet and a half the other. I ran my plow backwards and forwards until I could get it no deeper. This I did the first week in March, and at the same time, I applied my manure to it in the checks. At this time it was raining a moderate rain, sufficient to wet the manure, which I think was some advantage to it. As I put it out, I ridged up on it with a large turning plow, as fast as I could spread it, to prevent its evaporation. On the 8th of April I planted the seed by chopping small holes over the manure, and dropping five seed in a hole, and covered it with the foot. On the 29th of April, I broke up the middles with a ruter plow, and on the 1st of May I hoed it and thinned it out to three stalks. Then on the 22d May I ran round it two furrows in a row, with a sweeper. On the 1st day of June I hoed it the second time and thinned it out to two stalks, and on the 3d day of June I split out the middles with a sweep. On the 26th of the same month I ran three times in a row with the same sweep plow, and on the 29th of the same month I hoed it out by chopping out what was left behind the plow. This was the last work I gave it; for by this time, it was too large to work any more.

I suppose I dropped about one gallon of stable and hog manure in a hill. This manure was made by hauling fine straw into my lot and hog-pens, and then, after it was trampled on a short time, I banked it up, and covered it by throwing straw over it to keep off the sun.

This is the way I cultivated it. I divided the land into two parts, one acre each, to see which would beat; but there was no difference in land or cultivation. On one acre I gathered 2703 lbs. of as nice cotton as ever was picked out, and on the other I picked 2637 lbs. of equally nice. I think I lost 100 lbs. on each acre that I would have got if my patch had been farther from the houses, as everything running through it washed it very badly and trashed it.

These two acres have made me over four bales of cotton, besides 150 bushels of seed,

Yours, A. M. Cliett.

Pinetucky, Houston Co., Dec. 15, 1844.

Steam whistle.—An exchange paper states that a new application of this melodious instrument has recently been made, to wit, to give warning of the exhausted state of steam-boilers, or when the water in them has fallen to the spot "dangerous." Then, and not till then, the steam gains access to and rushes up a tube there placed and connected with a whistle, which immediately becomes the mouthpiece of the boiler, and shrieks, "I want water, or I shall burst."

FENCES.

Has it ever occurred to Southern planters to inquire into the amount of capital invested in fences, and the annual interest on that capital? Those who make the calculation will be astonished at the result. We have an extensive collection of facts connected with the subject, which we intend to use hereafter, if our readers should desire it. In the mean time, we commend to their attention the annexed article from the United States Gazette; and will only say, at present, that the Osage orange grows in Georgia with great luxuriance and beauty. But we imagine the most effective live fence for the Southern States, is to be made of the Cherokee rose.

REMARKS ON FENCING.

The gradual but ceaseless prostration of our forests, and consequent increase in the value of fencing material, have directed the attention of country residents to hedges, and other permanent guards against the inroads of cattle, and the no less frequent but more vexatious depredations of man. Those who listened to Mr. Biddle's last address before the Philadelphia Agricultural Society, must have been strongly impressed by the importance of this subject, and astonished at the almost incredible amount of capital invested in fences. Within the State of Pennsylvania alone as shown by apparently well founded data, the aggregate sum exceeds one hundred millions of dollars! Mr. Biddle said, "consider now the interest on this outlay, the wear and tear of the fence, and that the whole of it will not last more than ten or fifteen years, and you have as the annual tax upon Agriculture in Pennsylvania, a sum of ten millions of dollars. If this estimate appears too high, reduce it one half and you have still a tax of five millions." Various are the opinions that exist as to the best method of protection and the relative worth of live hedges, cedar fence, stone walls, &c. In many sections, the scarcity of stone utterly precludes the erection of such barriers, however ready we may be to award them the palm, for beyond question they are---when well put up—decidedly preferable; if it be said they are unsightly, all that is necessary to invest them with perennial verdure is the evergreen Ivy, or other creeping plants might be used—for instance the Virginia Ivy (Ampelopsis quinque folia) which is of vigorous growth, and would serve to cement the structure, adding to its strength whilst it imparted beauty. In New England the larger portion of fences are of this nature. As has been observed, all localities do not admit of their erection, and as wooden fences are alike perishable, and expensive, we should adopt the best substitute within our reach—that is live hedges. In all soils, and in all latitudes they may be grown, care being taken to select the plants best adapted to peculiar soils, and situations. In Europe—especially in Great Britain where hedges are almost exclusively used, they are formed of Hawthorn, Holly, Privet, Pyracantha, and other deciduous and evergreen shrubs, the Hawthorn being principally used for inclosing land, the others serve the double purpose of ornament and use. In many situations in this country, especially in wet or heavy land, the thorn unfortunately does not succeed: when partially elevated on banks they have been found to thrive better, but still are liable to decay. The Coxspur or New Castle thorn (Cratœgus crus-galli) which has been extensively planted is subject to canker, caused by the sting of an insect, which deposits its eggs in the joints of the branches, the whole plant ultimately becomes diseased, and gradually decays. Until recently the Washington or Virginia Thorn (Cratagus populifolia) was looked upon as a desirable kind, rapid in growth, handsome in flower and foilage, and free from canker --but an enemy has at length appeared, the leaves become blotched, the healthy circulation of the sap impeded, yellowish excrescenes form

on the branches, and death ensues—thus we have seen beautiful hedges of this plant decay and die, and so general has been the result it seems useless to plant it.

Fortunately we have within our reach a substitute for the thorn which is alike free from the disease and the attack of insects—the Maclura Aurantiaca or Osage Orange. First discovered by Hunter, and Dunbar, on the banks of the Little Missouri (and named by Nuttal in honor of our townsman the late Wm Maclure) it was not until the expedition of Lewis and Clark that we of the seaboard obtained the plant itself, from seed collected on that expedition and distributed by Mr. Jefferson. There are now several fruit bearing trees in this section. An acquaintance with it of nearly forty years, has shown that the mature wood is perfectly hardy, is of a rapid growth, and *bears the shears without the least apparent injury:* the foliage is highly ornamental, the young shoots are armed with formidable spines, the puncture of which is painful, and both leaves and shoots abound in acrid juice—hence it is never attacked by insects, or browsed by cattle; on the whole there is reason to believe it is destined to create a new era in fencing, and to prove of incalculable value to the farming interest. We have seen a hedge of it which though only planted half the time it would require to rear one of thorn, is a perfect barrier to man and beast. From a recent publication of Mr. James Gowen, we perceive he also has formed hedges of it on his beautiful estate at Mount Airy, specimens of it also exist at the Landreth Nurseries, and elsewhere in this neighborhood. If our fields were as effectually enclosed as they may be by this plant—much of the evil which attends a residence near a populous city would be avoided. Mischievous persons would be kept at bay, fruit would no longer cause vexation and annoyance, and the domestic birds which protect our crops and trees from insects, and add a charm to country life, would no longer be disturbed by cockney sports men—the latter is truly a crying evil which we re oice to see, has attracted the attention of the Agricultural Society. D——.

THE LAW OF STORMS—SCIENCE AND UTILITY.

The reader, already familiar with the events of the late extraordinary storm, will doubtless be interested with such statements as the following, from the pen of a gentleman whose name is a sufficient voucher for the accuracy of his remarks. Mr. Haskins, of Buffalo, author of a work eliciting high testimonials from competent critics in astronomy, and whose observations in various matters of literature and science, (instanced in the lately published Discourse on "Civilization anterior to Greece and Rome,") are frequently read, and read with pleasure, in the periodicals and other journals, has published the following in the Buffalo Commercial Advertiser, of which he was formerly one of the editors:

THE BAROMETER AND THE TEMPEST.

Mr. Editor:—For several years past I have been in the practice of sending to the public press of this city the unerring announcement of approaching gales, which have been furnished by the barometer. This I have not done as something new, but only in the hope that constant repetition might finally so fix the attention of our nautical people on the subject as to cause the procurement and use of the instruments by them.

The great gale, two years since, was known to be approaching, and was the subject of conversation among those who had barometers in this city, some eighteen hours before the first effects of it were visible either upon the lake or upon the shore. On that occasion the column of mercury in the instrument sunk three-fourths of an inch in the space of twelve hours. So again last week. On Friday afternoon and evening, the 19th instant, no one saw, by external indications, the approaching war of the elements. At about seven o'clock on that evening, three steamboats filled with passengers left this port for the west. A gentlemen who was passenger in one of these, in an account of the storm in your paper of Monday last, says: "When we left the harbor, the lake was scarcely ruffled, and for the first two or three hours there was every prospect of a quick and pleasant trip.—Every one was in the highest spirits, as we bowled merrily along, and no apprehensions were entertained until about eleven o'clock," &c.

Now, this account agrees perfectly with the external indications on shore. But before these boats left port, it was known, and was the subject of conversation in families on shore, where the barometer is kept, that a storm of unusual violence was very soon to burst upon us. During the nine hours ending at half past nine o'clock on that evening, the mercury in the barometer fell one entire inch; and this great change, in so short a time, was demonstration to those who understood it, not only of the nearness of the calamity, but of its awful severity.

Now, had the captains of these three steamboats known what was known on shore, and what they might just as well have known as any one else, is it to be supposed they would have left the port as they did? Of course they would not: and then why will not these, and all other nautical men, in the pursuit of their noble and daring profession, secure the advantages afforded them by the barometer?

I know it may be said that a seaman would be ridiculed to talk of danger when all is calm below, with smiling skies above. But surely men who could face the dangers and the awful responsibilities of last Saturday morning with the coolness and energy that our mariners did, can disregard the sneers of ignorance for a day. I admit that, had any one of the three steamboat captains refused to sail on Friday evening last, when the weather was so pleasant and promising in appearance, and had given as a reason that he "saw danger on the deep," he would have been both ridiculed and censured. But what would have been his position twelve hours later, when surrounded by the wreck of that storm, against the dangers of which he had warned his contemners? Ridicule would have been silenced then; while others, gathering wisdom from the example, would speedily possess themselves of the same means of knowledge that he possessed, and by which life and property are so greatly protected. R. W. Haskins.

Buffalo, October 23, 1844.

THE PYRAMIDS OF EGYPT.

The materials of which the pyramids are constructed, afford scope for long dissertation, because, independently of the science and skill requisite for their adaptation, the *distances* from which most of them were brought proves that each Monarch's sway extended all over Egypt and Lower Nubia, if not beyond; and in relation to this subject we gather the following facts from the second lecture of Mr. Gliddon's new course:

Geologically considered, Egypt is a very peculiar country, the quarries of different kinds of stones lying at great distances from each other in distinctly marked localities. If you see a piece of *basalt* on the beach of the Mediterranean, you know that there is no basaltic quarry nearer than between the 1st and 2d cataract, and when you find a block of granite at Memphis, you know that no granite exists but at the first cataract—nearer than the peninsula of Mount Sinai. Early civilization and extended dominion is indicated in these facts, and when we reflect upon them, we almost think we witness the work of transportation going on; that we see the builders, and the buildings themselves in process of erection. The blocks of Arabian limestone used in the interior of the pyramids were brought from the ancient quarries of Toorah, on the opposite side of the Nile, distant about 15 or 20 miles from such pyramid. These very quarries are vast halls as it were excavated in the living Rock, wherein entire armies might encamp, are adorned with now mutilated tables recording the age of their respective opening by different Pharaohs, and not only show the *very beds* whence the stupendous blocks of some of the pyramids were taken; but are in themselves, works as wondrous and sublime as the Memphite Pyramids! nay, at the very foot of these quarries, lie the countless tombs and sarcophagi of numbered generations of ancient quarrymen! These quarries are of intense archæological interest, because the tables in them record that stone was cut in them for Memphis, on such a day, such a month, such a year of the reign of such a king; and these kings begin from the remote times before the 16th dynasty, and, at different intervals came down through the Pharaonic period with many of the others, till we reach the Ptolemaic epoch—and end with Latin inscriptions similar to others in Egypt, attesting that "these quarries were worked" in the propitious era of our Lords and Emperors Severus and Antoninus, thus enabling us to descend almost step by step from the remote antiquity of 2200 years B. C., down to 200 years after the christian era. The hand of modern barbarism, prompted by the destructiveness of Mohammed Ali, has since 1830 done more to deface these tablets—to blow up many of these halls in sheer wantonness than has been effected by time in 4006 years!

Every atom of the hundred thousand tons of granite used in the pyramids was cut at Syene, the 1st cataract, distant 640 miles. The blocks, some of which are 40 feet long, had to be cut out of their beds with wooded wedges and copper chisels; then polished with emery till they were as smooth as looking glass, and then carried by land half a mile to the river—placed on rafts and floated down 640 miles to Memphis—brought by canals to the foot of the Lybian chain—conveyed by land over gigantic causeways from one mile to three in length to the pyramids for which they were intended, and then elevated by machinery and placed in their present position, with a skill, and a masonic precision that has confounded the most scientific European engineer with amazement! The very *basalt*-sarcophagi that once held the mummy of the Pharaohs, in the inmost recesses of these pyramidal mausolea, 8½ feet long by 3½ broad and 3 deep were all brought from Lower Nubia, from the basaltic quarries of the 2nd cataract, not nearer than 750 miles up the river! Looking into the *interior* of the pyramids, there is still much to stagger belief—to excite our admiration. In the pyramid of five steps, the upper *beams* that support the roof of the chamber are of *oak, larch,* and cedar, not one of which trees grow in *Egypt,* and establish the fact of the *timber trade* with Illyria, Asia Minor and Mount Lebanon in ages long before Abraham! In the fragments of a mummy the cloth is found to be saturated with the "Pissasphaltum"—Jew's pitch or bitumen Judiacum, compounded of vegetable pitch from the Archipelago, and of asphaltum of the Dead Sea in Palestine; we find *Gum Arabic,* that does not grow nearer than 1200 miles from the pyramids, attesting commerce with upper Nubia. The *gold leaf* came from the mines of Suakim on the Red Sea, or from remote Fazoglu. The liquor which cleansed out the body of the mummy was *Cedria* the fluid rosin of the pinus cedrus—that grows not nearer than Syria. The *spices* send us to the Indian Ocean—the aloes to Succotra—the cinnamon to Ceylon, the ancient Taprobane—and then the *arts* and *sciences* brought to bear upon the pyramids that must have arrived at pertection long before *that* day are not only themes for endless reflections, but oblige us to confess that in *chronology* we are yet children!

Among his novel and strange assertions, in relation to the science of the ancient Egyptians, Mr. Gliddon maintained that from the *very nature* of their *country,* and the vast *fossil* remains in their quarries, &c, the Egyptian priests must have been *geologists,* and referred to his "Chapters," page 49—for the remarks of the priest of Solon, "You mentioned one deluge only, whereas *many* happened"—and other evidences, that the *Egyptians* recognised in their mythology and chronology of the world *vast periods* of time, anterior to the creation of *man.*—*Boston Post.*

From the So. Ca. Temperance Advocate.

THE NORTH AND THE SOUTH.

Mr. Editor:—You will oblige me by publishing in your paper the enclosed remarks, which I made at the recent meeting of the Monticello Planters' Society, together with the postscript. This request is made principally to correct any misunderstanding (if any there should be) of what I said on that occasion.

Respectfully yours, &c.,

Nov. 12, 1844. Wm. J. Alston.

Mr. President:—It is natural that one who feels a lively interest in Agricultural pursuits when at home, should be attracted, when abroad, by whatever may be worthy of notice in the agriculture of the region through which he would pass.

Accordingly, during my travels of the past summer there was no subject, except one, which engaged more of my attention than the agriculture, and its appurtenances, of the country through which I travelled. I saw much to interest, and perhaps have gained some useful information.

I propose to give the results of my observations, rather than descriptions of what I saw.

There was no idea more impressed on my mind by all that I observed, than this—that improvement with the Northern people, is considered as a subject of more importance, than with us.

All classes seem to participate in the interest which is felt—amounting almost to enthusiasm—in regard to whatever may tend to develope the resources of their country. This was strikingly manifested at the State Agricultural exhibition of New York. There, were displayed the fruits of the industry and the inventive genius of an enlightened agricultural people—contending for prizes more honorable than those awarded for achievements in the Olympic games. There, were to be seen the greatest variety of best specimens of the agricultural products of that region—of stock of the most approved breeds---of domestic fabrics of the loom and needle---products of the dairy---models of the various implements and machinery used on a farm---a plowing match, more interesting than the feats of the Turf---and in conclusion, the largest assembly my eyes ever witnessed, under a vast canopy, listening to one of the most profound and accomplished scholars of New England, discoursing eloquently upon agriculture and its votaries.

Mr. President, I contemplated that scene—I may say that succession of scenes, with no ordinary emotions. I need not tell you I was gratified. In that section the cultivation of the soil, and the subjects connected with it, engage talents, science, capital and industry. The result is, that whatever is undertaken, is apt to be well done; and prosperity crowns their labors. The traveller seldom meets with a poor crop, or a poor specimen of stock, of any kind.

Everything evinces an enlightened husbandry. Their crops are chiefly corn, wheat, oats, and other small grain; potatoes, turneps, beets, cabbage, &c.; the grasses, clover, herd's grass, timothy, &c.

There are few of the above named crops which we may not produce with equal success, and in my opinion with less labor. Our natural advantages are superior to theirs. Our climate and soil are more favorable to the production of nearly all of the above enumerated crops, than theirs. If we cannot produce on all our soils, and in every season, as good Irish potatoes, we have our sweet potato, which is preferable, and which they cannot grow. If we cannot raise clover with equal success, we have our cow-pea, which is as good, and may be used as its substitute in improving our lands; and as food for man and brute; and, what is of far more importance, we have in addition, our cotton and our rice. We can support all kinds of stock at less expense than they. Our winters are not so severe, and as I have already stated, we may have greater supplies of food. Nevertheless they excel us. They make larger crops, raise better stock, etc. And why? It is because their system of husbandry is a more enlightened one, and they are constantly making improvements. We should therefore, to this point, direct our energies, both individually, and as a society.

In this connection I may remark, that one of their most important improvements is, in the use of the plow. There is nothing upon which the success of the agriculturist depends more, than the proper use of this implement. Of the truth of this, the Northern farmers seem to be fully aware. The best models of the plow, perhaps, in the world, are to be found in the Northern States. The most experienced and successful farmers there, I was told, will not use any but a large sized plow in preparing their lands for planting. These are drawn by at least two horses or oxen. The larger sized plow, used for breaking up land, requires four horses or oxen. Those first mentioned will turn a furrow 14 inches wide and 7 inches deep. The last mentioned would of course turn a deeper and broader furrow.

To deep and thorough pulverization before planting, as much as or more than to manuring, may be ascribed the greater abundance of their crops, in comparison with ours. This abundance supplies them with the means of supporting, in the best order, all kinds of stock.

There is nothing of value, that their farms can produce, or contribute to support, which does not receive that attention necessary to raise it to the highest degrees of perfection.

Permanency of improvement is regarded more by them than by us. Their buildings and their fences—whether of wood or of stone—are made to endure. Often times the traveller meets with well built stone houses and fences made of split rock, laid in mortar, as a mason would build it.

They know too the value of good roads. It is no uncommon thing to see one horse in a cart drawing a load, which it would require four horses in a wagon to draw over such roads as we are compelled to put up with, between Monticello and Columbia. We have to contend with no greater impediment to prosperity than the want of good roads; and there is no subject which requires the attention of the people, of Agricultural Societies and of the Legislature, more than the amelioration of the roads, and of the Road law. There is nothing better calculated to deter the enterprising stranger from settling amongst us, or to induce our worthy citizens to emigrate, than the difficulties which our roads present, in travelling, and in the transportation of produce to market.

I only repeat what has by others been remarked, when I say that the condition of the roads of a country may be viewed as an index of the degree of advancement of a people in the attainment of the comforts and refined enjoyments of civilized life. If this be true, we have ample room for improvement.

While travelling over the fine roads of the North, and beholding the beautiful and productive farms—the hills as well as the vallies clothed in living green, or golden grain, my mind would revert to the worn out fields and gullied hills of my own State, and the contrast produced feelings of sadness.

I determined in my own mind, if I should ever return home, and my life and health were spared, that I would endeavor, with renewed zeal, to change the system which had produced those saddening results. The more experience I have, and the more extended are my observations, the more deeply am I impressed with the belief, that the true interest of the Carolinian, I may say the Southern planter, is, to raise all his supplies that can be produced at home, first, and then as much more of whatever he may find profitable for market—whether it be cotton, grain, hay, stock, &c., as he may be able.

This change in our system would necessarily bring about an amelioration of our lands, as well as an increase of our incomes. We would have more time and means for making manure, and permanent improvements of every description, on our plantations. We would be enabled to enjoy more of the comforts and elegancies of life, and all our supplies would be of a better quality. This occurred to me with much force, when I beheld the comforts and even elegancies with which families at the North and the East, in moderate circumstances, were sourrounded; and when I saw the abundance and superior quality of almost everything necessary to supply a good table. I shall rejoice to see the day, when we all can supply ourselves with as good food and raiment as we ever purchased from our brethren of the West and the North. I believe we will then have more wealth—more of the real enjoyments of life—better roads—less hardships to encounter in disposing of our surplus produce—in a word, I believe we will then be a more prosperous, and happier people.

W. J. Alston.

P. S. By the above remarks, I do not wish to be understood as ascribing to the Northern people any pre-eminence of character—any superiority in a moral or intellectual point of view. I merely allude to their superior attainments, derived from an improved system of husbandry, and the general improvement of the country. My object was to show wherein we of the South may improve our condition, and enjoy all the advantages of the Northern farmer added to those of the Southern planter.

In these times—when the price of cotton is lower than it ever was known, and the prospect is that it may never be much higher—it becomes a grave question, for the consideration of the planter, and which every one must decide for himself, whether it is to his interest to continue to increase the over-production of cotton, by planting larger crops in proportion as the price falls; to enable him, by the increase of his crops, to purchase his supplies, which may be raised on his plantation; or, instead of this, to raise all his supplies, and then as much cotton or other produce for market, as he may be able.

If the latter policy indicated be pursued, it will then be to the planter's interest to adopt all available improvements in farming.

Whether the Tariff be reduced or not, no observant planter or statesman will deny, that large crops of cotton have invariably produced corresponding low prices; and *vice versa;* and that, however much a reduction of the Tariff may avail us, there is no cause which will contribute to raise the price of cotton so much as *to keep down over-production.* This will be done, either by increasing the consumption of cotton manufactures, by diminishing the aggregate of the cotton crops, or by both causes operating at the same time.

The reduction of the Tariff would to some extent, (not very great,) increase the consumption of cotton manufactures. The general use of cotton cotton bagging, instead of that disgraceful article called "Kentucky bagging," would increase the consumption at least fifty thousand bales annually. On the other hand, the general practice, by cotton planters, of raising all their supplies that can be raised on their plantations, would contribute more than anything in their power, to the curtailing of the aggregate of the cotton crops.

The effects of a diminished crop by all, would be an increase in the price of cotton, and their supplies furnished at home, at a less cost than that at which they could be purchased. W.J.A.

CORN BREAD.

Take as much corn meal as you wish to cook. scald it well, by pouring boiling water over it and stirring it thoroughly; then mix it to the consistency of batter, with milk; if it is pretty rich it won't hurt it, but mind the mixing part, that it is thoroughly done, the more the better.—Put in one egg, a teaspoonful of salæratus and a tablespoonful or more of lard. Mix the whole thoroughly together, till the ingredients are entirely incorporated through the whole; mind, I say, the mixing, the more the better. It is now to be baked as usual, about three quarters of an hour, and you will have the finest corn bread you ever ate.—*Western Farmer.*

GAMA AND BERMUDA GRASS.

With great trouble, and at some expense, I procured five acres of Gama grass, which I found neither horses nor cattle would eat, and I consider it as utterly worthless. The Bermuda grass is the best for pasture in the world. It is the doub grass of Central India, and among other things was brought to Georgia by Governor Ellis. You will find it figured and described in vol. v. of Sir William Jones's works, London, octavo edition. It was carried to the Bahamas, from Savannah, by Col. Tatnall, and I suppose found its way to Cuba with the cattle traders of that island. The Hindoos worship this grass as the best food for the sacred bull, and as being sent down from India by Brama for his use.

I speak very positively of the Bermuda grass, being the doub grass of India, and I do so because Mr. William H. Crawford, when secretary of the treasury, procured from India this grass, and the acorns of the teack tree, and sent me. I was struck (although a dry specimen) with the identity, and having Sir William Jones's work, in which this grass was figured, and my yard and lawn filled with it in flower, I compared them, and found they perfectly accorded in all points. But it requires a microscope to discover the beauties, which he (Sir William Jones) so rapturously describes, in its flowers. I do not know whether I stated that the Marquis of Hastings introduced this grass into England, but it failed, as Loudon states, from choosing an improper situation for it. It would grow well in your lands, that are warm, moist, and not flooded; the roots penetrate too deep to be destroyed in a good and warm soil. Its grazing powers exceed credibility in proper situations; nor is there any grass equal in quality for horses, cattle, or sheep. THOS. SPALDING.

Sapelo Island, Geo., Sept. 21, 1844.

In addition to the above from Mr. Spalding, we have had a communication for some time on hand from Mr. Affleck of Mississippi, who also forwarded us specimens of the Bermuda grass. We also recollect seeing it growing on his lawn and in other parts of the South. He says:

I find by actual experiment, weighing the Bermuda grass newly cut, and the same when dry, that it loses exactly 50 per cent., or 100 lbs. of grass make 50 lbs. of perfectly dry hay. It is the hardest grass to cut, however, that I have ever seen tried, and the easiest cured. I house all at night, which has been cut at noon. It would not, in my opinion, bear the cold of your winters—the first frost kills it to the ground. The Muskete, or as Kendall calls it, *Mesquit* grass, I presume would suit your climate better. It is yet a mooted question whether the Bermuda ripens its seed in this latitude. I will examine it carefully this season, and if I find matured seed, will send you some. I know not where *Mesquit* grass can be obtained. I send you three samples of Bermuda—one of long grass, of upright growth from the meadow, just coming in blossom—the other from an upland pasture—and the third, a stalk that I pulled off the surface of the ground, to show you how it spread, and how admirably it is adapted for embankments. On a piece of good meadow land, this grass stands in a solid mat—so close are the stalks, and so thickly interwoven are the leaves, that when cut with the scythe it very frequently stands erect. I feel very confident that it is *the most highly nutritious grass known to us.* From the specimens I send you, you will readily understand how such enormous crops of hay are cut from meadows of this sort—observe the great solidity and weight of the stem. In curing, it loses less weight than any grass I ever saw—and affords three cuttings, yielding an aggregate of from five to eight tons of hay, from a moderately good meadow.

I have said enough, however, to convince any planter who wishes to form pastures for his almost starved stock, or to do away with the necessity of pulling fodder, work so destructive to the health of his negroes, that he ought at least to make the experiment. And as a proof that I am willing to aid in spreading this treasure over the naked hills of the south, I will willingly forward to any planter, *who is a subscriber to two agricultural journals, one of which is published in the state in which he resides,* on his applying to me *post-paid,* a barrel of roots of this grass, which would, in one season, cover a large extent of ground. To the river planter it is absolutely invaluable—there is not a levee on the banks of the Mississippi could resist, for one hour, the pressure and attrition of the fearful flood now rolling along, but for their being bound together by this grass.

AGRICULTURAL EDUCATION.

Mr. John P. Norton, now travelling in Europe, gives in the Albany Cultivator the following very interesting and encouraging account of experiments in agricultural education. Speaking of the show of the Highland Society, held at Glasgow, and meetings incidental to the occasion, he says:—

"First, I would notice an Education meeting. Arrangements had been made by which five boys, from the Lanne Agricultural School near Belfast, in Ireland, were present, with their teacher, Dr. Fitzpatrick, from Lanne, Mr. Skilling, from Dublin, Sir Robert Bateson, from Templemoyle, and other gentlemen interested in the cause of Agricultural instruction, were also present. The boys were from 14 to 16 years old, and had been in the agricultural class two years. Prof. Johnston stated that by this meeting it was hoped that light might be thrown upon two points. 1. Is it possible to give boys instruction in agriculture, practical and scientific, that will be of use to them in after life. 2. Can this be done without interfering with other studies. These questions were both most distinctly answered in the affirmative by numerous gentlemen present, connected with agricultural schools in England and Ireland. The boys before mentioned were finally placed upon the platform, and with a view to answering the second inquiry were questioned in geography, grammar and arithmetic, by Mr. Gibson, inspector of schools. The examination was a somewhat severe one, especially upon grammar and geography, yet notwithstanding the embarrassments and novelty of their situation, they appeared admirably. I think that some one of them answered every question. They were then examined upon various points in chemistry connected with agriculture, by Prof. Johnston, and lastly, upon practical farming, by various other gentlemen. Their answers showed not only that they had learned by memory, but that they had also reflected. Frequent and irrepressible bursts of applause interrupted the examination, and the most sceptical were convinced. These boys devote one hour of each day to scientific and practical agriculture, and once in the week they are questioned upon the studies of the preceding five days. An enthusiasm was aroused by this exhibition which will hardly expend itself in mere words. A resolution was passed "that t was the opinion of the meeting that agricultural instruction should be introduced into the schools of Scotland." A large committee of influential and distinguished gentlemen was appointed to deliberately consider the subject. I may here mention that Mr. Skilling, superintendant and teacher in the Normal farm school, near Dublin, gave most ample testimony in favor of Prof. Johnston's works. They are introduced into all the Irish schools, and their importance impressed upon every teacher. The Catechism was written expressly for schools, and has been found of signal benefit."

UNPRODUCTIVE LAND.—How many are there who own from 300 to 500, and more, acres of land, of which one-third, or at least one-sixth part lies totally unproductive in useless brushwood, in uncleared swamps, or in land rendered worse than profitless, for want of proper draining? the owner not seeming to remember that for every such acre not yielding something in grass, in pasturage, in tillage, or in growing timber, he should charge himself, as with so much lost or thrown into the fire or the sea. There is no mistake more common than that of supposing that the more land a man has, the greater must be his profits—forgetting that the profits arise not from the land itself, any more than from an idle mill or ship, but from the skill and manner of using it; and so indispensable is capital in the business of farming, that in general it may be laid down as an axiom, that money employed in agriculture, will yield an interest in an inverse ratio to the area to which it is applied. Thus if $100 be expended, and yield 10 per cent. on ten acres, the probability is that it would yield much more if applied to half that area.– *Skinner's Address.*

From the Boston Cultivator.

AGRICULTURAL ASSOCIATIONS.

The number of agricultural associations is increasing throughout the country, and their exhibitions are annually becoming more and more interesting, not only to farmers, but to other classes also, and they give evidence that the spirit of improvement is abroad, pervading every nation where farmers are intelligent and industrious. Every branch of husbandry, household economy, and mechanic arts, is under the benign influence of the genius of improvement.

Farmers' festivals are exciting in all classes a deeper interest in agriculture and horticulture, and more respect for those engaged in these branches of industry, which tend to diffuse a salutary influence over the whole community. Farmers will find it greatly to their advantage, both in an individual and collective capacity, to associate together, and act in unison for the accomplishment of important purposes, which cannot be effected without combination and concert of action.

There should not only be State and County Agricultural Societies, but *Farmers' Clubs* should be formed in every town in the country. In every kind of improvement, whether it be the introduction of new breeds of stock, improved implements, new varieties of grain, vegetables and fruit, new modes of culture and new crops, or the establishment of libraries and other means of improvement, a great deal more can be done, and the expense will be less; and the enterprises will be more pleasant and interesting, more lively, spirited, and successful, and the effect be far more powerful on the public, by associated action among those in a town or neighborhood, who have a sameness of principles and purposes, even if their number be small, not exceeding half a dozen, provided they be zealous, discriminating, and persevering.

Then, farmers, form associations in every section of the country, and devise means to improve your condition in every department in which you are engaged, and you will learn that by intellectual labor you will save much labor of the hands, and you will be expanding your minds, and opening new sources of rational pleasure, and as you improve in your profession, you will respect it more, and command the respect of others; you will elevate yourselves in society to that important rank to which your calling justly entitles you.

In connection with this subject, numerous others are presented, and some important movements are necessary for the accomplishment of desirable objects:—and this must be done by associated and general concert. Among the subjects that claim attention, are Agricultural Education—a Little Legislation for Farmers, (as they form three-fourths of the population,) not all for other classes—Encouragement to Great Enterprizes in Agriculture, (which individuals cannot accomplish,) as well as splendid schemes for other branches of industry—a Share in the Councils of the Nation, and Important Offices, by honest, sensible, and enlightened Farmers and Mechanics, as well as a place in the Front Rank of Battle in the hour of danger.

From the Albany Cultivator.

VEGETABLE NUTRITION.

The writer scarcely expects to be able to offer any new views to those who have studied the subject thoroughly. His object is to endeavor to explain the subject to the understanding of practical men,—the farmers and gardners, those who work the soil and derive their sustenance from it. Generally speaking, *all tillers* of the soil know that if they apply a load of horse stable manure to a certain quantity of land, the product will be increased by it to a certain extent; but they do not know the minute principles on which it acts. We all know that when we eat our dinners, our hunger is satisfied, but how many of us know the true cause of that hunger and the mode or true cause of its satisfaction? It is precisely the same with plants as with animals, including men. If we do not get enough to eat, we languish, and ultimately perish; if plants do not get enough to *eat*, they also languish and perish, or yield a stinted product. Plants and animals are enabled to grow by what they eat, and although their mode of eating, is different they both act upon the same principle, and both grow by what they feed on, and in no other way. This is vegetable and animal nutrition. The increase of a plant in size, is supplied by its nutrition, so is that of an animal—if neither have any thing to eat—if a plant have no manure, an animal no food, neither can grow, both must perish. These are plain matter of fact principles that all understand. Now a new soil—that is, a soil just cleared of the timber, possesses a quantity of nutrition from leaves and other substances that have decayed on its surface in the course of time, and hence new land is proverbial for good crops; but it is soon exhausted, and then a supply becomes necessary from some other source—just as your corn crib or meat house requires replenishing when exhausted of its contents, that your table may be supplied. This is the plain common sense reason why manure is necessary to a soil—if your meat house and corn crib require a new supply of meat and corn when their old supply is nealy or quite exhaushted, so does your soil require manure when that approaches exhaustion.

But how does manure act in soil, is a question most frequently asked, and the answer is, it acts precisely as does the meat in the meat house, and corn in the crib. Plants eat as well as men. If you have no provender for your cattle, you do not expect them to thrive; if you have but a scanty supply of poor straw, you do not expect your cows and oxen and horses and sheep to get fat on that alone; so, if you have no manure of any kind to apply to your land, you do not expect large crops of wheat, or corn or rye. These you will say are all common place remarks—every body knows all this very well. The object of bringing all this common place matter before you, is merely to lay the foundation, as it were of the building. You all admit that food is as necessary to plants as to animals. The next question is, how do they take it, and how appropriate it to the supply of their necessities? We do not *see them* take it by the mouthful and masticate it, and swallow it; but it does not follow that they do not do this because we do not *see* them do it. There are at the ends of the roots of all plants, small, extremely small mouths through which they take food. Those little, extremely fine hairy roots, have small openings by which they take from the soil such matter as is nutricious. This matter is dissolved by water in the soil, and thus rendered fit to be taken up by the roots of the plants. That is, the nutritious principles that may be in the soil are dissolved by and combined in water. They in this medium enter into the sap vessels of the plants; just as do the nutricious principles taken into the stomach of animals, enter into the blood. In this way they are carried up the plant to the leaves, where they are exposed to the action of the atmospheric air; as is the blood carried to the lungs in animals for the action of the air. When the sap or circulation of the plant has had sufficient exposure to the action of the air, through the medium of the leaves, it commences its return downwards towards the roots, supplying in its way such parts of the plant as need renovation or addition of woody fibre, &c., and when such quantity as is needed has been thus taken by the various parts of the plant, the balance, if there be any, and that which has been rejected as innutritious, is voided in the form of excrement, by the roots, as is done by animals.

We now come to consider the form or nature of the nutritious principles taken from the earth. All the different constituents of nutrition are in the soil and mixed together mechanically or chemically. They are dissolved and held in solution by water. The roots of plants absorb this solution in such quantity as may be required by the plant, and it passes into the plant through the channels formed for the purpose called sap vessels, analogous to veins in animals, and immediately ascends to the leaves, where it receives the necessary supply of carbonic acid gas; I suppose it receives in addition to carbonic and gas, nitrogen; that is, that it is nitrogenized as well as carbonized, just as is the blood of animals oxygenized. It then returns towards the roots, through another set of vessels, analogous to arteries in animals, and as before remarked, supplies each part of the plant with the necessary material to restore its waste or aid in its growth. In this process, the plant does not take up crude matter, charcoal or lime, or potash, but the elements or gases that are found in the sap, and that constitute these and other portions of the plant. This whole process is precisely the same as that through which the nutrition of men and animals is carried. Now if we apply common salt to a piece of ground, we must not understand that the plants growing on it will take up salt in substance. If they take up any thing at all, it will be the elements that constitute salt, or those formed by the combination of those elements with such suitable materials as may be found in the soil. And so with other articles. Suppose we apply potash to the soil, in the form of ashes or otherwise, if there be silicic acid in the soil, then silicate of potash will be found mingled in the sap of the plant, from which the plant will obtain that glossy coating which we see on the outside of straw, cane, &c. If there be no silicic acid in the soil, and there be potash there already, then it is obvious that silicic acid, not potash, is to be added. So with all other constituents of plants. It is perfectly impossible for a plant to take from the soil any organized substances, woody fibre, potash, &c., but it must take the elements of such in solution, and form and appropriate them by means of its own organs, just as animals do. Hogs do not take their *pork* and *bristles* from the corn they feed on, but they make them from the elementary principles they obtain from the corn and atmosphere. We hear people talk of *sour soils;* there can be no such thing as a sour soil, *as such* or *per se*. Some vegetables grow on any and all soils; and if nothing else grows there, it does not follow that the soil is *sour*, but simply that there are none or not enough of the elements of other plants to supply their growth. For example, starch is composed of carbon, oxygen, and hydrogen; and sugar is composed of the same elements, only in slightly different proportions. Now oxalic acid, (the acid of sorrel,) is composed of carbon and oxygen, and these elements must necessarily exist in all soils; add hydrogen, which will certainly be supplied by rain water in abundance in all soil, and you will have the elements of starch and sugar, as well as those of oxalic acid. But you may add potash to what is called a sour soil, or lime, or soda, and still sorrel will grow there; because each plant takes from the soil and from the atmosphere, that which it requires to constitute its substances, and nothing else. You may make the most perfectly rich soil that ever lay *out of doors*, and plant sorrel or the oxalic, in it, and you will find that they will thrive equally with all other plants; just as all varieties of animals, thrive; horses, hogs, sheep and birds, on the same farm, each one taking that sort of food that suits it. The great mistake, and that which has caused much loss to farmers, is the supposition that plants convert compound or combined substances as such, into nutrition. The fact is, that all substances that afford food for plants are reduced to their original elements in gaseous or watery form, or in both, mixed. Water affords in itself a valuable source of nutrition to plants. It contains hydrogen, and there are few portions of the plant that do not want hydrogen; it contains oxygen, and there is not a single part or portion of the plant, (let it be what plant it may,) that does not contain oxygen. Water is besides, in plants as well as animals, a solvent for the other elements of nutrition. The blood in animals, cannot exist without it; or if it can exist, it cannot circulate to the advantage of the animal; just so with the saps of plants. Water not only affords as it were a vehicle for the conveyance of nutrition to the various parts of plants and animals, but also a considerable and indispensable portion of the nutrition itself.

As an illustration of these principles of nutrition, a well known fact in horticulture may be mentioned. If the fore-part of summer, after the tree has shed its blossoms, you *ring* the limb of an apple tree, that is, take off the bark for a quarter of an inch around the limb, near the trunk of the tree; or, which answers equally well, place a small wire around the limb near the trunk, drawing it tightly so that it shall be made to sink in the bark all around; you will find the limb will increase in size above the ring, but not below it; and the fruit, if it bear fruit, will be larger and ripen sooner on that limb than that on any of the others. The reason is, that the ring has intercepted the descent of the nutricious sap from the leaves at the top, and thus compelled its conversion to the growth of the limb and the fruit above the ring.

The conclusions to be drawn from the principles above laid down are obvious. 1st. Plants take nourishment precisely as animals do, except the apparatus, (the mouth) and mode of taking it, differ in form. Plants as well as animals, reduce all substances that contain nutricious principles to their original elements, before they convert any portion of them to their own organism. Therefore, when we apply stable manure to soil, we do so merely to enable the soil and the plants to extract from it the nitrogen, &c. that its ammonia, contains. The plants do not take up ammonia, but simply one of its elements, nitrogen. The elementary principles of the manure are all in like manner taken up and combined. If there be an excess of any one element, that excess is excluded from the sap; and if the sap contains an excess of any principle, that excess is ejected in the form of excrement. Indeed this paper may be appropriately concluded with the remark that *life is supported by death.* Death must take place in *something*, before *anything* can receive nutritive matter; because it is from the death and dissolution of one thing, that the nourishment of another is obtained. If animals and plants do not die, man cannot live or be supplied with meat and bread; and if animals and plants do not perish, plants cannot live. From the dissolution of one body, animal or vegetable, another body derives the elements of its own growth, its woody fibre, sugar, &c.; its flesh, bone, &c.—But every thing must be reduced to its original elements, before its constituent principles can be appropriated to other forms. In fact, all processes of life, in both kingdoms, animal and vegetable, and the mineral too indeed, are nothing more than the changing of places of the elements of organization. An animal dies, its body *decays*, as we call it. But this body does not decay. The elementary principles of which it is composed, merely *separate*, and form new combinations—one portion enters into and becomes a portion of a plant, probably a rose or a lilly, probably of a skunk; just so with a plant. A portion of its constituent principles becomes absolutely a part and portion of the body of Queen Victoria, or of that of a goose, or of that of any other animal. But let us stop. The IDEA in-

tended to be conveyed in this paper, must by this time have become obvious—vegetable nutrition is the same thing, neither more nor less than animal nutrition; governed by the same laws, resulting in the same effects, requiring the same provision. GIDEON B. SMITH.

HINTS FOR TRANSPLANTING.

1. Many persons plant a tree as they would a post. The novice in planting must consider that a tree is a living, nicely organized production, as certainly affected by good treatment as an animal. Many an orchard of trees, rudely thrust into the ground, struggles half a dozen years against the adverse condition before it recovers.

2. In planting an orchard, let the ground be made mellow by repeated plowing. For a tree of moderate size, the hole should be dug three feet in diameter, and twelve to twenty inches deep. Turn over the soil several times, and if not rich, mix thoroughly with it some compost, or well rotted manure. In every instance the hole must be large enough to admit all the roots easily, without bending. Shorten and pare monthly, with a knife, any bruised or broken roots. Hold the tree upright, while another person, making the earth fine, gradually distributes it among the roots. Shake the tree gently while this filling is going on. The secret lies in carefully filling in the mould, so that every root, and even the smallest fibre, may meet the soil; and to secure this, let the operator with his hand spread out the small roots, and fill in the earth nicely around every one. Nine-tenths of the deaths by transplanting arise from the hollows left among the roots of the trees by a rapid and careless mode of shovelling the earth among the roots.

3. When the hole is two-thirds filled, pour in a pail or two of water. This will settle the soil and fill up any little vacuities that may remain. Wait until the water has sunk away, and then fill up the hole, pressing the earth moderately around the trees with the foot. The moist earth, being covered by the loose surface soil, will retain its humidity for a long time. Indeed we rarely find it necessary to water again after planting in this way, and a little muck or litter placed around the tree, upon the newly moved soil, will render it quite unnecessary. Frequent surface watering is highly injurious, as it causes the top of the soil to bake so hard as to prevent the access of air and light, both of which, in a certain degree, are absolutely necessary.

4. Avoid the prevalent error (so common and so fatal in this country) of planting your trees too deep. They should not be planted more than inch deeper than they stood before. If they are likely to be thrown out by the frost the first winter, heap a little mound about the stem, to be removed again in the spring.

5. If your soil is positively bad, remove it from the holes, and substitute a cartload or two of good garden mould. Do not forget that plants must have *food*. Five times the common growth may be realized by preparing holes six feet in diameter, and twice the usual depth, enriching and improving the soil by the plentiful addition of good compost. Young trees cannot be expected to thrive well in sod land. When a young orchard must be kept in grass, a circle should be kept dug around each tree. But cultivation of the land will cause the trees to advance more rapidly in five years than they will in ten, when it is allowed to remain in grass.

ORCHARDS.—If your trees have moss on them, or their bark is rough, scrape them in the spring; but whether they are so or not, take a mixture of equal parts of soft soap and sulphur, and paint the trunks from the roots as far upwards as you can well reach. This will destroy the insect embryo, and preserve your trees from the girdling of mice and rats. And to destroy the worms or embryo which may be in the ground, dig the earth from around the roots of the trees, for a few feet, and to the depth of a few inches, and submit the earth thus up, to the operation of fire; when cool, mix with it a gallon of lime to each tree, and replace it. If you doubt the efficacy of this treatment, try it on a few trees this fall, and we will bet you a peck of "Ladies' Blushes" that you'll subject every fruit tree on your farm to the same operation next fall.—*Amer. Farmer.*

From the Albany Cultivator.

BUDDING.

Budding is always to be performed when the bark peals freely, which takes place when the stocks are in a rapidly growing state. Cherries and plums should always be budded by the middle of summer; apples and pears often continue growing rapidly a month later, and peaches may be done even as late as the commencement of autumn.

It is indispensable to successful budding, that the stock be thrifty, and the shoot in which the bud is inserted not more than a year or two old. No skill can succeed in old or stunted stocks for the *cambium* or mucilaginous substance between the bark and wood, which hardens into the new wood, and which cements the bud to the stock, exists only in sufficient quantities for this purpose in fast growing branches.

Every bud is an embryo plant, and the object is to transfer this from one tree to another. To effect this, it is only necessary that the bud be cut smoothly from the shoot with a very small portion of wood with it, and inserted under the raised bark of the stock in close contact with the cambium. Provided the stock is thrifty and growing, the bud smoothly cut off, and closely and evenly applied to the stock, the cambium uninjured by removing the barks and the bud be kept to its place a few days by a ligature of moderate pressure; it is of little consequence how the operation is performed and there can be little danger of failure.

The common way of cutting the bark to remove it, is to make a transverse cut and longitudinal slit, just through it, like the letter T. The bud is then slid downwards, under the bark, in the middle of the slit. The whole operation should be performed with as little delay as possible.

Whatever mode is adopted, the bark should always be lifted by placing the knife at the edge, and not by running it under, as this always injures the cambium.

After the bud is inserted, the whole should be covered, except the bud itself, with a ligature of moistened bass, corn-husk, tow, or other soft substance, bound round it with just sufficient force to press the bud closely on the stock.

In about two weeks, or as soon as the ligature begins to cut into the stock, it must be removed. Early the following spring, the stock is to be cut off a quarter of an inch above the bud, and in a direction sloping towards it, and all the branches and other buds carefully removed that the whole nourishment may go to its growth. Sometimes, as in the apricot, it is best to leave two or three inches of the stock above the bud, to tie the young shoot so that it be not broken down by the wind.

Disappointment very often arises in budding the peach and apricot, from the buds, though well set, being winter killed. This may be generally avoided by observing on the trees whence the buds are taken, on what part of the shoots the buds have withstood the preceding winter, and selecting accordingly. These will commonly be found to be the earliest formed buds on the thriftiest shoots.

Shoots cut for budding should always have the leaves removed as soon as they are taken from the tree, about a quarter of an inch above the bud. They may then, if needed, be preserved several days in damp moss or cloth.

"*Go it while you're Young.*"---The Ouachita Courier announces the marriage, in that parish, of a gentleman 91 years of age to a lady of 54. The descendants of the bridegroom---children, grand children, and great grand children---number no less than 150 souls.

From the Buffalo Commercial Advertiser.

WHEAT CULTURE.

The past season has been marked by some important developments in the culture of wheat.

Dr. Noble, of Delaware, has been reclaiming a worn-out farm for several years by the use of street manure obtained from Philadelphia, and particularly with the view of growing this great staple. Having brought the soil to a pretty fair state of fertility, he has tried the relative advantages of planting wheat in drills, nine inches apart, and sowing it broad cast in the usual way. The soil and treatment in other respects were precisely alike. The result was 34 bushels on the sown land and 42 in the drilled. These experiments were made on fields of some acres.

The soil from which this crop was harvested, a few years since would not bear over 6 to 8 bushels per acre. By planting the kernels just 6 inches a part each way, and feeding the plant on food containing, in a soluble state, all the elements necessary to build up the entire system, including the materials to form the straw, as well as the berry, a gentleman in England has grown at the rate of 320 bushels per acre!

Mr. James Campbell, of Scotland, has tried several interesting and successful experiments in the way of soaking seed wheat, barley and oats with a saturated solution of neutral salts, containing as nearly as practicable the precise elements found in the grain. The object of this was to secure to the young plant a double supply of its appropriate nourishment. The effect has been a large increase in the crop, at a very trifling expense.

Other experiments have been tried in France, with a view to determine what portion of the *organic* as well as mineral elements found in cultivated plants, is derived from the soil in which they grow, and what from the atmosphere. This is an important inquiry, and one that should be prosecuted in this country. The people of this State have paid something more than $300,000 for a geological survey of its territory. A tithe of that sum judiciously expended to diffuse among all our rural population a knowledge of the science of agriculture, would confer a tenfold greater benefit on the community at large. Breadstuffs and provisions must be produced with as little labor in New York as out of it, or farming will be a very losing business in the Empire State

The manufacture of human food, like the fabrication of clothing, will soon be profitable to those only that combine the greatest skill and knowledge with manual toil. If a farmer will not study the laws of nature which govern the transformation of certain elements of earth, air and water into corn, oats and potatoes; and the farther changes of these vegetables into pork, beef, milk and wool, his hard labor will be of little worth.

An Ancient Relic.---A correspondent of the N. Y. Commercial Advertiser, writing from Scarborough, England, states that the museum in that place contains a perfect skeleton of an ancient Briton, dug from a neighboring burrow or tumulus, six or eight years ago. The skeleton is perfect. It was enclosed in a rude coffin, the trunk of an oak tree of vast dimensions, roughly hollowed out. The tannin of the oak had so preserved the body that considerable portions of the hair were still cleaving to the scalp, although from various coins, implements and weapons of war, &c., found in the coffin, it was indisputably proved that the body must have been interred at least two thousand years. The action of the tannin had also turned the skeleton perfectly black. The proportions of this curious relic did not justify the common opinion as to the gigantic stature and muscular frames of the early Britons. The height did not exceed five feet ten or eleven inches, and the bones generally were not above the ordinary size. The only indication of muscular power was in the amplitude of the chest, and the perfect curve of the ribs.

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SOUTHERN CULTIVATOR.

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HEMP CULTURE.

The following essay on the culture of Hemp was originally published in the Western Agriculturist. It is a complete treatise on the best manner of raising and preparing an article, which always commands cash sufficient to reward liberally the cultivator who proceeds correctly in obtaining this valuable product. The author of the essay is not less favorably known as a statesman than as a practical and scientific agriculturist, and the signature of HENRY CLAY will give it that weight and currency with American farmers which is due to its intrinsic excellence.

CULTURE AND PREPARATION OP HEMP.

BY THE HON. HENRY CLAY.

SIR:—Having promised you some account of the method of cultivating and preparing hemp in this state, I now proceed to redeem it. I shall endeavor to describe the general practice of the cultivators, without noticing all the deviations of particular individuals.

The district of country in which the plant is most extensively cultivated, is the Elkhorn region around and near Lexington, which derives its name from a stream discharging itself into the Kentucky river, whose branches are supposed to resemble the horns of the elk. It is also produced in considerable quantities in the counties of Jefferson, Shelby, Mercer, Madison, Clarke, Bourbon, and Mason. The soil of that region is a rich, deep, vegetable loam, free from sand and with but little grit. It lies on a bed of clay, interspersed with small fragments of iron ore, and this clay in its turn reposes on a mass of limestone lying many feet in depth in horizontal strata. The surface of the country is generally undulating. The rich land (and there is but little that is not rich) in this whole region is well adapted to the growth of hemp, where it has not been too much exhausted by injurious tillage. The lands which produce it best are those which are fresh, or which have lain some time in grass or clover. Manuring is not yet much practised. Clover is used in lieu of it. Lands which remain in clover four or five years without being too constantly and closely grazed, recover their virgin fertility. The character of the soil in the other counties above mentioned does not vary materially from that in the Elkhorn district.

The preparation of the ground for sowing the seed is by the plow and horses, until the clods are sufficiently pulverized or dissolved, and the surface of the field is rendered even and smooth. It should be as carefully prepared as if it were for flax. This most important point, too often neglected, cannot be attended to too much. Scarcely any other crop better rewards diligence and careful husbandry. Fall or winter plowing is practised with advantage; it is indispensable in old meadows, or old pasture grounds, intended for producing hemp.

Plants for seed are ordinarily reared in a place distinct from that in which they are cultivated for the lint. In this respect, the usage is different from that which is understood to prevail in Europe. The seeds which are intended to reproduce seeds for the crop next year, are sowed in drills about four feet apart. When they are grown sufficiently to distinguish between the male and female stalks, the former are pulled and thrown away, and the latter are thinned, leaving the stalks separated seven or eight inches from each other. This operation is usually performed in the blooming season, when the sexual character of the plants is easily discernible; the male alone blossoming, and, when agitated, throwing off farina, a yellow dust or flour, which falls and colors the ground, or any other object that comes in contact with it. A few of the male plants had better be left, scattered through the drill, until the farina is completely discharged, for an obvious reason. Between the drills a plow is run sufficiently often to keep the ground free from weeds and grass; and between the stalks in each drill the hoe is employed for the same object. The seed plants are generally cut after the first smart frost, between the 25th September and the middle of October, and carried to a barn or stack-yard, where the seeds are easily detached by the common flail. They should be gathered after a slight, but before a severe frost; and, as they fall out very easily, it is advisable to haul the plants on a sled, and, if convenient, when they are wet. If transported on a cart or wagon, a sheet should be spread to catch the seed as they shatter out. After the seeds are separated, the stalks which bore them being too large, coarse, and harsh, to produce lint, are usually thrown away; they may be profitably employed in making charcoal for the use of powder-mills. In Europe, where the male and female plants are promiscuously grown together in the same field, both for seeds and for lint, the male stalks are first gathered, and the female suffered to remain growing until the seeds are ripe, when they are also gathered; the seeds secured and lint obtained, after the rotting, from both descriptions.

After the seeds are threshed out, it is advisable to spread them on the floor, to cure properly and prevent their rotting, before they are finally put away for use the next spring. Seeds are not generally used unless they were secured the fall previous to their being sown, as it is believed they will not vegetate if older; but it has been ascertained that when they are properly cured and kept dry, they will come up after the first year. It is important to prevent them from heating, which destroys the vegetating property, and for that purpose they should be thinly spread on a sheltered floor.

The seeds, whether to produce seeds only, or the lint, are sowed about the same time. Opinions vary as to the best period. It depends a good deal upon the season. The plant is very tender when it first shoots up, and is affected by frost. Some have sowed as early as the first of April; but it is generally agreed, that all the month of May, and about the 10th of it especially, is the most favorable time. An experienced and successful hemp grower, in the neighborhood of Lexington, being asked the best time to sow hemp, answered, immediately before a rain. And undoubtedly it is very fortunate to have a moderate rain directly after sowing.*

When the object is to make a crop of hemp, the seeds are sown broad-cast. The usual quantity is a bushel and a half to the acre; but here again the farmers differ, some using two bushels or even two and a half. Much depends on the strength and fertility of the soil, and the care with which it has been prepared, as well as the season. To these causes may be ascribed the diversity of opinion and practice. The ground can only sustain and nourish a certain quantity of plants; and if that limit be passed, the surplus will be smothered in the growth. When the seeds are sown, they are plowed or harrowed in; plowing is best in old ground, as it avoids the injurious effect of beating rain, and the consequent baking of the earth. It would be also beneficial subsequently to roll the ground with a heavy roller.

After the seeds are sown, the labors of the cultivator are suspended, until the plants are ripe, and in a state to be gathered; everything in the intermediate time being left to the operations of nature. If the season be favorable until the plants are sufficiently high to shade the ground, (which they will do in a few weeks, at six or eight inches' height,) there is strong probability of a good crop. When they attain that height, but few articles sustain the effect of bad seasons better than hemp.

It is generally ripe and ready to be gathered about the middle of August, varing according to the time of sowing. Some sow at different periods, in order that the crop may not ripen at the same time, and that a press of labor in rearing it may be thus avoided. The maturity of the plant is determined by the evaporation of the farina, already noticed, and the leaves of the plant exhibiting a yellowish hue: it is then generally supposed to be ripe, but it is safest to wait a few days longer. Very little attentive observation will enable any one to judge when it is fully ripe. In that respect it is a very accommodating crop, for if gathered a little too soon, the lint is not materially injured, and it will wait the leisure of the farmer some ten days or a fortnight after it is entirely ripe.

Two modes of gathering the plant are practised, one by pulling them up by the roots, an easy operation with an able-bodied man, and the other by cutting them about two inches (the nearer the better) above the surface of the ground. Each mode has its partisans, and I have pursued both. From a quarter to a third of an acre is the common task of an average laborer, whether the one or the other mode is practised. The objections to pulling are, that the plants with their roots remaining connected with them, are not afterwards so easily handled in the several operations which they must undergo; that all parts of the plant do not rot equally and alike, when exposed to the dew and rain; and, finally, that before you put them to the brake, when the root should be separated from the stalk, the root drags off with it some of the lint. The objection to cutting is, that you lose two or three inches of the best part of the plant nearest the root. Pulling being the most ancient method, is most generally practised. I prefer, upon the whole, cutting; and I believe the number who prefer it is yearly increasing. When pulled, it is done with the hand, which is better for the protection of an old leather glove. The laborer catches twenty or thirty plants together, with both hands, and by a sudden jerk draws them without much difficulty. The operation of cutting is performed with a knife, of-

* Would it not be well to soak the seed in water a few hours previous to sowing? We have found this to answer nearly as good a purpose as rain after sowing, with all seeds with which we have tried it. The vegetation of mangel-wurtzel is wonderfully accelerated by it.—*Ed. Am. Farmer.*

ten made out of an old scythe, resembling a sickle, though not so long, but broader. This knife is applied much in the same way as the sickle, except that the laborer stoops more.

Whether pulled or cut, the plants are carefully laid on the ground, the evener the better, to cure; which they do in two or three days, in dry weather. A light rain falling on them whilst lying down is thought by some to be beneficial, inasmuch as the leaves, of which they should be deprived, may be easier shaken off or detached. When cured, the plants are set up in the field in which they were produced, in shocks of convenient size, the roots or butt ends resting on the ground, and the tops united above by a band made of the plants themselves. Previous to putting them up in shocks, most cultivators tie the plants in small hand bundles of such a size as that each can be conveniently held in one hand. Before the shocks are formed, the leaves of the plants should be rapidly knocked off with a rough paddle or hooked stick. Some suffer the plants to remain in these shocks until the plants are spread down to be rotted. Others, again, collect the shocks together as soon as they can command leisure, (and it is clearly best,) and form them into stacks. A few farmers permit the stacks to remain over a whole year, before the plants are exposed to be rotted. I have frequently done it with advantage, and have at this time two crops in stalks. By remaining that period in stalks, the plants go through a sweat, or some other process, that improves very much the appearance, and, I believe, the quality of the lint, and this improvement fully compensates the loss of time in bringing it to market. The lint has a soft texture and a lively hue, resembling water rotted hemp; and I once sold a box of it in the Baltimore market at the price of Russia hemp. In every other respect, the plants are treated as if they were not kept over a year.

The method of dew rotting is that which is generally practised in Kentucky. The lint so spread is not so good for many purposes, and especially for rigging and ships, as when the plants have been rotted by immersion in water, or, as it is generally termed, water rotted. The greater value, and consequently higher price, of the article prepared in the latter way, has induced more and more of our farmers every year to adopt it; and if that prejudice were subdued, which every American production unfortunately encounters when it is first introduced and comes in contact with a rival European commodity, I think it probable that in a few years we should be able to dispense altogether with foreign hemp. The obstacles which prevent the general practice of water rotting are, the want of water at the best season for the operation, which is the month of September; a repugnance to the change of an old habit; and a persuasion, which has some foundation, that handling the plants after their submersion in water during that month is injurious to health. The first and last of these obstacles would be removed by water rotting early in the winter, or in the spring. The only difference in the operation, performed at those seasons and in the month of September, would be, that the plants would have to remain longer in soak before they were sufficiently rotted.

The plants are usually spread down to be dew rotted from the middle of October to the middle of December. A farmer who has a large crop on hand puts them down at different times for his convenience in handling and dressing them. Autumnal rotting is more apt to give the lint a dark and unsightly color than winter rotting. The best ground to expose the plants upon is meadow or grass land, but they are not unfrequently spread over the same field on which they grow. The length of time they ought to remain exposed depends upon the degree of moisture and the temperature of the weather that prevail. In a very wet and warm spell five or six weeks may be long enough. Whether they have been sufficiently rotted or not is determined by experiment. A handful is taken and broken by the hand or applied to the brake, when it can be easily ascertained, by the facility with which the lint can be detached from the stalk, if it be properly rotted. If the plants remain on the ground too long, the fibres lose some of their strength, though a few days longer than necessary, in cold weather, will not do any injury. If they are taken up too soon, that is, before the lint can be easily separated from the woody part of the stalk, it is harsh, and the process of breaking is difficult and troublesome. Snow rotting, that is, when the plants, being spread out, remain long enough to rot, (which however requires a greater length of time,) bleaches the lint, improves the quality, and makes it nearly as valuable as if it had been water rotted.

After the operation of rotting is performed, the plants are again collected together, put in shocks or stacks, or, which is still better, put under a shed or some covering. When it is designed to break and dress them immediately, they are frequently set up against some neighboring fence. The best period for breaking and dressing is in the months of February and March, and the best sort of weather frosty nights and clear thawing days. The brake cannot be used advantageously in wet or moist weather. It is almost invariably used in this State out of doors and without any cover; and to assist its operation, the laborer often makes a large fire near it, which serves the double purpose of drying the plants and warming himself. It could not be used in damp weather in a house without a kiln or some other means of drying the stalks.

The brake in general use is the same hand brake which was originally introduced and has been always employed here, resembling, though longer than, the common flax brake. It is so well known as to render a particular description of it, perhaps, unnecessary. It is a rough contrivance, set upon four legs, about two and a half feet high. The brake consists of two jaws with slits on each, the lower jaw fixed and immovable, and the upper one movable, so that it may be lifted up by means of a handle inserted into a head or block at the front end of it. The lower jaw has three slats or teeth, made of tough white oak, and the upper two, arranged approaching to about two inches in front, and in such manner that the slats of the upper jaw play between those of the lower. These slats are about six or seven feet in length, six inches in depth, and about two inches in thickness in their lower edges; they are placed edgewise, rounded a little on their upper edges, which are sharper than those below. The laborer takes his stand by the side of the brake, and grasping in his left hand as many of the stalks as he can conveniently hold, with his right hand he seizes the handle in the head of the upper jaw, which he lifts, and throwing the handful of stalks between the jaws, repeatedly strikes them by lifting and throwing down the upper jaw. These successive strokes break the woody or reedy part of the stalks into small pieces or shoes, which fall off during the process. He assists their disengagement by striking the handful against a stake, or with a small wooden paddle, until the lint or bark is entirely clean, and completely separated from the woody particles.

After the above operation is performed, the hemp may be scutched, to soften it, and to strengthen the threads. That process, however, is not thought to be profitable, and is not therefore generally performed by the grower, but is left to the manufacturer, as well as that of beating and hackling it. Scutching is done by the laborer taking in his left hand a handful of the lint, and grasping it firmly, then laying the middle of it upon a semicircular notch of a perpendicular board of the scutching frame, and striking with the edge of the scutch that part of the lint which hangs down on the board. After giving it repeated strokes, he shakes the handful of lint, replaces it on a notch, and continues to strike and turn all parts of it, until it is sufficiently cleansed, and the fibres appear to be even and straight.

The usual daily task of an able-bodied hand at the brake is eighty pounds' weight; but there is a great difference not only in the state of the weather and the condition of the stalks, produced by the greater or less degree in which they have been rotted, but in the dexterity with which the brake is employed. Some hands have been known to brake from one hundred and fifty to two hundred pounds per day. The laborer ties up in one common bundle the work of one day, and in this state it is taken to market and sold. From what has been mentioned, it may be inferred, as the fact is, that the hemp of some growers is in a much better condition than that of others. When it has been carelessly handled or not sufficiently cleansed, a deduction is made from the price by the purchaser. It is chiefly bought in our villages, and manufactured into cotton bagging, bales, and other kinds of untarred cordage. The price is not uniform. The extremes have been as low as three and as high as eight dollars for the long hundred, the customary mode of selling it. The most general price during a term of many years has been from four to five dollars. At five dollars it compensates well the labor of the grower, and is considered more profitable than anything else the farmer has cultivated.

The most heavy labor in the culture of hemp is pulling or cutting it, when ripe, and breaking it when rotted. This labor can easily be performed by men. Various attempts have been made to improve the process of breaking, which is the severest work in the preparation of hemp. A newly invented machine was erected for that purpose on my farm six or eight years ago, to dress hemp by dispensing with rotting altogether, similar in structure to one which was exhibited about the same time at Columbus, during the sitting of the Ohio Legislature. It was worked by horse power, and detached the lint tolerably well, producing a very fine looking article, equalling in appearance Russia hemp. A ton of it was sold to the navy department, which was manufactured into rigging for the ship of the line the North Carolina, prior to her making a voyage of three years in the Mediterranean. Upon her return, the cordage was examined and analyzed; and although its exterior looked very well, it was found, on opening it, to be decayed and affected somewhat like the dry rot in wood. I considered the experiment decisive; and it is now considered that the process of water or dew rotting is absolutely necessary, either before or after the hemp has been to the brake. There is a sappy or glutinous property of which it should be divested, and that is the only process that has been hitherto generally and successfully employed to divest it.

An ingenious and enterprising gentleman in the neighborhood of Lexington has been, ever since the erection of the above mentioned machine, trying various experiments, by altering and improving it, to produce one more perfect, which might be beneficially employed on rotted hemp, to diminish the labors of the brake. He mentioned the other day that all of them had failed; that he had returned to the old hand brake, and that he was convinced that it answered the purpose better than any substitute with which he was acquainted. I observe Mr. H. L. Barnum has recently advertised a machine which he has constructed for breaking and dressing hemp and flax, which can be procured at the establishment of Mr. Smith, in Cincinnati. I most cordially wish him success; but the number of failures which I have witnessed, during a period of thirty years, in the attempt to supersede manual labor by the substitution of that of machines, induces me to fear that it will be long before this desideratum is attained.

The quantity of net hemp produced to the acre is from six hundred to one thousand weight, varying according to the fertility and preparation of the soil and the state of the season. It is said that the quantity which any field will produce may be anticipated by the average height of the plants throughout the field. Thus, if the plants will average eight feet in height, the acre will yield eight hundred weight of hemp; each

foot in height corresponding to a hundred weight of the lint.

Hemp exhausts the soil slowly, if at all. An old and successful cultivator told me that he had thirteen or fourteen successive crops from the same field, and that the last was the best. That was probably however owing to a concurrence of favorable circumstances. Nothing cleanses and prepares the earth better for other crops (especially for small grain or grasses) than hemp. It eradicates all weeds, and when it is taken off, leaves the field not only clean, but smooth and even.

The rich lands of Ohio, Indiana, and Illinois, are, I have no doubt, generally well adapted to the cultivation of this valuable plant; and those States enjoy some advantages for the cultivation of it which this does not possess. Their streams do not dry up as much as ours, and they consequently employ better than we can the agency of water in the preparation of it. Their projected canals, when completed, will admit of its being carried to the Atlantic capitals at less expense in the transportation than we can send it. On the other hand, the unfortunate state of slavery among us gives us, at present, probably, a more certain command of labor than those States have.

BOOK FARMING.—A FACT.

"I want to know if you believe in this book farming?" said a neighbor as he walked into the room, where I sat reading the Cultivator.

"Be sure I do," was the reply.

"Well, I don't; I never took an agricultural paper in my life. There is B. S. of W——, who came into the country fifteen years ago, and had to buy fifty acres of land on credit. He has cleared that up, and added from time to time, till he now owns two hundred acres—has good buildings, and money at interest. He always has good crops. He has averaged *twenty-five* bushels of wheat to the acre for several years; it is the same with all his other crops. While his neighbor E. W. has not raised more than *seven* bushels of wheat to the acre, and some of his other crops he never harvests. I would give more for the experience of B. S. than for all the book farming and farming by rule in the world."

"Very well, sir, now let me have a word. This 'experience' of B. S. of which you speak, (i. e. the method he adopts to raise twenty-five where his neighbor raises seven bushels of wheat, and other crops in proportion,) if written out and published, would be the very *essence* of book farming, which you so much despise, and might benefit others as well as you. And then, secondly, I know this B. S. also, and it gives me pleasure to inform you that he is a regular subscriber to, and constant reader of *three* standard agricultural papers—the Cultivator, the New Genesee Farmer, and the Western Farmer, while this same E. W. will not have an agricultural paper in his house, partly because he does not '*believe in book farming*,' and partly because he *cannot afford to take such a paper*."

Here the man suddenly remembered his errand, which was to borrow an improved harrow, a plan of which I had found in my paper, and which he was pleased to say, "did the work so much better than mine," (his)—so the subject dropped. I intend to speak to him again, ere long. H.

Ohio, Oct. 14, 1844. *Albany Cult.*

COOKING BEETS.—Having washed them free of dirt, *roast* them in the fire as you do potatoes. When the process of cooking is completed, peel and serve up in the usual manner. It is a dish fit for the stomach of the most fastidious epicure. At least, so says one who has tried it.—*Maine Cult.*

Not to grow better is sure to end in growing worse.

Revenge begins in anger, and ends in repentance.

From the So. Ca. Temperance Advocate.

STATE AGRICULTURAL SOCIETY.

REPORTS SUBMITTED, NOV. 1844.

REPORT ON RICE.

The past season was one of unusual drought throughout the State. In every section, there are not wanting instances in which the wells failed.

Although the Rice crop, being irrigated by the flooding of the tides, is less dependant than any other upon the rains of the season; yet so universal and unpreecedented a drought could not fail to affect this, in common with other grain crops.

The Planters on Cooper River have suffered most severely—that river having been salt to a considerable extent throughout the season. Instead of an average production of 22,000 barrels on this river—it is believed the crop will fall short of 12,000 barrels.

South of Charleston to Savannah river inclusive, the rivers have been more or less affected with salt, and the crop will not prove to be a full one.

North of Charleston on the rivers Santee, Pee Dee, Waccamaw and Black river, the two extremes of the Rice-planting region, have been somewhat affected in production; the one by salt-water—the other by the short tides which occurred in May and June, (the months for subduing grass,) but the yield has been so generally good on the best pitch of tides, it is believed that notwithstanding the usual tribute levied in September, by the rice birds, the crop of Rice on these rivers, will be an average one.

The quality of the grain prepared thus far is good generally.

There is in some parcels, however, much of the chalky appearance, the cause of which is not accurately ascertained. It is respectfully suggested that a premium be offered for the discovery of the cause of this blemish in the grain. A premium also, for the disclosure of the cause of *rust* in Rice. The Essay in both instances to be accompanied by a detail of the remedy most successfully used during a term of years, for correction of the evil.

The "big grain rice" so favorably mentioned in the last report, has been somewhat extensively cultivated this year.

The harvest is so recently over, and so little of the general crop has been brought to market, the writer can do no better in respect of this grain than furnishing the results of his own experience for the season. With the exception of twenty-three acres, he sowed the whole of his planting in this seed, treating it in the manner usual with him, (excepting 3 acres, upon which he experimented, as will be detailed hereafter. As far as the crop has been threshed and prepared, the following are the results, as compared with the preceding year.

From field No. 7, 27 acres, less 3, (the margin not planted this year)—24 acres threshed early in October, made 1344 bushels against 27 acres, which last year made 1594 bushels. Nos. 1, 2, 3, together 45 acres, made 2116 bushels, against 2291 bushels last year. No. 10, 46 acres, 2560 bushels, against 2187.

In every instance, the Rice brought more in market, and when well cured, turned out as well under the pestle. A planter on the South side of Savannah river, who sowed some of his best land in this seed, says that it yielded in the rough 70 bushels to the acre.

The experiments alluded to above, were made with the sulphate of lime, (gypsum,) and the nitrate of potass, (saltpetre.) The tests were not complete. They will be repeated another year.

It is understood that rice has been cultivated with the plow chiefly the past season, and profitably by Mr Quash, (on inland swamp,) and others; also that the method in harvesting of *cradling* rice, has been practised by some gentlemen on Cooper river with success satisfactory to them.

All which is respectfully submitted.

Columbia, Nov. 26, '44. R. F. W. ALLSTON.

Mr. President:—I beg leave to present for the examination of the Society, over which you preside, the enclosed account of an experiment made by me the last year in a Mineral manure, as applied to the culture of the staple which I plant, and to submit the production of grain to the consideration of your Committee.

Very respectfully, R. F. W. ALLSTON.

Columbia, Nov. 25, 1844.

EXPERIMENT IN RICE.

Field No. 12, was planted 16th April, 1844, 2½ bushels of seed per acre, covered with water, and plowed until the sprout was entirely green—the water was then drawn. As soon as the plant was strong enough, it was hoed rather deep, and the low water put on deep for four days, then slacked down to about half the height of the plant; at this height the water remained until the plant acquired sufficient strength to stand upright, when the water was slacked down a little, the grass picked out, and then as soon as the turbidness of the water had sufficiently subsided, it was drawn off. Two or three days after, namely, on the 18th June, two ¼ quarter beds, (38½ feet wide,) at one end of the field, 698 feet in length, were treated with 86 lbs. of nitrate of potass, (saltpetre,) finely powdered, and sowed broadcast over the two beds. As soon as the ground was sufficiently dry, namely, about ten days from the drawing of the water, the rice was hoed deep. Afterwards, on the 10th of July, it was lightly brushed through with a hoe, and laid by, the long grass was picked out late in the season, and the rice harvested two days after the stormy rain in September, namely, the 12th.

It was threshed and winnowed on the 19th Nov., 1844, in the presence of George T. Ford, Esq., who also saw it measured, as well as the land. The production was *ninety-two bushels, three pecks and three quarts*, of clean winnowed rice, independent of the straw and flat rice.

Estimating the contents of the acre at 45,000 square feet, which is usual among planters, this product is at the rate of 78¼ bushels per acre.

R. F. W. ALLSTON.

Matonza, Pee Dee, Nov. 19, 1844.

I hereby certify that the foregoing facts, as far as the threshing, winnowing and measuring of the rice and land is concerned, are strictly true, having been done in my presence.

GEORGE T. FORD.

The foregoing facts are entirely within my own knowledge. JESSE BELFLOWERS.

Columbia, Nov. 26, 1844.

Hon. Whitemarsh B. Seabrook:—

DEAR SIR:—I send you herewith a small package containing several ears of a species of Millet, which is cultivated by many planters of Orangeburg District, as a substitute for provender for work horses and cattle, during the warm season of the year.

Many planters use no other provender from the latter part of May, until about the middle of September, and it is regarded by them as superior in most respects to the fodder of Indian corn—to oats, pea-vines, gama or rye-grass. One acre of it will feed eight horses—it should be used in a green state, and is exceedingly nutricious.

It is planted like upland cotton in rows, three feet apart, in drill or in chops nine inches apart on the bed, and in rich land may be cut every fifteen days. Cotton seed and stable manure in equal parts, make a good manure for it, and it should be worked with the plow or hoe after every cutting. I have received so much advantage from planting it, that I would be pleased to see it in general use.

I am, dear sir, with great respect,
Your ob't. serv't., D. F. JAMISON.

The enclosed statement, together with two certificates, designed to accompany a sample of fine Sea Island Cotton, is respectfully submitted to the State Agricultural Society of South Carolina, by ARCHIBALD H. SEABROOK.

Edisto Island, Nov. 18, 1844.

Gentlemen of the State Ag. Society of So. Ca.:

In offering for the premium for "the greatest production of Sea Island Cotton, having reference to quality and valuation," the undersigned begs leave to make the following statement:

The ten acres of land on which the cotton was grown is high and of a close texture. Originally strong, it has been much impoverished by injudicious cultivation and management. On eight acres, from which 5440 pounds have been gathered, 160 piled single-horse cart loads of marsh were put in, in August, 1843, immediately after being cut. These were not entirely covered, as is the usual practice, but a few hoefuls of earth were placed on them at short distances, to prevent the depredations of cattle, and some of the most valuable properties of the grass from being washed away by rain. The cotton on the remaining two acres, was not designed to be mixed with the general bulk, for as they had been assisted only with pine straw, and a few loads of salt mud, on one third of the land, there was no ground for believing that the yield, under the most favorable circumstances, would be large.

These acres, it is confidently supposed, did not together realize over 400 lbs.; thus rendering the product of the eight acres designed for the premium, in reality 5440 lbs., as already stated. In height, the plants on the latter averaged about 4½ feet, while on the former not over 3 feet. The mode of cultivation did not differ from that usually adopted by the grower. It is to the manure and the manner of applying it, that the undersigned would briefly invite the attention of the Society.

According to the customary usage, the marsh cut in July or August, is piled up and not taken to the field until after the crop has been prepared for market. At that time it will be found that the quantity has been lessened one-half, and the quality much depreciated. By the scheme adopted by the undersigned, the grass was allowed to rot on *the ground intended for cultivation.* In this way the saline and other ingredients not evaporable were preserved. By exposure too, for several months, to the combined action of air, light and moisture, the process of decomposition in the spring is regular, and the matter becomes food for the plants early in the season.

If a complete listing be given to the land in the summer, these results do not take place so soon, and when they occur, the decay is frequently so rapid, that injury to the plants, especially if the season be variable, may with certainty be looked for. The "blue disease," (among other causes,) arises from excess of nutriment, furnished by salt-grass, in a state of too high fermentation. Where the parts are allowed to be broken down, or fully prepared to yield to the power of the decomposing agents, by being thrown into heaps of any size, or partially covered in the manner already stated, the undersigned has never known or heard of any other than the most salutary effects flowing from the practice. The plan of putting the marsh on the ground intended for the crop in summer, is much preferred, for thereby nothing is lost that is in the power of the planter to save. Other decided advantages of a minor and different character, may be enumerated, to one of which only, he will now advert. It is the only practicable mode of making an allotment of work to the laborers. The task for each reaper is three piled cart loads per day, which, after being determined by the head cartman, who for this reason should be a faithful slave,) is immediately taken to the field. By this means the master is able to ascertain with great accuracy, the quantity of work of this kind which can be done by any number of men in a given time.

The undersigned would further observe, that the season, though in general favorable to the cotton crop, was too dry for high lands, and that although in other fields, naturally or artificially richer, a greater product per acre has probably been made, it is doubtful whether, looking to the anticipated yield in money, the labor of the grower will anywhere be better rewarded.

From the fineness of the staple, it requires 1500 lbs. in the seed to make 300 lbs. of clean-ginned cotton. At this rate, if the cotton commands the lowest price at which it has been valued by two distinguished factors in Charleston, (whose certificates accompany this,) the amount in money, per acre, will be, for the ten acres, $81.76 cents; or, for the eight acres, deducting 400 lbs. for the two acres unintentionally thrown in, $95.20 cents; making $761.60 cents for the eight acres. A. H. Seabrook.

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The undersigned, factors and sellers of fine Sea Island Cotton in the Charleston market, hereby certify that they have examined and valued a sample of Sea Island Cotton, represented as the growth of the present year, and produced by A. H. Seabrook, Esq., of Edisto Island.

The sample is of beautiful and extra quality, preparation good, soft, long and very fine staple. As no cotton of the same description has thus far been sold or offered for sale in the market, they are unable to affix a value to it at this time. By comparing the specimen with similar cotton sold last season, they are decidedly of opinion that it would have commanded then, from 70 to 75 cents per lb. James O'Hear.
Wm. M. Lawton.

Charleston, S. C., Nov. 21, 1844.

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I hereby certify that Mr. A. H. Seabrook's Cotton, called the Queen, and produced from ten acres of land, was weighed in my presence, this sixteenth day of November, 1844, and turned out five thousand eight hundred and forty (5840) pounds, gross. Wm. F. Meggett.

REPORT OF THE CAMBRIDGE AG. SOCIETY,
On the situation of Whitfield Brooks's Plantation, and its claims for the Premium to be awarded for the best managed Plantation.

At the request of Mr. Whitfield Brooks, of the District of Edgefield, we have examined his plantation with all the minuteness and accuracy, which circumstances would allow, and submit the following Report:

The land in cultivation is represented to be about 700 acres, of which one-third may be denominated swamp and second low grounds, and the remaining two-thirds, high land, under one continuous line of fence, with dividing fences at convenient distances, separating the whole into fields varying from 30 to 120 acres. The high land is in a clean condition, free from trees, logs, briars or gullies, and in a state of progressive improvement by the rotation of crops, and the application of manure. The low land has been thoroughly drained by two main ditches of large size and many smaller drains, where the condition of the land required them. Cultivation extends to the border of the ditches and branches, the latter having been straightened and cleared out, to admit the free passage of water. The land in cultivation, presents the appearance of an undulating valley, formed by the junction of several small streams, from an elevated point of which the eye commands a view of the whole area of the plantation, with the crop of cotton, corn and small grain, in their present condition. There is a raised and well made road, passing nearly through the centre of the fields, and branching off in various directions, as necessity or convenience required. Gates are erected at every cross fence, which afford an easy passage to all parts of the plantation. We saw about 200 acres in corn, 250 in cotton, from 125 to 150 acres, which had been in wheat, oats, rye and barley, and about 90 acres in wheat, rye and oats, for the fall sowing of grain, all of which is in a state of apparent gradual improvement and skilful cultivation, having yielded a good crop the present year, notwithstanding the severe drought which prevailed in this section.

We next directed our attention to his houses, fixtures and lots, of various kinds and sizes. The stable lot is of good size, well shaded and supplied with water from a well, near at hand, which is worked by a pump, and from which the water is conveyed by troughs. In this lot stands a large two story framed stable, divided on the lower story into stalls, and affording a capacious repository in the second story for fodder and oats. On each side of the stable, is a framed shed, used as a shelter for the wagons, and for the feeding of horses in summer. At the north end of the stable, another shed has been erected about 30 feet square, with a trough and rack in the centre, for the use of the mules in summer, having a large apartment above for fodder. These are substantial buildings, and well covered with shingles. Besides these, there is a line of log buildings, extending from 40 to 50 yards in length, with stalls for separate horses and oxen, and apartments for harness, having in the rear a large shed for oxen. This lot has a communication by means of gates with various other lots, as appurtenant to the stable, one of which is appropriated to oxen, another with shade trees and a stream of water, into which the stock is turned for rest or gentle exercise. The third is a grove, neatly trimmed and cleaned, which is used for various purposes, occasionally for cows and young pigs, for sheep, or for horses and mules that become either crippled or sick. His cribs are substantial and well arranged buildings, in a line with the stables, and covered with shingles. The stable lot communicates with the gin lot, in which stand two framed gin houses in a line, each thirty-two feet square, with a passage between them of 20 feet, all under one cover and well floored, the passage answering the purpose of drying cotton and small grain, or as a shelter in rainy weather for any kind of employment in such seasons. At one of the gin houses, and in connection with it, is a framed building, two stories high, in which are placed the threshing machine and fan, for cleaning of small grain. These are propelled by machinery, and principally constructed by the mechanics of the owner. In the same lot is a two story framed barn, designed for grain, the upper story of which is ceiled, and divided into bins of 30 bushels each, for the reception of grain. On each side of the barn is a framed and enclosed shed with shingle roofs, for fodder, oats, &c. Near the gin house and cotton room, stands the screw, having a framed building around it, and so constructed, that one entire side may be removed, to admit repairs of the screw.

In the rear of the gin house lot is another, (about one acre, now in small grain,) in which has been erected a row of substantial buildings, extending about two-thirds of one entire side, in which is preserved provisions for the cattle, and immediately in the rear of this line of buildings, and fronting the south, is a covered shelter for cattle in winter, with which is connected a winter lot, having trees and water, and also a large trough, made of poles or logs, to preserve the food from the feet of the cattle. In this lot the cattle are penned at night, both in winter and summer, and a supply of litter constantly applied around the trough for making manure. Much attention has been and is devoted to making manure, and the arrangements are well adapted to this purpose. We saw in the horse lot seven large and substantial made pens, filled with manure, and three more in the cow lot, containing in all at this time not less than from 400 to 500 wagon loads.

The negro houses have been erected in a shade lot, in a parallel line with the stables and corn-cribs, about 30 yards in the rear, but at a convenient distance from them, and extending to the east, and presenting a front to the south. They are either framed or hewed log buildings, with framed roofs, having double brick or rock chimnies, plank floors, and stand from 30 to 50 yards apart. In front of these buildings is a shade lot, from 3 to 4 acres, enclosing the loom house and well, and in the rear, a garden and poultry house, for each family of negroes. The house of the overseer is a framed building, with three rooms and brick chimneys; and with its appendages, occupy the crown of the hill, and commanding a view of the blacksmith and work-shops, the negro houses, stable lot and houses, the gin house, lot and buildings, and the cow lot and its appurtenances. The dwel-

ling house is a two story building, finished in a plain but comfortable style, with shed and piazza, having six rooms and a passage, and stands in a luxuriant grove of oaks about 400 yards from the overseer's house, with which it is connected by an avenue and lawn, containing from 10 to 15 acres. It has the usual appendages of a garden, kitchens, meat house, fowl house and dairy. We were also shown various arrangements for raising and taking care of stock through different stages of its growth. These consist of various lots of different sizes under good fence, and an abundant supply of water. The first is a wood enclosure of near 500 acres, partly high land, and partly swamp, and so arranged as to be easily divided by a set of bars. This is intended as a permanent enclosure for hogs, and occasionally for sheep and other stock. It has a direct communication with the stable lot, and cow lot, through a gate, by means of the lawn above referred to, and hogs are fed within 300 yards of the overseer's house, which commands a view also of this lot. Another was a lot of 75 acres, of which about one half is in woods and the other in small grain, intended for ewes and lambs and other young stock, and is connected with the lawn around the dwelling house by a gate. The third is a lot adjoining the dwelling house, containing about 15 acres, half in woods and the other in small grain, intended for calves and poultry. These are in addition to the lots above referred to, as connected with the stable lot, all of which constitute about 12 in number. There is also a shelter with stalls for the milch cows in winter, and a house for food and shelter for the calves. In short, there is a lot for all kinds of stock, adapted either to summer or winter use, with a shelter or cover for each kind. It is a rule of the establishment to put all food under cover, so that we found neither oats, fodder, straw nor shucks exposed to the weather, but all were stored away in substantial buildings. The overseer has an appropriate house or room for the tools, plows, harness and wagons, and no implement or vehicle is allowed to remain from under cover. The various lots adjacent to the stable lot and dwelling, are surrounded by good fences, neatly shrubbed trees trimmed, neat and substantial gates, and all supplied with water and shade. The stock on the plantation is as follows:—about 90 stock hogs, 15 sows, with near 100 pigs, about 90 head of horned cattle, including three yoke of oxen, milch cows and calves —about 70 head of sheep, and from 40 to 50 hogs for the slaughter pen, all in a good and thriving condition. The horse power is 16 mules, and 7 horses, of which three or four are brood mares. The overseer reported that he manufactures clothing for the negroes, both winter and summer. The supply of pork will be abundant for the wants of the plantation, amounting to 7 or 8,000 lbs. That from the sale of wheat, rye, corn, peas, and other surplus products of the plantation, he is enabled to pay the current annual expenses, except his wages, besides furnishing a supply of flour to his employer.

In conclusion, we cheerfully bear testimony that for the arrangement of the plantation, for the reclaimed and highly improved condition of the land in cultivation, for the means provided for its permanent improvement, for the substantial and convenient character of the buildings of every description, and for the general economy displayed in its government, there is manifested a skill, judgment and industry, of no ordinary character, and which was indispensable to the accomplishment of the present improved condition of the plantation. We ought not, however, to omit some notice of the utensils and vehicles used on the plantation and of the present crop. These consist of the bull tongue plow, the common shovel, the half or twisting shovel, the barsheare, of Northern construction, the sweep or scraper, and iron tooth harrows. Several of these are used in breaking up and preparing land for cultivation, and all except the barsheare, in the cultivation of the crop. There are three wagons and two ox carts, with their usual apparatus. The land seems to have been thoroughly broken up, and closely and skilfully plowed and planted, plowed and laid by in the best mode to prevent washing. We were shown a field of 50 acres of corn, planted in the drill, which averaged over 25 bushels to the acre. The product was between 1300 and 1400 bushels. Another of 70 acres, which averaged about 20 bushels, or about the same product as the first. A field of 30 acres on an elevated ridge, yielded an indifferent crop, being cut off by an unusual drought. There remains from 30 to 35 acres of corn ungathered, which will yield between 400 and 500 bushels. The crop of cotton was greatly injured by drought and rust, and will only yield 130 bales of the average weight of 350 lbs. In a seasonable year, the same land, under the same cultivation, would have yielded 175 bales. In addition to the corn and cotton, there were made 250 bushels of wheat, 50 bushels of rye, a small quantity of barley, and the average crop of oats, an abundant supply for the plantation—75 bushels of peas have been gathered and cleaned, and some 10 or 12 stacks of peas on the vine. The hogs are a cross from a Berkshire boar, and sow of the common stock. The cattle are in an state of improvement from a cross, by a three year old Durham bull, a very superior animal, bred by Col. B. F. Taylor, of Columbia. The sheep are a cross of the Bakewell breed, from an ewe and ram, a present by Major Thomas Means of Fairfield. In making this Report, our only object has been to give a full, fair and impartial account of the state of the plantation, and if we have been tedious, the only apology we can offer is, that it was inseparable from a faithful discharge of the office committed to us. In certification of which, we have signed our names, this 21st of November, 1844.

R. C. Griffin, former Treas'r. W. Andrews.
A. P. King. Jas. F. Lowry.
Thomas Payne. James Dorn.
J. M. Walker. Solomon Dorn.

Black Oak, Nov. 22, 1844.

To R. W. Roper, Esq.—

Dear Sir:—The short period which has elapsed since the receipt of your letter, requesting information on the subject of the Marl experiments in this neighborhood, must be my apology for so unsatisfactory a reply as this must necessarily be.

Previous to the year 1843, there had been but one instance of the application of marl as a manure to the soil, in this immediate neighborhood. Its existence was known in a few localities, where it had been thrown out from excavations through our swamps, but until the use of the auger for boring was introduced by Mr. Ruffin, its great extent and almost universal presence was not generally suspected. By his personal exertions and the use of this simple instrument, a vast mine of agricultural wealth has been unfolded, which only requires the energy and industry of the planter to be made available.

According to the experience of Mr. Ruffin and the Virginia planters, too short a time has elapsed since its application to our lands, for us yet to realize its full effects. The first experiment in marling in this section of country, was made by Mr. F. A. Porcher, in 1840, on 17 acres of land, at the rate of 100 bushels per acre. His statement is thus: Planted in cotton the first year, and did well. In 1841, rested; 1842, in cotton, with an additional manuring of 30 horse-cart loads of stable compost, a good crop —140 lbs. of ginned cotton; 1843, in potatoes and slips, but did badly; 1844, in corn, making 24 bushels per acre.

He states a second experiment of 2 acres, marled the past year and planted in potatoes. Began to use them in August; that on the marled land, the only good part of his crop. Mr. Philip M. Porcher states an experiment on 7 acres marled in 1843. Kept one acre unmarled for comparison, and treated the remaining six with marl, at the rates of 250 and 130 bushels per acre. The season of 1843 was peculiarly unfavorable, and no good effects were observed from the treatment. In 1844, (the present year,) he picked from an acre, on which 250 bushels of marl had been applied, 460 lbs.; from one on which 130 bushels had been applied, 380 lbs.; and from the acre left unmarled, 260 lbs. seed cotton. The same gentleman states another experiment on a field of 6 acres, marled in 1843, at the rate of 120 bushels per acre, applied together with stable manure and cotton seed. Planted in corn the first year, and made 20 bushels per acre. In 1844, added 100 bushels of marl per acre and other manures; the field made an average of 44 bushels of corn per acre. It should be stated that the land used in both of the above experiments, was old and exhausted from hard treatment. From these, and many other experiments in this neighborhood, it would appear that on old lands, but little effect is seen the first year after marling.

It is to be regretted that in two instances, where the most marked beneficial effects were seen from the application of marl, no accurate account of the result has been kept.

Mr. S. G. Darant the last winter, applied marl at the rate of 100 bushels per acre, to 15 acres of newly cleared pine land. A small spot of 30 or 40 feet square was left unmarled. No account of the relative production has been taken, but the unmarled spot has scarcely made any cotton, whilst a fair crop has been gathered from the other; the increase of production is rated at 4 or 5 fold, or more.

The other instance alluded to above, is an experiment by Mr. R. W. Mazyck, with green sand marl, on a few acres of cotton land. The crop has not yet been entirely harvested, but by comparison with the adjoining parts of the field unmarled, the increase must have been double at least.

At the meeting of the Black Oak Agricultural Society held last spring, it was ascertained that about 1200 acres of land, within the geographical limits of the Society, had been marled during the past year up to that period. There is no doubt that fully the same amount of marling will have been accomplished again by our next meeting in the spring.

I am, very respectfully, &c.,
H. W. Ravenel.

AGRICULTURAL PRODUCTS OF THE UNITED STATES FOR 1843.

Wheat,	100,310,856	bushels
Barley,	3,220,721	"
Oats,	145,929,966	"
Rye,	24,280,271	"
Buckwheat,	7,959,410	"
Indian Corn,	494,618,306	"
Potatoes,	105,756,133	"
Hay,	15,419,807	tons.
Flax and Hemp,	161,007	"
Tobacco,	185,731,554	pounds.
Cotton,	747,660,090	"
Rice,	89,879,145	"
Silk Cocoons,	315,965	"
Sugar,	126,400,310	"
Wine,	139,240	gallons.

The supposed value of the above, $607,185,413. The articles of wheat, barley, buckwheat, potatoes, tobacco, rice, and sugar, amounted to less in 1843 than in 1842; though the aggregate value of all the above named articles in 1843, was $24,545,445 greater than in 1842. The population of the United States in 1843 was 19,183,583.—*National Intelligencer.*

Simple Cure for Croup.—We find in the Journal of Health the following simple remedy for this dangerous disease. Those who have passed nights of almost agony at the bedside of loved children will treasure it up as an invaluable piece of information. If a child is taken with croup, instantly apply cold water, ice water if possible, suddenly and freely to the neck and chest, with a sponge. The breathing will almost instantly be relieved. So soon as possible, let the sufferer drink as much as it can; then wipe it dry, cover it up warm, and soon a quiet slumber will relieve the parent's anxiety, and lead the heart in thankfulness to the Power which has given to the pure gushing fountain such medicinal qualities.

THE MARL FORMATION.

As Geology is intimately concerned in pointing out to Agriculture the kinds of rock useful as manures, we have thought it advisable to republish in our paper an extract from a report read before the Geological Society of London, by the eminent Geologist, Mr. Lyell. He visited our State in 1841, and on his return to Europe, read before the Society, a paper, "On the Tertiary Formations and their connection with the chalk in Virginia, and other parts of the United States." We have selected from this paper what relates to South Carolina and Georgia. We would recommend to our Farmers engaged in marling, to preserve all bones and shells for scientific examination, as they are interesting to those gentlemen who are making collections for their cabinets.—*Carolina Planter.*

"ON THE TERTIARY FORMATION OF SOUTH CAROLINA AND GEORGIA."

BY CHARLES LYELL, V.-PT. G. S. L.

Charleston stands on a yellow sand, beneath which is a blue clay, containing the remains of Testacea that inhabit the adjacent seas; and Dr. Ravenel informed Mr. Lyell that he had found in it the *Gnathodon cyrenoides*, not now known to occur in a living state nearer than the Gulf of Mexico. The author could not ascertain whether the post-pliocene formation rises above high-water mark; but he states that, on the Cooper river, thirty miles north of Charleston, there occurs beneath the superficial sand and mottled clay a fresh water formation, in which Dr. Ravenel has found the remains of the Cypress, Hickory and Cedar, which must have grown in a fresh water swamp, although the formation is now six feet below the level of high water. No shells have been noticed in the deposit, but they are also commonly wanting in the marsh accumulations of that region. As the salt water of Cooper river must now cover much of this deposit, a very modern subsidence, Mr. Lyell says, must have taken place along the coast. At Dr. Ravenel's plantation in the low country, near the mouth of Cooper river, is a pulverulent limestone, artificially exposed, which Mr. Lyell thinks may be an eocene formation, though its fossils differ from those of other deposits of that epoch.

Between this point and Vance's Ferry, on the Santee river, is a continuous formation of white limestone, which Mr. Lyell examined with Dr. Ravenel at Strawberry Ferry, Mulberry Landing, the banks of the Santee canal, Wantout and Eutaw. It varies in hardness, and consists of comminuted shells; but it very rarely exhibits any laminæ of deposition, and even where it attains a thickness of twenty or thirty feet, there would be a difficulty in determining whether it were horizontal, if a bed of oysters, like that at Vance's Ferry, did not occasionally occur. At the Rock bridge near Eutaw springs, the limestone composed of comminuted shells, corals, the spines of Echini, &c., resembles so precisely the upper cretaceous formations at Timber Creek in New Jersey, that Mr. Lyell at first felt no doubt of the identity of the two formations, although the organic contents of the limestone prove that it belongs to the tertiary series. This resemblance has led to the admission into Dr. Morton's excellent work on the fossils of the cretaceous group, of the *Balanus peregrinus, Pectencalvatus, P. membranosus, Terebratula lachryma, Conusgyratus, Scutella Lyeeli*, and *Echinus infulatus**, though they do not really belong to the chalk series; and to several other similar mistakes, whereby, Mr. Lyell observes, beds of passage have been erroneously supposed to exist. Among the most widely distributed of the limestone fossils is the *Ostrea sellæformis;* and he searched in vain at various points throughout a distance of forty miles for an admixture of characteristic cretaceous and tertiary organic remains, though the chalk formation, containing Belemnites and Exogyræ, occurs between Vance's Ferry and Camden. The Santee limestone, he is of opinion, cannot be less than 120 feet thick at Strawberry Ferry, being vertically exposed to the extent of seventy feet in the banks and bottom of Cooper river, and to the height of fifty feet in the neighboring hills. Its upper surface is very irregular, and is usually covered with sand in which no shells have been found. Mr. Lyell followed the limestone north-westwardly for twelve miles by Cave Hall and Struble's Mill to near Half-way Swamp. At Stoudenmire or Stout Creek, a tributary of the Santee, it has disappeared beneath a newer tertiary deposit of considerable thickness, consisting of slaty clays and quartzose sand. No fossils were observed by him in the deposit at Aiken. A similar formation is developed at Augusta, where the Savannah divides the States of South Carolina and Georgia, and it must, in some places, be more than 200 feet thick. Three miles above the town are the rapids, which descend over highly inclined clay-slate and chlorite chist, overlaid unconformably by tertiary beds. This point is the western boundary of the supracretaceous series; and Mr. Lyell observes, that on all the great rivers of the Atlantic border from Maryland to Georgia, and still further south, the first falls or rapids are along a line at which the granitic and hypogene rocks meet the tertiary, and which is nearly parallel to the Atlantic coast, but at the distance of 100 or 150 geographical miles. This great feature, Mr. Lyell states, was first pointed out by Maclure, but he adds that portions of the tertiary formation usually cover the hypogene rocks for a certain distance above the Falls, and that their outline is very irregular and sinuous. On Race's Creek near Augusta, the highly inclined clay-slate, containing chloritic quartzose beds with subordinate strata much charged with iron, are decomposed to the depth of many yards into clays and sands which resemble so precisely a large portion of the horizontal tertiary strata of the neighboring country, that disintegrated materials might be mistaken for them, if the veins of quartz which often traverse the argillaceous beds at a considerable angle, did not continue unaltered. The only point at which Mr. Lyell saw any organic remains in beds associated with these upper tertiary red strata was at Richmond in Virginia, where he obtained casts of decidedly miocene fossils; but as he observed on the Savannah river thick beds of sandy red earth beneath the burr-stone of Stony Bluff, he concludes that the same mineral character may sometimes belong to the upper division of the eocene group. At the rocks six miles west of Augusta, the tertiary beds derived from the hypogene rocks have the appearance of granite, and have been called gneiss by some geologists. They exhibit occasionally a distinct cross-stratification, and include angular masses of pure kaolin.

Though the Savannah in its course from Augusta to the sea, flows for the greater part in a wide alluvial plain, and has a fall of less than one foot in a mile, yet Mr. Lyell descended it to obtain information, by means of the Bluffs, respecting the superposition of the several masses, natural sections being otherwise difficult to obtain. After passing cliffs of horizontal strata in which the brick-red sand and loam prevail, the first exposure of a new deposit was observed at Shell Bluff, forty miles below Augusta. The height of the section was 120 feet, and its extent more than half a mile. The lowest exposed strata consisted of white, highly calcareous sand, derived chiefly from comminuted shells, but the beds passed upwards into a solid limestone, sometimes concretionary, and containing numerous casts of shells. In one place a layer of pale green clay showed the horizontal character of the formation. The upper part of this deposit is more sandy and clayey, and incloses a bed of huge oysters, *Ostrea Georgiana*, occupying evidently the position in which they lived. The total thickness of these lower strata is eighty feet. The upper portion of the cliff is composed of forty feet of the red loam which prevails at Aiken and Augusta, and yellow sand. Mr. Lyell did not find any fossils in this deposit, but he believes that it belongs to the burr-stone formation, and therefore to be an upper eocene accumulation. At his first inspection of the casts contained in the limestone, he inferred that they belonged to eocene species, without any intermixture of cretaceous or miocene forms; but it was not till he had the advantage of Mr. Conrad's assistance that he was able to determine the following twelve species which are well known to be characteristic fossils of the eocene beds of Claiborne and Alabama:—

Oliva Alabamiensis.	Corbula nasuta.
Calyptræa trochiformis.	—— oniscus.
Dentalium alternans.	Nucula magnifica.
Venericardia planicosta	Crassatella prætexta.
Cytherea Poulsoni.	Ostrea sellæformis.
—— perovata.	—— Alabamiensis

The same shelly, white, calcareous beds, overlaid by red clay and loam, are exhibited at London Bluff, nine miles below Shell Bluff, and a horizontal bed of the large oysters is exposed in a cliff two miles farther down the river. At Stony Bluff, on the borders of Scriven county, the calcareous deposit is no longer visible, the cliff being composed of silicious beds of the burr-stone and mill-stone series, resting upon brick-red and vermilion-colored loam. This section, Mr. Lyell states, is of great importance, as it concurs in proving that the mill-stone of this region, with its eocene fossils, is an integral part of the great red loam and sand formation usually devoid of organic remains. The burr-rock of Stony Bluff abounds with cavities and geodes partially filled with crystals of quartz and agates. In the fragments scattered over the adjacent fields, Mr. Lyell observed casts of univalves. At Millhaven, eight miles from Stony Bluff and five from the Savannah river, these silicious beds again crop out and afford casts of the genera Pecten, Eulima or Bonellia, and a Cidaris. It had been pierced through to the depth of twenty-six feet, and was associated with red loam, white sand and kaolin, affording further evidence of these deposits belonging to one formation.

One mile west of Jacksonborough, in the ford of Briar and Beaver Dam Creeks, is a limestone passing upwards into white marl which appears to have been deeply denudated, and is overlaid by sand that belongs to a formation of sand, loam, and ferruginous sand-rock, referred by Mr. Lyell to the red loam and burr-stone series. The limestone and marl, although rarely exposed in sections, are considered to constitute very generally the fundamental strata of the region on account of the not unfrequent occurrence of lime-sinks or circular depressions, formed in the beds of loam and sand by subterranean drainage. The fossils procured from the limestone of Jacksonborough by Mr. Lyell, as well as those presented to him by Col. Jones, of Millhaven, were for the greater part well-defined casts, and were specifically new to American palæontologists; nevertheless he has no hesitation, from their general aspect, to regard them as belonging to the eocene period. The genera enumerated in the paper are, Conus, Oliva, Bulla, Voluta, Buccinum, Fusus, Cerithium, Trochus, Calyptræa, Dentalium, Crassatella, Chama, Cardium, Cytherea, Lithodomus, Lucina, Pecten, and Ostrea. The Trochus is considered identical with the *T. aglutinans* which occurs in the Paris basin; and the Lithodomus to be undistinguishable from the *L. dactylus* of the West Indies, one of the few eocene Parisian fossils identified by Deshayes.

All the Bluffs examined by Mr. Lyell on the Savannah river below Briar Creek belong to the beds above the limestone, and are referable chiefly, if not entirely, to the burr-stone formation. In white clays exposed a few hundred yards below Tiger Leap in Hudson's Reach, the author found impressions of Mactra, Pecten and Cardita, also fragments of fishes' teeth, particularly of the genus Myliobates, likewise several teeth of the genus Lamna, and one belonging to a Notidamus or a nearly allied genus. At Sister's Ferry he observed not only the brick-red loam, with the red and gray clay and sand, but

* See pl. 10 of Morton's Synopsis.

a highly silicious clay, which though soft when moist, exhibits a conchoidal fracture when dry, and resembles flint; in some spots the clay also passes into a kind of menlite.

In conclusion, Mr. Lyell offers the following general observations: The part of South Carolina and Georgia which lies between the mountains and the Atlantic, and of which he examined a portion near the Santee and Savannah rivers, has a foundation of cretaceous rocks containing Belemnites, Exogyræ, &c., overlaid first by the eocene limestone and marls, and secondly by the burr-stone formation with the associated red loam, mottled clay, and yellow sand. According to Mr. Vanuxem's observations, a tertiary lignite deposit sometimes intervenes between the cretaceous and eocene series. The remarkable difference in the fossils of the eocene strata at different points, as the Grove on Cooper river, the Santee canal, Vance's Ferry, Shell Bluff, Jacksonborough, and Wilmington, might lead, Mr. Lyell states, to the suspicion of a considerable succession of minor divisions of the eocene period. That the whole are not precisely of the same age he is willing to believe, but he is inclined to ascribe the difference principally to two causes: 1st, that the number procured at each place is small and therefore represents only a fractional portion of the entire fauna of the period, so that variations in each locality may have arisen from original geographical circumstances; and 2ndly, no great eocene collection has been made from any part of the United States.

Some of the burr-stone fossils occur in the limestone, and Mr. Lyell thinks the former may bear to the latter a relation analogous to that which the upper marine sands of the Paris basin bear to the calcaire grosser.

With respect to the conclusion stated in the beginning of the paper, that he had been unable to find any beds containing an intermixture of cretaceous and tertiary fossils, Mr. Lyell says, it would require far more extended investigations to enable a geologist to declare whether there exist in the Southern States any beds of passage, but he affirms that the facts at present ascertained will not bear out such a conclusion.

The generic affinity of the cretaceous fossils of the United States to those of Europe, is stated to be most striking, and Mr. Lyell observed in Mr. Conrad's collection from Alabama a large Hippurite, a point of analogy not previously recorded.

The proportion of recent shells in the eocene strata of the United States appears to be as minute as in Europe, and the distinctness of the eocene and miocene testacea hitherto observed to be as great. Mr. Lyell says, it is also worthy of remark, that the recent shells found in the American miocene beds are not only in the same proportion to the extinct as those of the Suffolk crag, or the Faluns of Touraine, but that they also agree specifically in most cases with molusca inhabiting the neighboring sea; in the same manner as the recent miocene species of Touraine agree for the greater part with species now living on the Western coast of France or in the Mediterranean, and as the recent testacea of the crag are identifiable with species belonging to the British seas. This result appears to Mr. Lyell to confirm the accuracy of conchological determinations; for if, on the contrary, it should be maintained, that the number of recent species is so enormous, and different species resemble each other so closely as to have produced identifications from the mere difficulty of effecting discriminations, he would suggest that in that case, according to a fair calculation of chances, nine-tenths of the American miocene species hitherto identified ought to have been assimilated to exotic shells, instead of having been found to agree with some portions of the limited fauna at present known on the American shores. The same argument, he adds, is clearly applicable to the identifications which have been made of fossil and recent shells in the European tertiary formations.—*Philadelphia Magazine.*

The great step to greatness is to be honest.

KEEPING CATTLE WARM.

If we look abroad at the habits or necessities of people, we find that as we advance from south to north, the consumption of animal food increases. In hot climates, under the tropics for instance, the diet is almost exclusively a vegetable one. Under a latitude of forty or fifty degrees, we require considerable animal food—if we advance to the frozen regions of the north, whale oil and bears' fat, are found among the luxuries of the board. These gross materials, almost to the exclusion of vegetables, are there found indispensable to keep up the necessary supply of nutrition and warmth. It has been long known both to chemists and observing men, that a cold atmosphere requires an extra quantity of food to sustain life and health; and this observation is just as applicable to the cattle and horses whose home is at our barns, as it is to our own species. If they are kept warm—housed from the storm, and shielded from unnecessary exposure, they will need less food than if left unprotected through the winter in the open yard. In point of economy, then, as well as from kindliness of feeling, it is our interest to look to the comfort of our stock. The winter profit to be realized from milch cows, is unquestionably much affected by their treatment in this respect, and every one who would make the most of his cattle in this latitude, must carefully attend to their comfort. I copy the following remarks from the fourth part of Johnston's Agricultural lectures, as particularly in point. There is much practical matter in them, that may be made available by every intelligent farmer. The extracts now forwarded for the Cabinet, will, I think, confirm this assertion.—*Far. Cab.* N. S.

"The degree of warmth in which the animal is kept, or the temperature of the atmosphere in which it lives, affects the quantity of food which the animal requires to eat. The heat of the animal is inseparably connected with its respiration. The more frequently it breathes, the warmer it becomes, and the more carbon it throws off from its lungs. It is believed, indeed, by many, that the main purpose of respiration is to keep up the heat of the body, and that this heat is produced very much in the same way as in a common fire, by a slow combustion of that carbon which escapes in the shape of carbonic acid from the lungs. Place a man in a cold situation, and he will either starve or he will find some means of warming himself. He will probably take exercise, and by this means cause himself to breathe quicker. But to do this for a length of time, he must be supplied with more food. For not only does he give off more carbon from his lungs, but the exercise he takes causes a greater natural waste also of the substance of his body.

"So it is with all animals. The greater the difference between the temperature of the body and that of the atmosphere in which they live, the more food they require to 'feed the lamp of life,'—to keep them warm, that is, and to supply the natural waste. Hence the importance of plantations as a shelter from cold winds, to grazing stock—of open sheds, to protect fattening stock from the nightly dews and colds—and even of closer covering to quiet and gentle breeds of cattle or sheep, which feed without restlessness, and quickly fatten.

"A proper attention to the warmth of his cattle or sheep, therefore, is of great practical consequence to the feeder of stock. By keeping them warm, he diminishes the quantity of food which is necessary to sustain them, and leaves a larger portion for production of beef or mutton.

"Various experiments have been lately published which confirm the opinions above deduced from theoretical considerations. Of these I shall only mention one by Mr. Childers, in which twenty sheep were folded in the open field, and twenty of nearly equal weight, were placed under a shed in a yard. Both lots were fed for three months—January, February, and March—upon turnips, as many as they chose to eat, half a pound of linseed cake, and half a pint of barley each sheep, per day, with a little hay and salt. The sheep in the field consumed the same quantity of food, all the barley and oil cake, and about 19 lbs. of turnips per day, from the first to last, and increased on the whole 36 stone 8 lbs. Those under the shed consumed at first as much food as the others, but after the third week they eat 2 lbs. of turnips each less in the day, and in the ninth week, again 2 lbs. less, or only 15 lbs. a day. Of the linseed cake, they also eat about one-third less than the other lot, and yet they increased in weight 56 stone 6 lbs., or 20 stone more than the others.

"Thus the cold and exercise in the field caused the one lot to convert more of their food into dung, and the other more of it into mutton.

"The absence of light has also a material influence upon the effects of food increasing the size of animals. Whatever excites attention in an animal, awakens, disturbs, or makes it restless, appears to increase the natural waste, and to diminish the effect of food in rapidly enlarging the body. The rapidity with which fowls are fattened in the dark, is well known to rearers of poultry. In India, the habit prevails of sewing up the eyelids of the wild hog-deer, the spotted deer, and other wild animals, when netted in the jungles, with the view of taming and speedily fattening them. The absence of light indeed, however produced, seems to soothe and quiet all animals, to dispose them to rest, to make less food necessary, and to induce them to store up more of what they eat, in the form of fat and muscle.

"An experiment made by Mr. Morton, on the feeding of sheep shows the effect at once of shelter, of quiet, and of the absence of light upon the quantity of food eaten, and of mutton produced from it.

"Five sheep of nearly equal weights, were fed each with a pound of oats a day, and as much turnips as they chose to eat. One was fed in the open air, two in an open shed—one of them being confined in a crib—two more were fed in a close shed in the dark, and one of these also was confined in a crib, so as to lessen as much as possible the quantity of exercise it should take. The increase of live weight in each of the five, and the quantity of turnips they respectively consumed, appear in the following table:

	Live Weight. Nov. 18	Live Weight. Mar 9	Increase.	Turneps eaten.	Incr. for each 100 lbs.
	lbs.	lbs.	lbs.	lbs.	lbs.
Unsheltered	108	131 7	23.7	1912	1.2
In open sheds	102	129.8	27.8	1394	2.0
do. but confined in cribs	108	130.2	22.2	1238	1 8
In close shed in the dark	104	132.4	28.4	886	3.1
do. but confined in cribs	111	131.3	20 3	886	2.4

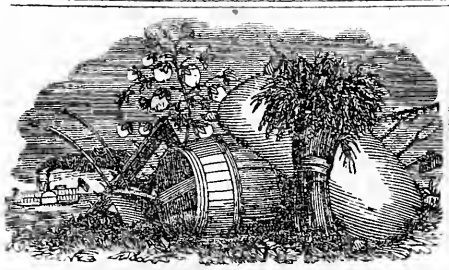
"From this table it appears, as we should have expected—

"That much less—one-third less—turnips were eaten by the animal which was sheltered by the open shed, than by that which was without shelter, while in live weight it gained four pounds more.

"That in the dark the quantity of turneps eaten was one half less, and the increase of weight a little greater still. But that when confined in cribs—though the food eaten might be a little less—the increase in weight was not so great. The animal, in fact, was fretful, and restless in confinement, and whatever produces this effect upon an animal, prevents or retards its fattening.

"That the most profitable return of mutton from the food consumed, is when the animal is kept under shelter and in the dark.

"Such a mode of keeping animals, however, must not be entered upon hastily, or without due consideration. The habits of the breed must be taken into account; the effect of confinement upon their health must be frequently attended to, and above all the ready admission of fresh air and a good ventilation must not be forgotten. By a neglect of the proper precautions, unfortunate results have frequently been obtained, and a sound practice brought into disrepute."



The Southern Cultivator.

AUGUSTA, GA.

SATURDAY, FEBRUARY 1, 1845.

To our Exchanges.—Those Agricultural Journals with which we exchange will confer a favor by addressing to us at Athens in future.

FRIENDS AND PATRONS!

The publishers beg leave to say a word to you, to induce you to make an effort to increase the circulation of the "Southern Cultivator." The work is devoted to the interests of the planter, and looks alone to them for support. What shall we, what can we say, to induce you to make an exertion in its behalf? Shall we tell you, that notwithstanding we have incurred the expense of engaging the services of one of the ablest agricultural writers in the South as its editor, and that although one month of the year has expired, we have not as yet received a sufficient amount from subscriptions to cover *one-half the expense of setting the type?* We might tell you this, and tell you the truth! Are you willing, Planters of the South, that our efforts in your behalf shall be thus rewarded? If you are not, it is time that you bestir yourselves; for we assure you the work cannot be sustained, without an immense sacrifice on our part, unless you exert yourselves to extend its circulation. We will not now say more—we could not in justice to you or ourselves have said less. The Publishers.

Acknowledgements.—We are indebted to the editor of the Albany Cultivator for a copy of his Agricultural Almanac, for 1845; to R. Peters, jr., Esq., of Augusta, for the 1st No. of Colman's European Agriculture; to Judge Hillyer, for a copy of the letter of Richard Rush, Secretary of the Treasury of the United States, on the growth and manufacture of Silk; and to the Hon. A. H. Stephens, for a specimen No. of the Ohio Cultivator.

We are under particular obligations to those editors of the political press in the South, who have published our prospectus, and commended our enterprise to the public, in their editorial columns.

Hemp.—Those who think of trying to raise hemp, are referred to the article on another page, by Mr. Clay. It contains everything necessary to a full understanding of the whole process: indeed, it is a complete treatise in itself, strongly marked by the true characteristics of genius—clearness and simplicity. It is, alone, worth ten whole years' subscription to the Cultivator.

In our next number, we intend to republish the treatise on the culture and water-rotting of hemp, by *David Myerle*, addressed to the farmers of Missouri, the great hemp region of the west.

With these sources of information, and their rich lands, if our friends in northwestern Georgia, don't succeed in making money by hemp, they ought to be condemned never again to know what the jingle of silver is.

Keeping Cattle Warm.—This number of the Cultivator contains an article on keeping cattle warm, to which the reader's attention is especially directed With southern planters, neglect in this matter is by far too prevalent. Even in our mild climate it is idle waste of time and money to attempt any effectual improvement in our stock, until our negligent habits in this respect shall have been corrected; and surely they will be corrected as soon as it is understood how much our interest suffers from indulgence in them. If proof is wanted how deeply the planter's stock of winter provender is affected by every cold rain during winter and spring, for the want of close, warm houses for his stock of every description, he has only to turn to the statements in the article referred to: and if he would understand fully the philosophy of the whole matter, he has only to attend carefully to what Liebig says on the general subject of animal heat. It is, by the way, one of the most beautiful philosophical disquisitions in the whole of his Organic Chemistry. And though the reasoning employed has reference, chiefly, to the human body, yet, the whole animal creation obeying very nearly the same general laws, as regards nutrition and the sustenance of life, it may be regarded as true in reference to the cattle-yard as well as to the parlor.

"In different climates," says Liebig, "the quantity of oxygen introduced into the system of respiration, as has been already shown, varies according to the temperature of the external air; the quantity of inspired oxygen increases with the loss of heat by external cooling, and the quantity of carbon or hydrogen necessary to combine with this oxygen must be increased in the same ratio.

"It is evident that the supply of the heat lost by cooling is effected by the mutual action of the elements of the food and the inspired oxygen, which combine together. To make use of a familiar, but not on that account a less just illustration, the animal body acts, in this respect, as a furnace, which we supply with fuel. It signifies nothing what intermediate forms food may assume, what changes it may undergo in the body, the last change is uniformly the conversion of its carbon into carbonic acid, and of its hydrogen into water; the unassimilated nitrogen of the food, along with the unburned or unoxidised carbon, is expelled in the urine or in the solid excrements. In order to keep up in the furnace a constant temperature, we must vary the supply of fuel according to the external temperature, that is, according to the supply of oxygen.

"In the animal body the food is the fuel; with a proper supply of oxygen we obtain the heat given out during its oxidation or combustion. In winter, when we take exercise in a cold atmosphere, and when consequently the amount of inspired oxygen increases, the necessity for food containing carbon and hydrogen increases in the same ratio; and by gratifying the appetite thus excited, we obtain the most efficient protection against the most piercing cold. A starving man is soon frozen to death; and every one knows that the animals of prey in the arctic regions far exceed in voracity those of the torrid zone. * * * * *

"Our clothing is merely an equivalent for a certain amount of food. The more warmly we are clothed, the less urgent becomes the appetite for food; because the loss of heat by cooling, and consequently the amount of heat to be supplied by the food, is diminished.

"If we were to go naked like certain savage tribes, or if, in hunting or fishing, we were exposed to the same degree of cold as the Samoyedes, we should be able, with ease, to consume ten pounds of flesh, and perhaps a dozen tallow candles into the bargain, daily, as warmly clad travellers have related with astonishment of these people. We should then also be able to take the same quantity of brandy or train oil without bad effects, because the carbon and hydrogen of these substances would only suffice to keep up the equilibrium between the external temperature and that of our bodies.

"According to the preceding expositions, the quantity of food is regulated by the number of respirations, by the temperature of the air, and by the amount of heat given off to the surrounding medium. * * * *

"The cooling of the body, by whatever cause it may be produced, increases the amount of food necessary. The mere exposure to the open air, in a carriage or on the deck of a ship, by increasing radiation and vaporation, increases the loss of heat, and compels us to eat more than usual." * * * *

Lindley's Outline.—We have commenced in this number the publication of a very important work, viz: Prof. Lindley's Outline of the First Principles of Horticulture. Though, from its title, it would at first appear to be not very intimately connected with the scope and design of this work, yet, when it is remembered that the term Horticulture properly means that branch of knowledge which relates to the cultivation, multiplication and amelioration of the Vegetable Kingdom, its intimate connection with the business of the planter is at once manifest.

The character of Prof. Lindley is a sufficient guarantee of the accuracy of anything laid down by him as a first principle. We can, therefore, confidently recommend to our readers, not merely an attentive perusal, but a careful study of his Outline, as it shall appear in the successive numbers of the Cultivator. "It is, at once, remarkably simple, and highly philosophical; free from superfluous technicalities, and, at the same time, truly scientific. Without entering into tedious subordinate details, it offers a lucid explanation of the general nature of vegetable actions, and of the important principles which lie at the foundation of all the operations of Horticulture."

"A knowledge of these leading principles at once invests with new and peculiar interest even the most mechanical, and apparently unmeaning and irksome details of art. With what increased satisfaction are the common processes of manuring or transplanting carried on, to say

nothing of the more delicate operations of budding, grafting, propagating by layers, &c., when we are acquainted with the structure of the plants we are endeavoring to control, and comprehend the why and the wherefore of every step we pursue. With this knowledge of vital actions, new modes of culture, and various improvements in the operations of the art, are continually suggested to the reflective mind; which derives additional pleasure from the prosecution of scientific experiments, of which the ignorant laborer, who turns over the soil and sows his seeds in precisely the same manner under all circumstances, never dreams."—*A. J. Downing's Preface.*

European Farming.—To those who are acquainted only with the system of culture pursued in the southern States, the enormous rents paid for land in Europe, and the prodigious amounts of produce obtained from it, must appear altogether incredible. Yet, even at the risk of being charged with exaggeration, we have thrown together a few statements, gathered from our exchange papers, on this subject, for the purpose of showing what thorough cultivation of the soil will accomplish.

In Great Britain and Ireland nearly all the lands that are cultivated, are let to tenants. These tenants pay an annual rent of from four to five pounds sterling: equal to twenty or twenty-five dollars per acre. Paying rent at these rates, they have to pay, besides, enormous taxes to both church and state, and find all the means, such as labor, manure, implements, &c., that are necessary to carry on the business of the farm profitably.

In the year 1811, a certain farm in England of 890 acres, was estimated to produce $38,000. The manure that was applied that year was 13,746 one-horse cart loads. The rent was $12 per acre; the manure cost $12 per acre; and interest, taxes, expenses of cultivation, &c., amounted to $12 more per acre. And yet after all these disbursements, there was a nett profit of between 6 and 7 dollars per acre to the tenant.

We notice this farther statement, that near London, a hay farm of 160 acres, was rented at $12 per acre. A very heavy expenditure was incurred for manure; yet the tenant, even under these circumstances, has become wealthy.

In Ireland, a poor man rented a single acre of ground; built his cottage, and bought his tools and manure, at high rates. He bought his seed, paid a church tax, supported a family of four persons besides himself and his wife, and the first year cleared all expenses and had £8, or near forty dollars left.

These statements, to those acquainted only with southern cultivation, as we have said, appear utterly incredible. Yet they come to us in such a way as to command our belief. And these wonderful results are accounted for, by those who relate them, on a single principle, viz: *thorough cultivation.* In this, they say, consists the whole mystery.

The people of the United States are beginning to understand these things. We remember seeing, some years ago, a statement that 212 bushels of corn had been gathered from an acre in the State of New York. And we have now before us the Report of the Middlesex County Agricultural Society's Committee on Field Crops, in which it is stated that even in Connecticut *one hundred and fifty one bushels and eighteen quarts* of corn to the acre have been produced on the farm of Mr. Wadsworth. Who, knowing these results, and having the spirit and energy of a man, would continue the system of *skinning* ten acres to get what ought to be produced by one?

Pictures.—We are fully aware of the additional interest thrown around an agricultural paper, by introducing into it representations of fine stock: and we are resolved that, if possible, the Cultivator shall not be wanting in this attractive feature. But we must first be assured of the means of making such expensive additions to it. The whole enterprise is in the hands of southern planters. They can make or mar it.

The extensive circulation of the Albany Cultivator, we have no doubt has been obtained, in part, by its beautiful pictures of beautiful stock. And with this circulation its influence has gone on increasing. Its January number contains a most exquisite engraving of a cow, which cost —not the cow—but the picture of the cow cost over *two hundred dollars.* Well, with its *twenty-five thousand* subscribers, all, without a single exception, paying their subscriptions in advance promptly and punctually, it can well afford to pay for such pictures.

When southern planters display the like spirit with northern farmers in supporting a publication devoted to the promotion of their best interests, they will have a paper that will contain everything they can possibly desire, either as to reading matter or illustrations.

The Agricultural Press.—Nearly all our exchange papers, for the month of January, have come to hand greatly improved, in almost every respect, from what they were last year; and what is better, their editors, in most instances, speak exultingly of the encouragement they have received, and of their prospects for the future. This is all just as it should be, and goes to show that the great mass of the people who are engaged in tilling the ground, are rapidly conquering their prejudices against book farming, and are beginning to place the proper estimate on the labors of those who are engaged in furnishing them with correct information on the subject of their everyday business. An editor, lately of the interior of New York, now of Ohio, was a welcome inmate in every farm house where he was known—had free passage in every stage in the State, and free quarters in all the village hotels: and all this in addition to an extensive subscription list, promptly paid in advance. That was doing the thing cleverly; and appearances now are that since his removal to Ohio, the people of that State are not going to be outdone in this sort of substantial courtesy by their neighbors, the people of New York. Hence it is, that men having the capacity to serve the people, are willing to engage in their service, and when so engaged, and thus treated, cheerfully devote their whole energies to that service.

How very different the state of things in this respect, now, and twenty-five years ago, when Mr. Skinner, the father of the Agricultural press in the United States, commenced the American Farmer, without a single subscriber! His first number extended to only five hundred copies; and though it was first arranged to be dated on the *first of April*, yet it was altered to a different date, to avoid the ridicule of the possible failure of a *fool's project*, commenced on *all fool's day.*

Cotton.—Those planters who are thinking about increasing their crops, so as to make up for the reduction in price, would do well to consider carefully what they are going to do. Let them look at the facts disclosed by Prof. McCay's statement, hereunto annexed, before they determine on a course so suicidal.

We must remark, however, that over-production is, by no means, the only cause; and that it is very far indeed from being the most efficient cause of the present ruinously low price of our great staple. Outrageously unjust, unequal and oppressive national legislation—such as no free people, having the means of resistance, ought to submit to for a single day, is at the bottom of most of the disasters the South is now suffering. The *effect* is the same; and if those who, with their feet on our necks, and their hands in our pockets, are fleecing us on all sides, can persuade us that the *cause* of our ruin lies, not with them, but with ourselves, their great end is answered. They are enriched—we are humbugged, plundered and ruined.

THE COTTON TRADE.

Professor McCay, of the University of Georgia, in a well considered article in the Merchant's Magazine, thus sums up the probable production of Cotton for the past year, and its probable consumption for the year to come.

	Bales.
United States Crop	2,460,000
English Import from India	159,000
English Import from other places	140,000
Total supply	2,750,000

	Bales.
Wants of the United States	370,000
" France from the U. States	420,000
" the Continent from "	180,000
" England	1,480,000
	2,450,000
Excess of supply	300,000

Mr. McCay anticipates that this additional burthen will be felt very severely. We must confess that we think so too. Since he wrote his article, cotton has fallen considerably, and is at this moment according to quality, from ⅛ to ¾d. per pound lower than ever before known in England, and full ¼ to ⅜ of a cent in our own country.

If our planters go on increasing their production, cotton will soon not be worth over 2 to 5 cents per lb., according to quality, on the plantation. At this price no man can live by it. What is the remedy? Simply, raise less of this and more of other products. Here is one thing for example. We believe that a pound of fine Merino wool may be raised in that part of the south suitable for keeping sheep, as cheaply as three pounds of cotton can be grown. The former would be worth 40 cents on the plantation at the lowest, the latter not to exceed 12 cents, which makes a difference in favor of wool-growing of more than 300 per ct.

But we hear the planters say, well, when we get to raising wool, the price of that must fall too. Suppose it does? It will still be a profitable business even at 20 cents per pound; for sheep will enrich your lands and fit them for other good crops, while cotton impoverishes them. Yet so long as we import wool, (which we still continue to do,) there is little prospect of its becoming lower; and when we have supplied ourselves, we can then look abroad for a market. Great Britain alone imports nearly, if not quite, 50,000,000 lbs. annually, and France a considerable quantity. Here, then, is a chance of a market for a long time; for we only raise now about three-fifths of what Great Britain alone imports, and it would be years before we could reach the production of 50,000,000. In the meanwhile it must be recollected that our own consumption will be rapidly on the increase. Space forbids our pursuing this subject any further in this No., but we intend to revert to the general subject of growing wool in our next.—*American Agriculturist.*

For the Southern Cultivator.

INDIGO.

Mr. Editor:—As I am anxious to see a portion of the labor at the South diverted from the culture of cotton, and know no better way of doing it than by commencing it myself, I would be glad if you would furnish me with some account of the culture and manufacture of Indigo—the probable quantity raised to the acre, and what soil is best adapted to it. Any information on this subject would be interesting, and at the same time obliging to Yours, &c.

Waynesboro', Dec. 21, 1844.

Remarks.—We are glad to find that men's minds are beginning to be turned to other agricultural products besides cotton. The condition of things in the cotton-growing States imperiously demands it. Those who, like our correspondent, are thinking of Indigo, will, on referring to the many sources of information that are extant on the subject, find its culture a very simple business indeed. The profit is another matter, which has to be tried yet.

We design hereafter giving in the Cultivator the information sought for. For the present, we can only refer inquirers to the following, viz:—

Southern Cultivator,	Vol. III.	page.	—
Farmers' Register, (So. Ca.,)	Vol. IV.	"	421
Do (Bengal,)	"	"	572
Do (Java,)	"	"	591
Do (for family use)	Vol. II.	"	314

For the Southern Cultivator.

FINE STOCK HOGS.

Mr. Editor:—I am quite a small farmer, though I generally raise my own pork and corn. Last September, I was in company with several gentlemen, who were conversing on the subject of hogs. I observed that I would give a pig six months old, to any gentleman that would beat me in weight, on from twenty to thirty hogs, not to exceed two years old, raised on his own farm. Capt. Wm. G. Smith, of Jasper County, (though not present,) sent me word he would take the banter on twenty-five. His twenty-five weighed 7238 pounds, average 289½. My twenty-five weighed 7332 pounds, average 293¼. Mine were the common stock, land pikes, if you please. Should there be any persons that are raising the same breeds, that have taken no more pains with them than farmers ordinarily do with their stock of hogs, I should like to hear from them.

Respectfully, John Webb.

P. S. I have a fine Berkshire Boar, of Col. John Bonner's stock, two years old 25th April next, for sale; Price, $20.

Webbs, Ga., Jan. 10, 1845.

Hauling it back.—We are informed, says the Columbus (Ga.) Enquirer of 22d inst., that James Dowdell, Esq., of Harris County, who has for some time past had his Cotton in the Warehouse of this city, during the past week sent his teams down and had it hauled home, preferring to hold it over, rather than sell it at the present beggarly prices. Although he *may* not *make* anything by the operation, he is pretty certain not to *lose*.

For the Southern Cultivator.

OVERSEERS.

Mr. Editor:—Much has been said recently in the columns of the Carolinian, in regard to the improvement and duty of overseers; but it seems to me some exciting cause must first exist before men can be roused to great energetic action, leading to a permanent improvement in anything. Let us examine and see if any of these causes now exist on the part of overseer or employer. At the present time the country is filled with men looking for business as overseers. Many have left their employers (not turned off) because they will not and cannot give the same wages in 1845 as they did the last year. Others have left their homes, where they have only been able to make a scanty support, if that, to seek an overseer's birth. Many, may I not say one-half, of this number, will not be able to find business: and the reason why, must be obvious to every green seed cotton planter at least. I venture nothing in saying that we have men enough, of good character too, who have for many years employed overseers, but would now most willingly themselves become one, provided such a price could be obtained for their services as has been common among farmers and overseers for years past. But who among the green seed planters are able to give high wages to even men of character? Many who have employed overseers for years past, will not do so in 1845, because the price asked forbids at once the farmer to give it. Where then will be found these necessary exciting causes on the part of overseer or employer to prompt them to improvement? Surely not the high price the one will be able to obtain for his services, or the other able to give. The fact is, the overseer's business is retrograding daily; and that large retrenchments, as regards numbers and wages, will be made among this class of men in 1845, I believe no one will undertake to deny.

Now the question is, how are we to cure these evils so justly complained of? It would be vain to suppose for a moment that individual action alone could remove them; while a united action on the part of farmers will fully accomplish the object aimed at. And, for this purpose, I now call upon one and all of my brother farmers throughout the cotton growing States to join me in a remedy, to cure the evils spoken of, as practicable as it is sure in the end; and one which is ready at hand and fully alike in the power of all to participate. "A long pull, a strong pull, and a pull altogether," will consummate this great work of reform as sure as there is day and night.

And first, I propose we plant, in 1845, only one-half the number of acres in cotton that we did in 1844: from which, by a more careful tillage and concentrated manure, (best in hills,) we can make at least two-thirds as much as we have made this year; reducing the present overproduction down to one million, three hundred and fifty thousand bales; for which we shall be able to obtain at least from 9 to 10 cents per lb.: netting the farmer over one-fourth more money than the whole of his present crop, supposing it to average him 5½ cents. This plan adopted, we shall be able to withdraw from our cotton field—not one-half of our hands, because our cotton, corn, and everything else, is to be cultivated in a much better style than heretofore—but *one-third*, to be busily employed the whole year in clearing out old filled-up ditches; repairing, in fact making new, fences, for the first time, perhaps, in ten years, out of new rails; dispensing with the present plan of grape vine and rotten pole fences. And, in the mean time, never to lose sight, for a moment, of our compost heaps, to which we can add daily with our withdrawn hands; reducing, at the same time, our stock of horses and mules *one-third, if no more*, and, consequently, lessening our expenses in the implements of husbandry, and increasing the number of our hogs, with the food these horses and mules would otherwise eat, for the use of our negroes.

This done, in 1845, I farther propose to every cotton planter in the United States, that we plant in 1846, the other half of our cotton field, (not more,) which remained fallow in 1845; from which we shall, with great ease, be able (from our augmented compost heaps, made with these withdrawn hands, concentrated in hills upon this rested land, with garden-like tillage) to produce, at least a full three-fourth crop; say something over one and an half million bales, which will readily sell (as the Liverpool warehouses and all others now packed to bursting point with our over stock of cotton at 4 and 5 cents, will be emptied of their burthen) at from 10½ to 12 cents: netting the farmer something more than 50 per cent over his full crop of 1844. Surely I may venture to say, by this time we shall be in somewhat a better humor and shall be able, and I doubt not will feel more disposed, to hire and give our overseers such wages as will rouse them to at least a generous emulation in the arts of husbandry, during this period of two years at least, and I should say for ever afterwards.

Let every farmer raise his own hogs, horses, mules, sheep, stock of every kind, and withal make his own negro cloth at home; and all who live south of 34 degrees make their own sugar; not forgetting to bind ourselves to use for the packing of our cotton our own domestic cotton bagging and rope. A patronage of this kind will at once enable the manufacturers of these articles to put them at the lowest possible price.

And how shall we begin this work? Permit me, with all due deference, to suggest the plan of State Conventions, and then a General Convention of the cotton growing States, to meet at some central point, to adopt such measures as will carry this work into effect; or, I will unite in any other plan that may be suggested, which will lead to success. I ask again, will the present oppressed cotton planters unite with me to consummate this grand work of reform? If so, the work will be done, and much more accomplished than has been conceived in the foregoing plan. But if you refuse me your friendly aid in this work, permit me, gentlemen, to lay before you the price of our cotton crop in the fall of 1845 and spring of 1846, if a full average one should be made the next year. Here it is under the different classifications:—Inferior, 2 to 2¼; middling fair, 2½ to 3; fully fair, 3½ to 3¾; *choice*, 4 to 4½, of which *class* there will be but little. The writer of this will be ready at any moment to pledge himself to reduce his cotton field of 520 acres, planted this year, to 250 the next, provided like pledges are made on the part of every cotton planter in the United States. But should there be a failure of this united pledge on their part, then he promises on his part still to be faithful, and not forsake his oppressed and suffering brethren of the plow, but shall feel compelled to aid and assist them with all his might in reducing the price of cotton in the fall of 1845 and spring of 1846 to the prices herein set forth, by planting his usual number of 520 acres in cotton, if no more.

And it may not be improper or irrelevant to state that he has now ready for use upwards of 800 yards of negro cloth spun and wove from the wool of his own sheep, and will add that from 1827 to 1826 he made his own sugar—a simple and easy process—and intends, if life last, to do so in future. Has raised his own horses, even more than were necessary for plantation use, for the last sixteen years; also, an ample supply of hogs for both white and black, and manufactured, in part, his own negro shoes.

I have much more to say upon this important subject, so flattering to the pride of my ambition, which will be done in due time in a subsequent communication. In the mean time, I can but hope the attention of the cotton planter will be turned and fixed upon this grand scheme of reform, and his best and most serious thoughts bestowed leading direct to its final consummation. Agricola.

A western editor, noticing a new mode of fattening hogs, says he has tried it *himself*, and finds it unexceptionable.

For the Southern Cultivator.

PLANTERS' CLUB OF HANCOCK.

REPORTS READ BEFORE THE CLUB.

REPORT of the Tillage and Product of one Acre of Land in Corn, by RICHARD S. HARDWICK, in 1844.

The acre selected was worn out red land, having a little more silex than is usual for red land in this county. It would not have produced more than four bushels per acre without manure, with good culture and good season. The *Bommer manure* was used for the experiment; and although it was a failure, and but few would like to make a report, I am induced to do so, first, because it is my duty as a member of your Club; and secondly, because there is as much, or more, to be learned from failures, as from successful experiments, by the thinking class of farmers. At any rate, it points out the rock on which the experimenters split, and enables others to direct their experimental bark around it.

The manure was oak leaves and pine straw, hauled from the woods, and weeds cut from the corners of the fence and branch sides, and put up the last of September, 1843, on the Bommer method, and remained in the kilns till March, 1844. There were 70 ox-cart loads used. The method of applying will presently be given. The first operation on the land, was about the first of February, with a colter plow, deep and close. The land was, however, rather dry for the work to be done as effectually as it should have been. About the middle of March, the land was put in prime condition by a good rain. The manure (70 loads) was then spread, such portion as seemed to be necessary, reserving enough for future application and in a different way, hereafter described, and plowed in with a turning plow, furrow followed by a colter in the bottom. This done, the land was laid off in rows, at the distance of 7 feet, which furrows were re-opened with a double turner, in order to open them deep and well. In this furrow, a part of the manure was put, say filled half full; the rows were then bedded out complete. A furrow was then run on each side of the centre of this bed, at the distance of 12 inches from the centre, which placed the two rows two feet apart. A hand full of the remaining manure was then placed in those furrows at the distance of 24 inches, taking care, however, not to have the hills opposite, but by measurement to have the hills in the rows precisely half way between the hills in the other row, which made the hills present the diamond form. On this manure I put my corn, and covered it with a hoe. The planting was the 20th March.

The first operation was about the 20th April, by siding the corn with a colter, plowing out the wide rows with the scooter; for you will perceive from the method of planting that every other row was 5 feet wide—the other, or narrow rows, 2 feet wide. Corn flat wed and thinned to one stalk. About the middle of May, the wide rows were plowed with a turning plow, deep and well; and between the narrow rows, chopped with a hoe. Early in June, the wide rows were plowed very lightly with a sweeper; the narrow rows chopped, and flat hills put to the corn, which finished the cultivation. The season was good and the yield only 14 bushels. The land was measured by T. H. Audas, and the corn measured by G. W. Hardwick.

A very important question now arises, what was the cause of the failure? Is the Bommer manure worthless? Or is the defect in the method of planting or culture? I am of opinion, that the failure is chargeable to neither of those causes; and as the cause of failure is the most important part of my report, I must ask the indulgence of the Club in a few speculations on the cause of failure. It is well known to every practical farmer, that a piece of exhausted land, with any kind of manure, however good, and judiciously applied, cannot be made productive the first year of its application as well as it will after the manure and earth have become assimilated together; or, in other words, as when the earth has fully taken up the salts of the manure; therefore this may be set down as one of the causes of the failure.

This opinion is strengthened from the fact, that, the manure had not undergone decomposition enough to let out the salts for some time after its application. It was in what would be called the long state, but having a strong smell of ammonia, having been well saturated with the *lees*, which is well calculated to bring about decomposition, therefore it possessed all the elements of manure, but was not able to let them loose in time for the crop, the land of itself having but little of the elements necessary for the food of plants. The plot, of course, failed, before the necessary quantity or quality of the proper nutriment was afforded by the manure which had been applied. I am sustained in this opinion from this fact: in the summer of 1843, I made my first experiment in making the Bommer manure. In August of that year, when I sowed my turneps, I directed the manure spoken of to be applied to a part of my turnep land; it was hauled and thrown over in the corner of the fence in the long stage, about as that applied to my corn, but by the neglect of my overseer, was not applied. It remained there until spring In planting the turnep land in corn, and manuring in the hill with stable manure, I discovered my Bommer manure, hauled there the previous summer, in a fine decomposd state. I directed it to be applied in the hills, in the same quantity and manner that the stable manure was applied, and stakes drove down at the beginning and finishing row. I noticed those rows attentively through the crop season, and they perceptibly had the advantage of the rows on each side. Again, this acre of land was sown in wheat early in October, after having a slight sprinkling of manure from the cow-pen. The wheat now (6th December, 1844) is much larger (so much so that the difference is perceptible half a mile) than wheat sown the same day on land that produced me this year 40 bushels of corn per acre, with as much manure applied to it as was to the Bommer acre. These facts seem conclusive that my position is correct.

But another reason. It is a general opinion that fibrous rooted and slick leaved plants, are finer feeders than the tap or bulbous rooted with porous leaves; therefore the food that will have been used by the other plants, was rejected by the corn.

Again, the quantity of manure used in the long stage, as this was, I have no doubt was in the way of the young and tender roots, running out in search of food, as well as the scarcity or improper quality of food; for, on examination, when the corn was at maturity, I found that the roots had not run out into the rows, but were confined to the hill entirely. Now, if the body of the land had been rich, or in other words, had it abounded with the necessary food for the plant, they would have passed each other in the rows of five feet. There being no inducement, or rather nothing to draw them out, they had to content themselves in a small space and dwindle out a miserable existence in poverty and want.

But another reason, which has been given to me by a friend, whose good sense and opinions I have great confidence in, but differ from him, at least in part, of the view he takes.

He contends, in opposition to the opinion entertained by myself, that the salts of the manure are let loose, notwithstanding the manure was in the long stage and not sufficiently decomposed; that the manure being fully saturated with the *lees* which is the very essence of the manure, there being a natural affinity between that and the earth, that is, it was let out to the earth through the same pores that it was taken up, but the food was too strong for the plant in its infancy, therefore an unhealthy disposition was created, from which the plant never recovered.

In support of this opinion there is one fact worthy of notice, and it is, that the corn presented a yellow appearance from the time it came up until it began to tassel, when it improved in its color a little, but at no period did it present a healthy appearance. On one corner of this lot the land had been some little benefitted the year previous, by feeding some sows and pigs at that place. It was, however, but a very small place. At that place, the corn was never yellow; it presented a green healthy appearance through the whole season, and if the whole acre had done as well as that small spot, I should have made some 60 bushels, for on that corner I made pretty much all that I did make; therefore the difference to be settled between us, is, whether it was more from the want of food than from the strength or improper quality of it. His reasoning, however, is not without some weight; for the reason of the corn thriving well in the corner above referred to, may be, that it had other and more suitable food; therefore it rejected that which would have proved prejudicial to it, while the other having no other resource, was compelled to accept such as it could get.

I have now, gentlemen, given you my reasons at length for my failure, and if I was sure they were correct, it would very much relieve the mortification which I feel at a *book* farmer's making so signal a failure.

Sparta, Dec. 26, 1844. R. S. HARDWICK.

REPORT of the Tillage and Product of one Acre of Land in Corn, by BENJ. T. HARRIS, in 1844.

The land very much exhausted by continued cultivation for more than forty years. The soil chocolate. Previous crop, oats. Would consider two and a half barrels a good crop under the old system. Yield, 49 bushels and a ½ peck. Gathered and accurately measured on 28th August.

Preparation.—On 8th March, scootered the land deep and close, with a colter following in each furrow. On 21st March, spread 35 loads of lot manure, broadcast, and scootered again. On 22d, harrowed over the ground and laid off rows 4 feet 10 inches apart; strewed cotton seed (germ destroyed) in this furrow thickly, and listed on it with scooter plow, then dropped a handful of ordinary size 18 to 20 inches asunder in the planting furrow, and a small handful of leached ashes on each deposite of seed. Dropped the corn between those deposites, from 3 to 5 grains, and covered with a scooter plow. Middles plowed out with same plow, and cotton seed strewed in all the furrows except the last. Corn came up well. Some few hills destroyed by the bug.

Cultivation.—On 15th April harrowed it over with a fine-tooth harrowed, running 5 times in the row, the object of which, was to break the crust formed on the surface, which was so thick as to exclude the atmosphere. On 23d April ran the colter around the corn and plowed the middles with a scooter. On 24th, hoed and thinned to one stalk, where the stand was regular, and to two where it was irregular. On 10th May, run the sweep six times in the row. On 24th, sided with shovel plow, and run 4 turning plow furrows, finishing middles with shovel plow. June 5, laid the corn by, with sweepers. June 15, laid by with hoes, putting but little dirt to the corn. Remainder of ashes spread broadcast at the time of planting; quantity used, 3 cart loads, drawn by one yoke of oxen; the same quantity of cotton seed—making in all 41 loads of manure.

Recapitulation of Work.—Plowings, 2; sweepings, 2; harrowing, 1; hoeings, 2.

B. F. HARRIS.

REPORT of the Tillage and Product of one Acre of Land in Corn, by Mrs. MARTHA ANNE LEWIS, in 1844.

The soil is grey, post oak land, in a fine state of cultivation, having been kept as a barley lot, early corn, &c. Would have produced, with ordinary culture and good season, without manure, 5 or 6 barrels of corn per acre. Sixty-four loads of manure used; 10 of which was from the stable, 3 of cotton seed, and the balance from the hog pen, and applied as hereinafter stated. The land was broke with a scooter plow, from 15th to 20th January, 1844; then manured broadcast with the largest part of the manure, reserving enough for a subsequent ap-

plication. The manure thus spread was turned in with a turning plow about the middle of February. The 3 loads of cotton seed were spread and turned in, on 20th March, and re-turned on 22d with same plow; then laid off 4 feet 10 inches—furrows well opened, and planted 2 feet apart, 2 grains in a hill, a handful of manure put in the furrow on each side of the corn, and all covered by running a scooter furrow on each side, making a ridge over the corn. When the corn should have been coming up, the top of the ridge was scraped off with a board.

Culture.—The first operation was weeding with a hoe; then sided with a scooter plow, finishing the middles with a turning plow; then wed again; then plowed with a sweeper; then a flat hill on one side of each hill of corn, and in about two weeks thereafter the other side hilled in the same way, which completed the cultivation.

The dates of the several workings are not recollected; but it is proper to state that the various workings succeeded each other about two weeks. The season was good, and the product 96 bushels 1½ gallons of corn, and 1561 lbs. of fodder. The land and corn and fodder all accurately measured and weighed by competent disinterested persons.

MARTHA ANNE LEWIS.

Sparta, Dec. 26, 1844.

REPORT of the Tillage and Product of one Acre of Land in Corn, by THOMAS C. GRIMES, in 1844.

The land is a stiff red mulatto soil. I put on, broadcast, 400 bushels stable manure; then coltered each way; then opened a furrow, and in that drilled the corn, and put in, also, some cotton seed as manure. The field was laid off in this way, every 3½ feet, and so planted.

I plowed this corn three times. The first time I sided with a colter and swept out the middles. The second time I plowed it out with a turning plow; and the third time, swept it. I hoed it twice—once when small, and laid it by with the hoe. I thinned it out to about 18 inches in the drill. The season was favorable, except in July, when it suffered exceedingly from a drought, so much so, the stalks fired to the ears, about the time the grain was forming. The product from one acre, 64 bushels and 3 pecks.

THOMAS C. GRIMES.

Sparta, Dec. 26, 1844.

REPORT of the Tillage and Product of one Acre of Land in Wheat, by WILLIAM TERRELL, in 1844.

The land was plowed twice—well broken up and deep; after which there was applied to the surface from 20 to 25 bushels cotton seed, the vegetable principle having been destroyed in the seed by having lain in a heap till heated. After the cotton seed was applied broadcast, the wheat was sown and plowed in lightly, and the ground levelled by drawing over it a heavy brush, which left it smooth. There was sown on the acre one bushel of wheat called the Moore wheat, from Warren county, on the 5th October, 1843, and cut about the 12th May, 1844. Product 25 and ⅜ bushels. WM. TERRELL.

Sparta, Dec. 26, 1844.

REPORT of the Tillage and Product of one Acre of Land in Wheat, by E. M. PENDLETON, in 1844

About one-fourth of my land is a dark, rich, loamy soil, lying in a shallow bottom or valley, and the remainder grey and quite thin, skirting a gentle slope of rising ground. Had been in constant cultivation for many years, principally in corn. I sowed without any reference to premium, about the 10th October, 1843, after corn and peas had been gathered, and ground been turned over with an iron turning plow. Put about a bushel and a quarter of seed to the acre, of little white wheat, soaked in brine and sprinkled with lime. Plowed in with a scooter, harrowed and rolled, made water furrows in the bottom part, as it had been very wet even for corn. About the first of February, came to the conclusion to offer for a premium, and scattered some fifty or seventy-five bushels of cotton seed over it, which told well considering the lateness of the application.

Cradled early in June, and whipped out by hand, 19¼ bushels fine merchantable wheat. It was free from cockle, smut, and every other foreign body. The measure used was subsequently found to be a little too large.

The cost of cultivation, manure and gathering was about $12. The value of the wheat, straw and chaff, about $24—leaving $12 profit.

Sparta, Dec. 26, 1844. E. M. PENDLETON.

REPORT of the Culture and Product of one Acre of Land in Cotton, by RICHARD P. SASNETT, in 1844.

Soil gray or sandy, good clay foundation; would produce 800 lbs. cotton per acre, without manure, February 14th, had the land coltered, and water from ditch in horse lot sprinkled over part of it, say two-thirds; had no means of ascertaining the quantity. March 6, had it plowed deep with a scooter plow, following in the same furrow with a colter; put on 410 bushels manure broadcast. This manure consisted principally of pine straw and oak leaves, pretty well trampled in the hog pen, but not well rotted. March 10, had 320 bushels mud from pond near horse lot spread broadcast. March 11, had 2 cart loads of ashes and shared pine straw from fresh burnt woods, estimated at 100 bushels. March 18, had 220 bushels compost stable manure hauled on to manure in the hill This manure consisted of stable manure, weeds, leached ashes and pine straw, penned in July last, and watered from ditch in horse lot. Not well decomposed, owing to its being put up too dry. March 25, checked off the ground 3 by 4 feet 10 inches. Put a shovel full of the above manure in each check; covered it the wide way with a list turning plow. March 29 and 30, poured over it the contents of ditch, quantity unknown, but made the ground quite moist. The contents of the ditch were made up of drainings from horse lot, and dead animals covered with pond mud, and at the time of its application, undergoing fermentation freely. April 6, split the list with a small cotton scooter and put a single handful of unleached ashes in each check; after which I put about thirty cluster cotton seed in each check, and covered with the foot. The seed were rolled in ashes. The cotton sprouted quickly and came up well. As soon as the fifth leaf began to make its appearance, it began to die, until it was knee high. I continued to re-plant until 1st June, and then transplanted 3 or 400 stalks, about one-third of which lived but did not do well. I think every fifth hill is missing. It suffered excessively with lice. May 1, plowed with a scooter, colter following pretty deep; scraped round the cotton with a hoe, thinning it out to four or five stalks. May 12, plowed with a sweeper, followed by a hoe, thinning to 3 stalks, dirting it slightly with a hoe. May 29, swept it over again lightly, followed by a hoe. June 16, gave it a slight sweeping, followed by a hoe. July 1, chopped it over lightly broadcast with the hoe. July 17, gave it another light hoeing broadcast, for the last time. August 15, commenced picking. November 1, finished picking. Product 2037 lbs. R. P. SASNETT.

Sparta, Dec. 30, 1844.

REPORT of the Culture and Product of one and one-third Acres of Land in Cotton, by BENJ. T. HARRIS, in 1844.

Land high, dry and thirsty; mixture of long-leaved pine and oak timber; a part very stony; in cultivation the fifth year; amount of land, one and one-third acres. The quantity of manure applied not accurately known, as it was hauled on the land, before it was designed for a premium crop; amount estimated at 25 cart loads, drawn by a single team of oxen. Quality of manure, a mixture of stable and lot, well decomposed; spread broadcast, on 12th and 13th April. Bedded immediately with scooter in the old row, being in cotton previous year; 3 feet 9 inches asunder. Cotton of the variety called cluster. Planted on 15th April, by opening a small furrow with a scooter, the seed strewed moderately thick and covered with a board. May 9, sided with a small scooter with a guard board attached, and plowed the middles with a large scooter. May 13, chopped over, leaving from 1 to 3 stalks 15 to 16 inches apart, and dirted slightly. May 18, swept over with common sweeper. June 5, sided with scooter; plowed the remainder of the row with sweeps. June 12, hoed again and thinned to one stalk generally. In my absence from home, it received a sweeping and hoeing, the date of which I am not able to give—it was not noted. July 26, swept over and hoed again, for the last time. 2291 lbs. on the whole; product per acre, 1728¾ lbs.

Remarks.—The above lot was worked at such times as it was needed. The several operations being conducted in the usual mode.

Sparta, Dec. 31, 1844. BENJ. T. HARRIS.

REPORT of the Tillage and Product of one Acre of Land in Cotton, by R. S. HARDWICK, in 1844

The land light, gray soil, old and quite thin; not able, without manure, to produce more than 300 lbs. of cotton per acre. Plowed in the ordinary way, and with ordinary culture. The crop was planted on the Cloud plan, in part. The land was broken up in January with the colter, running very deep. It was immediately cross-plowed with the turning plow, followed in the track by a colter, partially doing what is called subsoiling. The land was then laid off 5 feet one way and 3 feet the other, with a scooter, followed by a double turner, which opened the furrows deep and well. There was then deposited in each check, one half gallon manure, (no manure spread broadcast,) well rotted stable manure. After it was deposited, it was bedded on, by running two turning plow furrows on each side of the furrows the wide way, leaving a small part of the middle unplowed.

The rains that fell between this operation and planting, so obliterated my furrows the 3 feet way, that I was unable to check off as Cloud directs. I was therefore driven to the necessity of opening my beds in the usual way, and drilling my seed and covering with a board. This operation was the 10th April. The first operation was with the hoe, which was simply chopping about the cotton to break the crust, to keep the cotton from dying. About this time the balks that were left in bedding the land, were plowed with a turning plow; this operation was early in May. In some 12 or 14 days, the cotton having taken a rapid growth, the places where the manure was deposited were clearly indicated by the growth of the cotton. It was then plowed with a sweeper and chopped out, leaving one stalk in a place. In about three weeks, it was plowed deep and close with a scooter, followed by a hoe, and slightly wed. In about three weeks, the sweeper was again run through it, followed by a hoe. After this, say in three or four weeks, the hoes went through it, and chopped what grass there was without attempting to draw any dirt to the cotton.

The product was 1600 lbs. per acre.

In this report, it will be observed, that no manure was used broadcast, and only one half gallon applied to the hill, which took, on the acre, 183¼ bushels. It will be also seen, that in my judgment, the land without manure, and with the common culture, would not have produced over 300 lbs. per acre. Therefore, for the trouble and expense of applying 183 bushels of manure, with the change in the method, which really amounted to but very little more labor, if any. I have increased my crop 1300 lbs. per acre. This amount, at the now low price of cotton, would be worth $20; therefore 183 bushels of manure, with the trouble and labor of applying it, is worth $20.

RICHARD S. HARDWICK.

Sparta, Dec. 31, 1844.

A DISCOVERY.—Capt. Pittman, of the brig Star, which arrived at New York on Thursday, from Grenada, says that he has discovered a method of ascertaining longitude without the use of a chronometer. Unless we are mistaken the British Government many years since offered a handsome reward for such a discovery.

From the Massachusetts Plowman.

MANAGEMENT OF THE HORSE.

This noble animal is an indispensable servant and companion of the farmer. He plows, he harrows, he carts over the farm. He goes to market, to mill, and to meeting; he also accompanies his master to election frolics, political gatherings, and winter sleigh rides, and his company is as much sought after, at such times, as the orator's or the fiddler's.

The horse is more often abused than any of our domestic brutes. He is too generous to spare his limbs or his wind when we are in haste, and his generous ambition too often causes his ruin.

On the farm, however, the horse is not so generally over-driven as on the highway, when we attempt to outstrip the wind, and leave steam engines behind. It is fast driving and subsequent neglect that bring on sprained joints, broken lungs and premature old age.

Horses that are worked on a farm and well attended to will often be good in harness at 25 years of age; while those that travel in stages are not expected to last longer, on the average, than six or seven years. They are then turned off to the farmer to serve in better business, or are sold to the tanner for what the skin is worth.

We have thrown out a few hints, in a former number, on the subject of horse-breaking. We hold that any horse, with proper breaking, may be made to draw as sure as an ox. The horse requires different treatment, because he knows more. And this circumstance makes it absolutely necessary that his driver should be wiser than the driver of an ox. We cannot vouch for the saying of the Irishman, "that a horse knows as much as a man according to his bigness." Still we conjecture that some horses have more understanding than some men have.

HOW TO TREAT HORSES ON A JOURNEY.

Much judgment is requisite to keep a horse in good trim on a long journey, and when your jaunt is but 20 miles, it is worth your while to look well to your horse. The first step is to fit the horse for the journey. If he has been kept out at pasture, he should be taken up and put to hay and grain for a number of days before starting. Hay and grain must be his food while he labors hard; but when you first commence giving grain you must limit the quantity. When he has become used to eating grain, you can make that his principal food on a journey; and this you will find cheaper than any other food.

We have known farmers, of very good sense in other matters, act most absurdly in the management of a horse. They will give "Dobbin" a mess of grain just before starting in the morning—though he has not been used to eating it before—just as if half a peck of oats or corn, crammed down hastily, would aid him in his journey. Dobbin would perform much better through the day without a mouthful of grain. Even one that has been long used to it should never have his stomach stuffed full of it just before starting.

Your most hearty food should all be given at night, unless you have ostlers that can be depended on to feed them two or three hours before morning; in such case a part of your grain may be given at night, soon after you stop, and the remainder two hours at least before you renew your journey.

We are aware that some overwise teamsters will argue, that if you give your horse his grain at night he will eat no hay of consequence, and that you will throw away the money you pay for hay feeding. They therefore endeavor to stuff in as much hay as possible at first, and give the more palatable food for a dessert or stuffer. This is most unwise on two accounts—your horse needs his most hearty food soon after his day's work is over—and very hearty food hurts him when fed just before his work commences.

If the grain is given at night, your horse soon eats enough to cloy him sufficiently to induce sleep and rest; but if he must have poor picking for some hours after being put up, his time of sleep and rest is delayed. It may require the whole night, on fodder that he must pick over, to satisfy the craving of his appetite.

If you are used to travelling, you know you cannot always be sure of the best of hay for your horse. In New York the Dutch tavern keeper advises you to feed with *his latest cut hay*. He argues that more heart is found in this than in what is cut while in full blossom. Well, give a knowing horse such hay and he will stare you in the face and whinnow for grain.

We have travelled much, and on long journeys—we have learned from long experience that grain must be our chief reliance for horse food—that the horse wants something substantial soon after being put up—that his grain then benefits him much more than at any other time, because he is then most in want of it, and because it then has time enough to digest and go into the system.

The best mode is to rely chiefly on grain. One peck of good corn is equal to two pecks of oats, but as your hay may not be good, prefer turning down half a bushel of oats before your horse, soon after putting him up at night. He must have something to fill his stomach, and as the hay may be worthless, your oats will answer for hay and grain too. Your horse will now soon eat as much as he wants—he will soon lie down to rest and to sleep; and before morning his grain will all be converted into good chyle and will be nourishing his blood.

The next morning your horse will be ready to start before you wake up. Instead of waiting for him to eat a new mess of grain, and then to let it digest, you find him plump and good natured, and asking for nothing but your company.

It is well known that horses are often ruined by eating grain at improper times. Farmers have fancied that eating it while the animal is hot with exercise is the principal cause of injury from grain; but it is not so. We have known many horses to die suddenly on eating grain, but never on account of eating it soon *after* stopping. It is rapid driving—violent exercise soon after eating the most hearty kind of food, that is so destructive to travelling horses. There is no more danger in giving a horse the most hearty food in ten minutes after he stops, than in giving a man his most hearty meal as soon as he quits mowing in a hot day.

Let any one consult his own feelings and he may rid himself of the delusion that eating after violent exercise injures him more than at other times. It is violent exercise immediately after eating, before the food has had time to change, that deranges the whole system and causes death. If any traveller objects to the *cost* of feeding on grain while on a journey, we answer that you pay no more for half a bushel of oats than for half a peck—for if you order half a bushel, you buy at wholesale, and your landlord will charge you nothing for the hay. Suppose you pay double the wholesale price for oats, your horse keeping is then but fifty cents, in any country town in New England. And if you call for half a peck of oats, with hay, you will find your bill not far short of that sum.

STAGE HORSES.

These may be kept in a different manner from those that are on long journeys. They are always kept *at home*, and their tenders have leisure enough to prepare their food for them.

Grain is the principal food of stage horses, but it is found economical to mix up cheap substances with it to distend the stomach and to keep the horse in health. Cut straw, or cheap hay, mixed with Indian meal is found to be excellent food for hard laboring horses; and as drivers have leisure enough to prepare it, this has now become the common food of such teams.

Thirty years ago it was the practice of drivers to give their horses meal and water on stopping for a few minutes to take breath. In hot weather it was no uncommon case to see a horse drop suddenly dead in the street. On opening the stomach raw meal was found in cakes. The violent exercise to which these horses are subject gives no time for the rich food to change. The horse cannot vomit, as a man and some other animals can, and he dies with a load on his stomach which he has no means to remove.

Show us one case where a horse has been injured by eating while warm and we will show you a hundred where he has died in consequence of travelling immediately after eating grain. You have all eat hearty meals immediately after labor, and while in a state of perspiration, without injury. And you have all felt pain, on using violent exercise immediately after eating. Judge of the horse as of yourself, and you will judge rightly.

DIFFERENT MODES OF DRIVING.

There are at least two modes of driving horses on a journey. The most important consideration is to take all due advantage of the *momentum*, or *acquired motion*, which your team has got up. You see it requires much more power to start a train of cars than to keep it in motion when under way. So when you move a tub of water on a dray, you find the water inclined to stand still, though your tub moves onward; but the water soon acquires the motion of the tub, and if you keep your tub moving steadily the water will need no more spurring.

When your team has once set the load in motion it should be regularly kept in motion as long as your momentum lasts. Set a planet in motion, and it continues in motion, for there is nothing to obstruct it. But bodies moving on another body are held to it by attraction, and any acquired motion is soon overcome by it. On descending a hill you acquire momentum with but little effort, and one important point, in driving, is to make as much as possible of this power—keep it in use as long as you can.

A good driver will never lose the power that his carriage has acquired in descending a hill, till it has been fairly overcome by friction, caused by the attraction that is found in all bodies. The momentum thus acquired may carry him across a plain, or part way up the next hill; he should therefore be careful not to check this motion in the least degree; but by keeping his team along out of its way, and making them favor rather than check it, he will lose none of its force.

But you find thoughtless drivers continually disregarding this obvious principle. They will come to a walk while the carriage has not yet forgotten its good will to move. The team, instead of favoring the good will of the carriage, is found hanging by the breaching. To compensate for this total loss, the driver finds it necessary to renew the momentum, and he will often do it by whipping his team while raising the next hill! Folly, folly. Your team must have time to breathe, and the best time is while walking up hill. But the team should never be required to get up a great degree of momentum on rising ground.

☞ The Editor of the Alabama Journal has been presented with a novel vegetable of the cabbage kind, raised by E. A. Holt, from seed sent to him from Belgium, by the Hon. H. W. Hilliard. This vegetable is about the size of a small hen's egg, and is a perfect cabbage, firm and white; it is said to be a most delicate dish, and superior to any of the same family of plants. The seeds were sown in May, and transplanted in August as other cabbage plants are, each plant producing from thirty to forty of these beautiful little cabbage heads.

☞ An establishment for the manufacture of various articles of silk is now in active operation at Louisville. The Louisville Journal says—"Most of the operations in this factory are effected by steam. The cocoons are reeled on the machine universally known as the Piedmontese ree', and the silk is spun on a throstle machine, a modification of which makes the twisted silk. Three looms are worked, and are principally employed in making sewing silk, handkerchiefs, vestings, and dress patterns for ladies."

From the American Farmer.

PLASTER AS A MANURE.

If any one were asked, what substance next to *Lime* had produced the greatest melioration in the soil of America, candor would force him to say that Plaster had. It is well known, too, that it has produced quite a revolution in the agriculture of France, England and Germany. But although few have tried it but to experience its benefits, although much of it is used in our country, and the use of it is on the increase, still its use and increase holds no just proportion to what its merits as a fertilizer of the soil would indicate that they should be. For a long series of years the opinion obtained among farmers, to considerable extent, that it was of no utility on lands in the vicinity of salt water rivers; but this opinion, formed from erroneous premises, is pretty generally exploded, if it has not become obsolete. We believe that it sprung, in the first instance, from its use, without obvious beneficial effects, upon the chalk soils of England bordering on the ocean; but the *why* of its inefficiency on such soils was discovered by chemical analyses to arise from the fact that plaster, or the sulphate of lime, abounded in those soils prior to the application; and hence its inertness was directly traced to the fact of its pre-existence in the soil, and not to its proximity to salt water. So it is with salt. This mineral when used on lands too remote from salt water to be effected by the sprays, operates as a good manure, when used either in composts or sown broadcast, but if applied to lands within the range of the influence of salt sprays, it is of no avail, and for the simple reason, that the mineral had already been supplied by another agency. *Lime*, too, if applied to a soil where it already abounded in abundance, would be found to be of no service, as the plants can only take up a certain portion, when held in solution by the rains, and any quantity beyond what is necessary to afford the appropriate supply of stimulus, or nutriment, whichever it may be, or perhaps both, is expletive, and if it do not do harm, can be of no service. Plaster, salt and lime, have each and all, in their turn, been condemned by superficial reasoners, who have drawn their conclusions from isolated cases of experiments, as injudiciously tested as senselessly condemned, and yet the brightest agricultural intelligences of the age, and general experience, concur in the opinion, that when used with discretion, they are all admirable manures. What their specific actions are—whether the one or the other be stimulants, alteratives, promoters of digestion, absorbents, neutralizers, or nutrients, must, to a certain extent, remain as matters of speculation; for even by the aid of the most careful analyses of both them and their products, no settled or well defined opinions can be formed of the peculiar province which they exert, or the *modus operandi* by which their *mysteries* are wrought; for, of a certainty, they do each produce mysteries, as astonishing as those which marked another era of the world.

If we give to a horse, who has already gormandized to his fill, a feed of oats, the probability is, that he will refuse them; but this is no reason why we should condemn that grain as food for horses; neither is it fair to reject plaster, salt or lime, because, when applied to lands where they superabound, they do not manifest their improving properties. If the horse to which the oats were offered had been hungry, he would have devoured them with an admirable relish; so, also, had these minerals been presented to soils in need of them, their good effects would have been apparent.

When we took pen in hand, our intention was, simply to introduce the article which we will subjoin upon "*Gypsum as a Manure;*" but as we have digressed, and in our ramble touched upon *salt* and *lime*, also, we shall quit these, and confine our succeeding remarks to plaster alone.

For a long series of years, plaster was considered merely in the light of a *stimulant*—that it produced the growth of plants in a similar way to that by which alcoholic spirits produced plethora in the human system—by unnatural excitement—and the necessary consequence of this belief led to the opinion, that although the application of plaster produced temporary benefits to a few crops, yet that it ultimately injured lands to which it is long, or in large quantities applied—that the land became plaster-sick. This plaster-sickness, we apprehend, was produced in the same way that gluttons take away their appetites—by over-feeding. This *stimulant theory*, of course, rejected all idea that plaster could be considered in the light of a nutritive manure, and held that it was a mere *exciter*. And in aid of this *view*, the smallness of the quantity used—a bushel to the acre—was adduced, as a proof positive of its beauty and truth. Now, we confess that we have long since rejected this theory as unsound, unsatisfactory and unphilosophic. All analyses have proved, that vegetables, to which plaster had been applied, contained traces of the mineral—some more, some less, but all some. Then, in considering and reflecting upon this fact, the question involuntarily occurred to our mind; if plaster affords no nourishment, how is it, that these plants were enabled to take it up through their feeders, and assimilate in the general mass of their constituent elements. And the only rational answer to which our mind could arrive, was, that if it had not been of that character, it would have been rejected by the plants, and never could have been incorporated so intimately, as all experience proved it had been.

The latter labors of scientific men prove, that it is not only food of itself, but that plaster is a purveyor of food; that by its powers of absorption, attraction and retention, it appropriates to itself from both earth and air, those rare and volatile gases, which form the very nourishment on which plants most delight to feed. Let us hear what *Liebig* says upon this branch of the subject:

"The evident influence of *gypsum* upon the growth of grasses—the striking fertility and luxuriance of a meadow upon which it is strewed—depends only upon its fixing in the soil the ammonia of the atmosphere, which would otherwise be volatalized, with the water which evaporates. The carbonate of ammonia contained in rain water is decomposed by gypsum, in precisely the same manner as in the manufacture of sal ammoniac. Soluble sulphate of ammonia and carbonate of lime are formed; and this salt of ammonia possessing no volatility is consequently retained in the soil. All the gypsum gradually disappears, but its action upon the carbonate of ammonia continues as long as a trace of it exists."

Again:

"It is quite evident, therefore, that the common view concerning the influence of certain salts upon the growth of plants evinces only ignorance of its cause. The action of gypsum really consists in their giving a *fixed* condition to the nitrogen—or ammonia, which is brought into the soil, and which is indispensable for the nutrition of plants."

Plaster, according to Liebig, attracts not only from the atmosphere the ammonia, which is precipitated with the rain and snow, retains it in the earth for the use of the growing plants, but prevents the escape of the same fertilizing gases consequent upon the decomposition of vegetable and animal manures, and feeds them out as they may be needed by the necessities of the plants. By adopting this theory, which is beautiful and more than plausible, we behold the wisdom and mercy of God, in furnishing to man, at a moderate cost, an agent for preventing the waste of the riches of earth and air, that fruitfulness may abound. We say that there is more than plausibleness in this theory—nay, that there is truth in it. Unless its agency extended beyond itself, how else could we account for the astonishing effect produced by the very small quantity of a bushel to the acre—however *stimulative* the carbonate of lime and sulphuric acid may be, of which plaster is composed, unless it composed other powers, it never could exert such potential influence, as it does, upon vegetable growth.

Having premised thus much, we present to our readers the following article, which should command attention:

GYPSUM AS A MANURE.

[We take the following extracts from the pamphlet noticed in our last, from which we copied some rules for the application of guano, by J. H. Sheppard, London.—*N. E. Farmer.*]

Gypsum, or the real sulphate of lime, is considered by all scientific chemists and agriculturist a most powerful agent as manure. I beg to quote an extraordinary instance of its effects, on its first introduction into Norfolk, in 1816. When I was attending Mr. *Coke's* sheep shearing, at Holkham House, and conversing with him in the park, he complained to me that a portion of his estate, near Wells, (about six miles distant,) was a very light sandy land; and, although he treated it in every respect like the rest of his farm, with plenty of manure, he was unable to produce more than six or eight bushels of grain per acre. I recommended him to apply gypsum, and he desired me to forward him ten tons, for a trial. When I again called on him, (three years after,) he said the land before mentioned, *by the application of gypsum*, instead of producing 6 to 8 bushels of grain per acre, averaged 32 bushels of American barley, 36 of Chevalier barley, and 20 of wheat, per statute acre.

I beg further to observe, that gypsum, applied upon light or blow-away sands, in liberal quantities, two or three times, turning over the soil and harrowing in, causes a body, and consequent adherence in the soil, which forms a basis or groundwork, so that it will ultimately retain manures bestowed upon it, which previously were washed into the bowels of the earth, without the least possible benefit to the crops. I can only repeat, that the application of gypsum to sand land, if of genuine quality, and systematically worked into the land, would prove the greatest benefit to the agriculturist.

N. B.—The top-dressing for the fly, and indeed all top-dressings, should be fine gypsum, and applied either between showers of rain or in the early dew of the morning.

Clover.—Of this plant, gypsum is the indispensable, natural and most favorite food, and in which it delights to luxuriate. Upon a measured portion of young clover and other spring seeds, on a light gravelly soil, R. F. Long, Esq., of Bancroft, this year sowed gypsum as a top-dressing, in showery weather, at the rate of five bushels per acre. Comparing the produce and growth of this portion with the remainder of the field, he expresses himself thus: "You have often seen a particular spot where a manure heap has been laid—its thickening and towering above everything around it: now this is exactly what your tenant's gypsum has done."

Oats.—Mr. E. Jefferson, of Low Burnham, drilled in some oats upon a black moory soil, with a compost of ashes, rape-dust and soot. Immediately adjoining the compost oats, six rows were drilled in with gypsum alone, as an experiment. The gypsumed oats were pronounced by all, in less than a month, to be from 30 to 40 per cent. in advance of the compost, and the farmer afterwards informed me that, on harvesting them, they were decidedly the better crop, having stronger straw and larger ears.

Every one extols, and justly so, the manure of the farm yard; yet how few attempt to husband it as they ought. "Far-fetched and dear-bought" as some of our manures are, the farmer continues to buy, whilst he daily witnesses under his own nose the loss of most valuable manure. Ammonia is constantly rising from the stalls and dung-heaps which might be *fixed* by gypsum. The urine is allowed to run anywhere but into reservoirs or tanks, and is soon dried up and lost.

Ill temper puts as many briefs into the lawyer's bag as injustice.

See that what is learned is learned perfectly.

HORTICULTURAL OUTLINE.

AN OUTLINE of the first principles of HORTICULTURE, by JOHN LINDLEY, F R. S. &c. &c., Professor of Botany in the University of London, and assistant Secretary of the Horticultural Society.

PREFACE.

It has long been thought by intelligent men, that it would tend essentially to the advancement of Horticulture, if the physiological principles upon which its operations depend for their success, were reduced to a series of simple laws, that could be readily borne in mind by those who might not be willing to occupy themselves with the study, in detail, of the complicated phenomena of Vegetable life.

The importance of these laws is so great, that there is not a single practice of the gardener, the farmer, or the forester, the reason of which, if it relates to the Vegetable Kingdom, can be understood without a knowledge of them.

It has happened, indeed, that many very interesting facts in Horticulture, Agriculture, and Arboriculture, have been discovered fortuitously; and that improvements in them still continue to be occasionally the result of accident, but it cannot be doubted that these discoveries or improvements would have been long anticipated, had the exact nature of the laws from which they necessarily result, been earlier understood.

There can, moreover, be but little mental interest in watching the success of operations of which the reasons are unknown, compared with that which must be felt, when all the phenomena attendant upon practice can be foreseen, their results anticipated, or the causes of failure exactly appreciated.

It must also be manifest, that, however skilful any person may become by mere force of habit, and by following certain prescribed rules, which experience has, or seems to have sanctioned; yet that much more success might be expected, if he acted upon certain fixed principles, the truth of which has been well ascertained, instead of following empirical prescriptions, the reason of which he cannot understand.

It is not, however, to be understood, from this last observation, that rules of cultivation are to be neglected because they cannot be physiologically explained. On the contrary, the mere fact of a given mode of culture having been followed for a length of time by persons deeply interested in the success of their operations, and of much experience, ought to give it very great authority; for it is well known that there are many important facts, the reason of which is either extremely obscure, or altogether unintelligible. This may be owing either to the defective state of our knowledge of the exact nature of many of the phenomena of life, or to the great difficulty of appreciating every circumstance connected with the fact in question, or to constitutional idiosyncrasy, from exceptions to the ordinary laws of nature, and baffle all philosophy.

It is in the writings of Vegetable Physiologists that is to be found what is known of the relation of Botany to the cultivation of Plants; but it is always so mixed up with other matter, that an ordinary reader is unable to tell what bears upon Horticulture and what upon other subjects. I am not aware that there is at present, in any language, a work exclusively designed to separate that part of Vegetable physiology, which relates to the Science of Cultivation, from what appertains to pure Botany, or to other subjects; nor can I learn that such an undertaking is in contemplation.

I am, therefore, induced to lay the following little work before the public; first, by a persuasion that it is better that the attempt should be made imperfectly, than not made at all; and, secondly, by the very favorable reception that has been given to a few hasty ideas upon this subject, which I ventured to sketch out for a work published some months ago.

The following propositions are prepared upon the same plan as those of an elementary work upon Botany originally drawn up for the use of the Botanical class in the University of London.

A similar object has here also been kept in view. My intention has not been to write a work on the philosophy of Horticulture; but simply to point out in the briefest manner, consistent with clearness, what the fundamental principles of that Philosophy have been ascertained to be.

The application of these principles has been necessarily, in all cases, very concise; but there will be no disadvantage if the work acts as an exercise of the reasoning powers, as well as a guide to practice.

It may, perhaps, be thought that several points have been omitted, which it would have been desirable to introduce, such as the influence upon vegetation of electricity, manures, pruning, training, and the various modes of grafting.

But it is possible that a little consideration may show that these subjects do not strictly come within the scope of the following pages.

In the first place, a distinction must be drawn between the *Art* and the *Science* of Horticulture; the former teaches the manner, the latter the reasons of cultivation; and it is to the latter only that these propositions apply. Secondly, the plan of this sketch excludes everything that is merely speculative, or that is incapable of being reduced within certain fixed principles.

Electricity is a power of which we know almost nothing certain, with reference to vegetation; if many things have been written about it, it must be admitted, at least, that very little has been improved.

The same may be said of manures; the theory of their action is explained at paragraphs 19, 262, and 266.

Pruning and training are a part of the *art* of cultivation, dependent upon a great variety of physiological laws, the brief explanation of which is the object of this work. A few hints upon the subject will, however, be found in chapters III, IV, VI, and VIII.

The various modes of grafting are also a part of the *art* of Horticulture; and are deduced from laws explained in the XIVth chapter.

To conclude; the reader should above all things bear in mind that he ought not form his opinion upon any point from the mere consideration of one or two isolated propositions, but of the whole of the phenomena which it is the object of the following pages to explain. For he will find that the vital actions of plants are so dependent upon each other, and of so complicated a nature, that, while the whole can only be understood by a study of the parts, neither can any of the parts be exactly understood, without a knowledge of the whole.

(To be continued.)

SUBSOIL PLOW AND PLOWING.

Allow me for a moment to ask your attention to the *subsoil plow*, with which I presume you are but little, if any acquainted. Although known for years in Europe, and in some parts of our own country, I am not aware that it has been much used in this county. It is made to follow in the furrow directly after the common surface plow, loosening and moving the earth to the depth of six or eight inches below the first furrow, without bringing any part of it to the surface. The advantage to be derived from such loosening is, that the superabundant moisture settles down to the bottom of the furrow, and there is a constant operation of the atmosphere, which gradually converts it into productive soil. It thus produces all the benefits of deep plowing, without the disadvantage of the admixture of an undue proportion of unproductive ingredients in the soil. The soil thus moved will afford space for the extension of the roots or fibres of the plants, so that in seasons of drought they will be less likely to fail. And the ultimate consequence will be, if the land is properly manured, an additional depth to the soil,—say instead of 6 or 7 inches, there will be found 10 or 12 inches. For root crops, and many others, such an alteration must be of great value. Where this process of subsoil plowing has been tried for a number of years successively, and the subsoil has been gradually mixing with the upper soil, the whole has been found so completely changed as to be capable of producing crops that could not before have been cultivated to any advantage.

Mr. Phinney, of Lexington, to whom the agricultural community are under great obligations for his numerous and well conducted experiments, particularly those in the management of grass lands, first brought the subsoil plows into use in this vicinity, about three or four years since. The pattern then used has been much improved by different manufacturers —some specimens of which have this day been exhibited and tried. Mr. Phinney, who has used this plow on many acres of his own farm, informed me that the productive quality of his soil, for many crops, had been increased fifty per cent. by its use. On a question of practical cultivation, there is no man's opinion more worthy of regard.—*Mr. Proctor's Address.*

[The following note is appended to the above:]

In a recent letter received from Mr. Phinney, he says: "I have used the subsoil plow some three or four years, and such is the estimate in which I hold this important implement, that I should consider it a great piece of improvidence to put in a crop without first subsoiling the ground. The character of our *soil* and *climate* are both such, being subject to the extremes of wet and dry, as to render the use of the subsoil plow of more essential benefit here than in England, and if *one-half* the effects from its use, said to be produced in that country, are realized here, no farmer should be without a subsoil plow. The substratum with us, is either hard gravel or clay. Both are greatly benefitted by the use of this plow. In case of too much wet, the redundancy of water is absorbed by loosening the subsoil—when too dry, the plants can find support by being enabled to extend their roots deeper in search of moisture. Our crops, particularly our potatoes and other *root* crops, as they are called, often suffer from droughts that almost invariably occur in our climate in August or September. A failure of these crops is oftener owing to this than any other cause. Without resorting to the test of experiment, can any rational farmer doubt that this obstacle to the productiveness of our soil, may be, in a great measure, overcome by loosening the subsoil. In our old fields, which have been cultivated for many years, with the use of no other than the common plow, an *under crust* has been formed by the travelling of the oxen and movement of the plow for a long time, at a few inches below the surface. This is generally so hard as to be impenetrable by the roots of plants, and hence the necessity of breaking this crust by the subsoil plow. A soil having close and hard gravel, or a stiff clay bottom, may perhaps derive equal benefit from the use of the subsoil plow. Most of my observations, with regard to its beneficial effects have been upon the former, having but little land with a clay bottom. The objections to deep plowing that exist in the minds of some farmers, cannot apply to subsoil plowing, inasmuch as the poorer part of the soil is loosened, but not brought to the surface."

GUINEA GOOSE.—This is the largest of the goose tribe which has fallen under our notice; it is of the size of the swan, and it often weighs more than 25 pounds. We have now in our possession one pair which we purchased for a gentleman in South Carolina, which will weigh in common ordinary condition, over 20 pounds each. We once owned a gander that weighed 24 pounds. They are a noble bird, quite ornamental about the premises, and add much to the scenery, particularly if a sheet of water be near. When floating on its surface they have a stately majestic appearance, and in their movements they much resemble the swan. They have a low, hollow, coarse voice, unlike that of any other variety.—*Bement's Poulterer's Comp.*

THE WORK GOES BRAVELY ON.—Among the many evidences of the spirit that now animates the citizens of Georgia we copy the following notice from the "*Little Georgian*," published in Forsyth, Monroe County.

Remedy for 'Hard Times!'—The enterprising citizens of Monroe are requested to convene at the court-house in Forsyth on the first Tuesday in February next, for the purpose of forming a Cotton Manufacturing Company, to erect a Factory at Towaliga Falls. All who feel an interest in the enterprise will do well to attend promptly.

CONTENTS OF THIS NUMBER.

The Southern Cultivator.

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BY J. W. & W. S. JONES.

Edited by JAMES CAMAK, Esq., of Athens, Ga.

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SOUTHERN CULTIVATOR.

VOL. III. AUGUSTA, GA., MARCH, 1845. No. 3.

Culture and Water-Rotting of Hemp.

To the Editors of the Tennessee State Agriculturist:

On a late visit to Missouri, the great hemp region of the West, I had the pleasure to meet with David Myerle, Esq., the author of the enclosed treatise on the *culture and water-rotting of Hemp*. His attention, for some years, as a Government agent, and with a view to its use by our own Navy, has been elicited to this subject; and by inserting his treatise in your paper, you will no doubt render a service to many of your readers. Very respectfully,

Nashville, June 14, 1844. JNO. M. BASS.

WASHINGTON CITY, Jan. 8, 1844.

Sir:—The following Treatise on the Culture of Hemp and Water-rotting, is submitted to the farmers of Missouri and the adjoining States:

The land best adapted to the culture of hemp, is that which has been timbered with black walnut, buckeye, hackberry, and a reasonable proportion of white oak; or rich bottom lands answer well. The land should be plowed deep, and well harrowed before seeding. If sod land, it should be plowed down in the fall to receive the winter frosts; and when time for seeding, (which is from the 1st of April to the 10th of May,) it should be well plowed, harrowed, levelled and smoothed.

The seed should be sown broad-cast, one bushel and a half to the acre. When the blossoms begin to fall, (which is from the middle of July to the 1st of August,) it should then be cut. Hemp left standing too long, injures the staple, and produces a harshness and weakness. It should be cut before it is ripe, which is before the blossoms begin to fall. By attending to this, particularly, you will find the lint heavier, as it will retain its oily substance, (what is termed essential oil,) which, by being left standing until ripe, the action of the atmosphere, as it ripens, causes to leave it, which produces a lightness and harshness in the lint, and deprives it, in a certain degree, of its elasticity; consequently, when the hemp is applied to the hatchel, the staple breaks into small fibres, which are converted into tow, and when the tar is applied to it, and converted into cordage, it becomes stubborn and brittle in frosty weather, and consequently not so durable. Any chemical process, or any other mode to produce a rapid solution of the gum, extracts the oil, weakens the staple, and produces the former injurious effects.

The instrument for cutting is similar to the point of an ordinary scythe; it is about two feet long from the point, with a socket standing at right angles with the face of the blade, and angling to the edge to prevent the person when cutting from bending too much, as it is necessary for him to stand upright as much as possible, to keep the hemp from tangling. The hemp should be cut as close to the ground as possible, and, for watering, it should have the tops cut off as far as the seed ends, and thrown in the shade or kiln dried. The drying in the shade retains its natural color, and causes the essential oil to be retained. The kiln drying has the same effect, but a more rapid process. The sun produces a harshness when rotted, and the dew discolors it, and produces less weight. Pulling hemp is not recommendable; it injures the soil as well as the quality of the hemp—more particularly that of water-rotted. When cutting, all the large hemp should be laid to itself; it should be bound up into bundles with two bands on them, about the size of six or eight inches through in the butts. When too large, they are awkward to handle, which wastes the hemp. Also, place sticks in the centre of each bundle, about one inch in thickness, or more; it prevents the hemp from breaking and tangling, when rotted, and will assist to facilitate the workmen in handling it—the same sticks will answer for a whole crop. If your pools are prepared, commence filling them, and be particular in selecting the size of hemp, placing the large in a pool by itself, and the small also in a pool by itself, as the large undergoes a more rapid solution when immersed. The hemp placed in the pools should be carefully packed down with narrow plank laid on the points and butts, and with rock or timber to weigh it down; rock is preferable.

No hemp less than 5 feet should be water-rotted. Sizes under this may be dew-rotted. It depends upon the temperature of the weather in what length of time it produces maceration. In the month of August it takes 4 or 5 days; September, 6 to 8; October, 10 to 12; December, 3 to 4 weeks. After the 4th or 5th day in August and September, the 6th or 8th day in October and November, and the 3d week in December, or less time, it should be carefully examined, to ascertain when it has fully come to its solution. You will discover that the stalk has a roughness on the surface previous to its being placed in the pools. When the solution has arrived to its extent, by drawing a few stalks out of the bundles in the centre, promiscuously, and passing your hand along the stalk, you will find the roughness has left it, and that it is smooth to the touch. The hemp is then finished; take it out immediately; spread it on the ground, and when perfectly dry on one side, turn it over for the other—say two or three times, until you find that the pith has hardened. If it should receive several rains, it does not injure, provided you attend to turning it. The rains wash off the gum which lies on the surface of the lint, and when applied to the brake, it produces a clearer staple, cleans easier, and makes less tow.

There is also another mode, when the stalk will break off short, and free itself of the lint; but the former is the most certain. The hemp as it is dried, should be thrown into shocks or ricks well secured from the weather penetrating their centre. If the weather penetrates the centre, it will injure the staple by reducing its strength. In breaking the hemp, it should be broke in small hands, about one-third of the ordinary size. In all my experience, I find our hemp requires to be properly hatcheled, to stand the test the Government requires. This is entirely owing to the different mode of handling the Russia hemp; but by breaking in small hands, it relieves itself of sheaves, and produces less tow, and comes nearer to the quality of Russia Riga Rhine, which quality of hemp the Government uses for the Navy. It should not be applied to the brake too often, nor the breakers suffered to practice the habit of breaking dew-rotted hemp, by beating it over the brake to relieve it of the herds. It should be thrown up loosely into the atmosphere, to let the air pass through it. In drawing your hemp, you should draw it from each end, so that the staple will draw clear and have an even hand. See particularly that the butts of the staple be even, and that all the drawings be handed to itself, and not placed in the prime hemp, as it is the habit of doing in dew-rotted. All hemp with the drawings secreted in the centre, will not pass inspection. The hemp must be perfectly clear of sheaves, and that must be effected not by little breaking and beating across the brake, but by plenty of shaking. I have had the strongest evidence, in all my operations, that hemp broke in small hands, say ten or twelve stalks at a time, will yield less tow in hatcheling by 20 to 30 per cent., if the hemp is properly rotted. Also scutcheling helps the hemp greatly, and causes it to yield less tow, and straightens out the staple.

This process is very indispensable to produce a merchantable article. The instrument for scutcheling is a flat wooden or iron knife in the form of a paddle. The hemp is placed on a board upright, about four feet long; one-half of the length of the hemp is held by the left hand at the top of the board, and the right applies the knife, which, when properly applied, relieves the hemp of the small sheaves which adhere to it, and strengthens the staple for the hatchel, which adds greatly to the value of the article, and consequently produces less tow.

If the farmer has a desire to arrive at that stage in their staple to be equal to Russia, it is indispensable for them to adhere to these instructions. There is no more labor attending water-rotted hemp, if properly prepared for operation, than dew-rotted. Hemp water-rotted judiciously, and handled properly, will gain from 10 to 15 lbs. on the hundred on the dew-rotted, which more than amply pays for the difference of labor or expense in preparation. This has been proven to be the fact by those who have tested it at one of my pools in Kentucky, and also by an experienced farmer in Missouri. Hemp that is darkened by the dews, or colored water, which is produced by the blackness of the soil, will not meet with a favorable demand in the eastern market; it partakes of the character and price of dew-rotted hemp. To avoid this, immediately after your hemp is cut, place it under shelter, or shield it with inferior hemp, that the dews or rains will not affect it; and also let your pools be made of plank, or otherwise place them at the side of the stream, and dam it sufficient in height, that, in case the stream should be disturbed by rain or freshet, it does not pass through your pool.

The construction of Pools is as follows: Small spring branches dug down two or three feet; a levee thrown up around them, and small flood-gates at each end, made simply out of four pieces of boards, a foot wide and two feet long. A waste gate around them to let the water pass around, and not into the pool; if so, it produces an uneven temperature of the water, and the hemp becomes irregular in its solution. The pools can be made of plank; and the water pumped into them, supplied through a small leaden pipe by an ordinary lifting pump. A pool 40 by 60 feet, 2½ feet deep, will receive 3 to 4 acres of ordinary hemp. The pools must not be over 3 feet deep; it will produce an irregular solution, owing to the uneven temperature of the water. To water-rot in ponds or large streams, is not so commendable; particularly running streams. The hemp becomes irregular in its solution, and loses its lint. The preparation necessary is to have two saplings; pin them at each end with cross-bars, forming a raft, with uprights at each end; their length to be the depth of the water. These form a raft,

say 20 or 30 feet long; load your hemp on them, and sink them with rock. For the conveyance of water to and from your pools, I will call your attention to the leaden pipes manufactured in this city by Mr. W. W. Thompson. These pipes will be a great acquisition for this purpose, as also for watering stock and avoiding waste of water. They can be made any length, and at a much cheaper rate than an ordinary spout. To those persons who are not in possession of springs, they can fix a small lifting pump in any part of their farm, and supply their vats with water.

As regards the process, there need not be the slightest apprehension as to deleterious effects to health. As a demonstration of this fact, in my operations for the Government, I had about two hundred men at the various pools in the hemp-growing region of Kentucky, from 1840 to 1841, in a circuit of 100 miles, and there was not one instance of sickness, although many of the men exposed themselves to the water when it was not necessary. I also advise gentlemen not to attempt to deliver more than one ton of hemp to each laborer they have, and not to exceed from 5 to 10 tons the season: beyond this, it will produce difficulties

I will also observe the necessity of watching your hemp closely when near the time of its full solution. If you permit it to have too much rot, it will injure the hemp seriously in strength and in weight; and to avoid this, to those that are not particularly acquainted with its proper solution, they may take it out before it is carried too far, and spread it down upon the field, for the dews and rains to finish, but at the same time be particular to attend to turning it, that it may receive an equal proportion of rains and dews throughout. Hemp rotted in the spring is not of as good quality as that rotted in the fall, say the months of October, Novemoer, and December. The spring rot produces a lightness of color, and the staple is weakened and loses much in weight. This is produced by the state of the atmosphere, and the sudden and extreme changes of it, as also, the hemp lying in the stack after being a long time cut, undergoes what is termed a sweat, which changes the state of the staple. In all the hemp-growing regions of Russia, the crops amount yearly to 90,000 tons. The best hemp produced is in the Government of Cheiringoff. The hemp is mostly of short staple, and of the very best quality; the produce is about 15,000 tons yearly;—and also in part of the Govern nent of Orel, short staple is produced, and carried to the port of Riga; but the greater part of the hemp produced in this Government is long staple, of which the produce is about 14,000 tons. The hemp of Koursk is mostly of long staple, and the produce is about 13,000 tons. The hemp of the Government of Tooler, is also long staple, and produces about 13,000 tons. In the Governments of Tamboff and Riazan, the produce is about 14,000 tons, but not of good quality, being more after the color of flax, and its staple is weak; it is chiefly produced for the Archangel market, and a portion of it reaches St. Petersburgh. The hemp grown in the Government of Smolenski, is of short staple, partakes of the character of that produced in the Governments of Tamboff and Riazan, and which is mostly manufactured into sail-cloth fabrics; the produce is about 7,000 tons, mostly short staple. The Russian mode practiced in preparing their hemp, differs only with their instruction in relation to the care and pains taken in preparation; a portion of the country also adopts a chemical process to produce a rapid solution of the gum which is injurious to the staple. As this country is subject to frequent hail storms, the crops oftentimes fall short of this.

In laying this information before you, my object is to convey to you the quantity and the various qualities of hemp produced in the hemp growing regions of Russia. You will also notice that we have a decided advantage over the Russian article, in comparing the small quantity of long staple to ours, as all our hemp generally is of long staple; therefore, by assiduous attention to the culture and preparing of it, our staple must and will have the ascendancy in the European market; in a reasonable time, Missouri can supply the whole world with hemp; as well as must Illinois and Iowa arrive to be extensive hemp-growing States, and of a superior quality. And let the agricultural interest of these States buckle on their energies and industry, and consummate it to the advancement of their own prosperity and the country in general.

I have had the assurance recently given me, from a gentleman direct from London, of the highest standing in mercantile transactions, that the moment we are prepared, he will effect a contract to supply the British Government with our hemp for the Navy, which consumes equal to our Navy and our commercial enterprise, about 12,000 tons yearly. Also, the consumption of the port of London is 20,000 tons yearly, embracing the requirements of the Navy. I have also had the assurance, from a gentleman of high standing in commercial transactions in France, that from the character of our hemp, the moment the hemp is prepared, he will effect the supplying of the French Navy with our staple. These countries are desirous to encourage us, that they may have two markets to flee to in case of any warlike disturbance.

I have labored with great sacrifice of interest for these four years, with the pleasing and proud anticipation to see the country independent of this foreign staple, and that we may become heavy exporters; and the day is not far distant, when these anticipations will be fully realized.

And to facilitate this most important object, I have, by the solicitations of a number of gentlemen, delegates from the West, and others in power at this city, consented to embark upon this arduous and hazardous undertaking, with the view of supplying the Navy with American Water-Rotted Hemp, from the West, for a term of years. I do assure you, gentlemen, that no pecuniary inducement could have influenced me to embark upon this work of enterprise again But something must be done to keep alive and finish this great work, which has been commenced, and is in progress to its ultimate accomplishment. I have lost a large fortune in establishing the practicability of it, and have undergone great afflictions, in consequence of which, I have felt reluctance to subject myself to a second trial of the various circumstances which befel me, in effecting that important object. But with a desire to promote *the agricultural interest of the West, and to see my country speedily independent of this foreign staple*, and with the confidence I have in you, that you will support me in this act of enterprise, I now come forward once more with all my resources and energy, to give this subject additional impetus, that will convince the world and the Russian Autocrat, that this Republic can stand free and independent of his staple and fabrics, and can supply the commercial world. To accomplish this great work, I lean upon you, *the farmers of the West*, to rally to my aid, and give me your prompt and energetic co operation. *And to you, enterprising Eastern men, I invite you West*, to establish your ingenuity and enterprise in machinery, for the manufactory of fabrics. Your interest, farmers, your prosperity, and your duty as patriots, and as an example to the rising generation, demand your prompt and undeviating attention to this important subject; in so doing, it acquires all, and will also be a blow struck at the foot of the throne of that Autocrat, which may produce events that will in time give liberty to millions of souls who are suffering under the most degraded bondage of slavery. The question no doubt will arise in your mind, How is all this to be accomplished? I will answer briefly: Let every farmer take four acres of his best land, sow it down in hemp, follow my instructions laid before you, to the letter. If you have no water convenient, build plank vats, 25 feet by 14, and 2½ deep; pump the water into the vats when the hemp is laid in. They require but a small quantity of water; two men can pump sufficient water in a day, and the same water, with a small portion of additional fresh added to it, if necessary, will answer for two or three rottings. This size vat will answer for a crop of 25 or 30 acres, which is more than one farmer should undertake the first year Four acres of good ordinary hemp, judiciously rotted, properly cleaned, scutcheled hatcheled, and well prepared, will yield to the farmer a gain clear of all expense, of $150, or more. What can be a greater encouragement in an agricultural pursuit than this? In addition to this, a steady market, with the assurance that if you produce a prime article, the highest cash price is ready for you, according to its quality, delivered at the various points of Agencies. Those persons wishing to see me, can address me at St Louis, post paid, (*no letter will be taken out of the office, unless post paid.*) I will either wait upon them personally, or answer them from any State that feels a desire to embark in this enterprise I am candid to inform those that have never water-rotted, that there is more labor attending this operation than they imagine. But do not be discouraged; experience and time will overcome it, in a very great degree. With perseverance and industrious attention, not relying on the care and attention of your negroes and laborers, but by your own close attention, you will see great advantages to be gained in the prosecution of this business. I can with confidence and in truth say, that with practical experience and perseverance, they will be found worth all the theory and negroes in existence, in the saving of labor, expense, and the quality of the article produced. They will overcome difficulties and objections which first present themselves to you in its incipiency, which finally become obstacles of *minor consideration*. Therefore be not deterred when they are met. But persevere, and acquaint yourselves of the most practical and economical manner to exercise in the water-rotting process. My plans are laid before you; practice them, and you will improve on them; practice makes perfect, and opens to you advantages that can be applied to great improvements and economy. But throw aside all ideas of humbuggery, such as steam and chemical process.

Hemp for the Navy, must not be less than four feet and a half in length, a clear staple, of proper and natural strength, preserved by judicious treatment, and of a bright color; dark hemp will not be received for that purpose. It will be received and appropriated for commercial enterprise, at a reduced price.

It is the desire, that the farmer will practice the mode of scutcheling to relieve the hemp of the herds, in the place of applying it so often to the brake. It straightens out the staple, and produces much less tow, when applied to the hatchel Also that they should become familiar with hatcheling of hemp generally. It adds greatly to the character of the hemp, east and abroad. And to those that wish to purchase hatchels, they can be obtained at St. Louis for $5 to $6; or any ordinary blacksmith can make them, provided they understand setting the teeth, (it generally depends on this.) If the teeth are not properly set, it will split and derange the staple, and produce much tow. All hemp delivered unhatcheled, will be received and paid for according to quality. It has been the practice to use great deception in the preparation of this article, by secreting the drawings and sheaves in the centre of the hands. But it will be useless to attempt this, as they are sure of being detected.

There are four classes of Russia Hemp: Riga-Rhine, Clean St. Petersburgh, Half clean, and Out-shot. And it is the intention of the undersigned, if employed by the Government, to classify our hemp in like manner, and in that event the price paid will range up to $8 per 112 lbs, delivered at St Louis, for that quality of hemp that will stand the test the Government requires. And that can be effected and produced by judicious rotting, scutcheling, hatcheling, and proper length. That the hemp

may be inspected and selected without prejudice to either party, there will be honest, competent men from the east, who are fully acquainted with the qualities of Russia Hemp, and more particularly that article the Government requires, whose hands it is to pass through before it will be paid for.

I conclude this subject with a conviction that this appeal will not be in vain, and that in three years the foreign article will be entirely excluded from our ports, and heavy exports made to Europe.

And I will impress upon your minds the importance of adhering to these instructions; and when your hemp is ready for market, by calling upon Messrs. W. W. Thompson & Co., of St. Louis, or the subscriber, you can obtain any information in regard to the final disposition.

David Myerle, *St. Louis, Mi.*

Washington City, April 8th, 1844.

The following letter is submitted to the farmers of the West. The hemp named by the Superintendent, was raised by A. G. Porter, of Buchanan County, Missouri. It was carefully preserved (after cutting) from the rains and dews, which discolor it. It was broke in small hands, which causes it to produce less tow. With a subsequent treatment I gave it, it produced this result. Any farmer who will adhere to my instructions can produce the same with as little labor and expense as to do it otherwise.

David Myerle, Saint Louis.

U. S. Ropewalk, April 5th, 1844.

Sir:—Through your politeness I received, on the 2d instant, a copy of your circular to the hemp growers of the Western country, giving them general, and what I should think, very accurate directions for growing and preparing hemp. Your remarks on the drying of hemp in the shade that the essential oil may be retained, I conceive to be of the utmost importance, for since hemp is a vegetable it is of great moment that the oil should be retained in order to prevent its rapid decay.

I think from what I have seen of the American hemp that the most of it has been dried in the sun by its being so very harsh and brittle.

Your remarks on the sorting of it will be of great utility, as I have discovered clean out-shot and half-clean all in the same bale, varying in length from 3 to 6 feet, which of course in hatcheling, a large portion of the hemp will be drawn out as tow, therefore there should be as much uniformity as possible in the length of the heads, by so doing it will be an advantage to the one who sells as well as to the one who buys.

In regard to the hemp raised by Mr. A. G Potter, of the State of Missouri, much credit, as you observe, is certainly due him in the preparation of his hemp, not that the strength is greater than the most of American hemp, but for its being so well cleaned of the wood particles and of the tow, and also for its being of good color and properly packed and uniform in its length, and when the Western hemp is all prepared like it, then there will be no fear of sending it to any market, as it will compete with the Russian in quality and in price

I hope, sir, you will soon see your labors crowned by seeing the American hemp used, not only in this country, but in foreign countries also, which in my opinion will be the case, if proper instructions are strictly adhered to.

Very respectfully, your obed ent servant,

Wm. Cabin, *Superintendent.*

To David Myerle, Esq., Washington, D. C.

Broom Corn.—Large quantities of the brush of broom corn, raised in the valley of the Ohio and elsewhere, have been shipped to England within three months past, together with broom handles, for the purpose of manufacturing the brooms there. By managing in this way, we understand that brooms can be afforded cheaper in Great Britain, than if made here and then exported.

Prepare without delay for a vigorous spring campaign.

From the Southern Agriculturist.

Cultivation and Curing of Cuba Tobacco.

Sir:—The following communication on the Cuba tobacco, is from a gentleman who has had opportunities of becoming thoroughly acquainted with the mode of cultivating and curing the plant as practised in Cuba; and where experience has enabled him to ascertain the modifications necessary to be adopted in transferring the culture to this country. It will be perceived that Gen. Hernandez estimates the value of the tobacco, *in leaf*, at 50 cents per lb.; a higher price than it usually brings in our markets, where it is purchased for the purpose of being used as *wrappers* for segars; the *fillings* of which are generally of American or Virginia tobacco. It is well known, however, that the best tobacco raised in the island is never exported, being reserved for the manufacture of the celebrated Havana segars, after selling, as we have been informed, for more than a dollar a pound. As the tobacco raised and cured here, is considered by judges as no way interior to the best Havana, it would probably sell for even a higher price than that estimated below, were it properly prepared for market according to the Cuba method.

There can be no doubt but that this valuable plant may be easily added to the enriching staples, and other numerous resources that form the *golden fleece of the South.* It is an advantage of this culture that it affords an instance in which the manufacturing and agricultural interests are happily combined, as its highest profits can only be obtained by putting the tobacco into a wrought form, and making it into segars.

The subjoined directions will be found more specific and minute, than any that have before been given to the public, and will, therefore, I hope, prove an acceptable contribution to the pages of the Agriculturist. With respect, your ob't. serv't.,

W. H. Simmons.

COPY OF A LETTER from Jos. M. Hernandez, Esq., to Dr. Wm H. Simmons, dated

Mala-Compra, April 15, 1830.

Dear Sir:—I have delayed this communication on the culture of Cuba tobacco longer than I ought, but as you are acquainted with the multiplicity of engagements that have constantly occupied my attention, I trust that you will excuse me.

The first thing to be considered in this, as in every other culture, is the soil, which for this kind of tobacco ought to be of rich sandy loam, neither too high or too low; that is, ground capable of retaining moisture. The more level the better, and if possible, well protected by margins. The next should be the selection of a spot of ground to make the necessary beds.

It would be preferable to make these on land newly cleared, or at all events when the land has not been seeded with grass; for grass seeds springing up together with the tobacco, would injure it materially, as the grass cannot be removed without disturbing the tobacco plants. In preparing the ground for the nurseries, break it up properly, grub up all the stumps, dig out the roots, and carefully remove them with the hand; this being done, make the beds from three to four inches high, of a reasonable length and from three to three and a half feet broad, so as to enable the hands at arms-length, to weed out the tender young plants with the fingers from both sides of the bed, and keep them perfectly clean.

The months of December and January are the most proper for sowing the seed in this country* —some persons speak of planting it as early as the month of November. I am, however, of opinion that about the latter part of December is the best time to sow tobacco seed; any sooner would expose the plants to suffer from the inclemency of the most severe part of our winter season. Before the seed is sown, take some dry trash and burn it off upon the nursery beds, to destroy insects and grass seeds; then take one ounce of tobacco seed and mix it with about a quart of dry ashes, so as to separate the seed as much as possible, and sow it broadcast. After the seed has been thus sown, the surface of the bed ought to be raked over slightly, and trodden upon by the foot, carrying the whole weight of the body with it, that the ground may at once adhere closely to the seed, and then water it. Should the nursery beds apparently dry from blighting winds or other causes, watering will be absolu ely necessary: for the ground is to be kept in a moist state from the time the seed is planted until the young plants are large enough to be set out.

The nurseries being made, proceed to prepare the land where the tobacco is to be set out. If the land is newly cleared, (and new land is probably more favorable to the production of this plant than it is to that of any other, both as regards quality and quantity,) remove as many of the stumps and roots as possible, and dig up the ground in such a manner as to render the surface perfectly loose; then level the ground, and in this state leave it until the nursery plants have acquired about one-half the growth necessary to admit of their being set out. Then break up the ground a second time in the same manner as at first, as in this way all the small fibres of roots and their rooty parts will be more or less separated, and thus obviate much of that degree of sponginess so common to new land, and which is, in a great measure, the cause of new land seldom producing well the first year, as the soil does not lay close enough to the roots of the plants growing in it; so that a shower of rain produces no other effect than that of removing the earth still more from them. Should the land be such as to admit of being worked with the plow, it ought certainly to be preferred to the common hoe. The plow, however, should be excluded after the plants are set out.

The ground having been prepared and properly levelled off, and the plants sufficiently grown to be taken up, say to the size of good cabbage plants, take advantage of the first wet or cloudy weather to commence setting them out. This should be done with great care, and the plants put single at equal distances; that is about three feet north and south, and two and a half or two and three-fourths feet east and west. They are placed thus close to each other, to prevent the leaves growing too large. The direction of the rows, however, should alter according to the situation of the land, where it has any inclination the widest space should run across it, as the beds will have to be made so as to prevent the soil from being washed from the roots by rain, when bedded; but, where the land is rather level, the three feet rows should be north and south, so as to give to the plants a more full effect on them by passing across the beds, than by crossing them in an oblique direction To set the plants out regularly, take a task line of 105 feet in length, with a pointed stick three feet long at each end of it, then insert a small piece of rag or something else through the line at the distance of two feet and three-fourths from each other, place it north and south, (or as the land may require,) at full length, and then set a plant at every division; carefully keeping the bud of the plant above the surface ground. Then remove the line three feet from the first row, and so on until the planting is completed. Care ought to be taken to prevent the stretching of the line from misplacing the plants. In this way the plants can be easily set out, and a proper direction given to them both ways. In taking the plants up from the nursery, the ground should be first loosened with a flat piece of wood or iron, about an inch broad; then carefully holding the leaves closed towards each other, between the fingers, draw them up and place them in a basket or some other convenient thing, to receive them for planting. After taking up those which can be planted during the day, water the nursery, that the earth may again adhere to the remaining ones. The evening is the best time for setting out the plants, but where a large field has to be cultivated, it will be well to plant both morning and evening. The plants set out in the morning,

* Florida.

unless in rainy or cloudy weather, should be covered immediately, and the same should be done with those planted the evening previous, should the day open with a clear sunshine—the palmetto leaf answers this purpose very well. There should be water convenient to the plants, so as to have them watered morning and evening, until they have taken root.* They should also be closely examined when watered, so as to replace such plants as should happen to die, that the ground may be properly occupied, and that all the plants may ripen as nearly together as possible.

From the time the plants are set out, the earth round them should be occasionally stirred both with the hand and hoe. At first hoe flat, but as soon as the leaves assume a growing disposition, begin gradually to draw a slight bed towards the plant. The plant must be closely examined, even while in the nursery, to destroy the numerous worms that feed upon them; some, by cutting the stalks and knawing the leaves when first set out—these resemble the grub worm, and are to be found near the injured plant under ground; others which come from the eggs deposited on the plant by the butterfly, and feed on the leaf, grow to a very large size and look very ugly, and are commonly called the tobacco worm. There is also a small worm, which attacks the bud of the plant, and which is sure destruction to its further growth; and some again, though less destructive, are to be seen within the two coats of the leaf; feeding, as it were on the juices alone. The worming should be strictly attended to every morning and evening, until the plants are pretty well grown, when every other day will be sufficient. The most proper persons for worming are either boys or girls from ten to fourteen years of age. They should be made to come to the tobacco ground early in the morning, and be led by inducements, (such as giving a trifling reward to those who will bring the most worms,) to worm it properly. Grown persons would find it rather too tedious to stoop to examine the under part of every leaf, and seek the worm under ground; nor would they be so much alive to the value of a spoonful of sugar, or other light reward. Besides, where the former would make this search a matter of profit and pleasure, it would to the latter prove only a tedious and irksome occupation. Here I will observe, that it is for similar reasons that the culture of the Cuba tobacco plant more properly belongs to a white population, for there are few plants requiring more attention and tender treatment than it does. Indeed it will present a sorry appearance, unless the eye of its legitimate proprietor is constantly watching over it.

When the plants have acquired from twelve to fourteen good leaves, and are about knee high, it may be well to begin to top them, by nipping off the bud with the aid of the finger,† taking care not to destroy the small leaves immediately near the bud: for if the land is good and the season favorable, those very small top leaves will in a short time be nearly as large, and ripen as soon as the lower ones, whereby two or four more leaves may be saved; thus obtaining from sixteen to eighteen leaves in the place of twelve or fourteen, which is the general average. As the topping of the tobacco plant is all essential in order to promote the growth, and to equalize the ripening of the leaves, I would observe that this operation should at all events commence the instant that the bud of the plant shows a disposition to go to seed, and be immediately followed by removing the suckers, which it will now put out at every leaf. Indeed the suckers should be removed from the plant as often as they appear.

The tobacco plant ought never to be cut before it comes to full maturity, which is known by the leaves becoming mottled, coarse, and of a thick texture, and gummy to the touch; at which time the end of the leaf, by being doubled, will break short, which it will not do to the same extent when green. It ought not to be cut in wet weather, when the leaves lose their natural gummy substance, so necessary to be preserved. About this period the cultivator is apt to be rendered anxious by the fear of allowing the plants to remain in the field longer than necessary, until experience removes these apprehensions: he should be on his guard, however, not to destroy the quality of his tobacco, by cutting it too soon. When the cutting is to commence, there should be procured a quantity of forked stakes, set upright, with a pole or rider setting on each fork, ready to support the tobacco, and to keep it from the ground. The plant is then cut obliquely even with the surface of the ground, and the person thus employed should strike the lower end of the stalk two or three times with the blunt side of his knife, so as to cause as much of the sand or soil to fall from it as possible; then tying two stalks together, they are gently placed across the riders or poles prepared to receive them. In this state they are allowed to remain in the sun or open air, until the leaves have somewhat wilted, whereby they will not be liable to the injury which they would otherwise receive if they came suddenly in contact with other bodies, when fresh cut. Then place as many plants on each pole or rider as may be conveniently carried, and take them into the drying house, where the tobacco is strung off upon the frames prepared for it, leaving a small space between the two plants, that air may circulate freely among them, and promote their drying. As the drying advances, the stalks are brought closer to each other, so as to make room for those which yet remain to be housed.

In drying the tobacco, all damp air should be excluded, nor ought the drying of it to be precipitated by the admission of high drying winds. This process is to be promoted in the most moderate manner, except in the rainy season, when the sooner the drying is effected the better, for it is a plant easily affected by the changes of the weather, after the drying commences. It is then liable to mildew in damp weather, which is when the leaf changes from its original color to a pale yellow cast, and from this, by parts, to an even brown. When the middle stem is perfectly dry, it can be taken down, and the leaves stripped from the stalk and put in bulk to sweat; that is, to make tobacco of them; for before this process, when a concentration of its better qualities takes place, the leaves are always liable to be affected by the weather, and cannot well be considered as being any thing else than common dry leaves, partaking of the nature of tobacco, but not actually tobacco. The leaves are to be stripped from the stalks in damp or cloudy weather, when they are more easily handled, and the separation of the different qualities rendered also more easy. The good leaves are at this time kept by themselves, for *wrappers* or *caps*, and the most defective ones for *fillings* or *strips*. When the tobacco is put in bulk, the stems of the leaves should all be kept in one direction, to facilitate the tying of them in hanks; afterwards make the bulk two or three feet high, and of a proportionate circumference. To guard against the leaves becoming overheated, and to equalize the fermentation or sweating, after the first twenty-four hours place the outside leaves in the centre, and those of the centre to the outside of the bulk. By doing this once or twice, and taking care to cover the bulk either with sheets or blankets, so as to exclude all air from it, and leaving it in this state for about forty days, it acquires an odor strong enough to produce sneezing, and the other qualities of cured tobacco. The process of curing may then be considered as completed. Then take some of the most injured leaves, but of the best quality, and in proportion to the quality of tobacco made, and place them in clear water, there let them remain until they rot, which they will do in about eight days; then break open your bulks, spread the tobacco with the stems in one direction, and dampen them with this water in a gentle manner, that it may not soak through the leaf; for in this case the leaf would rot.* Then tie them in hanks of from twenty-five to thirty leaves; this being done, spread the plants in the tobacco house for about twelve hours, to air them, that the dampness may be removed, and afterwards pack them in casks or barrels and head them tight, until you wish to manufacture them. The object of dampening the tobacco with this water, is to give it elasticity, to promote its curing free, to increase its fragrance, to give it an aromatic smell, and to keep it always soft. This is the great secret of curing tobacco for segars properly, and for which we are indebted to the people of Cuba, who certainly understand the mode of curing this kind of tobacco better than any other people. It is to them a source of great wealth, and may be made equally so to us. We can have here three cuttings from the original plant—the last cutting will be of rather a weak quality, but which, nevertheless, will be agreeable to those who confine their smoking to weak tobacco.

In ratooning the plant, only one sprout ought to be allowed to grow, and this from those most deeply rooted—all other sprouts ought to be destroyed.

The houses necessary for the curing of tobacco ought to be roomy, with a passage way running through the centre, from one extremity of the building to the other, and pierced on both sides with sufficient number of doors and windows, to make them perfectly airy.

In addition to what I have said respecting the mode of cultivating and treating the tobacco plant, I have further to state, that once the plant is allowed to be checked in its growth, it never again recovers it. That in promoting the drying of the leaf, fire should not be resorted to, because the smoke would impart to it a flavor that would injure that of the tobacco itself.

In order to obtain vigorous plants, the seed ought to be procured from the original stalk, and not from the ratoons, by allowing some of them to go to seed for that express purpose. In Cuba the seed is most generally saved from the ratoon plants, but we should consider that that climate and soil are probably more favorable to the production of this plant than ours, and consequently, we ought to confide in the best seed, which is had from the original stalk.

All plants have their peculiar empire, nevertheless we should not be deterred from planting Cuba tobacco here, for even should we be compelled to import the seed every third year, which would be as often as necessary, it would still prove a profitable culture. Taking 600 lbs., which is the average product per acre, it would yield, (if well cured,) at 50 cents per lb., $300 in the leaf.

The following exhibits the profit to be derived from it when manufactured into segars:

600 lbs., allowing 8 lbs. to 1000, would produce 75,000 segars, which, at $10 per 1000.....	750 00
Cost of the leaf.....300 00	
Worth of manufacture at $2 50 per 1000..187 50—487 50	
Difference in favor of the manufacturer,....$262 50	

This amount being the profits of the manufacturer alone, the profit to him who would combine both pursuits would be more than doubled.

As to the quantity of land which can be cultivated to the hand, there is some difference in the practice of planters; however, I think that I am within the usual calculation in saying, that an acre and a half would not exceed the quantity that an able hand can easily cultivate and manage properly.

I am, with respect, your obd't. serv't.,
JOSEPH M. HERNANDEZ.

N. B.—I have omitted to state the cost of the segar boxes, which of course has also to be deducted. This would vary according to the facility of obtaining materials, but probably would not exceed 25 cents per box.

* It is hence generally necessary that wells should be sunk at convenient distances through the field.

† Washing the hands after this, in water, is necessary as the acrid juices of the plants, otherwise, soon produce a soreness of the fingers.

* Sponge is used in Cuba for this delicate operation.

Speak not unless you can benefit others or yourself; and avoid trifling conversation.

From the So. Ca Temperance Advocate.

Dr. Porcher's Report on Manures.

BLACK OAK AGRICULTURAL SOCIETY, November 19, 1844.

Resolved, That the Report of the Committee on Manures, this day read, be communicated to the State Agricultural Society, to be read before that body.—From the Minutes.

H. W. RAVENEL, Sec'ry.

REPORT.

The Committee on Manures, in pursuance of the Resolution under which they are required, at the fall meeting of the Society, to report, concerning "the best and most economical mode of collecting and preparing manures; the time and manner of their application; the adaptation of certain manures to certain crops, with a detailed account of all experiments on the subject, which have been carefully conducted and the results accurately noted;" beg leave to observe, that the wide range of duty committed to them requires more time than has elapsed since their appointment. Sensible, however, of the vast importance of the subject, they have entered seriously and faithfully into the discharge of their duty, and offer the following as a Report only in part:

It is due, however, to the Society, to premise that the direction which has been given to our labors, is one which can hardly be said to be comprehended in the resolution under which this report is presented. Believing, however, that the points to which we are desirous of drawing the attention of the Society, are of vital importance to our interests, we offer no apology for our apparent deviation from the letter of the chart laid down for our governance.

It is but a very few years since, within the limits of this Society, the benefits of manures were mooted at every social meeting; and even now, though no one is so outwardly heretical as to question their ability, there are yet many who have derived so little practical benefit from their application, that their faith in their efficacy, is rather a confidence in the testimony of others, than the result of their own observation and experience.

Believing firmly as we do, that on the judicious use of manures, depends the prosperity, not only of our Society, but of our State, we have devoted our labors to an investigation of the causes of the failures of manures, and have endeavored, with the aid of our present state of knowledge, to point out the remedies.

The great object of all farmers, both practical and theoretical, has been to accumulate and bestow upon the land a quantity of animal and vegetable matter, in the state of progressive decomposition. This manure, called compost, has been for many years the only sort applied to cotton husbandry in the inland districts. Its value depends upon its origin; that from the stable being always much more highly esteemed than that from the cow-pen. These were the manures universally applied to all soils, whatever their condition. Limited, however, as was the range of our manuring resources, our knowlede of the soil as cultivated, was, and even now is, still more contracted. No idea whatever was entertained of their chemical composition. A brief inquiry into their physical condition was all the investigation bestowed upon them.

A new light has recently dawned upn us; and it becomes us peculiarly as cultivators of products unknown to other portions of Caucasian civilization, to embrace and improve it to the highest possible degree. This light is the thorough application of chemistry to agriculture. The cultivators of other products have for their guides the experience of ages, and of the whole extent of civilization. We stand, as agriculturists, isolated from the mass of mankind; their practice is to us a mystery, their experience to us useless. Let us hail, then, as the opening of a new era in our agriculture, the scientific discoveries which enable us to apply to practical farming the mysteries of the laboratory.

The doctrine of the necessity of furnishing to plants, either as native constituents of the soil on which they are required to grow, or in form of manure, *all* the components, both organic and inorganic, of which they are constituted, and which are necessary to their healthful existence, was first distinctly announced by Liebig, the publication of whose book forms an interesting epoch in the history of agriculture. But whilst announcing the important fact, he seems to have regarded it rather as an axiom, incontrovertible, than as a new truth whose importance was to have been enforced upon the attention of agriculturists. Hence most readers of his work are conscious of no operation of husbandry so important as the collection and supply of nitrogen to plants. Indeed the philosopher seems to snuff ammonia in every breeze. All the pleasing impressions which others derive from the sight of a herd of cattle going to market, are lost to his imagination. He sees in them nothing but a mass of nitrogen unfairly abstracted from its native soil; and when man himself has finished his work and given up the ghost, his only concern is that the nitrogen of his composition is laid down too low to be made available to vegetation.

But let us do justice to Liebig. He is not one-sided in his views. He dwells, it is true, particularly upon one subject, but his love of a theory does not lead him to strain every point to sustain his views. Another class of philosophers have ridden a hobby which they call *geine*, to which they attribute all the virtues of manures. It would be best, we think, before going into the *modus operandi* of manures, to inquire first into the whole condition of the products of the soil,—let us first know what they are, and we shall be unfortunate indeed, if we do not find out what is good for them.

It is one of the blessings wherewith our lot is tempered, that all genuine work, all honest labor, is productive. So we have been benefited by every class of philosophers who have applied their industry to the consideration of agriculture. We are still hampered in our researches after truth, by the obtrusion of their fanciful theories; but a mass of light has been shed on the subject, from which we are confident of deriving vast benefit.

All plants, we may say all vegetable products, are composed of carbon, hydrogen and oxygen; in addition to these, some have nitrogen. Of these constituents, the soil is composed chiefly of carbonaceous matter; the atmosphere we breathe consists of oxygen and nitrogen in a state of mechanical combination; and water is the chemical union of hydrogen with oxygen. Thus it is obvious, the sources of these organic constituents are inexhaustible. But there is another portion of vegetables which has hitherto been overlooked. It is the incombustible or inorganic structure; that which after combustion remains in the form of ashes, and to which the general and unsatisfactory name of salts is applied. Now, in our system of making manures, we have regard chiefly to the collection of organic matter, and we are surprised and disappointed when the application of this matter fails to produce the required effect. We shall try to show that the cause of this failure is to be attributed to *our neglect in providing for the inorganic constituents of the plants we cultivate.*

It is a rule which cannot now be disputed, that *wherever the analysis of a vegetable product yields, as a constant quality, an inorganic constituent, however small, such inorganic body is absolutely necessary to the healthful condition of the plant;* and it will follow, as a necessary consequence of this rule, that *wherever the soil on which it is attempted to cultivate a plant, is destitute of any one of its inorganic constituents, it will be vain to attempt to grow the plant upon it.* If the material exist in too small a quantity in the soil, the crop will be correspondingly short and sickly.

Regarding this rule as an axiom in enlightened agriculture, we shall draw a few practical results therefrom, in relation to our own pursuits.

The first step necessary towards productive agriculture, and one which falls within the province of our agricultural Societies, is to have vigorous and accurate analysis made, not only of the crops we cultivate, but of the soils on which we raise them, and of the manures which we employ in their cultivation.

Our own Society has the honor of having made one of the first moves in this enterprise, and has furnished an analysis of her principal products. As cotton is our staple, we have devoted this Report exclusively to a consideration of manures suitable for its production. In the analysis of this product, including the wool and the seed, we find the following inorganic constituents:

Carbonate of Potash, with traces of Soda.	Sulphate of Potash.
Phosphate of Lime, with traces of Magnesia.	Chloride of Potassium.
Carbonate of Lime.	Chloride of Magnesium.
Carbonate of Magnesia.	Sulphate of Lime.
Silica	Phosphate of Potash.
Alumina.	Oxide of Iron and Manganese.

Or, by reducing these compounds to simple forms, we find, in the indestructible portion of cotton, potash, lime, magnesia, silica, alumina, sulphur, phosphorus, chlorine, iron, and manganese. This is the general result of the analysis, made for this Society by Professor Shepard. As the same general result was obtained by Dr Ure's analysis, we have every reason to believe that the before named ingredients are all necessary to the perfect development of cotton. Let us now examine the material or soil upon which, and the tools or manures with which, we operate.

The analysis of our soils is yet to be made. The Agricultural Society of St. John's Colleton, enjoys the honor of having taken the lead of her sister Societies in this enterprise. She has furnished an analysis of six specimens of soils taken from a cotton plantation on Edisto Island, of which the following is the general result:

Silica, alumina, peroxide of iron, carbonate of lime, and phosphate of lime.

It would thus appear that the soil of Edisto Island is deficient in four of the nine inorganic constituents of cotton, viz: potash, magnesia, sulphur, and chlorine.

It is to be observed, however, respecting this analysis, that it was made before the publication of Liebig's work on Agricultural Chemistry, and before the important doctrine, laid down in this report, was even partially recognized. It was made too, at a time when the attention of our planters was just beginning to be directed towards the use of lime; and the respectable chemist, by whom the analysis was made, aimed rather to establish the amount of lime existing in the soil, than to demonstrate rigorously all the material, or, as they were then considered, the *immaterial* parts of which it is composed.

Among the soils sent for analysis was a specimen of marsh mud, that agent which has so signally contributed to renovate the soils of the islands on our coast. Its component parts appear to be silica, hornblende, feldspar, alumina, iron, lime, and phosphorus. The hornblende and feldspar of this mud furnish potash, lime, soda, magnesia, manganese, and fluorine; so that with the aid of this manure, the soil is furnished with every constituent of cotton except chlorine and sulphur. It is difficult, however, to conceive how either of these elements can be absent from a mud which is twice daily flowed with sea water. It is rather to be supposed that they are not enumerated, as being too obvious to require a special notice.

Having now ascertained, as far as chemical operations have gone, the general composition of our cotton, and the soils upon which we raise it, let us now inquire what are the ingredients wherewith we propose to amend our soils, so as to increase their productiveness.

The cow-pen and stable have hitherto furnished all our manures. The droppings of our cattle and horses mixed up with the leaves of trees form our composts. Of these, the product of the stable is generally found to be beneficial, while that of the cow-pen is often of so little va-

lue as to discourage the planter in his efforts to obtain it.

One of the most successful planters in this Society has declared, that for many years past, he has ceased to perceive any improvement in his crops from the use of cow-pen manure. The stalks have indeed increased to a large size, but they either produce little fruit, or fail to mature a good crop. It is obvious from this result, that there can be no want of nitrogenized matter in the manure, or it would not promote rank vegetation. The defect must lie in its inorganic constituents, and we may, by comparing the analysis of cotton and of our manures, find wherein the deficiency exists. Let it be remembered, however, that we are hampered in our reasonings by the want of full information which it is the province of the chemist alone to give.

Dr. Ure gives the following as the result of his analysis of cow dung: lime, phosphate of lime, magnesia, iron, alumina, silica, muriate, and sulphate of potash—in other words, all the inorganic constituents of cotton. It is to be remarked, that though all the ingredients are there, yet some exist in almost infinitessimal quantities. Thus, all the chlorine, sulphur, and potash, in 34 lbs. of dried cow dung, amount altogether to about 19 ounces, while the amount of potash alone in a thousand pounds of cotton in the seed, is equivalent to five pounds. Now a good crop of cotton in the limits of this Society, not unfrequently yields a thousand pounds of cotton in the seed, or five pounds of potash, on two acres of land. Let us now suppose a liberal supply of compost bestowed upon two acres. If we say a hundred loads of manure to the two acres, we will far exceed the average amount of manuring. Another liberal allowance would be the supposition of the presence of the equivalent of three bushels of thoroughly dried cow dung in each load of compost, and the measure of our liberality will be filled to overflowing, if we suppose each bushel to weigh fifty pounds. Now, the 15,000 lbs. of cow dung, which is thus applied to the two acres, contain but five pounds of sulphur, chlorine, and potash together, whereas the cotton to be obtained from the two acres, would require five pounds of potash alone. It is obvious, therefore, that if the soil is wanting in these ingredients, the crop of cotton to be obtained by this manuring must fall far short of an average good one, and this becomes perceptibly so, when it is recollected that the whole amount of manure is not consumed in a season, but that its effects are continued for several years.*

It is but just to observe that the urine of the cow, yields by analysis a larger proportional quantity of these necessary ingredients in which the dung is deficient. But this advantage is hardly compensated when we reflect that in a thousand parts of this excrement all the saline ingredients together do not constitute a fiftieth portion.

Chemistry has revealed the composition of the excrements of the cow, a manure which we find decidedly inferior in value to that of the horse. We have not, however, the same accurate analysis of these last to enable us to compare them rigorously. We must use the light we have so far as it goes, and trust to logical deductions for some of the conclusions to which we shall arrive.

And in the first place, chemists differ very materially in the partial analysis which they have made of horse dung. Macaire and Marcet found 27 per cent of inorganic matter or salts, in that analyzed by them. Liebig admits that he has never found over 10 per cent, and Dr. Jackson, of Boston, somewhat under 8 per cent. These discrepancies stagger our faith in the partial results which have been produced. Suppose, however, the lowest to be the most accurate, and we have nearly four times the amount of inorganic matter in the excrements of a horse as in those of a cow. It is to be remarked, also, that the phosphate of magnesia exists in a notable quantity in the dung of a horse, and is also a conspicuous constituent of cotton. The partial report of Dr. Jackson, however, gives no potash nor sulphur whatever. This consideration alone induces us to consider the analysis incomplete, and compels us in the absence of a rigorous analysis, to resort to the indications afforded by a logical investigation.

The cattle whose excrements have been submitted to the test of analysis, are better treated in every respect than those from which we derive our manure. It is a common sense principle, and a rule in practical agriculture is based upon it in Europe, that the excrement of an animal shall bear a fair proportion to the food he eats. Thus in the neighborhood of Hildeshrine, in Germany, the farmers pay a higher price for the excrements of Protestants than for those of Catholics, as those of the latter are impoverished by the numerous fasts enjoined by the Church of Rome. The same must be true likewise of the lower animals. In Europe, where cattle constitute an important item in a farmer's wealth, they are fed with the most nutritious food which they are capable of digesting, and their excrements must partake of the nature of their food. The clover and turneps which the happy cattle of that country consume, are rich in the most valuable inorganic constituents, and hold in large quantities potash, magnesia, sulphur, and phosphorus, and yet, with all this advantage in point of food, their excrements are inferior in value to those of the horse. Far greater then must be the difference here, where the cow is left to her own ingenuity to draw her nourishment from the soil. The grasses abounding in phosphates are not found with us, and it is more than probable that the small quantity of earthy phosphates they do contain, are all required to aid in the formation and support of the bones of the animal, leaving a very minute portion to pass out in the excretions.

The horse on the contrary is as well fed here as in any part of Europe, perhaps (for we have not yet learned the economy of farming) he is better fed. We have therefore a right to expect to find in his excretions the constituents of maize, viz: potash, lime, phosphorus, magnesia, and sulphur, and the quantity of sulphur will be sensibly increased when he is fed on peas. Moreover, his urine yields nearly five per cent. of saline ingredients, while that of a cow falls short of two.

We can thus, by investigating the constitution of the food which the two animals eat, dispense in a great measure with any particular analysis of their excrements, and safely come to the following conclusion: That the inorganic constituents of the excrements of a horse, are more than double in quantity to those of the cow, and that while those of the latter consist chiefly of silicates, those of the former abound in the phosphates of lime and magnesia, two of the most important constituents of cotton.

We would suggest therefore the propriety of improving the value of our cow-pen composts, by the admixture of certain matters of known utility, and either cheap, if purchased with money, or easily accessible to every cotton planter.

And in the first place, we would recommend the addition of a bushel of gypsum for every acre which it is intended to cover with the compost.

The advantage of this mixture is a double one. In the first place, we add to the manure both lime and sulphuric acid, substances which perform important functions, not only in the growth of cotton, but of every crop we cultivate; and, in the second place, we prevent the evaporation of the ammoniacal gases which have always a tendency to escape during the progress of decomposition.

A strong prejudice prevails in many parts of South Carolina against the use of gypsum, and this prejudice is strengthened by the consideration that it was imported largely for the sake of its supposed fertilizing properties, and failed. But it should be remembered that, at that time, the use of any manure was a blind practice, equivalent to quackery; that from the use of gypsum, unaided by other agents, all virtues were expected; that it was used as a panacea for all agricultural evils, and that disappointment was the natural consequence of such unreasonable practices and hopes. And yet, with all the odium attached to its memory, we have heard of some singularly favorable results attending its use. Among others, we have heard that the late Thomas Palmer, Esq., from his plantation in St. Stephens, the average production of which was 60 lbs. of cotton per acre, obtained one year, with the aid of gypsum, an average of 120 lbs. If subsequent experiments resulted in failures, this may be accounted for in a variety of ways; the gypsum may (as lime will do) have exhausted the soil; this is no mystery in countries where lime is used; the seasons may have been unpropitious. And it may be true, that in the absence of any marked beneficial result, our planters may have been discouraged, and seized gladly any pretext for saving their money and avoiding a labor to which they were unaccustomed. Of all men in the world, agriculturists are the most unwilling to follow improvements in their profession, and the readiest to discover the inability of those suggested. Our planters long since knew that lime was used in their very neighborhood with favorable results, but it required the energy and fire of a Ruffin to make the adoption of its use general.

In addition to the gypsum, we would recommend that all the spare cotton seed should be cast upon the compost heap. It is needless to dwell, before this Society, upon the inestimable value of this manure. We would only suggest that the cow-pen would be materially improved, while the cotton seed would be permitted to be spread profitably, though in small quantities, over a much greater surface than they could be if applied in the usual way.

Lastly, we would perfect the compost by the addition of ashes. There is no manure, cotton seed perhaps excepted, which, applied singly to land, produces such striking results. The ashes of the oak, though most accessible to us, contain all the inorganic constituents of cotton, and are particularly rich in lime, potash, sulphuric acid, chlorine, and phosphoric acid, while they contain so much of all its other constituents as to preclude the idea of deficiency in any.

It may be objected to the addition of ashes to the compost heap, that the mixture will hasten the evolution of ammonia, and thus rob the manure of its nitrogen. If, however, gypsum be applied previously, or in combination with the ashes, this objection will in a great measure be removed, since the ammonia has an affinity with the sulphuric acid of the gypsum, with which it forms a solid body, the sulphate of ammonia. But even were this not the case, observation has taught that it is almost impossible to expel all the nitrogen; that which remains, will unite with the potash; in the great laboratory of nature, fresh supplies will be elicited from the atmosphere, and the result will be the nitrate of potash, or common saltpetre of commerce, an agricultural agent at least as valuable as any preparation of ammonia can be.

We close our report with the relation of a few facts, coming under our observation, corroboratory of the views we have offered.

On the 22d day of August last, the Committee on Manures visited Fair Spring, the plantation of Mr. Robert Mazyck, to witness the result of his experiments with green sand. This marl, of which this is the only locality hitherto discovered in the State, is found in a ravine, on the Eastern side of Begin Swamp. It is of a lively green color, so soft as to be easily turned

* Since the above was written, we have seen Dr Davis's statement, that the weight of cow dung, as evacuated, is just 87 pounds. Now, if 83 per cent. of this be water, the allowance of 50 lbs, as the weight of the dry dung, is indeed an excess of liberality. The true weight of the dry dung is just 22 lbs and the quantity necessary to equal 15,000 lbs., would be 652 bushels. Compare this with the statement in the text, and we will see how small a portion of these salts is conveyed to the soil through the medium of cow dung.

out with the spade, is full of fossils, indicating the presence of lime in its various modes of existence, and is said to be rich in potash. It is to be regretted that Mr. Mazick did not accurately observe the quantity applied to his land; and it is rather too early in the season for us to be furnished with the results of his experiment. At that late period of the summer, however, a practical eye can judge with tolerable accuracy what the result will be. It required but a glance to convince us, that the cotton manured with green sand was worth three-fold the best portion of his crop not so manured. We can give no better idea of its appearance than by comparing it to a pyramid of luxuriant vegetation, rising so abruptly from out of the rest of the cotton, as to be at a glance obvious to the most careless spectator; and the quantity and maturity of the fruit corresponded with the luxuriance of the plant.

Less striking in appearance on that same day was a field at Somerton, manured with twenty loads of cow-pen compost, and twenty bushels of ashes per acre. But even this small quantity of ashes caused such a difference in the growth and maturity of the cotton as to be easily distinguished from that which had none. A part of the result of the experiment at Somerton is known, and corroborates our opinion that ashes should be mingled with the compost. At the second picking of cotton, before the middle of September, four hundred pounds per acre of cotton in the seed were harvested from that portion which had ashes. It is but just, however, to observe, that in this case the ashes formed no portion of the compost; they were spread upon the list; the compost placed under.

One of the Committee has recently seen a crop of cotton in St. Andrew's Parish, which he thinks would be estimated at too low a rate at a thousand pounds of seed cotton per acre. This result was effected by using the fine particles of compost at the bottom of the manure heap. In this case the active particles of the compost heap were concentrated at the bottom; for they always have a tendency to descend, being carried down, partly in a state of solution, partly by the mechanical action of rains. The result of these three instances are with us conclusive, *that the action of manures is directly in proportion to the amount and quality of their inorganic constituents, and that to the collection of these, the planter should mainly direct his attention.*

Offering the accompanying Resolutions, as necessary to carry into operation the principles of this Report, we shall no longer trespass upon the patience of the Society.

In behalf of the Committee.

FRED. A. PORCHER.

RESOLUTIONS OF THE COMMITTEE ON MANURES.

1. That it be recommended to the Society to appropriate adequate funds to the accomplishment of a thorough analysis of all the products of our soils, of our soils themselves, and of our manures.

2 That we earnestly recommend to our sister Societies throughout the State, to contribute to a similar analysis of their soils and productions.

3. That the Representatives to the Legislature from these parishes, be respectfully requested to urge upon their respective houses the necessity and expediency of perfecting the Agricultural Survey of the State, so happily begun.

NOTE.—A few observations are yet necessary to perfect the report, which has grown under our hands, to an unexpected length. It will be observed, that we have taken no notice whatever of the amount of inorganic matter existing in the litter with which our compost is made. As this is an equal quantity in both sorts of compost, it cannot, as a general rule, materially affect the relative value of either. With respect to what has been said in the earlier part of the report respecting the theories of the chemists, we cheerfully acknowledge our unfitness to sit in judgment upon their merits. We do know, however, when they give us satisfactory replies to our queries, and we are painfully conscious when they fail to answer us: and the worst of it too is, that they undertake to speak a language intelligible to every farmer. Now in our humble judgment, when a farmer consults a book purely scientific, for information relative to his profession, he expects to find the language of science, and is generally prepared to meet it. Now, what can be more unsatisfactory than the following. We inquired into the composition of cow dung. Dr. Dana says, "I give you the result of my analysis of cow dung *in such terms as the farmer may comprehend;* water 83 60; hay 14; biliary matter (bile resin, fat and green resin of hay) 1.275; geine combined with potash, (vegetable extract,) 0.95; albumen, 0.175" If the farmer may comprehend this, may he not equally comprehend the results of a destructive analysis? Is it not likely that the farmer would better appreciate the value of silica, alumina, lime, magnesia, &c., than of this mysterious geine which is thus forced upon his attention? Particularly when he is told that all these are constituent portions of the crop he cultivates. Let the chemist use the language of his profession, and give the result of his labors, and the farmer will thank him.

From the Louisville Journal.

Close Planting of Corn—An Experiment.

GENTLEMEN:—I beg leave to offer to your consideration the result of an experiment made during the present year, to ascertain the advantages of planting corn more closely than has generally been practised; and the number of stalks which should be left in each hill at the different distances at which it is planted. The experiment was made on ground which had been cleared in 1810. In its natural state it was as rich as the best Kentucky lands, and its fertility had been preserved by a due proportion of grass crops, but it had had no manure. In the spring of the year 1841 the field was sowed with red clover, among growing wheat. In 1842 and 1843 the clover was pastured, and late in the fall the ground was well turned over, by a well constructed plow. Early in April of the present year, the ground was again plowed, harrowed, and laid off and planted on the 12th of that month. On one side of the field, intended for hemp, I caused four acres to be laid off, in an oblong square, as follows: First, the long way exactly three and a half feet; and then at right angles, four feet; one acre three and a half feet; one acre three feet; and one acre two and a half feet. In due time I thinned the three first acres to three stalks in a hill, and the fourth to two stalks in a hill. Supposing the hills each to have the number intended, the number of stalks on each acre would have been as follows:

1 acre 3½ by 4	feet	9.335 stalks
2 acres 3½ by 3½	feet	10,668 "
3 acres 2½ by 3	feet	12,447 "
4 acres 3½ by 1½	feet	9,956 "

The season up to the 2d of July was tolerably favorable, though there was too much rain for a first-rate crop of corn. For two weeks succeeding no rain fell. During this period the atmosphere was dry and windy. As the corn was generally getting into silk when this drought commenced, and as this is the period when corn requires much rain to make it *ear well*, it suffered very much. Although light rains again fell from the middle of July to the last of that month they came too late to be materially beneficial to early planted corn. The consequence was that scarcely a stalk produced more than one ear, and even that one of diminished size. I am fully persuaded that the dry weather, in the first half of July, diminished the crop at least fifty per cent. The crop was also somewhat diminished by great numbers of crows opening and picking off the grains at the small end of the ear, when in the milk state. The corn was gathered, and each acre separately measured, about the first of November, when perfectly dry, and the quantity produced was as follows: The first acre 68 bushels, second acre 69 bushels, third acre 69 bushels, and fourth acre 77½ bushels. The ground throughout lays equally well, and was of the same quality, but the first acre was rather the most injured by the crows.

It will be seen that the acre, planted three and a half by four feet, produced nearly as well (perhaps quite, making a due allowance for the injury received) as the two next acres. That the acre having 12,447 stalks produced only the same number of bushels as that having 10,668. And that the acre having two stalks in the hill, and 9,956 in the whole, produced eight and a half bushels more than either of the others.

From this experiment it would seem that, in ground of the *best quality*, where *three stalks* are intended to be left in a hill, the distance each way should not be less than three and a half feet: and that, where it is intended to plant more closely, not more than *two stalks* should be left in a hill. The acre planted three and a half by two and a half feet produced decidedly the best, but it was too close one way to be plowed conveniently. Thus planted there were eight and three-quarters square feet to each hill. If planted three feet each way there would be nine square feet to each hill. This, I am of opinion, would be the better way to plant, where it is intended to leave two stalks in a hill, as the distance each way would be more convenient for plowing, and the number of stalks per acre would be but slightly diminished.

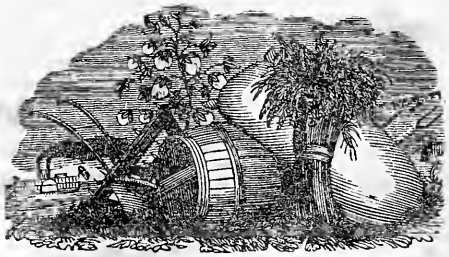
As our corn crops are affected by so many contingencies, a single experiment is not very conclusive in favor of any particular theory, I intend, if I am spared, to repeat my experiment next year on the same ground, except that I will lay off the ground the long way, three feet, and in the other direction four, three and a half, and three feet, thinning the two first to three stalks, and the third to two stalks in a hill.

On the day after planting the above experimental crop, I planted some twelve or fifteen acres of corn on ground which had been cleared and cultivated some twenty or twenty-five years before I came into possession of the plantation on which I now reside—1812. This land had been considerably reduced by a long succession of corn crops, but as it lay well I found no difficulty in renovating it by grassing and manuring. For the three or four years preceding the present it was cultivated in hemp. Early in April it was plowed and harrowed, which left it in a finely pulverised state. It was laid off by a small plow exactly three and a half feet each way, planted on the 13th of April, and in due time thinned out to three stalks in the hill. It was cultivated by plowing both ways with the common shovel plow and once hoed, so as to leave the hills perfectly clean. This corn was affected by the drought in July in the same manner as related in relation to the four acres described above.

I caused one acre to be pulled and measured when perfectly dry, through the central part of the field, where it had not been injured by the crows or squirrels, and the yield was seventy-seven bushels. In both cases I planted the same kind of corn, a medium between the white flint and gourd seed. This corn is not so productive as the larger kinds, but better for bread.

I have mentioned the product of the last mentioned acre, not because of its extraordinary character—for it falls greatly short of the great crops of Bryant and Young, of Jessamine county – but to show that land cleared nearly sixty years, and which had been reduced by twenty or twenty-five successive crops of corn, can be easily renovated so as to produce seventy-seven bushels per acre, in quite an unfavorable season. I will only add, that although I did not measure the balance of the field, I am satisfied, from the number of wagon loads, that the whole would average fully seventy-seven bushels per acre. Yours, truly,

Prospect Hill, Dec. 7, 1844. A. BEATTY.



The Southern Cultivator.

AUGUSTA, GA.

SATURDAY, MARCH 1, 1845.

To our Exchanges.—Those Agricultural Journals with which we exchange will confer a favor by addressing to us at Athens in future.

Manures.—We don't think those readers who like to look into the plain "why and because" of things can have a much richer treat, than is furnished them in the admirable report on Manures, by Dr. Porcher, of South Carolina.

Colman's European Agriculture.—We have read with a great deal of pleasure, and profit too, the second number of Mr. Colman's "European Agriculture and Rural Economy," and we wish it was in the hands of every man in the Southern States: for it furnishes very many happy illustrations of what care and skill will do in increasing the productions of the soil.

Far as we are behind the age in respect to our system of agriculture, the reader of Mr. Colman's work will find in it very many reasons to congratulate himself on account of the portion of the earth in which his lot has been cast; but especially on account of the institutions under which it is his good fortune to live. Not indeed that we should be satisfied with our situation as it now is, and make no effort to better it, but that, with all its defects, it is far better, comparatively speaking, than can possibly be enjoyed by the corresponding classes in Europe.

We were about preparing an abstract of this number of Mr. Colman's work, when a synopsis of it came to hand in the Albany Cultivator, which will be found in another column.

Pork and other Matters.—Our correspondent, "J.," whose article we commend to the reader's attention, states the fact that the people of Putnam County, last year, paid five thousand dollars for the article of pork; and he estimates that the value of three hundred and fifty bags of cotton was thereby consumed. We wish "J." had pushed his inquiries a little farther, and furnished our readers with an estimate of what was paid last year in Putnam County for carriages, horses and mules, cotton bagging, tubs, pails, buckets, brooms, axe-handles and axes, hoes, fine boots and shoes, negro shoes, saddles and bridles, all of foreign manufacture. Cannot he do this yet, and thus furnish an array of facts and figures, which, convincing every one of the folly of his past conduct, will compel him, for the future, to do otherwise than make cotton alone, and buy every thing that is consumed on his plantation except bread.

Our correspondent also makes the statement that there are thirty-five counties in Georgia, in which, last year, the like sum was spent for meat alone. Will "J." extend the calculation proposed to be made as to Putnam County, through all the thirty-five counties, and let the people see the result? He has the ability to make a decisive impression on the public mind as to these matters, if he can be prevailed upon to exercise it.

We subjoin a statement of the keeper of the toll-gate on French Broad river relating to the same subject; remarking, however, what will occur to almost every one, that but a small portion of the stock consumed by Georgia comes by the French Broad route.

TABLE, showing the number of horses and mules, hogs, black cattle and sheep, that passed over the Paint Mountain, in North Carolina, for the South Carolina and Georgia markets:

	Horses and Mules.	*Hogs.*	*Blk. Cattle.*	*Sheep.*
In 1840..	5,181	52,255	3,243	3,245
" 1841..	5,833	54,786	3,049	2,357
" 1842..	3,840	62,649	3,318	3,192
" 1843..	4,361	52,612	3,333	3,565
	19,215	222,302	12,943	12,359
In 1844 to Aug. 31,	2,090	4,702	2,656	2,101
	21,305	227,004	15,599	14,460

The Cash System.—The National Intelligencer, noticing the new agricultural publication, called the "Ohio Cultivator," speaks thus:

"New advocates of this great national pursuit appear to be rising up in all parts of the country. The last announced is that of the '*Ohio Cultivator*,' at Columbus, by M. B. Bateham, late editor of the Genesee Farmer. From what we hear of his experience, ability, and liberal aims, it is to be wished that his success may be commensurate with his deserts and his most sanguine hopes: though it is not quite clear how his own 'capital and labor' can find adequate return at the rate of $1 per annum for a semi-monthly 'in quarto form, (8 pages,) making a large volume, with a title-page and index!' All, however, that his best friends can ask for him is, that his paper (not his person) may grow with the growth and strengthen with the strength of the flourishing commonwealth he has chosen as the field for his industry and enterprise.

"Mr. B. will be entitled to a first-rate premium if, in the field he has entered, he can teach how to prevent the appearance of a weed which we understand is very troublesome and unprofitable to agricultural works, called the '*delinquent subscriber*,' and which is said to be very apt to make its appearance after the first year's cultivation of new ground."

From something like thirteen years' experience as a political editor, we can speak of that most troublesome and unprofitable weed called by the Intelligencer the "*delinquent subscriber*." It is, in truth, a most abominable pest, even in those concerns devoted to the cultivation of politics; and if it were permitted to spring up at all in those devoted to the cultivation of the soil, they could not exist.

This difficulty can only be avoided by doing as we do, and as nearly every agricultural paper in the Union does: that is, to require payment in advance, in every instance. Adopting this system, and acting on it strictly, enables us to put the subscription down to *One Dollar* per annum. Whereas, if we were to publish the paper on credit, and take the risk of delinquent subscribers, we could hardly afford to publish it at *Three Dollars*. So great is the difference between cash and credit, in the business of publishing papers dependent altogether on subscriptions for support.

To many persons, whose word is good, wherever they are known, for thousands, it may at first view seem hard that they are denied credit for the paltry sum of one dollar, the annual subscription to the Cultivator. But they have only to recollect, that having found it indis ensable to establish the rule of cash payments, as enabling us to put the paper at a very low rate, and thus bring it within the reach of every body, there can be no exceptions to the rule without giving serious offence.

Political Economy.—Be it distinctly known to all whom it may concern, that the Cultivator eschews party politics as it would avoid a pestilence. Nothing shall induce it to depart from this determination. Yet there is a science, having a very close connection with politics—not party politics though—as well as with the business concerns of all men, and more especially with planters, called political economy. It proposes to unfold the laws which govern the production, distribution and consumption of wealth. Discussions connected with this science come properly within the scope and aim of an agricultural paper; and from the pleasure and profit of such discussions we shall certainly not debar either ourselves or our readers, even though, by those who really know nothing of what they are talking about, it may be insinuated that we are meddling with party politics, when our only aim shall be to show in what respect the principles of political economy may be violated, and the interests of the agricultural class sacrificed by either state or national legislation. The number and the importance of the agricultural class, would seem to us to require this of any publication that is faithful to their interest. The last census shows that about eighty out of every hundred of the population of the United States, are interested directly in the soil, and derive their subsistence from its cultivation. They have to bear the chief part of the public burden, when the State wants money: they have to shoulder the musket when the country is to be defended. Their interest is the great interest of the nation, which being sacrificed, the nation must sink.

There is just about the same difference between political economy and party politics as there is between mid-day sunshine, and midnight darkness.

Plows.—At first view, it would seem that it is a very simple business to make a plow;—and indeed it is an easy matter to make such plows as are used in the slovenly agriculture of the South;—but in other parts of the United States, great attention has been bestowed on the improvement of this most important implement. And the consequence has been that now a great deal more work is done by the same force in the same time, and it is done a great deal better than formerly. In old times, in some parts of New England, to plow green sward, required a force of three yoke of oxen, with a horse to lead, with two drivers, one man at the plow handles, another at the beam to keep the plow

in the ground, and often a man to follow with a hoe to turn over the furrows, where the plow did its office imperfectly. With all this force, an acre per day was considered good work. Now, under the very same circumstances, an acre and a half is plowed per day, with a single yoke of oxen, and one man: and the work is done in a manner infinitely superior to the old mode. All this has resulted from the improvements that have been made in the plow. Some of the strongest minds in the country have been directed to the subject. Even so far back as the times of Timothy Pickering, who had been Secretary of State under Washington, this matter was engaging the attention of intelligent men. Mr. Pickering gave the following rule for the construction of the mold-board:

"Having fixed a straight line, by one cut of a saw from the upper corner of the mold-board behind, to its point forward, cut away the wood above and below that line in such a manner that when finished if you carry a straight rule from the fore to the hind part, keeping it all the way at right angles with the straight line, it shall touch the face of the mold board, in its whole breadth, in straight lines, through its entire winding, so that its upper corner behind shall overhang the lower sufficien ly to effect a complete turning of the furrow slice."

The Albany Cultivator, from which we get the information stated herein about ancient and modern plowing in New England, says that this rule of Mr. Pickering is still adhered to in all the modern improvements of the plow. How many plows are there in Georgia constructed according to this rule; or, indeed, according to any fixed rule?

Grape Vines.—The usual way of propagating grape vines among planters, is by cuttings, or layers. With professional gardeners, there are other modes, involving the refinements of science, and requiring an amount of care and attention which none but prof ssional gardeners can bestow on the business. In the common mode, with all the attention that can usually be given to the process, success is very far from being certain. Hence the small extent to which even good grapes are multiplied in the Southern States. When a single vine shall have been once established, there is a mode by which it can be multiplied to any moderate extent, by layers, without much trouble. We are indebted to Mr. Affleck, of Ingleside, Miss., for an account of it. In a letter to the editor, of 28th January, he says:—

"Let me give you the benefit of a hint I got in *propagating* the grape, from the last gardener I had. After selecting your vines (shoots) for layering, open trenches, say two inches deep, (after properly preparing the ground, of course,) in convenient positions for layering, and in these trenches peg down the vines, before the buds begin to swell, or about that time, without cutting into or twisting the vines, and leave them so, *without any covering of earth*, until they make shoots a foot long. Then cover up carefully by hand, and lay a little litter over to keep moist. *Each eye* will then make you such plants as I send you. I had some even much stronger, but they are planted out. By the old plan of covering up at once, I did not get any such plants, nor near so many."

The road ambition travels is too narrow for friendship; too crooked for love; too rugged for honesty; and too dark for science.

Lard Lamps.—Bacon's Lard Lamps, an advertisement of which will be found on the last page of the Cultivator, are exactly as they are described to be. We have tried them, and therefore speak from personal observation. We have weighed the lard and measured the time, and find the rate of consumption to be one ounce for two hours; that is, supposing the lard to cost 8 cents per lb., the cost is one-fourth of a cent per hour. That is a degree of economy altogether suitable to the times. The light is a very pleasant one, without either smoke or disagreeable smell so often occasioned by burning oil. In addition to all this, the lamp is a very neat article, and very cheap; and is withal so simple in construction, as to occasion no difficulty in its management.

Improvement in Virginia.—In our January number, we said that the emigrants from New York were rapidly improving the poorest lands in some of the poorest counties in Virginia. There has been, very naturally, a good deal of curiosity excited to know how this result is being brought about, the opinion being, that from similarity of soil and climate in Virginia and Georgia, the process that succeeds there will answer here also. Happily for all whose attention is turned to this subject, we have, in the Southern Planter, a brief outline of the practice of the New York emigrants in Virginia. Mr. Botts, the editor, says:—

"They came poor to poor land, and they are getting rich and getting their lands rich too, with no other means than their starving predecessors enjoyed. He says that they are not more intelligent generally, probably not as much so, as the natives around them. Nor are they more scientific cultivators of the soil; but the great secret is, they save every thing and they make every thing work; they buy as little as possible: the money they do spend, is either for the absolute necessaries of life that can't be made at home, or for manure, good implements, and other things calculated to increase their products. In this latter class of articles, he says, they are the most liberal purchasers for their means he ever saw. But they save and husband every thing upon the farm that will make manure, as if it were gold. A close log pen is made, the bottom of which is puddled, and this is the universal depository for the sweepings of the house, the emptyings of the wash tubs, the offal of their victuals, and every thing else that a Virginian throws away. There are no drones in the hive; men and boys, old women, young girls and little children, all work incessantly. After a child is six years old, he is a help rather than an incumbrance, in a pecuniary point of view. Thus they grow rich, where their neighbors would grow poorer every day; and such are the happy effects of well regulated labor, that their pecuniary prosperity is only equalled by the comfort, cleanliness, and happiness of their homes."

Hotchkiss' Water Wheels.—We would call the attention of mill owners to the advertisement of Mr. Hotchkiss' Premium Vertical Water Wheels, to be found on our last page. The certificates annexed, from practical men who have witnessed their operation, sufficiently attest the value of the invention.

Relief of Asthma.—Get some blotting paper and soak it well in a strong solution of saltpetre. Take it out and dry it. On going to bed light it, and lay it on a plate in your bed-room. This may enable persons badly afflicted to sleep well.

ORIGINAL COMMUNICATIONS.

For the Southern Cultivator.

Flowers.—Charcoal as a Manure.

Mr. Editor:—I am no farmer, an I therefore, perhaps, am not entitled to a place in your columns. But I shall address myself to your fair readers, and with this dedication, I know your gallantry will not allow you to expel me from them.

I design to speak of flowers, and their cultivation in part. Last spring, I noticed several articles on the use of charcoal as a manure. I was induced to try some experiments with it, on different flowers, and the effects were favorable beyond conception. I give you a statement of my experiments, for the benefit of the ladies, who, "the fairest of all flowers," delight in the cultivation of a splendid flower.

My first experiment was on the Chinese *hybiscus*. It was small, had been much affected by the frost, had turned yellow, and had all the appearances of a rapid decay. I mixed equal parts of charcoal and earth, and applied to the roots. In two weeks, it began to change color and to grow. In two months, it had grown more than two fee . I then added well rotted cow manure, and on to Christmas it continued to grow and bloom most splendidly.

The next experiment, was one upon orange and lemon trees. The surface soil was removed to the roots, and charcoal also applied. The effect was equally as great. So, likewise, was the effect produced upon the India-rubber tree

Another experiment was upon the geranium. It gave health and vigor to the plant, and produced an abundant crop of blooms, enlarged in size, and increased in richness of color. I discovered, however, that the plants were more easily hurt, by the warm weather, than formerly. So, taking the hint, I removed the charcoal, and applied earth in its place. In one instance, I *covered* the charcoal with earth. The effect which followed in both cases, was all that I desired. The quantity of charcoal applied, was equal in parts with earth.

Another experiment, was upon the *Cactus*. I applied about one-fourth charcoal, mixed with surface soil. The effect was to produce rapid growth, strong and large flowers, as well as to protect, to a great extent, the plants from decay or rot.

A *Cactus speciocissimus* had been potted two years, had rooted well, but never grown a particle. I planted it in charcoal, half earth. In ten days the bud began to swell; and in thirty, the shoot was more than two inches long. It grew finely the whole year. I applied one-fourth charcoal to the *Cactus truncatus* with great effect, enlarging the wood very much, hastening the bloom ten days before the time, in the previous year, enlarging the number and increasing their brilliancy.

The same application was made to the *C. septangularis*, which increased its growth very much; but the age of the plant prevented its blooming, and therefore I cannot speak of the effect which it would have produced.

The C. truncatus and C. speciosus both were manured with charcoal, and increased growth, number, size and quality of flowers, was the result.

For the Cactus, charcoal is decidedly the best stimulant I have ever tried. One thing, however, should always be borne in mind in its application: it is very porous, and consequently admits the air freely to the roots of the plant, drying, and consequently destroying them. Whether it be applied in large or small quantities, it should be covered with an inch or two of earth, or else daily waterings given.

Upon the Camelia-Japonica, I likewise made experiments. Not more than one-fifth charcoal was mixed with the earth, which was poured around the ball of earth and roots, when transferred to a larger pot. No perceptible effect was produced upon the plant during the summer. The roots, I found upon upsetting in

the fall, had grown very much, and this winter I begin to realize the benefit in the bloom. The flowers are double in number, and the size very much increased, far beyond anything I have ever seen before. I have now a *C. fimbriata* in bloom, three inches and a half in diameter, and the stalk not eighteen inches high. An Imbricata is likewise blooming, very much enlarged.

I experimented upon the *Euphorbia Poinsettia*, which had been killed to the earth by frost. The result was a growth of thirteen feet in one year, with leaf and flower much improved in size and beauty.

I believe the best mixture which can be made with charcoal, is that of well rotted cow manure. This will answer for the greater portion of plants; but the florist will discover very soon that it will not answer to add a large portion of the coal. The plants will thereby suffer a great deal, and render frequent and heavy waterings necessary.

In every instance, I have found that charcoal added richness to the foliage; and in the case of the Hybiscus, the color of the flower was changed to a very deep, from a light red. I placed some *hyacinths* in jars in this mixture, which resulted in nothing favorable. I am now trying the effect of *guano*, in solution, upon my flowers; and from twenty day's experience, I believe it will answer very well in many instances.

I have found much difficulty in managing the finer and more delicate varieties of the Geranium to obtain fine foliage and rich, large blooms. At last, however, I have succeeded to my satisfaction. Take unrotted cow manure, beat very fine; remove the earth down to the small roots; apply two inches of this manure; press it down well and water frequently. This plan I know will produce a fine plant, and still finer blooms. If any of your fair readers can furnish me with a better mode, I shall be thankful. The plan of cultivating the Geranium at the North, and in green-houses, by skilful gardeners, cannot be practised upon in our parlors—the green-houses of Southern ladies. I lost sixty plants of the rare and delicate kinds in one year, by attempting to ape the course of others in this matter.

But, Mr. Editor, I must stop. I have run out my paper without observing it. Should you think the foregoing worthy a perusal, place it in the ladies' corner. M.

For the Southern Cultivator.

Analysis of Soils and Crops.

Mr. Editor:—For some twenty long years I have been vexing and treating mother earth most cruelly to make the "pot boil." The want of science, the want of attention and attendance, a preference for political rather than agricultural reading; and last, though not least, that mistaken idea, too commonly entertained by native Georgians, that labor is not reputable—all combined, have rendered me unworthy the name of Farmer. But, if I have done wrong for a long time, it is no reason that I know of why I should always do so. I now want to understand the *why* and the *wherefore* of my business. If I can find out where it is, and what it is, I wish to begin at the beginning, to learn, if I can, the farmer's alphabet. If you would publish in the Southern Cultivator, the analysis of corn, of wheat, of rye, of oats, and of cotton, also the analysis of a perfect soil, it seems to me something would be known about the means necessary to improve land, and to make a good crop. Corn is indispensable to the welfare of my family. If I knew how to supply the deficiencies of my soil, and to feed my corn with the food best adapted to its use, with the blessings of heaven, I think a large crop would be as certain as two and three make five. This principle will apply to all crops. A plenty of pork, beef, mutton, milk and butter, are very desirable. Nor is plenty of geese, turkies, ducks, chickens and eggs, at all objectional. Some fine ladies and gentlemen, the one with a novel in her hand, the other with a cigar in his mouth, may laugh at these things, yet a backwoodsman knows they are useful and likes to have them. I want to know the breed of hogs that will give the most good meat for the food consumed: how to feed and what to feed with, to produce flesh, and to make fat. (But spare, oh spare the Berkshires; they have brought me to buying pork.) I want to know what kind of cattle will suit best for the dairy, the yoke and the shambles, and how to feed them. (Again I say, spare the Durhams. Mine have died.) I want to know also the kind of sheep best adapted to the soil and climate of Georgia: how to feed and what to feed with, to produce flesh and fat and wool. Any information on the subject of poultry will be thankfully received.

My ignorance about my own business, and the only business too by which I live, is so great, and consequently my wants are so many, I am fearful you will become tired before they are supplied. But if I could get the information asked, I think I should begin to find out something of the whereabouts of it.

Of you, the Georgia Journal thundered tremendously to make Governors. 'Tis hoped the Southern Cultivator will now lighten with effulgence to make Farmers.

Respectfully, your obd't. serv't.,
Clodhopper, of Houston County.
Houston Co., Feb. 8, 1845.

For the Southern Cultivator.

Advice to Planters.

Mr. Editor:—The universal question which is asked is, what can we do to better our condition? It strikes me that there is a very ready answer to it, and one which is as efficient, if practised, as prompt: *Live at home and diversify your pursuits.* In these hard, pinching times—money scarce and cotton almost worthless—the farmers of Putnam county paid to Tennessee and Kentucky, by drovers, *five thousand dollars for pork* this season! Can you wonder that times are hard with farmers, when they buy what they eat, instead of raising it? It required the proceeds of three hundred and fifty bales of cotton to purchase this meat. There are, in Georgia, thirty-five counties, which, on an average, have sent a like amount of money from the State, and for the same purpose. Suppose, instead of buying this meat, the farmers had diminished their cotton crop so much, and raised their own pork, they would not only have had *better* meat, but the cotton crop would have been diminished in these counties more than three thousand bags. The same policy pursued throughout the cotton growing States would tend very much to reduce the production within the demand, and a better price would follow for that made. But, to raise our pork, we must be economists in our provisions; and how we can increase the *amount* without a corresponding increase of labor, is the great mystery. Manure your corn land well, and a less quantity will yield a greater amount of grain. The time saved in cultivating the less quantity of land will afford opportunity to collect and make and apply the manure.

But there are substitutes which may be used instead of corn. The Jerusalem artichoke yields abundantly. The culture is simple, and hogs are exceedingly fond of them.

Last year, for the first time, they were introduced into middle Georgia, and proved themselves great multipliers. Mr. Joseph Wilks, of this county, dug four hills a few days since, and gathered *five* pecks of roots: one hill yielding just half a bushel.

Now, Mr. Editor, if you will give a history of this root, its nutritive qualities, and its value for stock, you will confer a very great favor on your readers. For, if worthy of cultivation, many will go largely into it this year and thereby many a pound of good Georgia pork, may supply the place of the range-fatted hogs of Tennessee. J.

Putnam County, Ga.

Pride costs us more than hunger, thirst, and cold.

Agricultural Meeting in Milledgeville.

The call for an Agricultural Convention at Milledgeville, on the 27th. January, was responded to by so few persons, that those present declined doing anything more than the adoption of the following Resolutions, to which we invite the attention of the public.

Milledgeville, 27th Jan., 1845.

A few citizens having convened in Mrs. Huson's long room, in pursuance of a call in the public papers, among whom were Messrs. Richard Rowell, Leroy Singleton, James Dixon, Benj. Lester, Mark Huson, Allen Little, W. Y. Hansell, John S. Thomas, Wm. Turner and others; Major Rowell was called to the Chair, and Wm. Turner acted as Secretary.

After some remarks from several gentlemen, Wm. Turner offered several resolutions: which, being considered and amended, were adopted, as follows:

1. *Resolved*, That an Agricultural Convention be held in Milledgeville on the fifth Monday in March next, to consist of delegates to be appointed on the part of the different counties, and such other persons as may be invited to partake in the proceedings.

2. *Resolved*, That the different counties be requested to appoint delegates accordingly.

3. *Resolved*, That a committee of three, including the Chairman, be appointed to draft and publish an address, in order to promote the purpose of this meeting.

4. *Resolved*, That among other proceedings, the committee recommend the formation of agricultural associations, in the different counties, and agricultural meetings or associations in the different judicial circuits.

The committee appointed under the third resolution, consists of Messrs. Rowell, Singleton and Turner.

On motion of Mr. Lester,

Resolved, That the proceedings of this meeting be published in the Milledgeville papers, and such other papers as may take an interest in them—particularly the Southern Cultivator.

Richard Rowell, Chairman.
Wm. Turner, Acting Sec'ry.

TO THE PEOPLE OF GEORGIA.

Fellow-Citizens:—On the 27th ult., a small number of persons assembled in Milledgeville, for the purpose of consulting on the great interests of agriculture. After due deliberation, several resolutions were adopted by the meeting.*

The undersigned are the committee appointed under the third resolution. They regret that they have not been delegated by a larger assemblage of citizens, and especially that they are unable to present the great interests of agriculture in so commanding a light as they desire. They trust, however, that the day of small things, will not be despised, and they proceed to the discharge of the duty assigned them

As inducements to our fellow-citizens to concur in the movement which has been attempted, they advert to the depressed state of agriculture, the imperfect state of household economy, the praiseworthy example of several agricultural associations, especially that of Hancock, which has exerted so beneficial an influence, and the stirring appeals recently made to our interests and our patriotism, in several of our public journals.

Let not the failure to get up a Convention on the 27th ult., arrest our efforts; more determined endeavors may yet succeed. It is only necessary to bring together the increasing friends of our enterprise. And we cannot but hope, with the intelligent editor of the Southern Cultivator, "that in a very few years, almost every county in the State will have its Club, and that all of them will be but branches of a great State Agricultural Society."

Let, then, our fellow citizens forthwith, get

* We omit the resolutions here, as they will be found in the proceedings of the meeting above.—Ed. Cult.

up county meetings and associations; which, like the Hancock Club, may do much good, if they go no further. But let them extend the good by meetings and associations in the judicial circuits, if they desire them; though the Committee are a little apprehensive that these latter may interfere with the purpose of *a State Society or Convention;* which they desire by all means to see got up.

It is scarcely necessary to say, that agricultural associations will be merely consultative and advisory: there will of course be nothing compulsory in any thing they may do. This is said in view of the purpose entertained in the attempt to get up a Convention on the 27th. It was thought desirable by some, in view of the low prices of cotton, to induce our farmers to reduce the quantity, in order to improve the price. That this reduction would have this tendency there can be no doubt. The reciprocal influence of demand, price and supply is obvious. An increased demand is followed by increased prices; increased prices by increased supply; increased supply by diminished prices; diminished prices by diminished supplies; diminished supplies by increased demand, increased prices, and so on. A reduction in the quantity of cotton, then, would be followed by an augmentation of price; more especially as this reduction would enable farmers to prepare their cotton more carefully for market.

But, even if the price of cotton should not be improved, the withdrawal of a part of our labor from the production, would enable us to employ it more profitably in other operations. It is disreputable as well as ruinous to purchase from others so many articles which might be produced by ourselves. It is absurd to raise cotton at present or probable prices, to purchase horses, mules, cattle, hogs, sheep, ordinary clothing, or other articles, which might, and ought to be produced at home. The countless thousands which are expended in this way ought to be retained among us. And we are gratified to find that such is the present tendency. To continue, and increase this tendency is the desire of the Committee.

It does not come within the present purpose of the Committee, nor are they prepared, to give the statistics which would sustain their views. They confidently rely upon the recollections of their fellow-citizens, aided by the developements which are constantly manifesting themselves, to make the proper impressions.

Among the objects to which a part of our efforts might be profitably directed are wool, silk, indigo, tobacco, butter, perhaps apples in some situations, &c.

Even if these would not be very profitable objects, the labor withdrawn from overstrained efforts to produce cotton, would enable us to build or repair fences, build or repair houses, collect manure, ditch our hill-sides, drain our low grounds, and constantly add to the value of our lands and negroes, the intellectual and moral improvement of ourselves and families, and the prosperity and comfort of the community.

Come up, then, fellow-citizens, to the rescue. Though miserably lacerated, good old Georgia contains within her bosom all the elements of a great republic, and a happy people. All the inventions of interest and patriotism call on you to say that her sun shall not decline in the gloom which threatens her!

Your fellow-citizens,

RICHARD ROWELL.
LEROY SINGLETON.
Feb. 1, 1845. WM. TURNER.

Farmers' Meeting in Harris County.

Pursuant to former notice, a respectable portion of the farming community met this day in the Court House in the town of Hamilton, to deliberate upon their interest as a cotton-growing people, and to give expression to their views as to what might best promote that interest. The meeting was organized by calling Col. Wm. C. Osborn to the Chair, and Geo. A. B Dozier to act as Secretary.

After a few chaste, cogent and well directed remarks, explanatory of the meeting, by M. J. Crawford, Esq., a motion was submitted by the same, that the Chair appoint a committee of seven to draw up and report appropriate Preamble and Resolutions. Whereupon, Messrs. B Henry, B. Ligion, J. Brooks, Hatcher, Zachry, Trammell and Crawford, were appointed said Committee, who, having retired, returned and reported, through M. J. Crawford, Esq., the following

PREAMBLE AND RESOLUTIONS.

When real distress pervades a community, it is proper that individuals should assemble together and consider the causes producing such effects, and endeavor to remove them if it be in their power to do so. We are satisfied that for almost every evil, there is some corresponding remedy that may be used to effect its relief. The people of the Southern States have engaged all their labor in the production of cotton, with the exception of barely a sufficient supply of breadstuffs whereon to subsist. This has been the means of bringing into the country by far the greatest proportion of money that is or has been in circulation, whereby persons are enabled to meet their engagements; but the present price of this great staple and the prospect of its not advancing, demands from every one a serious consideration as to what course they should pursue. There is not a cotton planter but that could give the reason for the decline in this article; yet they are all satisfied that individual exertion and direction to their own labor, could effect no beneficial result; and hence no effort is made to accomplish that desirable object. Every one must understand that the allusion is to the overwhelming quantity which is produced, and so very far surpasses the demand—the man who cannot see the truth of this, must certainly be destitute of both reason and common sense. The remedy suggests itself to all, at a glance; yet, as has been before said, individuals can effect nothing, and it depends entirely upon the co-operation of the mass of cotton growers, whether or not they will pursue the suicidal course heretofore adopted. Another suggestion as to its use and consumption at home; the immense quantity of money paid out for bagging and rope, with which we bale our cotton, might be retained within the limits of our own State, by using the bagging and rope made from the cotton—and it is generally admitted to be equally as good as any other. The quantity of cotton thus manufactured would lessen the quantity for exportation astonishingly, and consequently advance the price in proportion to the diminution. Many individuals, no doubt, may apprehend that cotton thus put up for market would not command so good a price; but in this they are mistaken, for those persons engaged in selling the various other kinds of bagging and Rope would no doubt diminish the quantity usually ordered, were it unsaleable. Upon these subjects much more might be said; but experience is the best teacher, in which we have taken some lessons.

Wherefore, be it Resolved, That the planters of Harris county, here assembled, do agree to diminish the quantity of cotton by each of them raised, at least so far as to produce all other articles necessary for home consumption, and to supply those of our own County not engaged in agricultural pursuits, thereby preventing the annual transportation of large quantities of money to other States.

Be it further Resolved, That we will use, in the preparation of our cotton for market, the bagging, rope and twine made of cotton; provided we can purchase upon as good conditions as we could the various other kinds used.

Be it further Resolved, That we recommend to the other Counties to adopt some measures relative to these subjects.

These being submitted and adopted without dissension, on motion it was requested that they be published. WM. C. OSBORN, Ch'n.

GEO. A. B. DOZIER, Secretary.
Harris Co., Ga., Jan. 7, 1845.

P. S.—There seems to be prejudices existing in reference to these meetings, arising from mistaken notions as to their object. A goodly number did not attend in Hamilton from other causes, thinking the object was to form a binding agreement upon them to curtail their crops of cotton to a certain standard, when, in truth, it was but a suggestion of wisdom and economy to that false obtainment that looks to cotton as the King purchaser of all things. G. A. B. D.

To Census Takers.

The following letter to the editors of the Southern Recorder, from R. S. HARDWICK, Esq., who has been appointed to take the Census of Hancock county, is well worthy the consideration of those officers in the other counties of the State, and we commend it to their attention, with the sincere hope that they will all adopt his suggestions:

To Messrs. Grieve & Orme:

GENTLEMEN:—I have been appointed by the Inferior Court of Hancock county to take the census, and in making out my book after the form given in your paper, I find it will not give me a great deal more trouble to add a few more columns that will give us some important information on the agriculture of our State, *provided* it could be taken in all the counties. Whether others do it or not, I intend to do it in Hancock, that our people may know how much money they are sending abroad for articles they might make at home. I am of opinion, if the papers in the State were to show the importance of such information, that the persons appointed in the various counties would cheerfully do it; and I know of no persons better qualified than yourselves to bring this subject before them, and urge your brother editors to do likewise.

The columns that I have added to my book are as follows: 1st.—Number bushels Corn raised in 1844; 2d.—Number bushels Wheat, do.; 3d.—Number bushels Oats, do.; 4th.—Number lbs. ginned Cotton, do.; 5th.—Number lbs. Pork, do.; 6th. Number lbs. Pork bought, not raised in Georgia, do.; 7th.—Number lbs. Flour bought in 1844, not raised in Georgia; 8th.—Number Horses and Mules bought, not raised in Georgia, from 1st April, 1844, to 1st April, 1845; 9th.—Amount paid for Horses, Mules, Pork, and Flour, not raised in Georgia, between 1st April, 1844, and 1st April, 1845.

In those counties where they grow Rice and Tobacco, they might be added and Oats left out. I am clearly of opinion, if the true amounts could be ascertained, that our people pay out for articles that they might raise, that it would astonish us, and readily discover to us one of the causes of our pecuniary distress; and perhaps be the means of diverting us from our long established and ruinous practice of making cotton to purchase that which we could more easily raise than cotton. It may be that I have more laid out in my book, than many of those appointed would like to be at the trouble of preparing for and taking; but I consider them all useful, and am induced to do it for the benefit of agriculture in my own county. I hope, gentlemen, you will agree on the importance of the subject, and bring it before those persons appointed. Respectfully,

Sparta, Feb. 10, 1845. R. S. HARDWICK.

LAW FOR THE PROTECTION OF FRUIT.—Another subject demanding the immediate attention of our Legislature, and necessary to be urged by petitions, is, the passage of a law making the robbing of gardens and fruit yards a penal offence—or in other words calling it legally what it is in reality, *stealing*. As the law stands, we are told that this is not a *crime*, but an offence or trespass, for which we may bring suit and recover the amount of actual damage—which in effect is found to be not worth the trouble of prosecution; and hence, the law *encourages* this species of plunder, and serves to prevent many from cultivating choice fruit, who would otherwise do so.—*Ohio Cultivator.*

From the Albany Cultivator.

Mr. Colman's European Agriculture.

The second part of this work has made its appearance. The great difficulty of procuring the information sought, in an exact and authentic form, amidst the embarrassments and inconveniences which surround a stranger, are mentioned as reasons why this portion of the work has been so long delayed. Mr. Colman says he cannot promise his third and fourth numbers at any particular time, but assures us that no unreasonable delay shall be permitted. He has yet to visit Ireland, some of the counties of Scotland, the dairy portions of England, and the flax and hop districts. In the spring he intends to visit the continent, and hopes to be able to return to this country in autumn.

The first division of the number before us, is devoted to a continuation of remarks on the *Allotment system*. Under this head, many useful facts are given, showing the large amount of sustenance which the soil, under proper management, is capable of yielding—though, as Mr. C. says, it is probable that the "utmost productive capacity of an acre of land by any crop has not yet been fully determined."

An instance is mentioned where a man has supported himself, wife and son, from two acres of land, for which he paid a rent of $15 60; and in the course of seven years saved enough from the produce of his two acres to purchase two acres at $141 to $192 per acre. In another case, six acres, under spade cultivation, is stated to have given an average of fifty-two bushels of wheat per acre. Another witness brought before the Parliamentary committee, testified that on the estate of Lord Howard, Barbot Hall, Yorkshire, twenty-eight bushels of wheat had been obtained from a quarter of an acre; being at the rate of 112 bushels per acre. Mr. Colman thinks, however, that the accuracy of this statement may be considered doubtful.

At Horsham, in Sussex, some seed wheat, brought from Australia, was sown in rows 9 inches apart, and hills 6 inches apart, only one seed in a place. At this rate it took 9¼ lbs. seed per acre—at 63 lbs. per bushel, one bushel of seed would plant more than six acres. The yield of this wheat was at the rate of 71 bushels per acre. Some of the straw was six feet high.

A laborer, John Harris, in Sussex, produced the following crops from his allotment. "One acre and 12 rods, wheat, 53 bushels; half an acre of oats, 61 bushels; 30 rods of barley, 13½ bushels; 20 rods of peas, 4½ bushels; one acre of potatoes, 404 bushels; half an acre of turnips, 150 bushels; 16 rods of carrots, 3⅛ tons; 15 rods of mangel-wurtzel, 3 tons. The rest of his land was occupied as green food for his cows, such as cabbages, rye, clover, tares, &c. He kept two cows. He had from eight to twelve pigs all winter, and they consumed all his potatoes, and his turnips, mangel-wurtzel, and carrots, were given to his cows. He fattened 20 stone, or 960 lbs. pork, which he sold to the butcher. He sold 6 shoats at 3 months old, for store, and one pig for roasting; he also sold 2 sows in pig for $12.25."

An instance is mentioned where a man in Sussex, John Piper, who occupied four acres, and kept two cows, worked one of the cows in a cart, by which he makes an annual saving of $24. Notwithstanding the cow is worked, "she makes *eight pounds* of butter a week, besides furnishing some milk for the family."

Great pains are taken in all cases to save the manure. Nothing is wasted. The animals are stall-fed, and only turned into a yard a few hours a day for exercise. Brick or stone tanks, well cemented, are sunk near the cow-stables and pig-sties, for the reception of all the liquid manure. "The contents of these tanks, on becoming full, are pumped into a small cart with a sprinkling-box attached to it, like that used for watering streets in cities, and distributed over the crops, always with the greatest advantage, and with effects immediately perceptible." All which Mr. Colman saw, convinced him that there is no necessity for impoverishing the soil, but that under the right management, it will keep itself in condition, and be ever improving. The allotment system, though so evidently beneficial to the poorer classes, is strongly opposed by the farmers in general. In relation to the causes of this opposition, it is alleged that the farmers are not willing to lessen the dependance of the laborers on them for support—that the great crops obtained under such nice cultivation, contrasted with those of the farmer, tend to throw the latter into the shade, or by proving what the land is capable of producing, may induce the landlords to raise their rents. Besides, it is said the farmers are unwilling to see the laborers appear in the markets in competition with themselves. Mr. Colman observes that whether these reasons actually exist or not, the "motives named, alas! are but too consistent with the weakness, and too often unrestrained selfishness, of human nature. Every man certainly has a fair right 'to live,' and the duty of every just man is to 'let live.' Blessed be the day, if come it ever should, when every man will learn that his own true prosperity is essentially concerned in the prosperity of his neighbor, and that no gratification on earth, to a good mind, is more delicious than that which is reflected from the happiness of another, to which he has been himself instrumental."

Some of the allotments are managed by men who act in the capacity of school-teachers, and the scholars, who are boys from eight to fourteen years of age, perform the labor of cultivating the crops—working on the farm a given number of hours each day in return for their instruction. The system works well, both for the boys, and the condition and product of the grounds. Yet Mr. Colman feels constrained to add his "strong conviction that the education of the laboring classes is not viewed with favor by those who move in a higher condition of life." "Every approach, therefore," he continues, "in this direction, is likely to be resisted; and this feeling of superiority pervades, with an almost equal intensity, every class in society, above the lowest, from the master of the household to the most menial beneath whom there is any lower depth. Education is the great leveller of all artificial distinctions, and may therefore be well looked upon with jealousy."

Quantity of Seed per Acre.—Under this head we find also many useful facts and experiments. The English farmers generally practice very thick sowing, and it is the opinion of some very judicious cultivators, that a very large portion of the seed may be saved, and quite as large, if not larger, crops be obtained, as there are now. Some experiments strongly support this opinion. The practice in England is to sow from 2½ to 3 bushels of wheat per acre. One man has reduced his quantity to only *three pecks* per acre. He, however, drill and hand-hoes every thing, clover seed excepted. He sows one and a half bushels of rye, two bushels of oats, seven pecks of barley, and two bushels of peas per acre. In cultivating cabbages, he allows one to three square feet. He has produced 40 bushels of wheat, 104 bushels of oats, and 40 bushels of barley, to the acre. There is no doubt that by substituting the drill, for the broadcast mode of sowing, a large portion of seed might be saved.

Steeping Seeds.—Considerable has been said, during the past year, of a mode of steeping seeds, introduced by Mr. Campbell, of Scotland. Mr. Colman introduces one or two letters from Mr. Campbell in reference to this subject. The steeps he employs, are sulphate, nitrate, and muriate of ammonia, nitrates of soda and potass, and combinations of these. One experiment given, is in substance, the following: Some earth was dug up 6 feet below the surface, which was totally destitute of organic matter. It was sown with seeds which had been soaked in these solutions, and produced plants with seven or eight stems each, while plants from the unprepared seeds produced no more than three stems each. They had not reached maturity when this statement was given, and of course, the relative yield of grain could not be told.

Spade Husbandry.—This mode of cultivation seems to be extending itself in Great Britain, and under the cheapness of hand labor which there prevails, is found fully remunerating. The principle is the same as that of subsoil plowing. The best tool for the work, is a three pronged fork, 14 inches deep, and 7½ inches wide. This works easier than a spade, and pulverizes the ground better. Though, as Mr. Colman observes, spade husbandry cannot be generally introduced into the United States with advantage, yet he says there are some cases in which it might be found profitable, such as on farms where the poor are kept. In England, no farm is ever connected with a pauper establishment, and some caution is there used, lest those establishments be found too comfortable and attractive. Mr. Colman cites the example of a man in New England, who from only seven acres of land, sells annually $2,500 worth of produce.

Condition of Laborers.—Mr. Colman says, "it is with England a question of tremendous importance, what is to become of the vast accumulations of the people, which are continually increasing here at the rate of from seven hundred to a thousand per day. * * * The subject, it appears to me, and perhaps wholly from my being unaccustomed to a condition of things in any degree resembling it, is daily assuming a fearful aspect; I do not mean danger to the government, for the government seems never to have been stronger, but fearful in its bearings upon the public peace, the public morals, the security of property, and the state of crime." Mr. C. does not pretend to offer a remedy for this state of things, but seems to think the allotment system the best which has yet been devised, as it is, at all events, capable of improving, to some extent, the laborer's condition.

Progress of Agriculture.—Under this head, Mr. Colman gives an interesting description of the great improvements which have been made and are still going forward in England, by means of draining, irrigation, &c. Of the *live stock*, he speaks in the highest terms, but does not go minutely into this subject, intending to take it up by itself hereafter. He speaks not of the cattle as seen at the cattle shows, but as they are seen every Monday in the Smithfield market, and at the other smaller markets and fairs in various parts of the kingdom. He says—"here are cattle and sheep of several distinct breeds, and all of remarkable excellence of their kind; I do not say perfect, for that, in almost all cases, would be assuming too much, but leaving very little to be desired beyond what has been attained. Their condition and form, their symmetry, their fatness, are admirable; and each breed is seen retaining its distinct properties; and what is most remarkable, showing how much can be done by human art and skill, in improving the animal form and condition, and bringing it to a desired model."

Application of Steam to Agriculture.—The application of steam to the plow, so far as Mr. Colman has heard, has not been attended with much success. Steam engines are extensively used in some sections, for threshing grain. In the Lothians of Scotland, it is said that the use of steam power for this and other purposes, saves one quarter of the horse power required on the farm. A very important item, as the keeping of horse teams is the greatest single source of expense to the British farmer. A six horse steam power, usually threshes from 30 to 40 bushels of grain per hour. Mr. C. suggests that in the prairie districts of our western country, wherever coal can be had, steam power might be advantageously used for many farm purposes.

A very important use of steam power in Britain, is the conveying of live stock to market by means of steamboats and railroads. Cattle are brought in immense numbers to Smithfield market by these conveyances, without loss of

condition—some times the distance of seven hundred miles. Mr. C. thinks no parties have suffered injury from railroads. Contrary as it may be to all theories, the farmer near market is not injured, though the distant one is largely benefitted.

The Increase of Agricultural Products in Britain, is shown in a very striking light. The average importation of wheat into England from 1801 to 1810, when the population was set down at 17,442,911, would have given a fraction over one peck to each person. From 1811 to 1820, when the population was 19,870,589, the quantity imported would have given less than a gallon and a half to each person. From 1831 to 1835, the population was 25,000,000, and the quantity imported would have given to each person one gallon. Taking the three years, 1833-'4-'5, the importation would have allowed only one pint and one-fifth to each consumer. This will give some idea of the immense production and resources of that little island. Under a fast increasing population, as before mentioned, the dependance on foreign supply, has been constantly growing less.

Among the means of improvement, Mr. Colman remarks, that the Royal Agricultural Society is an efficient organ. It was instituted in 1837. It has begun the establishment of an agricultural library and museum, the object of which is to exhibit specimens of agricultural productions which are capable of preservation, seeds, plants, grasses, samples of wool, mineral manures, models and drawings of implements, &c. &c. Mr. Colman remarks that he has often urged the establishment of agricultural museums in the United States, especially in the capitals of the States. The suggestion is a valuable one.

The management of the Royal Agricultural Society at its exhibitions, is spoken of as admirable in many respects. Mr. C says:—"Every possible effort is made to secure an impartial decision among the competitors; for besides that they are not suffered by their presence to influence the examiners, the examiners themselves are selected from among persons as far as possible disinterested, and not likely to be influenced. They are chosen, likewise, with a special reference to their characters and qualifications, to the nature of the subjects submitted, and every pains is taken in this way, to secure the greatest aptness and talents. The name of the competitor is not given if it can be avoided, but only the number of the article presented. The rules of admission and competition, are stringent and absolute, and no exceptions are on any account allowed."

The Highland Agricultural Society of Scotland, and the Royal Agricultural Society of Ireland, are both spoken of as excellent institutions, similar in their objects and management to the Royal Agricultural Society of England.

Model Farms.—Mr. Colman notices some of these. He has visited that at Glasnevin, near Dublin, and furnishes some highly interesting particulars in regard to it. In connection with this establishment there is also an agricultural school, where young men receive such an education, theoretical and practical, as fits them to pursue the occupation of farming to the best advantage. The young men work in the field about 6 hours a day. Mr. C. had the gratification of listening to an examination of fourteen of these young men, brought out of the field from their labor and declares that "it was eminently successful, and in the highest degree creditable both to master and pupil." The products of this model farm, as given by the superintendant and teacher, are quite remarkable. Seven hundred and twenty bushels of potatoes per acre, are given as an average crop. The superintendant states that the largest crop he ever obtained, was in a field where the sets were three feet apart each way. Medium sized potatoes, planted whole, are preferred to cut ones The experiment has been made, and the difference between whole potatoes and cuttings was marked and obvious in favor of the former. The cattle on the farm are *soiled*. Italian rye grass is mentioned as one of the best articles for feeding. It is cut four times in a season, yielding at each cutting a good crop. Lucern is sometimes cut five times. The Scotch potatoe oat, and the Hopetown oat, are the varieties of this grain here raised. They yield an average of 80 bushels per acre, and weigh about 44 lbs. per bushel.

The typographical execution of the Second Part of Mr. Colman's work, is very perfect, and though the matter is somewhat miscellaneous, it is of a nature calculated to interest not only the agricultural, but general reader. The style is exceedingly chaste and agreeable, and a most beautiful moral tone pervades the whole. His remarks on the condition of the laboring classes in England, show how vastly superior are the advantages of that class in this country.

From the Albany Cultivator.

The Artichoke.

Several trials which we have known made with this root, indicate that it is one of the most valuable for stock, which can be cultivated. A few years ago, a gentleman of our acquaintance planted a small patch of rich ground with them. The produce was at the rate of 1,200 bushels per acre. They were principally harvested by hogs, which were turned in and allowed to root them as their appetite prompted. They gained well, with no other food, while the artichokes lasted. A great advantage of this root is, that it will lie in the ground without injury all winter.

Mr. Thomas Noble, of Massillon, gave us a brief account of a trial with artichokes, made by him in the past season. In April, 1844, he planted two acres with this vegetable. The ground was of medium quality. The artichokes were planted in rows two a half to three feet apart—using a little more seed than is commonly used in planting potatoes. As soon as the frost was out of the ground last spring, (1844,) the digging of them was begun and continued as the stock required. The produce of the two acres was 1,500 bushels. They were fed principally to sheep, though some were given to cattle, horses and hogs. All animals ate them well, seeming to prefer them to turnips. While the sheep were being fed with them they were pastured on growing wheat and clover. The shepherd thought the wheat and clover were sufficient for them, as there was a full "bite," and he accordingly discontinued the artichokes. The ewes fell off in their milk, and the lambs soon showed that they were not doing so well. The artichokes were again given, and they soon did as well as ever.

Mr. Noble also used the *tops* for fodder. He cut them in October, just before frost came, dried and housed them. They were fed to the stock in winter, and were evidently preferable to corn fodder.

Mr. N. is so well pleased with his artichokes, that he is raising them this year on a larger scale. They require but little cultivation; it being only necessary to keep the ground clear of weeds till the artichokes get a good start.

Mr. T. M Johnson, of Greensborough, Alabama, lately informed us, that he is this year growing thirty acres of artichokes. He considers them the most profitable vegetable he can raise. In that climate they can be dug at any time in the winter.

There are several varieties of artichokes, but that called the Jerusalem artichoke—*Helianthus tuberosus*—is considered the best. From the fibres of the tops or stems, a cordage is sometimes manufactured in some parts of Europe.

A Cure.—It is said that the syrup produced by sliced raw onions, with loaf sugar grated between them, and simmered before a fire, is a cure for colds and hoarseness. It should be taken just before going to bed, and the feet well roasted at the same time.

To secure handsome Balsams.—Carefully pick out from the seed-bed all plants with *red* stems, and leave those with *white* stems.

From the Farmers' Cabinet.

A Warm Bed for Pigs.

I very well remember a saying of an old gentleman, an excellent farmer, that if you would make a hog profitable, you should not let him ever see a winter: and I think I have satisfied myself, that spring pigs well kept and nursed, are far less expensive, and yield more in return for their keep than those which are fifteen or eighteen months old. But there is one thing quite certain; if we prefer our store hogs to come in the fall, we ought to be careful to keep them through our long, cold winters, both warm and dry. Every observant farmer knows that if his cattle are not sheltered from the cold weather and storms, they will require much more food to keep them in tolerable order, than if they are kept warm and comfortable. Just so it is with pigs—if they are suffered to run over your premises in the snow and sleet, with their legs and snout as red as the gill of your gobler, without a warm and dry bed of clean straw to resort to when they choose, they will not only in all probability come out with *mange* in the spring, but every grunt they give will convince you that all the food they have devoured, has been thrown away; for shoats that have a cold, damp, comfortless bed, will get mangy, and *mangy* pigs cannot grow. Let any one who has a mind to try the experiment, take two pigs of the same litter, suffering the one to run as above, and let the other be well housed, and well fed, and it will be found that the superior growth of the latter will pay for the care bestowed upon him, with good interest. Hogs that are confined, and cannot get to the earth, will frequently be benefitted by having a little charcoal, soft brickbats, or soft wood thrown into them, and a trifling quantity of brimstone mixed in their food occasionally, is an excellent thing. The hog has the credit of being a dirty fellow—but we should remember that he likes to be dirty in his own way, and for his own pleasure: he neither prefers to live cold, nor in filth—still less does he choose to be half fed. Dr. Franklin's man said the hog was the only gentleman in England, because he alone was exhonorated from labor. If this be so, surely he ought to be well fed and well housed in America. I entirely believe that the same amount of food that will barely carry a pig through the winter with bad management, will, with good, prudent treatment, keep him growing, and in the spring you have something to build upon, that will by and by make you a solid porker, who will do credit to your stye.

Newark, N. J. Essex.

Farmers' Boys, do you hear that?—The following is the postscript of a letter from a post master in a neighboring county.—*Ohio Cult.*

"I was 'raised' a farmer, and pursued that business till 1831; since which time I have been engaged in mercantile operations, and part of the time largely; but I shall never be contented till I get on to a farm again. It is the most beautiful and healthful occupation in the world; and yet how many of our young farmers are discontented, thinking if they were merchants they would live so much easier and happier! This is a grand mistake; I have tried both, and know it to be so from experience. I intend closing up as soon as I can with safety, and get me a farm on which to spend the remainder of my life.

"Yours, G."

Farmers.—H. Colman, in comparing the business of the farmer with that of others, says: "I am anxious to assist the dignity of a pursuit which I regard among the most honorable, as it is among the most innocent and useful in life; and I would, if possible, soften its aspect and multiply its attractions to a large class of persons who have been accustomed to look upon it with indifference or disdain, but who would be sure to find in it, if ardently and intelligently pursued, health for the body, and peace and satisfaction—nay more, the strongest and most delightful interest for the mind."

Horticultural Outline.

AN OUTLINE of the first principles of HORTICULTURE, by JOHN LINDLEY, F R S &c. &c., Professor of Botany in the University of London, and assistant Secretary of the Horticultural Society.

(CONTINUED.)

I.—GENERAL NATURE OF PLANTS.

1. Horticulture is the application of the arts of cultivation, multiplication, and domestication to the vegetable kingdom. Agriculture and Arboriculture are branches of Horticulture.

2. The vegetable kingdom is composed of living beings destitute of sensation, with no power of moving spontaneously from place to place, and called plants.

3. Plants are organized bodies, consisting of masses of tissue that is permeable by fluids or gaseous matter.

4. Vegetable tissue consists of minute bladders, or tubes adhering by their contiguous surfaces, and leaving intermediate passages where they do not touch.

5. Tissue is called *Cellular* when it is composed of minute bladders, which either approach the figure of a sphere, or are obviously some modification of it, supposed to be caused by extension or lateral compression.

6. When newly formed, it is in a very lax state, and possesses great powers of absorption; probably in consequence of the excessive permeability of its membrane and the imperfect cohesion of its cells.

7. Cellular tissue, otherwise called Parenchyma, constitutes the soft and brittle parts of plants; such as pitch, pulp, the spaces between the veins of leaves, the principal part of the petals, and the like.

8. Succulent plants are such as have an excessive development of the cellular tissue.

9. It may be considered the most essential kind of tissue, because, while no plants exist without it, many are composed of nothing else.

10. Tissue is called *Woody Fibre* when it is composed of slender tubes, which are conical and closed at each end, and placed side by side.

11. Woody Fibre is what causes stiffness and tenacity in certain parts of plants; hence it is found in the veins of leaves, and in bark, and it constitutes the principal part of the wood.

12. *Vascular Tissue*, is that in which either an elastic, tough thread is generated spirally within a tube that is closed and conical at each end; or rows of cylindrical cellules, placed end to end finally become continuous tubes by the loss of their ends.

13. The most remarkable form of vascular tissue is the *Spiral vessel*, which has the power of unrolling with elasticity when stretched.

14. Other kinds of vascular tissue are incapable of unrolling, but break when stretched.

15. Spiral vessels are not found in the wood or bark, and rarely in the roots of plants.

16. Vascular tissue of other kinds is confined to the root, stem, veins of leaves, petals and other parts composed of leaves. It is not found in bark.

17. The common office of the tissue is to convey fluid air, and not to act as the receptacle of secretions.

18. Cellular tissue conveys fluids in all directions, absorbs with great rapidity, is the first cause of the adhesions that take place between contiguous parts, and is the principal receptacle of secreted matter.

19. Adhesion will take place at all times during the growing season, when the cellular tissue of two different parts, or of two different plants, is kept for some time in contact; but as none but tissues of nearly the same nature will adhere, grafting and budding, which are caused by the adhesion of contiguous parts, can only take place either between different varieties of the same species, or between nearly related species; and even then only when the corresponding parts of the scion or bud, and the stock, are placed in contact

20. Woody fibre contains fluid in the direction of its length, gives stiffness and flexibility to the general system, and acts as a protection to spiral and other delicate vessels.

21. Spiral vessels convey oxygenated air.

22. Other vessels probably conduct fluid when young, and air when old.

23. As the bodies of which all Tissue is composed are perfectly simple, unbranched, and regular in figure, having when elongated, their two extremities exactly alike, they are more or less capable of conveying gaseous matter or fluids in any direction: and, consequently, a current may be reversed in them without inconvenience; hence, inverted cuttings or stems will grow.

24. All parts of plants are composed of tissue, whether they be soft, as pulp, or hard, as the bony lining of a peach.

25. With regard to Horticultural operations, the parts of plants should be considered under the heads of *Root* (II); *Leaf-buds* (IV); *Leaves* (V); *Flowers* (VI); *Sexes* (VII); *Fruit* (VIII); and *Seed* (IX.)

II.—ROOT.

26. The Root is the part that strikes into the earth when a seed begins to germinate and which afterwards continues to lengthen beneath the soil.

27. It is also the part which is sometimes emitted by the stem, for the purpose of absorbing nutrition from the atmosphere; as in Ivy, Air-Plants, Vines, &c.

28. It is distinguished from the stem by the absence of leaves in any state, of regular leaf-buds (IV); of evaporating pores, or stomata (131); and of pitch in Exogenous plants.

29. Therefore, such underground bodies as those called Tuber (61) in the Potatoe, Bulb (96) in the Onion; and solid Bulb or Cormus (61) in the Crocus, are not roots.

30. The office of the root is to absorb food in a fluid or gaseous state, and also to fix the plant in the soil, or to some firm support.

31. The latter office is essential to the certain and regular performance of the former.

32. It is not by the whole of their surface that roots absorb food; but only by their young and newly formed extremities, called *Spongioles*.

33. Hence the preservation of the spongioles in an uninjured state is essential to the removal of a plant from one place to another.

34. A Spongiole consists of very young vascular tissue (12), surrounded by a very young cellular substance, (5).

35. It is therefore one of the most delicate parts of plants, and the most easily injured.

36. Hence whatever is known to produce any specific deleterious action upon leaves or stems, such as certain gases (298), and mineral or vegetable poisons, will produce a much more fatal effect upon the spongioles.

37. These organs have no power of selecting the food, but will absorb whatever the earth or air may contain, which is sufficiently fluid to pass through the sides of their tissue.

38 So that if the spongioles are developed in a medium which is of an unsuitable nature, as they will still continue to absorb, they cannot fail to introduce matter which will prove either injurious or fatal to life, according to its intensity.

39. This may often explain why trees suddenly become unhealthy, without any external apparent cause.

40. Plants have the power of replacing spongioles by the formation of new ones: so that an individual is not destroyed by their loss.

41. But this power depends upon the co-operation of the atmosphere, and upon the special vital power of the species.

42. If the atmosphere is so humid as to hinder evaporation, spongioles will have time to form anew, but if the atmosphere is dry, the loss by evaporation will be so much greater than can be supplied by the injured roots, that the whole system will be emptied of fluid before the new spongioles can form.

43 This is the key to Transplantation, (XV.)

44. As the roots are destitute of leaf buds, (IV,) and as leaf buds are essential to the multiplication of an individual, (108,) it should follow that roots can never be employed for the purpose of multiplication.

45. Nevertheless, roots, when woody, have, occasionally, the power of generating adventitious leaf-buds, (IV,) and when this is the case, they may be employed for the purpose of multiplication; as those of Cydonia, Saponica, &c.

46. The cause of this power existing in some species, and not in others, is unknown.

47. It is therefore a power that can never be calculated upon; and whose existence is only to be discovered by accident.

48. Although roots are generated under ground, and sometimes at considerable depths; yet access to a certain quantity of atmospheric air appears indispensable to the healthy execution of their functions. This is constantly exemplified in plants growing in the earth at the back of an ill-ventilated forcing-house, where the roots have no means of finding their way into the earth on the outside of the house.

49. It is supposed by some that the introduction of oxygen into their system is as indispensable to them as to animals.

50. It seems more probable that the oxygen of the atmosphere, seizing upon a certain quantity of carbon, forms carbonic acid, which they absorb, and feed upon.

51. It is at least certain that the exclusion of air from the roots will always induce an unhealthy condition, or even death itself. This may be one of the reasons why stiff, tenacious soils are so seldom suited to the purpose of the cultivator, until their adhesiveness has been destroyed by the addition of other matter.

52. Spongioles secrete excrementitious matter, which is unsuitable to the same species afterwards as food; for poisonous substances are as fatal to the species that secrete them as to any other species.

53. But to other species the excrementitious matter is either not unsuitable, or not deleterious.

54. Hence, soil may be rendered impure (or, as we inaccurately say, worn out) for one species, which will not be impure for others.

55. This is the true key of the theory of rotation of crops.

56. This also may serve to explain in part why light soil is indispensable to many plants, and heavy or tenacious soil suitable to so few: for in the former case the spongioles will meet with little resistance to their elongation, and will consequently be continually quitting the place where their excrementitious matter is deposited; while in the latter case, the reverse will occur. [To be continued.]

A FACT FOR THE CURIOUS.—A. W. Palmer, of Cheam, in Surrey, England, tried a very striking experiment respecting the production of wheat. In July, 1841, he put one grain of wheat into a common garden pot; in August he divided it into four plants, and in three weeks again divided these into twelve plants; in September, these twelve were divided into thirty-two, which in November were divided into fifty; and he then placed them in the open ground. In July, of 1842, twelve of them had failed, but the remainder of them were healthy. On the 19th of August they were cut down, and counted 1972 stems, with an average of 50 grains to the stem—giving thus the increase of 98,600 grains.

MILK.—Milk is a perfect food for a growing animal, containing the curd which is to form the muscles, the butter which is to supply the fat, the phosphates which are to build up the bones, and the sugar which is to feed the respiration. Nothing is wanting in it. The mother selects all the ingredients of this perfect food from among the useless substances which are mingled in her own stomach with the food she eats—she changes these ingredients chemically in such a degree, as to present them to the young animal in a state in which it can most easily, and with least labor, employ them for sustaining its body—and all this she begins to do at a given and appointed moment of time. How beautiful, how wonderful, how kindly provident is all this!—*Johnston.*

Circular of Messrs. Skinner and O'Rielly.

AGRICULTURAL IMPROVEMENT IN VIRGINIA, MARYLAND, CAROLINA, ETC.

In unison with the views of sundry Southern gentlemen who are warmly interested in agricultural improvement, and in accordance with the inquiries of various friends in the Northern States, the undersigned are collecting statistics illustrative of the vast field for enterprise presented by the uncultivated lands of the South. The dilapidated estates, as well as the virgin soil, in various sections of the old Southern States, present attractions which would not long be slighted, were the facts generally known. Thousands of enterprising emigrants from the Northern States would annually flock to Virginia in preference to the Western country, were her advantages presented in a manner calculated to arrest their attention At present, all the Guide-Books for Settlement point exclusively to the *West:* while examination and reflection will probably satisfy any intelligent man that the world nowhere presents a better field for enlightened enterprise than is furnished by the millions of acres which now invite improvement in the high-land regions as well as in tide-water sections of the "Old Dominion."

The natural advantages of Virginia are unsurpassed by those of any country in the world. The richness of the soil in large sections of the commonwealth still defies the exhausting influence of improvident cultivation. Even the "worn out estates," as they are sometimes styled, abound generally with mineral and fossil remains, admirably calculated to replenish the soil wherever mismanagement has robbed it of qualities essential to successful farming. The land abounds, not only with these manures, but with other mineral treasures of incalculable value. The mountains embowel iron and coal, transcending in quantity any possible requirements of the largest population which could be crowded for centuries within that ancient commonwealth; while the lime, marl and other natural fertilizers, abundant nearly every where in the State, furnish inexhaustible and cheap resources for rendering Virginia one of the richest agricultural regions of the earth. The Atlantic and the Western waters, with numerous bays and rivers penetrating various sections, furnish facilities for commerce with other countries, as well as for easy communication between the people in nearly all quarters of the Commonwealth. The value of the fisheries is largely experienced, not merely in the tide-water region, but to a great extent through the interior; and what territory anywhere surpasses the Virginia mountains in qualifications for sheep husbandry? Superadded to all these considerations, and equally important with any of them, is the mildness of the climate—an attraction alone sufficient to render Virginia desirable to thousands of enterprising settlers, who, when abandoning their homes in the North, would prefer the Southern temperature if it could be enjoyed under advantages like those presented by the Western States now most rapidly accumulating immigrant population.

The men of Virginia, familiar with the career of Washington, need not be told that, with such extraordinary combinations of advantages, the "Old Dominion would not now be *razeed* in the scale of States, if the spirit which influenced that illustrious patriot had been continuously applied for the last half century towards the advancement of that Commonwealth in the career which he foreshadowed for her in Agriculture, Commerce and Manufactures, additional to her political renown.

The intercourse and correspondence with which the undersigned have been favored by many distinguished Virginians, and also by gentlemen of other States, such as Maryland, Kentucky, the Carolinas and Tennessee—together with personal observation and much inquiry among the farming community—induce the belief that *a systematic effort for promoting the sale and settlement of uncultivated lands in those States*, may now be made with strong hopes of successful results. Under these circumstances, it is deemed essential, by various Southern gentlemen, as well as ourselves, to collect all practical information concerning the condition and price of lands in the regions above mentioned, and all other information which the friends of improvement may choose to communicate, for the purpose of extending a knowledge of the advantages presented for settlers. The gentleman to whom this circular is addressed may therefore promote the object, if he approves of it, by communicating to the subscribers such facts as he may deem proper concerning the number, extent, soil, condition, price and products of estates for sale in his vicinity, with the names of the owners or occupants, including particulars concerning proximity to watercourses and mineral manures; and maps of the land should, when convenient, accompany the descriptions. Where the lands are new, whether in the mountains or otherwise, it is desirable to know the probable advantages for sheep husbandry and grazing generally, as well as for grain-growing, especially as the highlands of the Southern States are beginning to attract, as they may be made to attract largely, the attention of wool-growers and graziers—while the vast water-power abounding in those regions, amid inexhaustible supplies of fuel, iron, &c., should be specified, as offering multitudinous inducements for extended manufacturing operations.

Gratified to find that the views here briefly expressed have met with the cordial concurrence of gentlemen from the several States above mentioned—gentlemen whose approbation encourages this mode of acquiring and diffusing information concerning the inducements for enterprise presented by the uncultivated lands within the borders of those States—the undersigned will close for the present, by mentioning that their connection with the friends of agriculture in various quarters satisfies them that the diffusion of accurate information is only necesssary to attract enterprising settlers, whose capital and industry would speedily bring into profitable cultivation millions of acres scattered in tracts of various sizes over all sections of Virginia and the adjoining States.

JOHN S SKINNER, *Washington*,
(Former Editor of the American Farmer.)
HENRY O'RIELLY, *Albany*.
(Of the N Y. State Agricultural Society)
December, 1844.

TO DESTROY LICE ON CATTLE.—Grease, fat, lard, or any oily substance, if applied to neat cattle infested with pediculi, will have the desired effect; it must be applied by being well rubbed into the hair on those parts where the vermin are found, and repeated until they are destroyed. Insects have no lungs, but breathe by spiracles or minute holes in their bodies, and if these spiracles are clogged with grease or fat, they become suffocated and die. Goose grease, hogs' fat, pot skimmings, will all answer the purpose, and may be obtained in any farmer's family without cost. Tobacco, also, will kill these vermin on cattle, by its operation on them as poison. A simple infusion of tobacco, applied warm and rubbed into the neck or dewlaps, or wherever found, so as to completely wet the hairs, and repeated at an interval of a few days, will destroy the nits and lice in a short time and at a cheap rate. The curry-comb should be used after the application.

SUBSOIL PLOWS.—In many soils, not otherwise rich enough for corn, it would be a good practice to make a furrow six inches deep, in the fall with a common plow, then let a subsoil plow run in this furrow ten or twelve inches more; and it would be still better to put cornstalks and other manure in this trench, and list it in, when thoroughly wet, with a small plow or hoe; the land to remain in this state till planting time. The subsoil plow is very valuable; by its use the soil will be less wet in great rains, and more moist in great drought. Where the subsoil plow is used, in comparison with only the common plow, the yield will be fifty per cent. more, and the crop in dry weather always green. The subsoil plow has doubled and frequently trebled the crops in England.—*Farmer and Gardener.*

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From the Albany Cultivator.

Agriculture and Rural Economy of the South.

DEAR SIR:—Press of business, alone, has prevented my carrying out my intention of addressing you, as I promised in my last, on various subjects of interest to us here; and in particular of replying to Mr. Camak's call for aid in introducing the olive to the south. He does me but justice in supposing that no effort on my part, within my power to make, would be wanting towards the introduction of any plant that would add to the wealth of my adopted country. Among others I have often thought and spoken of the olive; but felt so much discouraged by the fact that my father-in-law, Mr. Isaac Dunbar of this place, has repeatedly introduced varieties of that plant without success, the frost destroying them, that I entirely overlooked the extract in Kenrick's work. Since reading Mr. Camak's article, I am resolved to make an effort to procure the Nikita olive and give it a fair trial here. The difficulties, however, which a private individual has to contend with in such an effort, are very great. In my own case, the only course I can pursue, is to request my correspondents in Paris to make every exertion to procure some plants for me. If some others would do the same, we might, some one of us, ultimately succeed. I have long ceased to expect that the General Government will give any such aid to the farming interest.

That every effort should be made by the south, to introduce other staple crops than cotton, is very certain. The over-production is so great that prices cannot improve; at present prices this troublesome crop cannot be grown with profit—in fact not without loss—and the only possible means of lessening this over-production, is to induce the cotton planter to turn his attention to and employ a portion of his force in other crops, or in auxiliary branches of economical husbandry, if even these pay no better than cotton does now. Here it is that a State Agricultural Society *and farm*, liberally supported by the State, would give proof of their value. Those experiments in the introduct on of new staple crops could be tried there, which cannot be well done by individuals to any extent, with justice to themselves. Any planter can, however, after a few years, carry on upon his plantation many practices of economical good management—to some of which I will presently advert.

I prepared a series of resolutions some weeks ago, which I intended submitting to our Ag. Society at its business meeting after our last Fair. But so great was the political excitement at this time, that I regret to say a sufficient number of the members did not attend on that day to form a quorum. As another business meeting will be held about the time your January number will have reached us, when I intend bringing the matter forward, I will give you these proposed resolutions here:

"Resolved, That it is the opinion of this Society, that the present ruinously low prices of cotton, arise almost wholly from inordinate over-production.

"That a committee be appointed to prepare an address to the farmers of the cotton-growing region; setting forth the absolute necessity that exists for an entire change in the system of farming pursued among us, so as to lessen the quantity of cotton produced—to employ a considerable proportion of the labor of our slaves in the production of other staples; and of all the supplies necessary for the plantation which can be so produced, if not with profit, at least without loss.

"That they shall include, in their address, all the information they can procure as to the staple crops which may be so introduced; with short notices of the system of culture necessary for each; cost of production compared with cotton, &c.

"That the use of cotton bagging, in baling, be particularly considered; information acquired as to the cost, in plantation labor, of its manufacture; strength requisite, &c.; and the particular grounds that may exist for objections, if any there be, to its use.

"That they also inquire, whether the establishment of cotton factories generally within the cotton-growing States, would not have the effect of counteracting the combinations which are formed in the foreign markets to keep down the prices of the staple.—Whether, such a demand for provisions may not thus be created at home, as to render their production at least as profitable as that of cotton, and thus divert a considerable portion of the labor now employed in the over-production of the latter—And if, in the judgment of the committee, manufactories within the cotton region would produce these results, what measures can be best adopted to encourage their introduction.

"That they shall submit their address and report at the next regular meeting of this Society."

In all enlightened governments, but our own, agriculture receives powerful aid and support; not so much by means of protective duties and imposts, as by the wise measures taken for its relief when in any manner oppressed. Witness, in Great Britain, the frequent appointments of committees of the House of Commons, to examine into the causes of results the most trivial when compared with that now in question, and with power to call before them for information, individual and documentary evidence from every part of the country. Although we, in this country, have no such powerful aid given us, we might do much good by such a plan as this here proposed.

Some weeks ago, I had some inquiries made of me by a gentleman in Natchez, who informed me that he was one of a company formed with the view of shortly erecting an oil mill there; chiefly with a view to making castor oil. I assured him, at once, that the bean can be grown with profit by the planter; and promised to grow, next year, an acre or so, each, of the castor oil bean, sunflower, and Bene; also to try the Madia sativa, of which I have a small quantity of seed. In Illinois large quantities of the Palma Christi bean are grown, and the manufacture of castor oil is carried on with much profit. The farmers, there, so far as my recollection goes, found the bean a very remunerative crop. I neither remember the average yield per acre, nor the usual price, but have taken measures for refreshing my memory. Can you aid me? If you have files of the (Chicago) Union Ag. and Prairie Farmer, I think you will there find all the information wanted. It grows spontaneously along our road side, producing, I think, quite as good crops as those I have seen in Illinois. I have a variety of it in my garden of extraordinary and productive growth. A plant of it, which made its appearance in one of the borders, a volunteer, quite late in this present season, has attained a large growth. At five feet from the ground the stem is 15 inches in circumference; there it throws out three branches the tops of which are 17 feet from the ground, and spread to a diameter of 12 or 14 feet. Where the branches spring out, a spike of seeds has been ripe this three months; and now at the top of each of the three branches is a very heavily laden spike, the seeds in which are not quite ripe; though they certainly would have been had the seed been planted sufficiently early. The beans of this variety are very large. I find on trial that they weigh an average of six grains each. The stem and leaf-stems have a reddish tinge; the plant altogether forming quite a handsome tree. Last winter was so mild with us here that plants of this variety stood uninjured, and in the spring threw out multitudes of flower spikes. I am perfectly aware that a plant of such gigantic growth would be illy adapted to field culture, as a crop in rich land; I mention it merely as a proof that there is nothing uncongenial in our climate to the growth of the Palma Christi; and because I think that this sort would do well as an aftercrop, say on oat stubble; and then have abundance of time to ripen its seed.

The Bene grows vigorously, and produces an abundance of seed; so, I am told, does the Madia sativa, although I have no knowledge of it myself; the sunflower I know will do well—all of these yield a very large proportion of valuable oil.

I have grown a small crop of Havana tobacco this season, which is said to be of fine quality by those who profess to be judges. When properly cured and made into cigars a better opinion can be formed. I cut this three times, and each cutting was good; if planted early, and a handful of cotton seed or some other equally portable and effective manure hoed in round the plants at the second cutting, I have no doubt but four cuttings could be had at each season—the two last of course of inferior tobacco.

The gentleman before spoken of, Mr. Isaac Dunbar, has for many years made his own wine. That which he exhibited at our last Fair was pronounced decidedly superior to any he has before shown. I think it was the best native wine I have ever met with. Mr. D. has a vineyard of sufficient extent to make a few barrels of wine, and leave enough of grapes to give even his negroes a fair share. His favorite grape is the Herbemont Madeira—as being perfectly hardy and requiring but little attention. At our summer Fair, this season, one gentleman exhibited seven varieties of grapes, principally European sorts. The variety that does best with us, is one known as the *Jack grape*. What it is I can only guess at. The vine is of a vigorous, healthy habit; young wood having a reddish tinge, resembling the cigar box and Norton's seedling; the bunches quite large and shouldered; the berries, which are entirely without pulp, are of sizes varying from that of an eighty-to-the-pound rifle bullet, to that of an ordinary sized buckshot; juice a

rich claret color and very abundant; the flavor fine, with a delicious admixture of sweet and sour; and forming altogether, when fully ripe, a most delicious table grape. If Mr. Camak will inform me by letter or otherwise, how to forward to him, I will have much pleasure in sending a couple of plants, that he may test this fine fruit in his region.

When I have again leisure, I may have somewhat to say on the cultivation of the vine, through yours or some other journal. I will only now add, that *excessive* deep planting will assuredly prove injurious. Moderately deep planting, however, *the soil being of a proportionate depth*, is by all means advisable. With you in the north, even as far south as Cincinnati and Nashville, and in the colder districts of Europe, the vine is trained low that it may benefit by the reflection of the sun's rays from the earth; while here, and even in latitudes north of us, to avoid this, and to secure the full benefit of the shade afforded by its own foliage, and all the air possible, the vine requires to be trained high—over a ten or twelve feet arbor, if possible.

I must pass over the subject of "new staple crops," on which a lengthy series of papers might be written. Indigo has been successfully and profitably grown here—the sole objection to it being the difficulty of making sale of the entire crop without having to seek for a market. Madder, I am confident, would find its most congenial climate and soil here. It is a native of a southern clime, and requires just such a warm, light soil as we can here furnish it with.

Bread, meat and clothing, every cotton plantation *should and can* furnish for its own consumption, and even for sale, and yet grow as much cotton as should be grown. In fact, there is not a doubt, but if such a system could be generally introduced, cotton would again command a remunerative price. Other items should be included—comforts instead of blankets; leather for shoes and harness; tobacco for the negroes; bagging made at home, of cotton; hay grown for stock and for sale; all the mules and horses needed, raised at home; a flock of sheep kept, sufficient not only to clothe the negroes, but to afford a considerable return for wool and mutton; butter made for sale, the buttermilk being decidedly more wholesome for the negroes, young and old, than sweet milk, especially in summer, and any tidy old woman can easily make more in the dairy than in the field; and many other ways in which hands can be employed to at least *as great advantage and profit* as in the cotton crop—with the great additional advantage of thereby lessening the ruinous over-production of that staple.

I have already written you, thus far, a most egotistical letter; too much so; and yet I do not see how I can so well sustain my assertion, as to the practicability of this change in our system of farming, as by giving my own experience. True, this experience has not been great—but it has this advantage, that though but of three years standing, it has been acquired in the face of serious difficulties. I had every thing to buy but corn—and even some little of that. So, with your leave, I will continue as I have begun, and give you a little more of *Ego!*—premising, that in good and economical management, I am far, far behind many of the planters of this region, *as yet*.

Corn can be grown here quite as well as in N. York, notwithstanding the opinion of that *enlightened southern gentleman*, who made such wonderful discoveries relative to the climate of the south—see the garbled edition of Johnson's Farmers' Encyclopedia. I am now offering 200 bushels of corn for sale, being my surplus of this year's crop, over the requisite supply for that plantation. Wheat, also, will do well at least two seasons in three; if we had a sort sufficiently early to ripen before excessive warm weather, I do not believe this crop would be any more subject to failure than with you. The "Valparaiso," of which I received a small quantity of seed through the Patent Office, was entirely destroyed, this year, by rust. It tillered well, and the heads when coming in bloom, were very large. I mean to secure a supply of all Mr. Harmon's sorts against another season. Egyptian or winter oats do remarkably well. They are sown in September or October, and afford capital pasture all winter, and a fine yield of grain, ripe early in May. Forty bushels is spoken of as a good, fair crop: one bushel sown produced me twenty. I prefer this grain to rye. It commands readily from sixty cents to a dollar according to the supply. My pea crops, with the gleanings of the sweet potatoe lots, will fatten my hogs this year—a trifling quantity of corn *may* be needed. Of sweet potatoes, turneps, Irish potatoes, white beans, rice, hay, fodder, pindars, &c., I have hitherto found no difficulty in growing in abundance.

Cattle, unless where the range is extensive and good, or where the planter has formed good Bermuda pastures, I do not consider profitable stock here—at all events, by no means as much so as sheep, hogs or mules. To raise one's own meat, requires a good deal of care and attention—but it can be done profitably and advantageously on any cotton plantation. A little over two years ago, I commenced operations with eight thorough bred Berkshire sows, as many good common ones, and two or three fine boars, of different families of Berkshires, including imported Newberry. This fall I will kill a fair supply of meat, and offer some thirty or forty fine, young, in-pig sows for sale, being unwilling to kill them while they are so much needed in the south. I offer them at less than the price of a barrel of pork—$10. I lost, last spring, over one hundred pigs and shoats of a disease in the throat, caused, I believe, by their eating young cockle-burr plants. Such, too, is the opinion of my overseer who had charge of them—Mr. Hamilton—a very intelligent, observing man. When turned out of the field where these grew, the hogs ceased dying and got well—when put back there they became sick again, and many died off. In addition to this, I have lost, in spite of every precaution, a good many through my own and my neighbors' negroes—no matter how much meat they may get, both salt and fresh, the negroes have a particular liking for fresh pig, killed and cooked *on the sly*, as school-boys say. All this, however, *can* be prevented. And even supposing that from ten good sows, one hand devoting his entire time and attention to them and their produce, 50 hogs of 200 lbs. each can be killed per annum, that hand is doing a fourfold better business than at growing cotton. Moreover, the hogs being during the picking season in the pea field, the services of the hand can be had at that time, when they are most valuable. I think I can have two hands supply the slaughter pen with three hundred fine fat hogs, each year, and attend to the breeding and stock hogs also. I feed much cotton seed, thoroughly cooked, and a small proportion of meal, with salt and ashes added, and occasionally pumpkins and turneps, boiled with it—and with decided economy and advantage. For sheep, as I have often asserted, this is the finest country I have ever seen, and I think myself tolerably good authority in the matter. This, however, may very fairly form the subject of a separate article.

Clothing—this too, requires time and attention; but there is nothing else needed to enable any force of negroes to manufacture the material for their own clothing, *with profit* to their owners. During winter the women cannot be so well employed in any way as in spinning up the wool—particularly where a carding machine is accessible. One woman, keeping a spinning machine and a loom going all the year, would spin the warp and weave the cloth for a very large place. Those spinning machines are a great convenience—they spin six threads at a time—the gin saws taking the cotton from the seed—the brush placing it on the cards when ginned, where it is carded, and then spun direct from the cards, all at one operation. Mine was made by Pearce & Co, Cincinnati, and cost $130. We have now, in Natchez, a very excellent manufactory established, and now in the hands of a most energetic business man—Mr. McAllister, of the firm of McAllister & Watson—who is proving that such a concern will succeed in the South, afford a profit to the manufacturer, and be a great source of convenience and economy to the planter. Linsey, jeans, all kinds of cotton goods, including *bagging* and sacking, bale rope and twine, &c. &c. Also *burring* and carding wool at so much per pound. Mr. McA. began by pledging himself that he would manufacture for the planter, from his own cotton and wool, fabrics of any kind to cost him, at least, *no more* than he could buy it for of northern manufacture, allowing a fair price for the raw material. The cotton bagging, made for Mr. Isaac Dunbar, out of most indifferent cotton, worth perhaps one or two cents per pound, is a very superior article—better, in the opinion of many, than the hemp article. I have little doubt that the cotton shipped from Natchez will be, half of it, put up next year in bagging of cotton—if the planters consult their own interest they will do so. If all the cotton made in the Union was packed in this material, we would have the crop lessened or consumption increased rather, to the amount of 22,500,000 pounds, or 56,250 bales—being five yards of bagging, weighing 9 pounds, for two and a half millions of bales. Bale rope and twine would swell the amount to over 70,000 bales.

Mrs. A. is just finishing off a lot of over 50 double and single comforts for the negroes, in place of blankets, which cost an average of about $1.12 each—not including the labor of making, which in fact may be so much wet weather time of the women's labor saved, and it is well repaid in the difference in the cost of blankets. Had we not made comforts, I would have required over 45 pairs of blankets—difference, to pay for the making of the comforts, at least $120. This has been our first experiment in comforts, though some planters here have used them for many years. The use of comforts has other advantages—see the extra consumption of cotton—then the women are all taught to sew better than they would usually do.

Many other items of economical management of the plantation might be mentioned, each of sufficient importance for a separate article; but I must now close, with the hope that every planter who has the good of the south at heart, and who is desirous of lessening the overproduction of our main staple, will never cease to act, to talk and to write with that object in view, until public attention is drawn effectually to it. Yours, &c., THOMAS AFFLECK.

Ingleside, near Washington, Miss., Nov. 16, 1844

CORN-STALK SUGAR.—In our May number of the volume for 1844, we gave a communication on this subject from Mr. John Beal, of New Harmony, Indiana. It appears that Mr. B. has been still more successful the present year than he was last. We are informed that he has made three hundred and ninety-five pounds of good sugar this season, from the corn stalks which grew on three-quarters of an acre, which is at the rate of five hundred pounds per acre. His plan is said to be as follows: "When the ears begin to form they are pulled off. When the leaves are dead about half way up, the stalk is stripped of leaves, cut up at the root, the top cut off, and then ground in a sugar mill. Twenty stalks will yield about one pound and a half, and of this three-fourths is grained sugar. Mr. B. made eighty pounds in a day, with a simple apparatus of his own construction. Five hundred pounds, at four cents per pound, is twenty dollars per acre. It would have produced, say fifty bushels of corn, at twenty-five cents, or twelve dollars and a half.—*Albany Cultivator*

EGYPTIAN COTTON.—Mr. White, of Louisiana, has on his plantation a cotton stalk, from Egyptian seed, about fifteen feet in height. Mr. White obtained twenty seeds, gathered from the garden of the Pacha. He thinks, if carefully managed, it would probably yield from 2500 to 3,000 lbs. of seed cotton to the acre.

From the Albany Cultivator.

Practical Husbandry.

Improvement of Worn Out and Naturally Poor Lands, Old Fields, &c., in the Middle States.

I intimated in a late paper in the Cultivator, (vol. 1, p. 314,) that I would shortly give the readers of that excellent work an answer to the question *how* the improvement of the kinds of land mentioned in the heading of this article, could be accomplished in the cheapest way. I now proceed to the fulfilment of my promise. Land is poor or rich from various causes. It may be poor naturally, from being deprived of the accumulation of decomposed organized matter, by the washings of rain, the overflowing of streams, &c., and by its own gravelly and porous nature, admitting the upward filtering of spring water, as is the case in low gravelly bottoms. It may also be poor from the too large a portion of iron in its composition. But the most universal cause of poverty of soil, is EXHAUSTION, from over-cropping, taking always, and returning nothing; as was so generally the practice in old times, and is too much the practice now in all the middle States. In a former paper I have expressed the opinion that a man may purchase and improve a piece of this poor or worn out land cheaper than will be the cost of removal to, and purchase of a piece of land in the west, especially when the sacrifices incident to such removal are taken into the account. I most sincerely believe in the truth of this proposition. But let us proceed to the subject—the HOW, not the *why*, this land should be improved.

The first object to be attended to in the improvement of land, is the grubbing up and clearing off every tree and shrub that is not wanted. Let this be done at the beginning. Allow no clumps or clusters of bushes or briars, or single ones either, to remain in the field. The next thing is ditching and draining of all sunken and boggy places, if such exist. Very often the simple plow furrow will answer, but sometimes a deep ditch must be dug. If it be deep enough, a blind ditch should always be preferred, so that you may cultivate the land over the ditch, and also save your land the inconvenience of open ditches. Having grubbed and ditched, and thus drained the land, the next object is to ascertain the quality of the soil, all parts of it. You may find that the low places you have drained are composed of hard clay. Some of the upper or higher places may be too sandy. You will in such case, employ your carts in carrying clay to the sandy parts, and return with sand to the clayey parts; and be very liberal in your exchanges, too. You may spread the clay at once, or allow it to remain a winter in cart load heaps, and spread it in the spring. The sand may be spread, of course at once. All this is merely getting the land ready. A carpenter builds his shop, and "gets out" his stuff, before he thinks of "going to work" at his trade. So does every other artisan or mechanic. Why should a farmer not, also, before he goes to work to make money and a living, first "get his shop in order?" Having properly grubbed, drained, and mixed the soil, the next thing to be done is to ascertain the quality of the whole. It most probably wants lime to make it complete. Take a handful here and there from the whole field, say twenty handsful in all; mix them well together; then take a handful from the whole mixture, put it upon a shovel and heat it red hot; then take it from the fire and let it cool; when cold, pulverize it into a fine powder, and pour upon it good cider vinegar; diluted muriatic acid is best, but vinegar, if good, will do; if it foams considerably, you want no lime in the soil; if it does not foam, you must then apply lime. Nearly all the land in the middle States wants lime, and is benefitted by its application. If it wants no lime, then go to work as follows: plow in the fall with the deepest working plow you can afford. In the spring, sow corn broadcast; and as soon as it is as high as you can well turn under with a good plow and two or three horse team, turn it under well, and immediately sow corn again broadcast; as soon as that is high enough to turn under, turn that also with a deep working plow. Generally you may turn under three crops in the same season. In the fall plow deeply in turning the last crop of corn under, harrow and seed with wheat. However poor your land may have been, you may be sure of a good crop of wheat the ensuing harvest. In sowing the corn, about three to four bushels should be sown to the acre, each crop.

If by the trial above described, you find your land requires lime, then, before the first plowing, apply twenty bushels of slaked lime to the acre, broadcast, then plow as before directed, sow the corn, and proceed as before, taking care to sow twenty bushels of lime before turning under each crop of corn; sow the lime on the corn as it stands, and turn corn and lime all in together. In this way, a first rate soil may be made out of the poorest old field in Maryland or any where else; and it will be observed that the only cost is in the liming and value of the seed corn, except the labor. Those who cannot afford to expend so much labor and money the first season, can extend the time over several seasons, applying say twenty or thirty bushels of lime to the acre, and turning under but one crop of corn each year.

The above may be considered a brief summary of the whole argument; and, it seems to me, scarcely requires elucidation. Some may however require explanations, and I therefore proceed to give them.

A clay soil only requires sand to make it a good one, so far as constitution is concerned; a sandy soil requires clay to make *it* good. These two elements of a good soil generally exist on all farms; and wherever they do exist in separate places, they should be combined and mixed, that the whole may be made fertile. If your land be too clayey, and you have no sand on *your* farm, probably some neighbor would be glad to exchange some of his sand for some of your clay, doing half the hauling, and thus both farms will be benefitted at half the labor each. Rely upon it, there is more to be obtained in the improvement of land by a judicious admixture of soils, than is generally supposed. Manuring cannot supply its place, however large the quantity applied; and when once made, the effect is permanent, the benefit perpetual, the improvement lasts *for ever*.

Low wet places are not only unproductive, but they are unhealthy, unseemly, and an absolute loss of all the land so situated. If your farm consists of one hundred acres, and twenty acres of it is of this low and wet kind, you have but eighty acres of land. Therefore drain, by ditching this low land, make it productive, by adding sand, &c., where necessary, and you will in effect have added twenty acres to your farm. And in draining, take care to avail yourself of the advantages of blind ditches. I do not suppose it necessary to tell you how to make them—the way may be found in almost all agricultural works, and they are very simple. A summary of the different plans may be stated as follows: Dig the trench as in the usual way of making an open ditch, of the proper depth and capacity, to carry off the water. Then lay in the bottom of the ditch, stones loosely packed, so that water will freely pass between them, about a foot deep. Then lay upon these loose stones, larger and flat ones, to keep the earth from filling the interstices, and then return the earth thrown out, leveling the whole surface. Some, instead of stone, lay in the bottom of the ditch, branches and limbs of trees and shrubs, and cover these with earth; but such blind ditches are obviously subject to obstruction from the decay of the wood, and thence from the caving in of the superincumbent earth. Others, in Europe especially, use an arching of *tiles* in the ditch instead of stones or brushwood; but this is too expensive for this country as yet. Where stones can be had, a good blind ditch may be made permanently effective by their use; next to stone, brushwood is to be preferred.

It surely cannot be necessary to say a word in illustration of the grubbing up of all useless growths of bushes, trees, &c. Never allow your fences to be sheltered by bushes or trees of any kind; they rot the timber, and you lose all the land they occupy. "Head lands," as they are called, are just so much deducted from your measure of acres. Clear out all such. If you have no other *clean* place in your field, let the head lands and fence corners be clean.

In ascertaining the precise quality of the soil, you accomplish precisely what every other artisan does when he ascertains his ability to do a certain job. You find out what the materials you are to work upon are capable of producing. If in that examination, you find your materials deficient in any one necessary ingredient—lime, for example—you, as other artisans would necessarily and instinctively do, apply lime. If you find it deficient in vegetable fibre, &c., you apply that substance, and if you find it deficient in clay or sand, as either of these preponderate, you apply one or the other, as the result of the examination shall indicate.

Having prepared the soil for the reception of manure, the cheapest and most efficient method and material for supplying nutritious principles to the soil, is the next matter for consideration. I believe that corn sown broadcast, as above directed, is the cheapest, most efficient and speediest fertilizer. Some, and very many, suppose that the old plan of clover laying is the best and cheapest. I differ with them. You can only turn under a crop of clover once in two years; you can by an effort turn under three crops of corn in one year; and I believe that each crop of corn will carry as much nutritious matter into the soil as each crop of clover can do.

Now in this system of improvement, you have only to purchase the lime, if that be necessary; you can raise the seed corn on some part of the farm. All the rest of the improvement is derived from labor.

Never undertake the improvement of more land than you are certain you can manage. If you expend your funds upon too large a surface, you will be likely to lose the whole advantage of them. Calculate how much land you can work *well*, and confine yourself to that and no more. And in all your operations in agriculture, take care not to undertake too much. Suppose you can only work ten acres well in one year, if you undertake twenty acres, some of it will have injustice done to it, and the result is obvious.

Deep plowing is one of the most efficient agents in the improvement of soils, as it is in the continuation of good soils. Never omit it. It may pay you scantily for a year or two; but it will ultimately repay you an hundred fold. Without it there cannot be any continued successful farming, no matter what the original soil may have been. Discard all shallow working plows from your farm, except the mere seed and cultivator plows.

Some lands will be benefitted by fifty bushels of lime to the acre, and by it be rendered sufficiently calcareous; others may require one hundred bushels; all this is to be found out only by proper experiments, as above indicated. If the solution of the soil foams freely in the vinegar or muriatic acid, it wants no lime; if but partially, it wants probably fifty bushels to the acre; if not at all, it may require an hundred bushels. If it be a red clayey soil, it wants more lime than if it be white or blue or yellow.

If you have no lime, and wood ashes are at hand, you may accomplish all the objects you aim at by their application. As ashes are mostly composed of different kinds of lime, besides their more soluble potash, from fifty to one hundred bushels of ashes to the acre, applied in the same manner as directed for lime, will have the same effect as lime, besides giving you the advantage of the potash, the first year.

Where neither lime nor ashes are to be obtained, plaster of Paris, as it is called, may be applied to most lands with advantage. The action of plaster continues to be a subject of dispute. My opinion is, that it simply serves the purpose of fixing the ammonia floating in the atmosphere, and that evolved from decaying animal matters, and thus securing it to the uses of the soil. No matter what its mode of action is, however, it certainly is a very efficient agent in soils generally, and in the absence of other still more effective agents, it should always be used, or at least tried.

I have said nothing of *fencing*, the most expensive item of farming, because it has nothing to do with the main object of this paper, and because the cheapest fence is that at which each locality can afford with the greatest facility. One farmer can build a stone fence all around his farm, easier than he can a rail fence, simply because he has too many stones on his land, and in getting rid of them he hauls them to the line where he intends to make his fence, and in the seasons when he cannot be more profitably employed, he erects the wall. In the absence of stone, and where timber is plenty, the rail fence, the post and rail &c., will of course be the cheapest fencing. I have no favorable opinion of hedges, except in the absolute absence of both stone and timber. They require a long time to grow; and in this country there is not a single

kind of hedge plant that has succeeded satisfactorily. There are a few instances of good hedges being made, but I will venture to say there is not one in the United States that can be imitated profitably as to cost, time and efficiency. If nothing but live fences had ever been in use, and some inventive genius had discovered the use of artificial fencing and stone, he would have been considered the benefactor of his age. For myself, though I have travelled much, and have extended my observations over fifteen of the States of the Union, I have never seen a good efficient hedge occupying the place of ordinary farm fences. And yet the attention of farmers has been directed to it ever since the country was settled; the oldest American writers recommend them; seeds were imported to plant them a century ago; and all these efforts have been continued to the present day with increased force each year. And yet there is not, so far as I know, a single farm in the United States protected by hedges, in all its parts, or in any considerable portion of them. The economical farmer, therefore, will look to some other mode of fencing for protection; and, as said above, that which his land affords most plentifully and most easily of access, is the cheapest and best for him.

I must not omit a few words more upon *deep plowing*. I know it is the general opinion that we must not plow so deep as to turn up the "*hard pan*" of the clay, or the white gravel, &c. &c. I am very certain this is a great popular error. If we had a plow that would turn up the earth two feet deep, I do not care what the subsoil may be, in five years the *fertile soil* would be two feet deep. I admit, that generally a very stinted crop would be produced for the first two or three seasons; but I also assert, that the third or fourth and all subsequent seasons, will pay not only for all the deficiencies of the first two or three, but an hundred fold interest. Wherever a deep working plow has been used, the drouths of a dry season are not felt. The roots of plants pass deeply into the earth, and the burning suns and parching winds pass over them harmlessly. The subsoil plow is a good thing. It enables the farmer to avail himself of most of the advantages of deep plowing without any sacrifice of the first and second season's crop; but then it does not turn up this subsoil—it merely loosens it, enabling the roots to pass deeply. The roots, however, get no other advantage in this deep rooting, than that of protection from drouth; they get no nourishment in those depths. The protection from drouth, however, is an important consideration, and should always be availed of. But I would seek this advantage always when I could by the use of the deep plow, even at the sacrifice of a portion or even all the first two or three crops.

The saving of manure is the next, and though last here, not the least important matter for consideration. Every thing of a vegetable or animal kind, useless for other purposes, on a farm, should be gathered and saved for manure. A convenient compost yard and pit should be provided. The dung from the stables, the weeds from the fields, the chaff and offal straw, cornstalks, &c., the kitchen waters, *contents of chambers*, and all of such things, should be cast into the pit. The pit should be so situated that the drainings of urine, &c., from the stables should pass into it. A shed should be built over it to protect it from rains, and the effects of the sun's rays. Plaster of Paris should be sown over the surface of the manure pit once a week during warm weather, to catch and fix the volatile ammonia that will be continually passing off. If such a thing as a leisure day happen, (which, by the way, I do not see how a *good* farmer can ever have even a leisure moment,) the leaves from the woods may be profitably gathered and thrown into the pit. Twice a year, say in April and October, the contents of the pit should be taken out, thoroughly mixed and piled up to digest for a week or even a month. In forming the piles, if you have any swamp mud or bog earth, you may very properly add two or three loads of this to each load of the contents of the pit, taking care to mix them well. After the pile has stood a sufficient length of time, the compost may be carried out and spread over the land, either as a top dressing, or to be plowed in before seeding.

These are my views of the improvement of worn out and all other land. I submit them with great deference to the farmers of my country. Should they disagree with me in any or all particulars, I trust they will attribute my errors to at least good motives. I desire to do some good in my day, and the agricultural interest is, above all others, most worthy of my efforts, in my opinion. It certainly has my best affections and wishes.

Baltimore, Nov., 1844. GIDEON B. SMITH.

From the Cambridge (Md.) Chronicle.

On the Culture of Indian Corn.

[From a paper read before Dorchester Farmers' Club]

The question of the best method of culture of Indian corn, is one of primary importance; and reports of the various experiments that have resulted favorably, may tend to settle the interesting problem.

The partial practice of my method "by late fall or winter plowing" and "drill planting," for more than fifteen years, and my exclusive adoption of it for half that period, and the obvious reasons in favor of it, have concurred to satisfy me, by the general results, in various kinds of seasons, that it is the best mode of growing that valuable staple of our country—and, at the same time, of sustaining or improving the soil on which it is grown.

I would be understood, in my remarks, to confine them to lands having a due portion of alumina, and at least a moderate coating of grass, or vegetable matters of any kind, on the surface. The method is the following:

During the winter, or late in the fall, the field is plowed under a true and well turned furrow, sufficiently deep to avoid re-turning the sward in the subsequent work; (the accuracy of this operation will have considerable influence on the eventual management and success of the method;) if well done, there will be but little occasion for *hoe* labor, to clear away the grass, as but little will vegetate from the inverted sward.

In this state, the whole will remain till the season for planting, when a light plow is skimmed over the surface in the direction of the first furrow. The "corn planter" is then introduced, which furrows, drops, covers, rakes and rolls the corn, in one operation; or, it may be done, though more tediously, without this instrument.

The lines in which the grains are dropped, are four feet apart; the grain in the lines, about twenty-four inches, and two plants left.

When the corn is sufficiently large, a light double-furrowing, single-horse plow is run as near to the plant as possible, throwing the earth from it, and as soon as convenient, the earth is returned to it. This is the whole of my plowing—then follows the cultivator, as shallow and lightly as possible, to keep the surface at all times friable and open to the free access of sun and air, and not omitting the roller whenever necessary for fine pulverization, which is in all cases essential to good culture. The drier the season, the more the cultivator is used. The hoe is but little required in ordinary seasons for the grass—and never, in any season, to make the slightest hill—and the general cultivation is as *level* as practicable.

By the free admission of the fermentative agents—sun and air—the inverted sward will furnish the soil with the soluble and nutrient gases. The products of its decomposition, which, though volatile, will be fixed by their union with the *moisture, alumina* and other *substances* in the soil; and this process will happen, chiefly, at a time to meet the peculiar demands of the plant, whose organic structure and vital powers will enable it to seize upon, eliminate and apply to its uses the nutriment thus furnished; ammonia and nitric acid, there generated and preserved, will abound in the soil; and in fact, a *quasi* nitre bed is formed among the spongioles of the roots, which will not only yield the gases it may contain, but it will, as is known to every physical inquirer, abstract from the atmosphere, *nitrogen* indefinitely, without which element, a deficit of frequent occurrence, the grain, though it may form and ripen, yet will not contain an essential constituent of food for animal sustenance

By the culture contended for, the porous surface of the inverted turf is presented as a sponge to imbibe readily the ammonia and nitric and carbonic acids, held in solution by the rain and snow which fall upon it, and become fixed as before explained, for the use of the present and future vegetation.

Contrast this with the usual practice of spring and summer plowing, and *cross plowing*; the sward recently turned, is thrown back into its former position; the grass is, as it were, re-planted for much *hoe* labor, as it had not remained in a condition to suffer decomposition; or, so far as it had undergone this process, the products are wasted by exposure on the surface to the action of the sun and air, and a total loss to the plant and soil, or nearly so, is the inevitable consequence.

By *drill* planting too, we may have more than double the number of plants that the usual method allows in safety. Leaving two plants at a point, the distances named, will make about ten thousand stocks to the acre, and the lines arranged in a north and south direction, they will have abundance of space for air and light.

Practically, I have found this to be true. My crops have suffered from drouth less than those under the ordinary practice of cross plowing, which is manifestly to be ascribed to the continual flow of vapours among the roots and their ascent around the plant from the fermenting mass below, promoted by the frequent use of the cultivator, preserving a loose, open surface, and allowing the free entrance of the fermentative agents, heat, air and moisture.

Much more, in *fact* and in theory, might be adduced in favor of the practice indicated, but my paper has already exceeded the limits designed, and I will not now extend the discussion.

Feb. 12, 1845. JOSEPH E. MUSE.

From the Magazine of Horticulture.

On the Cultivation of Lettuce so as to produce successive Crops the year through.

As lettuce is more or less used in every family, the mode of obtaining it in the greatest perfection, throughout the year, in regular succession, may not be unacceptable to a portion of your readers.

Lettuce is grown in considerable quantities for the market, and fine heads may be obtained nearly the winter through; in the months of December and January, owing to our severe weather, it cannot be grown as large as it can in the climate of England, without too much care and expense; but later, when hot beds do not suffer from extreme frost, it may be had in the greatest perfection. Notwithstanding lettuce may be found in the market of such excellence, few individuals, except market gardeners, understand its cultivation during the winter, and on this account many gentlemen are deprived of this desirable vegetable during that season, when it adds so much to the luxury of the table.

The following remarks are the results of several years cultivation of lettuce, both for private use and for the market; and if the directions are carefully followed others may be equally successful.

Selection of Sorts.—There are a few leading points to be strictly adhered to, and which ought not to be overlooked, if lettuce of a superior quality is the object of the cultivator. The tennisball, royal cape, and green curled Silesia, are probably the best for spring use; the imperial (true) is the most worthy of the cultivator's trouble, in order to have a good supply through the summer; and the green cabbage, or hardy hammersmith, for the winter crop. It is of the greatest importance to obtain the seed *true* to the name, and not hybridized; what makes the careful selection of the seed of so much consequence is, that all the care and labor bestowed on the culture of these plants, if raised from spurious seed, approaches very nearly to labor lost. It is well known, although not so universally as could be wished, that a great portion of the varieties enumerated in the catalogues are not worth growing in this climate; the cos lettuce, so much cultivated in England,

and deservedly so, is rarely ever seen in our markets; in fact, all the hybrid varieties, raised from the cos and cabbage lettuces, being intermixed, will not generally be such as would give satisfaction in this country, and more especially if the variety partakes most of the cos parent. Observe therefore to procure choice seed of *responsible* seedsmen.

Compost for the Plants.—A light, rich, friable soil, and old hot-bed manure,—or manure that is as near as can be of the same nature,—well blended together, will ensure success; for framing, the compost should be an equal quantity of manure and earth; this is the secret of obtaining fine lettuce; for wherever fine lettuce is found, extra culture produced it. For open air culture, the ground, however rich it may be in appearance, if not by the recent application of manure, ought to have a bountiful dressing, which should be dug in about three inches below the surface; but before this the ground should have been in fine condition, either by deep plowing or digging; the reason why the manure should not be buried deeper than proposed is, that the roots may take hold of it at once, and that the plants may make a rapid and luxuriant growth.

Sowing the Seed.—To have a regular succession throughout the year, several sowings will be necessary. The first, or spring crop, should be planted from the 15th of February to the 1st of March; the second, or summer crop, during April; and successive sowings in June and August. For the last, or winter crop, the 15th to the 30th of September is the proper period. The seeds generally appear the fourth or fifth day, and the first transplanting should take place ten or twelve days subsequent to their appearance.

Cultivation of the Spring Crop.—Early in February prepare a small hot-bed, unless one is made up for cucumbers, and the seed of the tennisball, or royal cape, may be planted in flower-pots or boxes. It must be borne in mind that only a moderate heat is required for starting the plants from seed. Six inches from the glass is a proper distance for the young plants; give all the light possible through the day, and air every day that the weather will admit of it; the frame must be well secured from frost, which would destroy the plants, and it should be covered every night as long as the cold freezing weather lasts. The plants will require to be twice transplanted—first, from the seed-pots or boxes, about three inches apart, each way, in order to become strong, healthy plants, for their final removal to the beds where they are to remain. This may appear to those persons not already acquainted with the process, to be superfluous; however, it is the only way to succeed. The final transplanting out into frames should take place as soon as the plants are ready,—if the tennisball and royal cape, or Silesia, about nine inches apart, each way, will be found to be a proper distance. Regular attendance to the watering, giving air every favorable opportunity, and covering over the frames every night in season, is all that is necessary to ensure fine early lettuce.

Cultivation in the open air.—Early in April seeds of the tennisball should be again sown, and the plants will be ready by the middle of May to transplant. It will be necessary at this season to allow about fifteen inches between the rows, in order to admit the Dutch hoe, or scuffle, to advantage, which should be frequently used. The imperial should succeed the crop of tennisball and Silesia, and the first of May the plants will be in readiness. Continue to plant as before advised, every month or six weeks, from early spring to autumn, and select a cool situation for the late summer crops.

Cultivation of the Winter Crop.—This is the sowing requiring the most attention, and which is to supply the table from January to March. Select a warm situation in the open ground, and manure the bed well, and dig it deep; make the surface level and smooth with a fine rake, and it is then ready for the seed. The hardy hammersmith is the variety to sow now; draw the drills three inches apart, and cover the seeds lightly. In a few days they will be up and grow rapidly—and in October they should be transplanted into beds, where they are to be protected from frost. These should be common hot-bed frames; and as soon as the nights become cool, the sashes should be put on, removing them early every fair day. On the approach of severe cold, secure the plants from the effects of frost in season, for freezing and thawing would nearly destroy the whole. Very little water will be needed, unless there should be a continuance of fine weather, till Christmas, when they will require moderate waterings. Give all the light and air possible, and keep the plants clean and free from damp, by picking off all decayed leaves as soon as perceived.

In December the plants will be very strong and stocky, and ready for removal to hot-beds, or pits in the green-house; where, with the ordinary treatment, they will soon form fine large heads. From time to time, as a succession is wanted, the plants can be transplanted from frames to heat, until the season arrives for the spring crop.

Necessity of Rotation.

In one of the lectures of Prof. Johnston we find the above named doctrine made so plain that any body can understand it. We commend it to all who suppose that because their lands do not give out in two or three years, they never will.

"The following table shows the quantity of inorganic matter in 100 lbs. of hay:—

	In rye grass hay.	*Red clover.*	*White do.*	*Lucerne.*
Potash,	8.8	19.9	31.0	13.4
Soda,	3.9	5.3	5.8	6.2
Lime,	7.3	27.8	23.5	48.3
Alumina,	0.3	0.2	1.9	0.3
Oxide of Iron,	0.0	0.0	0.6	0.3
Oxide of Manganese,	0.0	0.0	0.0	0.0
Silica	27.7	3.6	14.7	3.3
Sulphuric Acid,	3.5	4.5	3.5	4.0
Phosphoric Acid	0.3	6.6	5.0	13.1
Carbonic Acid	0.1	3.6	2.1	3.2

The soil must contain all of the above, otherwise it cannot build up the plant which contains them; and just in proportion to the supply of the necessary ingredients, in their proper proportions, will be the luxuriance or stuntedness of the crop. Every plant that grows requires, in accordance with the nature and composition of soil, the proportion of the ingredients in its ashes. If no alternation of crops is made, nature will become exhausted in some of her resources, and the plant, for want of nourishment, must die. We have facts to prove that nature will not for ever grow the same plant on the same soil. The Black Forest consisted first of oak, then of pine, and now it is again covered with broad-leaved trees; and as with trees, so with crops—and as on a large, so on a small scale. Different modes of husbandry have been adopted. Instead of oats being grown fifteen or twenty years on the same soil, the rotation of three white crops and six years' grass was adopted; this also has become antiquated, and now the preferable alternation of white and green crops is adopted. Alternating crops, and adding such manures as have been carried off by preceding crops, is the only profitable mode of cultivation, while nature will also assist by the going on of certain circumstances, such as the decomposition of minerals, &c. A soil containing just sufficient lime for a luxuriant crop of rye-grass, would be far deficient for either clover or lucerne. The soil must contain in abundance what your crop specially requires, and consequently the necessity of selecting the manure to suit the crop wanted; and skilful farmers will put this principle into practice, and also select crops suitable for the purpose to which they are to be applied; thus, if you wish to feed for milk you must select a plant containing an abundant supply of phosphoric acid; and this plant will not grow on land which has been exhausted of this acid, though it contain all other necessary ingredients in abundance. The ground becomes exhausted in many ways. By cropping too long with either one kind or different kinds of grain, and carrying off both grain and straw, it becomes exhausted very speedily. It becomes exhausted of some of its soluble matter by the action of rains, just in proportion to the wetness of the soil. By the application of proper manures, the waste may be replaced. Feeding will replace a portion of the waste of solid matter; but a great portion of the soluble is lost, both by being, to a small extent, irrecoverable, and because of the direct waste by carelessness or ignorance. These soluble or saline substances are principally contained in the urine of cattle, and just in proportion as it is lost, so is the direct waste. The urine of one single cow is valued in Flanders at £2 per annum. What, then, must be the loss on the whole of the cows in Great Britain? Guano is not a more valuable manure than the urine of cattle; and yet farmers carry off this from their yards by large ditches, as if it were only, what it has been too long considered, a nuisance, while they will give £10 a ton for an article of no greater value. By building suitable tanks, the whole of the farm-yard saline matter might be preserved, and 900 lbs. of good solid matter, equal to the best Peruvian guano, would be the annual produce of one cow. Tanks ought to be made capable of containing all the urine voided in four months; they should be divided in the middle, and one end when filled, should be allowed to ferment. This fermentation would be completed in about six weeks, when it should be carried to the land and applied as we now apply guano and water. In the process of fermentation, the ammonia is apt to escape; but by mixing the urine with three times its bulk of water, this will be prevented to a very considerable extent, as shown in the following table:

Saline Matter and Ammonia in the Urine voided by a Cow in twelve months.

	lbs.		lbs.
Recent urine contains— solid matter,	900	Yields of ammonia,	226
Kept 6 weeks—mixed with water,	850	" "	200
Kept 6 weeks, unmixed,	550	" "	30

"We have frequently been astonished at the results of certain saline substances when scattered over unhealthy plants, by the first shower washed into the soil, and immediately consumed by the plant as its proper and necessary food; and just in proportion to the ease with which it gets the substances upon which it is supported, and of which it is composed, will it vegetate. Suppose any of the substances of which a plant is composed to be already in the ground in sufficient proportion, then any addition cannot do good. Suppose soda to be in sufficient quantity for hay, any addition would be unprofitable for a rye-grass crop, while it would be of immense benefit to double the quantity for clover or lucerne. And again, some soils contain it in sufficient quantity for every variety of crop, consequently any addition would be unprofitable.—Hence the reason of so many conflicting opinions respecting the utility of manures. A. B. has a field deficient in the due proportion of gypsum; and, by applying it to his crop, he finds the most beneficial effects. C. D. hears of these results, and applies it to his fields, which have already an abundant quantity of it, but require something else; and the consequence is, it does no good, and he pronounces it worthless as a manure; and his next neighbor, E. F., who would have been benefitted by its application, has been dissuaded from applying it. Milk contains so much bony earth that in seventy-five years a cow pastured on an acre of land will carry off a ton of bone; hence some lands used for dairy purposes in Cheshire had, in the course of years, deteriorated to such a degree that they were not worth more than from 5s. to 10s. per acre, just because the cows pastured on them had carried away all the bone out of the soil. Bone dust was at length applied as a top dressing, and the results were so astonishing that the land increased 700 per cent. in value, and the rector's tithes were increased five fold. Any or all other manures, had they wanted bone, would have proved ineffectual. The bones added just what had gradually been taken off in the lapse of years, in consequence of the peculiar husbandry of the district.

From the Southern Shield.

Barbour County Agricultural Society.

A meeting of the Barbour County Agricultural Society was held this day in the academy in this place. The President, Col. John L. Hunter, in the Chair, and, in the absence of the Secretary, Benj. Gardner was requested to act as Secretary.

Col. Hunter, the chairman of the committee appointed at the last meeting, to prepare an Address to the President of the State Agricultural Society, on the importance of adopting some active measures for the promotion of the interest of the cotton growing section, submitted the following:—

To the Hon. HENRY W. COLLIER, President of the State Agricultural Society of Alabama:

SIR:—In obedience to a resolution of the Barbour County Agricultural Society, the undersigned have the honor to address you on the present condition and future prospects of the cotton planters, and through you, as an honorable medium, to communicate to them their views and sentiments on those interesting and important subjects.

The cotton market, on which depends the prosperity of our southern country, threatens distress and ruin; but a small further reduction in the price of our southern staple, and our community will be driven to seek another culture, or have the mortification to behold their lands and negroes valueless and an expense on their hands.

It is true that the abandonment of the cotton culture, would eventuate finally in advancing the price, but in the interim the planter must endure heavy losses and great suffering. The time has passed away, when our people were buoyant with the hopes of the sudden accumulation of wealth, the mania for speculation in lands as well as in negroes has departed, leaving us to serious and sober reflection, and we trust under Divine Providence, with future lessons of experience and wisdom for our further guidance, benefit and happiness. God in his wisdom afflicts mankind, but in his mercy points them to a remedy. The causes of our distressed condition are few, obvious and striking. * * * * * *

The chief and greatest source of the evil lies not in legislation, but in a law of trade that cannot be regulated by it. Every planter must know that supply and demand will regulate the price of cotton; and while our planters continue to raise hundreds of thousands of bales over and above the wants of the manufacturers and their customers, the price must continue to decline until a ruinous business drives him from his folly of overproduction. The consumption for our cotton has increased, and will continue to increase, but the production outstrips it.

A small crop would command as much, if not more, by the augmentation of the price, than a large one; besides he saves the expense (no small item) of extra bagging and rope, and is able to devote his labor to a larger provision crop—to the improvement of his land and stock and to other additional cultures more profitable than cotton where the climate is favorable, to wit: wheat, hemp, rice, sugar and tobacco.

The cotton planter has been stimulated by the former high prices he obtained for his cotton until he has become so infatuated with the cotton culture, as to direct all his energies and resources to it at the expense of every other interest to the almost entire neglect of his means of comfort and independence on his plantation.

Fortunately it is within his power to correct this evil; to arrest the downward tendency of the cotton market, and to avert the impending ruin. Independent of the consideration of advancing the price of cotton it is his true policy to cultivate a large provision crop that he may have an abundance in a bad season and to spare, and a greater abundance in a good one. He should calculate to have provisions to sell to those classes who do not cultivate the earth, and in this way, to pay all the incidental expenses of his plantation. He will then have no more cotton in cultivation than he can comfortably and neatly harvest by the 24th day of December; and in the months of January and February, generally cold and inclement and unfit for cotton picking, he can more advantageously turn his attention and devote his labor to necessary repairs, to the improvement of his soil—to the improvement of his stock—or, in other words, to go more upon farming, and deal more mercifully with his lands, his laborers and stock, and to receive from them a grateful return, to make him comfortable and independent on his plantation, as he ought to be.

It is his policy to encourage the manufacture of cotton by using and consuming in his dress and in his household whatever articles can be made of cotton. In the cotton region, it should be the pride of our ladies, who are always foremost in every good word and work, to prohibit by their use, precept and example, the use of any article not made of cotton, where the cotton fabric can be made to answer their purpose—the silks should give way to the fine chintzes, muslins and calicoes, so well calculated to add to their personal comfort and beauty. It has been stated in a late periodical that cotton applied to the use of matresses, comforts and blankets for the consumption of the southern States, containing five millions of population, would amount to more than 200,000 bales.

Another still larger source of consumption would be found in using cotton cotton-bagging for wrappers for our bales. We do not know that cotton is more impervious to water than hemp and it would be well to give it a fair trial.

Our State Legislatures should not be backward in such times as these to develope the resources of their respective States and call forth their energies and direct their citizens to an advantageous division of labor from the culture of cotton.

Alabama abounds in some districts in coal mines and marble quarries, which might furnish a large portion of laborers now in the culture of cotton, with more profitable employment.

In conclusion we beg leave to recommend a convention of the cotton planters of the southern States, to be held at some central situation at as early a day as practicable, to devise and concert measures for their own safety and relief, and we would rely on their intelligence, good sense and honesty, in carrying out the decisions of that convention. Should a large portion of our planters, however, persist in their folly, notwithstanding the admonitions of their experience, and the action of the convention, to plant a large cotton crop, the market will continue to decline, and render the culture unprofitable and expensive; but such planters will stand in no enviable position in point of interest, and will reap the harvest due their folly. We would most respectfully solicit your co-operation and action in accomplishing the objects so desirable which have called forth this communication.

We have the honor to be, with profound respect, your obd't. serv'ts.,

JOHN L. HUNTER,
J. A. CALHOUN,
R. C. SHORTER,
} *Committee.*

Col. McDonald, from the committee appointed to address the planters of Barbour County upon the propriety and necessity of greatly reducing their cotton crop, presented the following:

To the President of the Barbour County Agricultural Society:

SIR:—Having been appointed a committee to address the farmers of Barbour County on the present state of the cotton market, we enter on the duty assigned us with a knowledge of the difficulty of persuading the cultivators of the soil to change their system.

From the extreme low price of the great southern staple, at the present time, it is obvious that a change must take place, and the sooner it is commenced the better. When we look abroad, over the world, we see an increased accumulation of cotton to an extent heretofore unknown. It appears, from the latest accounts from Liverpool, that the stock on hand amounted to 750,000 bales, which was an increase on the stock at the corresponding period in 1844, of 100,000 bales, and the price, a penny lower than it was at the same time last year. Large stocks, in Europe and in this country, indicate low prices, for sometime to come: for when the immense crop of 1844 reaches England, there will, in all probability, be an increase on the present stock, of 100,000 bales, and a corresponding reduction on the price. An inquiry naturally arises, what is to be done? The answer is at hand. Let us greatly reduce our cotton crops, which will enable us to prepare for market a better article—it will also enable us to improve our farms and thereby promote our happiness and comfort. Let us, at the same time, greatly increase our provision crops, making a large supply of provisions of every kind. We would also recommend that a portion of the labor now employed in the cultivation and preparation of cotton, be turned into other channels—the raising of rice and tobacco, as well as the growing of wool. We believe that these would be much more profitable than cotton at the present prices.

Thus, fellow-citizens, have we thrown togegether, a few hasty thoughts for your consideration.

A. McDONALD.
J. G. SHORTER.
J. BUFORD.

Col. McDonald, also, made the following report in relation to some seeds, which had been forwarded to the Society:

To the President of the Agricultural Society:

SIR:—On the 19th of last March, I received, by the kindness of Mr. Woods, from the Hon. H. L. Elsworth, the following seeds, which were sent to the Society by the Hon. Mr. Belser, viz: The bassana beet, the multicauli rye, from France, the white flint wheat, the calico corn, the Calcutta flax seed, the pole bean, the twin corn, the multicauli rye, of the United States, and the white prolific bunch bean. I immediately turned over the seeds to the President of the Society, keeping a few of each kind to sow and plant. On the 27th of March, I planted and sowed them in my garden, having some fears, however, that the rye and wheat might not mature, sowed at that season of the year, but fearing that they would be destroyed by the weavel, I thought it best to risk it. All the seeds came up except the beet, and on the 24th of June, when I left home, they all promised well, but on my return on the 20th of September, the gardener stated that the rye and wheat did not come to maturity. I only planted two grains of the calico corn, it too, was entirely destroyed by the weavel. I have saved some of the twin corn, the prolific bunch bean, a few of the flax seed, and a few of the pole bean, which I now present to the Society. A. McDONALD.

Mr. G. W. Pournell became a member of the Society, and expressed a desire that the interest of the mechanic would hereafter receive some consideration. Being a blacksmith, he called attention to some specimen plows of his own manufacture, which he had brought for the inspection of the meeting. They were much admired by the planters present, being considered fully as good as those brought from a distance, if not something better.

Mr. Cargile also directed the attention of the meeting to some brogans of his own manufacture, which were stout, strong and well made.

The Society then proceeded to the election of its officers for the current year, which resulted as follows:

ALEX. McDONALD, President.
J. M. RAIFORD, 1st Vice President.
WM. DEWITT, 2d do.
T. FLOURNOY, Treasurer.
A McGEHEE, Recording Secretary.
B. GARDNER, Corresponding do.

Executive Committee.

WM. S. PAULLIN. J. G. SHORTER.
J. BUFORD. WM. ABNEY.
T. CARGILE.

Col. McDonald then took the Chair, and returned his thanks to the Society for the honor conferred in electing him President, and earnestly solicited all to lend their energies to promote the objects for which the Society was organized. Unless this was done—unless every man went to work as if he felt there was something to be done, and something for *him* to do, he thought it better that we quit the house and never enter it again in the capacity of an agricultural society. He alluded to the praiseworthy examples of the Farmers' Club of Hancock County, Ga., and other associations of a similar character, and then exhorted the members to a similar course on their part. He concluded by suggesting that another meeting of the Society be held on the third Saturday in March, at which time it would be advisable to adopt the necessary measures for holding an Agricultural Fair in this place some time during the fall, at the same time leading the way with a contribution for that purpose—remarking, that if we expected to do any thing, we must have money, without it, we could do nothing. This example was immediately followed by other gentlemen present.

On motion, Messrs. McDonald, Buford and J. G. Shorter were appointed to revise the Constitution.

On motion, the Society adjourned until Saturday the 15th of March, to meet in the Hall of the Market house. A. McDonald, Pres't.

B. Gardner, Sec'ty. pro tem.

Eufaula, Ala, Feb. 22, 1845.

From the Boston Cultivator.

Agricultural Chemistry.

Messrs. Editors:—Not long since, I heard a person who possessed some knowledge of agricultural chemistry, telling some farmers and others, that a large part of the solid substance of trees, and other vegetable productions, was derived from the air, or rather, that part of the atmosphere called carbonic acid, and that this acid, or gas, was precisely like that which issues from a barrel of fermenting beer or cider. After the man left them, they began to express their doubts about the truth of his theory. Says one, 'tis all nonsense, the visionary dreamings of a book farmer. Yes, says another, if his doctrine is true, what's the use of manure, muck, and composts that he talks so much about. A third one observes, when he can make me believe that the moon is made of green cheese, I shall believe his story about trees being made out of the steam that flies out of the bung-hole of a barrel, when the cider is *working*.

Now, Messrs. Editors, I cannot think any of your readers are so ignorant, but still some of them may not have taken pains to investigate the subject as they ought, either from a belief that it is not necessary for a "common farmer," or that chemistry is too intricate a study for the tiller of the soil to trouble his head about.

To while away an evening, and, perhaps, to throw a little light upon the subject, I forward you the following, with the hope it may in some measure stimulate farmers to a more familiar study of agricultural chemistry. Of its importance there can no longer be any doubt; it is a matter about which there "are no two ways."

The atmosphere we breathe and in which plants grow and live, is compounded principally of a mixture of oxygen and nitrogen gases, in the proportion very nearly of 21 of the former to 79 of the latter. It also contains as a constituent necessary to the very existence of vegetable life, a small per centage of carbonic acid, on an average of about 1.2599 part. At first view it would seem impossible that this apparently small amount of carbonic acid could supply about one-half the solid substance to all plants that annually grow upon the whole face of the globe—but when we recollect that the atmosphere not only entirely surrounds the earth, but extends in every direction about 45 miles—"and if the whole acid were collected in a stratum or bed occupying the lower part of the atmosphere, such a stratum would have a thickness of about thirteen feet;" and this would be spread over the entire waters of the oceans, seas, lakes and rivers, the deserts of sand, the frozen regions of the poles, and in fact over every part and place of the globe that does not yield a vegetable growth, and by the wisdom of the greatest Contriver, this gas is, in innumerable ways, returned to the air as fast as abstracted; here then our wonder ceases. Now, from 40 to 50 per cent. by right, of all trees, plants and vegetables, and in fact all parts of plants which are cultivated for the food of animals, or of man, consists of carbon, and unquestionably most of this is derived from the air—although there can be no doubt that a small portion is taken in by the roots, mixed with water, and some of the inorganic substances that are in solution—but this was also derived from the air.

The leaves of plants are their lungs, and they have the powers of taking in or absorbing from the air the carbonic acid, and in daylight this gas is decomposed, but much more rapid and energetic in clear sunlight. This gas is composed of two proportions of oxygen and one of carbon, and when decomposed in the leaf, the oxygen is set free and escapes into the air—the carbon is retained, and in obedience to those mysterious laws of chemical combinations, is made to form a moiety of the endless variety of wood, fruit, seeds, &c. &c., that grow upon the earth.

In proof of this, I will offer the following illustration. We know, if we take a given quantity (by weight) of well seasoned wood and distil it in a close vessel, or burn it in heaps covered over so as to exclude the free access of air, wood-charcoal is left behind. When this process is well performed, the charcoal will weigh from 40 to 50 per cent as much as the wood did. The charcoal consists of carbon, with a slight admixture only of earthy and saline matter, which remains behind when the coal or carbon is burned in the open air. When this charcoal (or carbon) is burned in the open air, it combines with the oxygen (which is separated from the nitrogen) of the air to keep up combustion, and the whole of the coal enters into combination with the oxygen and forms carbonic acid—or, in other words, carbonic acid consists of oxygen with a quantity of charcoal *dissolved* in it, and this is precisely the gas that escapes from a barrel of fermenting beer or cider, and in this condition it is *fitted* to be again taken in by the leaves of plants and reconverted into wood, fruit, seeds, &c. &c., and this process has been going on without intermission from the first morn of time down to the present day.

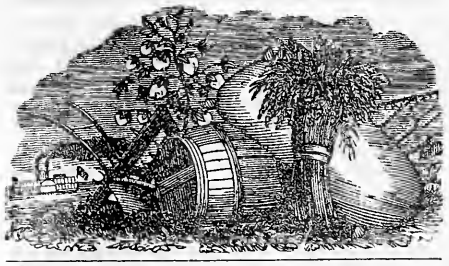
Perhaps it may seem somewhat mysterious to many or all, how this elastic invisible gas can be converted into wood or other solid substances, but it is no more wonderful than many other of its combinations. Every 100 lbs. of pure marble or limestone, as taken from the quarry, contains in round numbers 44 lbs. of this very gas; by subjecting the marble to a strong red heat, this gas is driven off, and leaves but 56 lbs. of lime. In this town there is a pearl-ash factory. In every 100 lbs. of pearl-ash the manufacturer sends to Boston, there is 32 lbs. of this gas combined with 68 lbs. of caustic pearl-ash, or to place it in another point of view, in sending 70 lbs. of pearl-ash, 22 lbs. of it is carbonic acid. The pearl-ash is taken to the distillery, and a current of carbonic acid is made to pass through it, when another portion of the acid is made to combine, and the 70 lbs. of pearl-ash come out 92 lbs. of salæratus,—that is, 22 lbs. more of this gas is fixed in the pearl-ash. At the distilleries this gas is disengaged from the molasses and water while fermenting, preparatory to its being distilled into spirit. Now can any one tell how this 44 lbs. of gas got combined with 66 lbs. of lime, so as to form 100 lbs. of marble? or how 44 lbs. of carbonic acid entered into combination with 48 lbs. of caustic potash to make 92 of salæratus? If a pound of charcoal is burned in a close vessel of oxygen gas sufficient to keep up combustion till the whole of the coal is consumed, there is neither gain nor loss in the weight, the pound of charcoal is *dissolved* in the oxygen, and the gas weighs a pound more than it did before combustion commenced, and what is still more strange, the volume or bulk of the gas is not increased by the addition of the pound of charcoal or carbon. The quality or nature of the gas is materially changed—being converted into carbonic acid. Perhaps no one can tell, or perfectly understand the "modus operandi" of the above, but of the truth of the statements we are as confident as we are that two and two make four. It is well known that lichens and mosses will grow and thrive upon the solid rocks. Aaron's rod and some other plants will flourish and gain in weight suspended in the air. The roots of a hyacinth, when the bulb is placed over a glass vase of water, will descend into it, the leaves and flowery stem will shoot upwards, and fragrant flowers are produced; during this time the water is not changed nor any manure added, and perhaps the whole plant when in bloom will weigh twice as much as it did when placed in the vase. Now from what source do these plants draw their growth but from the air? But some may say this is on too small a scale to satisfy them; then we will take it upon a larger one. We know, if we take crop after crop from a given piece of land, without returning any thing in the form of manure, it is yearly impoverished till at last it will scarcely produce any thing. The reason of this is, we carry from the land all that is derived from the air, and all that is drawn from the soil, *the inorganic parts of plants*, which are just as necessary as the carbon; the soil thus becomes destitute of it—part of the funds necessary to carry on the co-partnership—but the air is always solvent, ready to meet its engagements at sight, and contribute its full quota in proportion with the other part of the joint concern, and no farther. But if this impoverished soil is sown with the seeds of some kinds of trees, and they vegetate and grow, the longer they stand and the larger they grow, the richer and more fertile the soil becomes. If this growth of trees had derived its whole food from the soil, it would have been poorer than when it was planted; but as that is not the fact, we can come to no other conclusion than that the *food* for the carbon of the trees was drawn from the carbonic acid of the air, and the other organic substances from the air, water and the soil.

The inorganic matters that enter into the composition of the plants, silex, lime, potash, soda, gypsum, &c., drawn wholly from the soil, are gradually supplied by the mineral constituents of the soil, which generally yield them as fast as required for the growth of forest trees, without the aid or application of them by the hand of man. But not so with our cultivated crops, they are annually carried from the land, and to keep up the fertility of the soil, the inorganic matter must be returned in a more soluble form than they exist in the mineral constituents of crops which do not decompose fast enough to supply annual crops of corn and grain for a very long series of years.—Please excuse the length, and repetitions in this; my object is to be understood by that class who are not familiar with "agricultural chemistry."

Yours, truly, Levi Bartlett.

Warner, N. H., Dec. 24, 1844.

Gulf Stream.—It may not be generally conceded that Dr. Franklin first made known to the world the existence of the Gulf stream. It was made known to him by a Nantucket whaler, while in London, in 1770. The stream had been previously ignorantly crossed, by European sailors, for nearly three hundred years before this. Franklin received from the sailor, whose name we do not recollect, a map of this current, and in 1775 discovered the higher temperature of its waters. The publication caused the trade of the Northern ports to increase rapidly in consequence of the advantages in the winter to be derived from it in the management of vessels



The Southern Cultivator.

AUGUSTA, GA.

TUESDAY, APRIL 1, 1845.

A PREMIUM.

The Publishers of the "SOUTHERN CULTIVATOR," propose to give to every man who shall procure TEN subscribers, and enclose a ten dollar bill, the two back Volumes of the work, handsomely bound.

☞ Subscribers to the present volume of the CULTIVATOR, can be supplied with the back numbers. We can also furnish the two back VOLUMES complete, at the subscription price.

☞ The package of seeds sent to the editor of the Cultivator, has been received, and distributed.

Premiums Awarded.

In our Prospectus of the third volume of the "SOUTHERN CULTIVATOR," we offered six Premiums, to those who should interest themselves in obtaining subscribers—to be awarded on the 1st of March—and we have now the pleasure of announcing the result.

To the Hon. CHARLES DOUGHERTY, of Athens, Ga., was awarded the first premium—"*A Silver Goblet*, with appropriate Agricultural designs and inscription, worth $25," for obtaining over ONE HUNDRED subscribers.

To Col. ALEXANDER McDONALD, of Eufaula, Barbour Co., Ala., the third—"A similar Goblet, worth $15," for obtaining over SIXTY-FIVE subscribers.

To GREEN B. HAYGOOD, Esq., of Watkinsville, Ga., the fourth—"Loudon's Encyclopædia of Agriculture, worth $10," for obtaining over FIFTY subscribers.

To CHARLES HUTCHINGS, Esq., of Clinton, Ga., the fifth—"Johnson's Encyclopædia and Dictionary of Rural Affairs, worth $5," for obtaining over FORTY subscribers.

It will thus be seen that no one has obtained either the second or sixth premium, both of which we should have been much pleased to have awarded to some of our Agricultural friends in testimony of their zeal in the cause.

In announcing the result we cannot permit the occasion to pass, without tendering to each of the above named gentlemen our most cordial thanks for the interest taken by them in our enterprise, and to express our gratitude for their efforts in stimulating others to increased exertion, in behalf of the work. Nor would we omit to tender our sincere acknowledgements to all others, although less successful, who have exerted any influence to obtain subscribers to the work.

The premiums will be ready for delivery at an early day, of which we will advise the respective recipients, and receive their respective orders in reference to them.

Postage.

The thoughtlessness of some of our friends frequently subjects the publishers to the payment of postage, which is as unjust as it is burthensome. For instance, some one wishes the direction of his paper changed from one Post Office to another, and forthwith writes us a letter, which he forwards *without paying the postage*, and we are accordingly subjected to this tax on business purely his. Again: some friend wants to become a subscriber, and encloses the money in a letter, POSTAGE NOT PAID, and we are consequently taxed double postage.

It is true that the postage on a letter is of very little consequence so far as the amount is concerned, but when our friends reflect that the price of subscription to our paper is only *One Dollar*, a moment's reflection will satisfy them that we cannot afford to pay the postage on letters pertaining exclusively to the business of the writers.

Besides, it is an easy matter to avoid thus taxing us, by simply requesting the Post Master to enclose the money, or request the change in the direction of a paper, all of which he is authorized to do.

Agricultural Education.

Much as book-farming has been ridiculed and despised in times past, and much as it is held in contempt in parts of the South even now, still the day is fast approaching when those who have thus acted will rue their folly. Even though we may incur the risk of being laughed at, yet we will take the liberty of saying that, day by day, the value of mere bone and muscle, as a mechanical agent, is becoming less and less, and ere long mere bones and muscles will become worthless as to any profitable use that can be made of them, unless their operations shall be guided by the light of this very book-learning so much despised. One reason why the South is so far behind the other sections of the Union is, because we have not long ago understood and appreciated this important truth about the decreasing value of mere bone and muscle. In New York, for example, all this was comprehended long ago, and as a consequence, their Agricultural Institute is a regular college for teaching a system of Agriculture, suited to that soil and climate. There, the student learns all the facts in Chemistry, Geology, and Botany, so far as they are immediately useful in Agriculture. He is taught how to prepare and drain soils; how to collect, store away, and preserve provender, grain, fruit, &c.; how to feed, and take care of, and improve stock; how to take care of orchards, vineyards, gardens, &c.; how to prepare and apply manures to the best advantage; and, indeed every thing that is necessary to make a man accomplished in both the practice and the science of Agriculture.

Even in the adjoining State of Tennessee, they are ahead of us in this matter of Agricultural Education. On the first of January last, an Agricultural College was opened in that State, with between forty and fifty students; and our latest information about it is, that the number will very soon be as large as can be accommodated. We have now before us a catalogue of the students, including young men from the States of Tennessee, Alabama, Mississippi, Missouri and Kentucky: not one from Georgia.

In this connection we copy from the Globe newspaper, an article showing what the National Agricultural Society is doing, and proposes to do, for Agricultural Education. Let the reader con it over carefully, and very seriously, and then ask himself if it be not his duty to bestir himself and do something for Agricultural Education in the South—in Georgia especially—so that the light of science may be brought to the aid and direction of the bone and muscle of this section of the country, ere the advances made elsewhere shall make his efforts vain and profitless.

How is this to be done? you ask. Very easily indeed. The tillers of the ground are a part of the State so numerous and important that, without them, the State could not exist. They have only, therefore, to have a proper notion of their own importance, and to assert their rights as men ought: to demand that in our system of education, so far as it is supported by the State, due regard shall be paid to the interests of their profession, and that the funds of the State shall not be applied almost exclusively, as heretofore, to the preparation of young men for the study of the learned professions, so called—two of which at least, if not already, will soon be, at the present rate of increase, filled up to starvation point. The planters pay by far the larger part of the public taxes; and they ought to see that these taxes are expended in like proportion for their benefit. In a word, they should demand that the system of education in the State University shall include a Professorship of Agricultural Chemistry and Geology—and demanding this as their right, they should see that their agents in the Legislature provide the means of sustaining such professorship.

AGRICULTURAL EDUCATION.

The National Agricultural Society has lately adopted a plan that promises valuable results in promoting improvement among the farming community in all quarters of the Union. That plan is briefly set forth in the annexed proceedings, and has the merit of involving little expense, while largely stimulating attention to the great purposes for which the National Society was founded. The proceedings, as communicated to a late Agricultural Convention in the State of New York, and published in the Albany Argus, were as follows: Globe.

"NATIONAL AGRICULTURAL SOCIETY.—At a meeting of the members of the National Agricultural Society, at the City of Washington, on the 10th of January, 1845, Mr. Ellsworth, Commissioner of the Patent Office, in the chair, and Mr. Callan, Secretary,—inquiry turned upon the means whereby the efforts of the friends of agricultural improvement may be made more united and efficient throughout the United States. The matter which most particularly arrested attention was the report of the operations for 'extending agricultural knowledge, through the instrumentality of the common-school organization of the State of New York.' The report on this subject is in pamphlet form, and emanated from a committee of which the Hon. John Greig, late member of Congress, is

chairman, and of which James S. Wadsworth, of Western New York, late president of the State Agricultural Society, and the Hon. Daniel S. Dickinson, now senator from that State, are among the members. The report includes letters from various persons in different States, as well as from many parts of that State, approving warmly of the plan pursued by the committee for promoting the introduction of agricultural books in the schools and libraries of that State. The value of this movement may be estimated from the fact that there are about twelve thousand school and library districts, with superintendents of schools in every town and county of that great State.

"Allusion was made to the *cheapness* as well as *efficiency* of this plan of action; inasmuch as it accomplishes its object by bringing the whole common school organization to aid the cause of agriculture and horticulture; at the same time that the general interest of the school must be largely benefited by the increased practical value imparted to education through this connection with what is appropriately termed 'the staple business of society—the culture of the earth.'

"After mature consideration, it was determined that the National Agricultural Society approve and adopt the plan set forth by the New York State Agricultural Society, as a plan that is applicable wherever schools or colleges exist, and which can be prosecuted cheaply and efficiently, especially in States where school organizations are judiciously arranged.

"With the view of promoting the extension of this plan throughout the United States, additional corresponding secretaries were appointed as follows: T. S. Pleasants, of Virginia; Henry O'Reily, of New York; Thomas Affleck, of Mississippi; Oliver Comstock, of Michigan; A. G. Summer, of Columbia, S. C.; and Henry Barnard, of Connecticut.

"It is recommended to the newly appointed secretaries to correspond freely with each other and particularly with the officers of the society at Washington, as well as with the friends of agricultural education generally in all sections of the Union, so as to produce the greatest efficiency by co-operation in the cause.

"A resolution was adopted directing these proceedings to be published in the agricultural and other journals; and another resolution required that copies thereof be forwarded to the several State Agricultural Societies in the Union. J. S. SKINNER, Cor. Sec.

"*Post Office Department, Jan.* 10, 1845."

Bermuda Grass.

The Macon Telegraph, in a notice of the CULTIVATOR, (for which it has our thanks,) speaks thus on the subject of Bermuda Grass:

"A communication on the subject of Bermuda Grass, we transfer to our columns from those of the Cultivator; and while we appreciate the value of that grass for grazing, we would ask the editor of the Cultivator at a leisure time to inform us as to the most practicable plan of getting clear of Bermuda Grass when the land is wanted for other purposes. Our farmers generally deprecate its taking root on a corner of their plantations, as they would a great calamity. Its spread is slow when undisturbed by the plough, but sure and steady; and we have never yet learned how it is to be entirely eradicated from a field on which it has hold.

"If this paramount objection can be remedied and it can be destroyed at pleasure, we believe no grass, or scarcely any grain, would be more useful to the South."

No one, neither Mr. Spalding nor Mr. Affleck, can have a higher opinion than we have of the very great value of this grass both for hay and pasture; and we are, at the same time, fully aware of the extreme dislike with which it is regarded by our planters. It would seem to be contrary to nature that what is of so much value should, at the same time, be so great a pest.—There must, therefore, be a mode by which it can be subdued. We beg leave to call the attention of Mr. Spalding and Mr. Affleck to this point, with the hope that they will furnish us with the result of their experience. If they will do this, and shall propose a plan by which Bermuda Grass may be effectually rooted out, whenever it is desired to use the land it occupies for other purposes, they will confer a favor on the planters of the South that will not soon be forgotten.

In Elliott's Botany we find a notice of the Bermuda Grass, which goes to confirm all our impressions as to its great value. He says:—"We have two varieties of this plant, one coarser, (perhaps a species,) growing in damp soils, and native; the other, said to be imported, a tender, delicate grass, growing over and binding the most arid and loose lands in our country, *and apparently preferred by stock of all descriptions to every other grass.* The cultivation of this grass on the poor and extensive sand hills of our middle country, would probably convert them into sheep-walks of great value; but it grows in every soil, and no grass on close, rich land, is more formidable to the cultivator; *it must, therefore, be introduced with caution.*"

Broom Corn and Tobacco.

Would not you think it rather a tough story, if any one were to sit down and tell you about land being worth three hundred dollars an acre because it produces broom corn well? Well, you may think so if you like—but Gov. Hill, of New Hampshire, says it is true. Read the extract below, from his agricultural paper, the "Monthly Visitor."

You will find, farther, that Gov. Hill speaks of land in Massachusetts producing, by the culture of tobacco, a clear profit of one hundred dollars per acre.

Here in the South there is land in abundance that will produce better tobacco, and more of it, than can be made, on the same number of acres, any where in New England. Yet, because a blight has come over the prospects of the cotton trade, men are found among us who are almost ready to yield to despair. This will never do. Our maxim is—never despair. Cheer up, we say; read agricultural papers. If you don't like the "SOUTHERN CULTIVATOR," there are plenty of others. You can be suited among them all, surely. It is not of very much consequence to us which one you take, so you read some one. Get the intelligence of the Yankees; then imitate their enterprise and industry; and you will soon find that there are many other things, besides cotton, by the culture of which you may not only live, but get rich.

From Gov. Hill's Monthly Visitor.

"While the intervale lands at Northampton, Massachusetts, on Connecticut river, devoted to the Indian corn and other grains, with the grasses for hay, bear only an average price of somewhat less than one hundred dollars the acre, the same kind of lands in Hadley, near by, which for years have been employed in raising broom corn, sell for three hundred dollars the acre. Lower down upon the river, in Springfield, Massachusetts, in Suffield and Enfield in Connecticut, tobacco is becoming an extensive article for cultivation. It is said that land in Springfield the last year produced a clear profit of one hundred dollars the acre in the production of tobacco. Spanish and Havana cigars are manufactured in those parts of Massachusetts and Connecticut, where the business has been pursued to great advantage.

"A new impulse has been given to the oldest village in New Ipswich, formerly the residence of the Farrars, the Barretts, Appletons and Prestons, by the manufacture of cigars. Since the use of alcohol has been banished from most of our interior towns, smoking has become a substitute, the excess of which, it may be feared, will be hardly less deleterious in the course of man's whole life than the use of strong drink. The man who smokes ten cigars in twenty-four hours (and some smoke double that number) paying as the price of the best three cents each, will expend as much as the cost of keeping drunk on rum. We believe excessive smoking, chewing and even snuffing to be about as bad as hard drinking: it may not make the man immediately drunk, but continued month after month it must undermine the health—it likewise creates the appetite for strong drink. Fifty thousand cigars weekly, or thereabouts, are made at one establishment in New Ipswich.—The tobacco leaf used in this manufacture, for "long nines" and the cheaper kinds, is raised in Virginia, Maryland or Kentucky: the better kinds are made from the Cuba tobacco, the price of which is much higher than the leaf tobacco raised in the United States. If the appetite for tobacco should continue to increase as it has for the last few years, those who are engaged in its manufacture will accumulate fortunes. Millions of dollars are annually puffed away in the fumes of this narcotic weed. The manufacture of tobacco after it has been cured by the grower, has made fortunes in some of our cities: Jacob Lorillard, who died some years ago in the city of New York, acquired probably more than a million of dollars in the manufacture and sale of snuff and smoking and chewing tobacco.

"In vending the cigars, paste and liquid shoe and leather blacking, writing ink and locofoco matches made at the little village of New Ipswich, Hillsborough county, N. H., some forty or fifty horses and half as many pedlar's vehicles are employed, furnishing the articles in all parts of New England."

How to get Sound Sleep and Pleasant Dreams.

The Albany Cultivator for March says:—"The Hon. J. J. MCKAY, member of Congress from North Carolina, has renewed his subscription for one hundred copies of the Cultivator for gratuitous distribution among his constituents. JAMES SLOAN, of the same State, is also a subscriber for one hundred copies."

When these men lay their heads on their pillows, how different must their feelings be from those of the rabid party politician who will spend thrice that sum in circulating among the people documents filled with the gall and venom of party spirit, the only tendency of which is to poison every source of social enjoyment, stir up feelings of rancorous hate and rabid ferocity, and set man against his fellow man in bitter and unrelenting party conflict—and all for what? That he may be regarded as a great man by those whom he thus brutalises, and may, by their means, get to Washington City as a member of Congress, there to wallow in corruption. Herein we make no personal allusion; but we do say with Colman: "Blessed will be the day, if come it ever should, when every man will learn that his own true prosperity is essentially concerned in the prosperity of his neighbor, and that no gratification on earth, to a good mind, is more delicious than

that which is reflected from the happiness of another to which he has been, himself, instrumental."

The Planter.

If the picture which we hereunto annex had been drawn by any one else than one of our own Southern people, it might be set down as pure scandal; the offspring of malice prepense, as the lawyers say. Even if it were, it might be as well to republish it, that we might know something of what our enemies say of us. As it does not, however, come from that quarter, it will do no harm to examine it attentively, and see whether there is any resemblance between it and ourselves: and if there should chance to be any such resemblance, to set about correcting ourselves accordingly.

From the Wetumpka Argus.

"A True Picture.—The following picture of a Southern planter, as we too often find him, is from a Louisiana paper. There is a deuced sight more truth than poetry in it. By and by, our planters will probably learn a little gumption, and then we shall be happy to see the picture reversed, but until then candor compels us to acknowledge its correctness:

"'Now for the picture of the *planter. He* wouldn't sell a chicken, nor a dozen of eggs, nor a bushel of peaches, nor a calf, for *any* consideration. He is *above* that! *He* raises *cotton* —*he* does! He rides in a six hundred dollar carriage, for which he is in debt. His daughters thrum a piano that never will be paid for. He buys corn which he could raise at ten cents a bushel, and pays sixty cents for it, after 2½ per cent. advance to commission merchant. He *could* raise his own *tobacco*, yet he pays $3 a pound for Richmond scented. He *could* raise his own *hogs*—yet he patronises *Cincinnati*. The consequences are disastrous. Being the possessor of *one* staple, he fluctuates with the market of that article. He takes the 'Price Current'—he pays postage—he gobbles down the English news like a cormorant. If he sells to-day, he'll lose—therefore he'll wait for better advices. He is 'mixed up' in cotton, and is a *gambler* therein. Mean time he wants money—drafts on his factor! He wants cotton goods and clothes for his plantation, that he could make at home. He *orders* them, and feels 'large.' The manufacturer, the insurer, the shipper, the freighter, the drayman, the warehouse man, the seller, and finally the commission merchant, all have a finger in the *pie* of profits, and the proud *foolish* planter pays them all. The year closes, and he is 'up to his eye-brows' in debt! This is the result of his not 'calculating' nor even *guessing* the difference between *farmers* and *planters*. One supports a *family*—the other supports *pride*, until pride gets a fall!'"

That will do for a Louisiana sketch. Now for one from South Carolina. If our people, after such raspings, do not mend their ways, they must be given up as a stiff-necked generation, lost beyond all hope of amendment. Mr. Gregg, of Charleston, says:

"My recent visit to the Northern States has fully satisfied me that the true secret of our difficulties lies in the want of energy on the part of our capitalists, and ignorance and laziness on the part of those who *ought* to labor. We need never look for thrift while we permit our immense timber forests, granite quarries and mines, to lie idle, and supply ourselves with hewn granite, pine boards, laths, and shingles, &c., furnished by the lazy dogs at the North—ah, worse than this, we see our back-country farmers, many of whom are too lazy to mend a broken gate, or repair the fences, to protect their crops from the neighboring stock, actually supplied with their axe, hoe, and broom handles, pitchforks, rakes, &c., by the *indolent* mountaineers of New Hampshire and Massachusetts. The time was when every old woman in the country had her gourd, from which the country gardens were supplied with seeds. We now find it more convenient to permit this duty to devolve on our careful friends, the Yankees. Even our boat-oars and handspikes for rolling logs, are furnished, ready made, to our hand, and what jimcrack can possibly be invented of which we are not the purchasers? These are the drains which are impoverishing the South—these are the true sources of all our difficulties. Need I add, to further exemplify our excessive indolence, that the Charleston market is supplied with fish and wild game by Northern men, who come out here as regularly as the winter comes for this purpose, and, from our own waters and forests, often realize, in the course of one winter, a sufficiency to purchase a small farm in New England."

Dogs.

We made the remark in the January number of the Cultivator, that the first movement of those who were turning their attention to wool growing, should be to exterminate the race of dogs with which the whole country is infested. We say so again; and we add now, that until it is done it is perfectly vain to attempt to raise sheep.

Some one says:—"We can't do without dogs." Very well: if you must have dogs, get dogs that will be worth some small part, at least, of what they consume. The shepherd's dog is of this sort, if half what they say of him be true. Take for proof Mr. Sotham's account of his dog Boxer, in the "Central New York Farmer." Here it is:—

From the Central New York Farmer.

Messrs. Editors—According to promise, I send the description and character of my Shepherd's dog. He is of humble pedigree; his dam was of a poaching disposition, caught pheasants on their nests in the summer, and was shot by the game-keeper, after producing Boxer under a manger. His sire was of a similar kind, caught hares in their forms when out on duty, and although owned by the shepherd of a nobleman, even the influence of aristocracy could not save him; he was hung for his transgressions, although he procured his master many a luxurious meal, and he gave Boxer a good education.

Boxer's phiz is rather a remarkable one; though not beautiful, there is an animated and intellectual look in his eye, and appearance of quick imagination before action, that makes him interesting; he is of medium size, a long, curly coat, and without a tail, a good criterion of the true kind.

This dog is one of the most faithful and affectionate of the brute creation, and I should say, knows as much as many of the human race. His temper is exceedingly docile, except when imposed upon, then he will defend himself with true courage; going through the city, twenty dogs may run, bark and growl, but Boxer will turn, give a counter snarl, and bid defiance to all.

He will go round any lot on the farm, and fetch every sheep to you, and keep them together until you examine the whole flock, or take any number from it. He is generally very obedient, and a more industrious animal never stood on legs; he is more useful in driving a flock of sheep than three men. If his assistance is required among the cattle, he will take them to any point required, and he knows a strange animal equally well with myself. Boxer is no friend to hogs; if he sees one on the premises, out of the stye, he is off without orders. If the peacock, fowls, turkeys or ducks enter the garden, Boxer discovers them, or if a whistle is given, they take to their wings or legs immediately. Should the geese enter any of the lots, a whistle will soon bring them into the road. Once show Boxer the proper place for an animal, and he will always bear it in remembrance. Make him understand what you want him to do, and he will perform his work with great sagacity.

It is sometimes my practice to let my sheep in the road a few hours in the day, when the feed is good, and take them at night to very short pasture, to leave the manure they collect; one evening, Boxer going to fetch them, brought all but one; as soon as they had entered the gate, he barked at the shepherd, and walked towards the lost sheep, the pastor followed him to a fence where a lamb was fastened; had he remained, he must have died before morning. Two flocks of sheep came to the washbrook at the same time, into one yard, Cotswold and Merino.—Boxer kept the division equally well as a board fence, not a sheep escaped from either, the whole time of washing. The old dog did this with much judgment, and in a very quiet way, and the good acts he had done elsewhere, elicited many *compliments from his friends and "acquaintances."* Give Boxer a fair chance at a rat, and he is certain death. A "*skunk*" must die, notwithstanding its odor; a woodchuck must run, if he has far to get home; and a dog must fight—and bravely too—if Boxer catches him among the flock.

He comes to his meals as regularly as the cloth is laid, and if he is not noticed, he will put his paw on each at table, until he is fed.—He fares as well as his master, who is perfectly aware of his partiality and sterling worth, and well compensated for every meal. He is a more interesting companion than many who call themselves men. Boxer sleeps before the fire in the evening, and has nothing to disturb his tranquil repose, but the caresses of his friends—at night he guards the premises—not a thing moves without his knowledge—and a "*thief*" must take care of his "*breeches*"—the midnight solitude finds the old dog watching. He is a dog of all work, a general favorite, and never flinches from his duty, but manifests eagerness to do it. If the old dog could speak, he could tell a good tale on sheep. If he could flourish a pen with his paw, he could distinguish the *different breeds of cattle*, equally well with many writers who profess to know; therefore I shall bestow the praise and commendation, and to say the least, he is a great dog. I have been offered one hundred dollars for him, but my "*last shilling*" must go before we part; there is a tie between him and me, that even the power of money cannot sever. Wm. H. Sotham.

Hereford Hall, Nov. 10th, 1844.

Ellsworth's Report.

We are indebted to the Commissioner of Patents for a copy of his Report for the year 1844. It embraces the usual topics; and is, from first to last, full of very interesting information, particularly so much of it as relates to Agriculture. We intend to avail ourselves, from time to time, for the benefit of our readers, of the very important and valuable matter which Mr. E. has collected with so much industry. We commence, in this number, with the following extracts from his introductory report.

From Mr Ellsworth's Report for 1844.

The annual agricultural statistics, comprising the tabular estimate of the crops for the past year, with accompanying remarks and appendixes, will be found subjoined, (marked D.) If the length of the document is objectionable, I will only say that I have deemed it more acceptable to the public to give the facts established, than deductions from them; more especially as no conclusive opinion can be justly formed on contradictory statements respecting some important subjects.

The science of agriculture has now become a study, and much greater improvement may be expected. Worn out lands that have been, as

it were, abandoned, are now being reclaimed under scientific treatment. Guesswork and hereditary notions are yielding to analysis and the application of chemical principles. The writings of learned agriculturists in Europe are translated into the English language, thus pouring a body of new light upon the path of the husbandman.

Some extracts from the celebrated Von Thaer's principles of agriculture will be found in one of the appendixes to the agricultural report. They evince the deep research and patient investigation of that distinguished philanthropist.

Little is accomplished in any science without perseverance. How many bright anticipations have been blasted by a single unpropitious experiment! Without making allowance for ordinary casualties or unforseen occurrences, how many efforts to improve husbandry by selection of seeds has failed! All has been abandoned, because the first experiment has not been crowned with success; forgetting that seeds, like animals, must be acclimated, and require certain food not found in every soil. The truth of this general remark may be illustrated by a recent attempt to solve the difficulty in granulating the sirup of corn-stalks. Scientific gentlemen at first pronounced the sugar from corn-stalk to be grape sugar only; and hence, crystalization could hardly be expected. Much disappointed in the result, I transmitted to Boston some of the sugar made by Mr. Webb, of Delaware, and requested another analysis. The second analysis was entirely successful, proving the sugar from corn-stalk to be equal to the best Muscovado sugar.

In reviewing this subject, it appears that the juice of cork stalk cut too *early* will not granulate; and this was the cause of the first failure. There is every reason to believe that all difficulties in making good sugar from this vegetable will be removed; while the reports of this year show the quantity of saccharine matter sufficient to class the crop among the best for profit. * * * * * *

To Dr. Jackson we are also indebted for an analysis of several grains. The superiority of one kind of Indian corn over another is surprisingly manifest: one is filled with oil, the other has no trace of it; hence the superiority of the former for fattening animals. Some grains contain a large quantity of phosphate, (such as beans, &c.,) and hence their consumption tends to increase the bones of animals. Dyspeptics will learn from this why some meal (that which contains oil) is so difficult of digestion. For further remarks on this subject, with illustrations, see Appendix No. 6 to the agricultural report. * * * * *

Among the first inquiries of the political economist, is the question, How can the productiveness of the earth be increased? Modern practice answers it easily. Manure and tillage are the instruments employed; either, alone, is comparatively useless. "Grapes will not grow on thorns, nor figs on thistles." Nor will sour land yield sweet food; the nature of the soil must be changed, and this is effected by draining

Intimately connected with draining land, is that of subsoiling; indeed, the last has lately been substituted for the former, with good success. The cheapness of sub-soil ploughs brings them within the reach of every farmer.

The letter from Mr. Verdine Ellsworth shows what can be done by deep ploughing. By superior culture, his land yielded this year over 121 bushels of shelled corn per acre—his timothy meadows yielded 3½ tons per acre. This statement is full of encouragement. (See appendix No. 5 to agricultural report.)

Few individuals are aware of the extension of roots in pulverized soil. Von Thaer mentions finding roots of sainfroin from 10 to 15 feet deep in the ground. There are now in the national gallery corn-roots taken from one side of a hill of corn laid bare by the freshet, and presented by the Hon. J. S. Skinner to the national gallery. The corn was planted on the 20th of May, and roots gathered the 14th of July, 1842. In sixty days some of the large roots extended more than 4 feet, covered with lateral branches. I have caused the roots to be measured; the aggregate length of roots in the hill is, by Mr. Skinner's estimate, over 8,000 feet. The specimen alluded to is open for examination. This fact is here mentioned, to show the importance of deep ploughing, to enable the plant to find nourishment so much below the surface as may avoid the effect of drought, give support to the stalk, and not expose the roots to be cut by needed cultivation. Soil is made by exposure of earth to the atmosphere; and, whoever wishes to make permanent improvements will not fail to *plough deep*. * * * *

The Hessian fly still continues to be a dreadful foe to the agriculturist. Hoping to throw some light upon this subject, I have obtained a communication from one of the most scientific gentlemen in this country, who has made the study of this insect the object of microscopic investigation for years. The origin, progress and changes of this fly, cannot fail to interest; and it is confidently hoped that when its birth, its constitution, and its home are found, it can be attacked with more certainty of destruction. Mr. Herrick's communication will be found in the appendix to the agricultural report, as above, marked No. 1. Notice of other insects that affect wheat is added.—(See Appendix No. 2.)

There is much to encourage the artist and the husbandman. The latter may feel momentarily depressed, by the low price of crops; but he is cheered by the reflection that he is far better off than those in professions proverbially crowded. The cultivator of the soil is, in the fullest sense, the most independent: he raises enough to eat, and can clothe himself; having a surplus to exchange, if he cannot sell. How much better for the young man of this country to aspire to the enviable rank of a scientific and successful agriculturist, than to grasp at the shadowy honors that are momentarily cast around the brows of political combatants.

There is much to console the husbandman in the reduction of the cost of the necessaries of life which he has occasion to purchase.

Labor-saving machines are being introduced with still greater success. Mowing and reaping will, it is believed, soon be chiefly performed, on smooth land, by horse power. Some have regretted that modern improvements make important changes of employment; but the march of the arts and sciences is onward, and the greatest happiness of the greatest number is the motto of the patriot. This is promoted by facilities in production, whether in manufactures or agriculture; and if we are to compete with the world at large, we must readily embrace the offer of genius and skill; we must yield to competitors equal fertility of soil, and win the race by superior industry and intelligence.

ELECTRICITY.—I have frequently heard it remarked, and believe it is generally known (by observing people at least,) that for the space of ten or twelve years past, there has not been so many thunder showers as formerly, say from ten to twenty years ago. I think that where I reside, (30 miles N. W. of Boston,) there have not been so much lightning and thunder in any three years since 1835, as I frequently knew previous to '35, in 24 hours. Do you think that the vast quantity of iron on our Rail Roads and in our manufacturing villages has any influence in this respect? I think it has, the Rail Road in particular. I have learned that in the northern part of this State, (N. H.,) there is no difference from former years. I should like to have the opinion of others on this subject. C.

Editorial Remarks.—We should be pleased to have the views of our correspondents on the above subject. If the large amount of iron exposed to the atmosphere conducts off the superabundance of electricity imperceptibly, what effect will it have on vegetation?—*Boston Cult*

ORIGINAL COMMUNICATIONS.

For the Southern Cultivator.

Examples for Planters.

MR. EDITOR:—On a recent tour on business down the Chattahoochee, I found the people every where alive to the important question of, What shall be done by the South to relieve the embarrassments resting upon her great staple? Many plans have been suggested, and probably all of some merit. While passing among my planting friends, a few facts fell within the scope of my observation, which led to reflections on this subject, which I think are practicable and proper to be adopted.

At Eufaula, I was invited to the house of Col. McDonald, who is getting very justly some notoriety as a spirited planter, and the warm and zealous friend of all that tends to the improvement of agriculture. He showed me samples of his cotton, which was brought to that market when ordinary cotton was selling at 4 cents. For this he was promptly offered 7 cts, which he as promptly refused. It was shipped to New York, where 9 cents was at once offered, and again refused. This cotton, I learn, was raised upon common grey land; and its superior quality was attributed alone to the handling, which he represented as tedious, so much so, that the quantity of land planted, and the quantity of cotton picked, was necessarily greatly less than that ordinarily planted and picked to the hand. His profit, for neatness and pains taking, as you will perceive, was just 75 per cent.: so that he could well afford to reduce the number of acres cultivated, and the number of bales produced in the same ratio, say 75 per cent. on each, and still make as much money as his neighbor who pursued the old plan. If this system was adopted generally, or more extensively, the relief to the country in a reduced crop is found at once, without the sacrifice of a single dollar in its accomplishment, and with a due share of all the advantages, which it would soon be instrumental in bringing to the country, as an inevitable result, in the reduced production.

The next day I passed to the house of Judge Taylor, in the County of Randolph. The Judge is living on his farm, in the neighborhood of Cuthbert, and is full of the spirit which a personal and practical knowledge of planting is so well calculated to beget. He invited me to see his process of making syrup or molasses from a little patch of sugar cane, which he had cultivated last year. Every body knows that molasses may be made from the cane, and this is not therefore the fact which I propose to report, but the yield This is the point of interest, and I doubt not will be of astonishment to nine-tenths of those who hear it. He had cultivated not quite three-fourths of an acre in cane, (common ribbon,) on very common pine land, a little manured. At the time of my examination, he was just filling the second hogshead of 80 gallons each; and said that he had cane enough to make 40 gallons more—making 200 gallons of good syrup—and had seed cane enough left to plant 2½ acres. This would be at the rate of nearly or quite 300 gallons of syrup to the acre, appropriating from the crop only seed enough to plant the same quantity of land again. This, at 20 cents per gallon, would be $60 per acre; and he assured me that it was not more difficult of cultivation than Indian corn, and the process of boiling not half so tedious or complicated as the making a kettle of soap. The mill for grinding the cane, is a simple and cheap affair, which can be put up by any rough workman, and need not cost a planter more than ten dollars.

Here is an outlet for a change of labor and a good return in profits. Ours is indeed a country of resources abundant and varied; and if, in the midst of them, we shall continue to work out, by a blind policy, our own oppression and ruin, I can only conclude that we deserve to groan on under the burthens of our own creation.

Very respectfully, your obd't. serv't.,
Wynnton, Ga., Feb 22. JAS. M. CHAMBERS.

For the Southern Cultivator.

Mr. James Camak, Editor of the Southern Cultivator:

Dear Sir:—I have received the January, February and March Nos. of the Southern Cultivator, and have read them with much interest, and, I trust, with profit. I have also the first two volumes of that valuable agricultural publication; and I am much pleased that the farmers of the South and Southwest have it in their power to procure a work, devoted to the cause of Southern husbandry, so cheap as to be within the reach of the entire family of the cultivators of the soil, and one so well calculated to interest and benefit the farmer. I make this remark after having been long a subscriber to agricultural publications, and being, at this time, a subscriber to three other agricultural works beside the Southern Cultivator: and as an evidence of my opinion of the value of the Cultivator to the farmer, the gardener and the mechanic, I have, since the commencement of the present volume, procured and sent to the publishers upwards of seventy dollars for the Cultivator. The subscribers have been mostly farmers, but several have been mechanics, and others that cultivated only a garden.

I was sorry to observe, in the February number of the Cultivator, that the publishers had to publish to the world, that they had not received more money, up to that time, than would pay for the setting up of the type. Now, this should be mortifying to every Southern farmer. At a time when a state of things has taken place throughout the entire South and Southwest, heretofore unknown since the introduction of the great Southern staple, we, for the first time, see cotton pressed on the market so low as hardly to leave the farmer or cotton grower any money, after paying for his bagging, rope, and the transportation to market of that troublesome crop; at a time when the cultivators of the soil need all the light they can possibly get; when they require all the information within their reach to enable them to shape their course so as to make their honorable and important business pleasant and profitable—to see so little interest taken in the circulation of the only agricultural work devoted to their interests in this region of country, is a matter that I must acknowledge I was not prepared to see. But I trust a better state of things has taken place, and that there is a coming up from every quarter subscribers to the Cultivator.

If we, as farmers, would take the same interest in the cause of agriculture as was taken last year in President-making, but a few years would pass away until the face of the country would change. You would not be accosted at every turn of the road with the cry of hard times. Prosperity and happiness would become universal. Our old fields, now thought to be worthless, would be so improved, by a proper system of manuring and rotation of crops, that we would hardly realize that it was the same place that, a few years before, was considered worthless. Tell me not that this is a too highly drawn picture. The same thing has taken place in other parts of the world that have not the advantages we possess.

Mr. Editor, I am far from believing that we should be indifferent as to the selection of our rulers. I only call on the cultivators of the soil to be as industrious now in the formation of Agricultural Societies, and in holding Agricultural Fairs, and in the circulating of Agricultural papers, as they were in the cause of politics. The great misfortune is, we are opposed, as farmers, to every thing like innovation on an established system, if system it can be called. As soon as an improvement is suggested, we cry out humbug. Now, Mr. Editor, for my part, I would rather be humbugged a little in trying to be, or to do something, than to spend a life in attempting so little as never to attain to a decent humbug.

The farmers throughout this region, many of them, are not only taking the Cultivator, but are forming Agricultural Societies.

I will, at a future time, give you some account of my farming operations, as I keep a farming memorandum, in which is entered every thing done on the farm from year to year. This is a work that I have kept for twenty years past.

Your friend, Alexander McDonald.

Eufaula, Barbour Co., Ala., March 12, 1845.

Every mechanic that has a spot of land, though it be *small*, should raise some fruit, both for pleasure and profit.

For the Southern Cultivator.

Berkshire Hogs.

Mr. Editor:—I have just received your "Southern Cultivator," volume third and third number, and have been a little amused at a communication which it contains from "Clodhopper, of Houston county." Together with a good many other things, he says: "I want to know the breed of hogs that will give the most good meat for the food consumed; how to feed, and what to feed with, to produce flesh and make fat. But spare, oh, spare the Berkshires; they have brought me to buy pork." Sir, the above lamentation reminds me very much of a gentleman of my acquaintance who called to see me sometime during the last year. In the course of conversation, the breed of hogs was brought up, and, like "Clodhopper," he condemned the Berkshires. I took him into my back yard, and showed him a pig I had, which is three-fourths Berkshire. He admitted it to be a fine pig of its age, but was fearful it would never be large enough. We continued our walk, came upon a Berkshire sow and boar. The boar I suppose would weigh net four hundred and fifty, and the sow three hundred pounds. Well, sir, said I, will they do?—O yes, they are fine—they are large enough. We still pursued our walk until we came up to a sow, half Berkshire, the balance improved stock, that I supposed would weigh net five hundred pounds at any time when fully fat! My friend was much delighted with her. The hogs were there, and showed for themselves. *His* theory was put to flight by *my* demonstration; he could say no more, but, turned off and said, "Ah, you *feed* your hogs." Now, sir, if "Clodhopper" thinks that he can dispense with the use of corn, or a good substitute for it, because he changed his breed, he will find himself always a pork buyer.

And here permit me to say, that there are many hogs in the country, that have been put on the people for Berkshire, that have but little, if any, of the stock about them. Some years ago I received, as a present, a pair of pigs from a gentleman of my acquaintance, of Montgomery county, Alabama. My hogs were much improved by the cross, and consequently were considered the best in the neighborhood. Mind, I do not say the *largest*, but *best;* I mean by this that they were considered of fair size, and would yield the most flesh to the size of the bone and quantity of food consumed. I have since crossed them with the Berkshire. My neighbors think my stock still better; but, recollect, I feed them. I have the full blood Berkshire, and prefer them to the cross upon common stock. I never anticipated so great an advantage as many others expected.

I expected to get a hog of small bone, a good deal of flesh in proportion when fat; one that would be easily fattened, and that *could* be fattened also at any age; and, sir, *I* have not been disappointed. Now, sir, if "Clodhopper" is disposed to feed, and wishes to change his stock by a cross, I will venture to advise him to call on Col. David Bryant, near Belvue in this county, and obtain from him a pair of Kennelworth pigs. They are large, *plenty* large; will weigh, when fully grown, from five to seven hundred pounds, (but mind, he feeds them.) They are generally perfectly white, very fleshy, and none too much bone, and can be fattened at any age. All things considered, I prefer them to any hogs I know of. If I have any objection, it is that they may be too large for our climate—small hogs being the easiest to save. But then you know that difficulty could be obviated by killing them while young.

While upon this subject, I will say, that I have no doubt of "Clodhopper's" getting well paid for his trouble and expense, by feeding his hogs on meal instead of corn when they are put up to fatten. This I have tried to my satisfaction, and I am fully persuaded that *at least* 33 per cent. may be made by adopting the plan of putting up hogs on a floored pen and feeding on meal, instead of letting them run out in a lot and feeding on corn. Gentlemen of the North say: Cook your food and you can save 33 per cent. by that. Of this, however, I am not prepared to say, not having tried it to my satisfaction, but my intention is to test the matter this fall, by using pigs of the same litter; yes, even Berkshires if you please, and should I live to do so, you shall know the result.

I have tried a cross of the Durham cattle on common stock, and find a decided improvement in the milking qualities—the mixed stock yielding more than double the quantity of milk that the common stock does, with precisely the same treatment. This emboldens me to push my experiment even as far as the full blood, but as this is yet to be done, I can say nothing of the result. One of the Buckets.

Talbot county, March 13, 1845.

For the Southern Cultivator.

Cotton Culture—Successful Method.

Mr. Editor:—The subject of agriculture advocated by your valuable paper, the Southern Cultivator, is becoming every day more interesting. In all parts of our State we hear of experiments being made by our most enterprizing farmers, the success of which, suggests to others the importance of making similar efforts, and if possible, of improving those made already. By communicating to the public the success, or failure of our experiments, we not only open the way to insure success to others in their undertakings, but also set up a beacon, which will tend greatly to prevent many from running upon the rock of disappointment, and, not unfrequently, discouragement. Whether the publication of *my* manner of planting, manuring, and cultivating five acres of common pine land, will be of any benefit to the planting interests of Georgia, I will not presume to say; but must only hope, that others will pursue the plan with increased success.

I will state, in the first place, that my land would produce, without manure, about six hundred pounds of seed-cotton per acre, provided the season were favorable to its growth: and, in the next, that my cattle had been fed and penned on the land. I will now proceed with my manner of planting, manuring, &c. My rows, I ran off on the plan of Dr. Cloud, that is to say, three feet by five, running the narrow way with a scooter, and the wide way with a common shovel, and trench-plowing it with the same plow. I then applied ten ox loads of well rotted lot and stable manure per acre, depositing against every scooter furrow, a shovel-full to two hills, and following with a turning plow, covered the manure, by running a furrow on each side of that made by the shovel. This I did about the last of March. On the 5th of April, I planted my little field by opening the beds very shallow with a small scooter; and having first rolled the seeds in leached ashes, dropped against the scooter furrow, and over the manure, ten or twelve seeds in each hill, and covered them with a hoe. With the exception of a small portion of the field, there was a very good stand. After the cotton was up, and of a suitable size, I plowed the middles close and deep with a shovel, having first run round it with a scooter. I immediately followed with the hoe, thinned it to two stalks, and put to it a little dirt. After this we had a long drouth. When I considered my cotton out of danger from the cut-worm and other insects which sometimes prey upon it, I again, with the hoe, put a little earth to it to prevent its falling, and thinned it to one stalk. This was the last of May. We then had a heavy rain; the ground becoming very wet, several days passed before I plowed my cotton: for I never thought it was good policy to plow soon after heavy rains. The after cultivation consisted of two plowings with the sweep, and sufficient hoeing to keep the cotton free from grass. The result of which was, my field yielded 2060 pounds per acre, being 10,300 lbs. raised on the five.

My object was not so much to see what amount I could raise from one acre, but to make the most I could of my manure by spreading it upon five acres. I planted the Texan burr or bunch cotton. CALVIN LEARY.

Houston Co., Feb. 10, 1845.

For the Southern Cultivator.

Manure.

MR. CAMAK:—I am but comparatively a new farmer, and as my readings have not been much agricultural, I am a novice in husbandry: nevertheless, I shall go by the best knowledge I possess of this primitive and fundamental science and *profession.*

Every farmer, by strictly reflecting and meditating on his business, fully as much so as the lawyer on his *tomes*, the doctor on his pharmacy, and the mechanic on the *improvability* of his machinery and structures, cannot fail to become somewhat of a Kliyogg, a peasant in Switzerland, who renevated exhausted hill-lands, and rendered himself and household thereby affluent. He was called the rural Socrates.

But in general every body is attentive to his business but the farmer. Having an extensive Western country, a Texas, a Florida, and even an Oregon and a California, to settle; living contiguous to gold mines, &c. &c. &c., the American farmer, especially around about this section, appears to be the *last man* that will attend properly as he ought to his occupation! As necessity is not only the mother of invention, but also of careful and assiduous enterprise, never, I fear, until our spare regions of luxuriant tracts of land be *surcharged* with a redundant population, will the Georgia farmer begin to imitate the Yankee, or the English and French agriculturist. Still something may be done by those who are determined to abide and die on the soil of their native State.

The first and *almost the only* necessity here, is with regard to manure. My maxim is: *take care of your fences and the crop will take care of itself:* and a consecutive addition is, and no less cogent: *take care to provide abundant and well preserved manure and your cribs will always have enough*, not only to subsist upon, but to sell.

In a hilly region, so subject to washing during *every* heavy rain, whereby the rich soils of newly cleared grounds, no longer supported by the natural growths and leaves, are carried off in, and even in opposition to, the plow ridges—leaving nothing but red clay to meet the contemplation of the planter, giving growth, mainly, to broom straw, it is virtually impossible for any one to thrive without manures—and yet how few of our people ever think of manuring such wastes, good alone for brick-making. The cry is Westward Ho!—and fields are cleared and then exhausted, and the inhabitants are, at the crack of the wagon whip, moving for Alabama, Mississippi, &c.

Soon Alabama and Mississippi will be reduced to the same extremity; and if the emigration be for Texas, in spite of its alluvial deposits, the same thriftless culture will make that bountiful country too a waste! Not to use manure is too improvident for Providence to bless. Resource there is none, whatever, if men do not *manure* and improve their *hills*, except cheating or stealing. And I have no doubt, many in the calendar of crimes owe the origin of their folly to inattention, at the outset, to agriculture—at the time of clearing land to keep it always rich—hence want, &c.

Manure is the grand consideration: without that at the basis of every project, you may talk as long as you please about planting, plowing, harrowing, &c., nothing else would do. The best invention of ingenuity as to plantation *tools*, the best horses and mules, are of a very inconsiderable value. And he must be "moon struck," or "have eaten of the insane root," who relies on the latter without the former.

Luckily for us, who live on these old red gullied hills, sometimes nearly precipitous, all is a *compact clay*, and will not slide like sandy or loamy grounds; and being thus so tenacious, manure, deposited and well covered or plowed in, *will be retained for years by the stiff clay*, and repay fertilely the labors of the farmer. If a plentiful supply of this vital property of our fields could be obtained, the wastes around us would bloom like a garden.

But it "*cannot be obtained!*" Of course then the argument drops to the ground. It cannot, indeed, be obtained by inadvertent ignorance. It can be made, however, and accumulated by industrious wisdom; for the deriving and preservation of manure is an art and a science, no less than chemistry itself—one quality of which it is.

Guided by the advice of Sir Humphrey Davy, that heat and dryness evaporate the fertilizing properties of manure unless limed or gypsumed; and by that of Dr. Justus Liebig, that water is very decomposing; and decomposed manure, otherwise than in the ground, covered for cultivating vegetation, looses its strength—the sal ammoniac, which is the living principle of all vegetables—the wise and sedulous farmer would collect all the manure he can at his stable, barn, and in his yard, on a wet day, and deposit them all under some good booth or shed, fit for use when the planting season arrives. They would then be free from drying, and exempt from extraneous water, and retain their own radical moisture.

An improvement on this plan would be, to apply some bushels of lime, gypsum, or plaster of Paris, to the heap, just as it is shovelled out of the wagon. This I intend to do so soon as I can command money that I can call my own, by virtue of owing no man any thing but love, and a good example, wherewith to purchase these indispensable articles. Yours,

J. J. FLOURNOY.

Wellington Farm, Jackson co., Feb., 1845.

Agricultural Meeting in Putnam.

HELD, MARCH 18, 1845.

At a meeting held by the citizens of Putnam county in Eatonton, in accordance with previous notice, to form an Agricultural Society, and also to appoint delegates to represent this Society in the contemplated Agricultural Meeting o be held in Milledgeville on the fifth Monday in this month—upon motion, Samuel Pearson, Esq., was called to the Chair, and C. S. Credille requested to act as Secretary.

After some appropriate remarks, Wm. Turner, Esq., submitted the following resolutions, which were adopted, to wit:

Resolved, That this meeting form itself into an Agricultural Society, and proceed to the election of President, a Vice-President and Secretary; the latter of whom shall be Treasurer.

Resolved, That the Society forthwith appoint one delegate from each district in the county, to represent this Society in the proposed Agricultural Meeting to be held in Milledgeville on the fifth Monday in this month.

Resolved, That a committe be appointed to draft a constitution for the government of this Society, to be reported for consideration at our next meeting.

The Society then proceeded to the election of officers, in accordance with the first resolution; whereupon, Samuel Pearson, Esq., was elected President, John Farrar, Vice-President, and C. S. Credille, Secretary.

They also appointed the following delegation to the contemplated Agricultural Meeting in Milledgeville—Wm. McKinley, Wm. B. Terrell, Wm. Turner, Samuel Pearson, Alexander B. Harrison, Robert Ladd, Wm. Garrett, Pleasant J. Mullens, Lewis H. Linch, Wm. Farrar, Alexander C. Maddux, Wm. Hearn, John Copeland, Irby Scott, John A. Cogburn and Nathan Bass.

On motion, the Chair appointed a committee of five, viz:—Wm. Turner, Esq., A. D. Gatewood, B. W. Johnston, Thomas Turner, jr., and Nathan Bass, to draft a constitution.

On motion, the first Tuesday in next month was appointed for our next meeting.

The list was then opened for the reception of members, and a large and very respectable number had their names enrolled.

Resolved, on motion, that our proceedings be published in the Milledgeville papers and the Southern Cultivator.

The Society then adjourned.

SAMUEL PEARSON, Pres't.

C. S. CREDILLE, Sec'y.

BUTTER.—There are few departments of rural industry, in which there is so much room for improvement, as in the business of *converting milk into butter!* This will be admitted, readily, by all who reflect, on the very small proportion, which really pure, well-flavored butter bears, to the whole quantity exposed for sale in the common market, or to that which is produced in the country.

The defective quality of butter arises no less from want of care or skill in the management of the milk—probably much more from that cause—than from any effect upon the milk, resulting from the difference in the pasture and food of the cow; although the latter has, doubtless, a powerful influence So sensible are they of this influence in Scotland, that we observe among other curious objects, never thought of in this country, a premium has been offered there for the best essay *on the influence of food on milk and butter.* We cannot but suppose, that the superiority of the butter in the Philadelphia market, arises, in a great degree, from the nature of the pasturage; consisting of long established "English grass" meadows. He who will take the trouble to make the calculation, will be struck with the increase of national wealth which would accrue from an improvement in the quality of our butter, from whatever cause, that should add a few cents to its selling price, without saying any thing about the increase of the quantity which could be easily obtained, by more careful milking, and a better system of dairy management.—*N. Y. Albion.*

WINTER BUTTER.—Mr. Judge Kimball, of Lindon, Vt., has shown us some excellent butter made in December last. It is yellow as most of the tubs that are made in June.

Mr. K. tells us he scalds his milk before setting it for cream; and his mode of scalding is to heat a quantity of water in his boiler and set the milk pail in the hot water—not boiling—till the milk has become thoroughly warm. It is then set in pans in a dairy where the heat is kept uniform at about sixty degrees.

We think this is a better mode of making winter butter than scalding or freezing the cream. —*Massachusetts Ploughman.*

A GOOD COMPOST FOR SANDY LAND.—Take 10 loads of stable or barn-yard manure, 5 loads of clay, 10 bushels of ashes, and 20 bushels of lime, mix the whole well together, let it remain in pile a few days, turn it over, when it will be fit to apply to the land.

The above quantity will make a better dressing for an acre of sand than twenty, or even twenty-five loads of stable or barn-yard manure alone, and will last longer. Let any one who may doubt, try it, and they will be convinced of the truth of what we say.

EGYPTIAN CORN.—Robert W. Williams, of Tallahassee, Florida, in a letter to the editor of the American Agriculturist, dated Nov 13th, 1844, says: "One word about Egyptian corn. It is now green, with a crop of from five to eight heads from each root more than half matured. This, should it mature, will be the fourth ripe seed that has been gathered from one planting. From the manner it continues to send up shoots from the old root, I am induced to try if it will not rattoon next spring, by protecting it this winter.

"The low price of the great southern staple is having the happy effect of causing proprietors to give more of their personal attention to their plantations; and, as a natural consequence, producing a taste for the science of their profession, and a demand for agricultural publications and improved implements."

From the Boston Plowman.

Horse Breaking.

There is a difference of opinion among horse dealers in regard to the time when you should commence showing your authority over the motions of the young horse. Some contend that they can be better broken after being allowed to run perfectly free for three or four years; while others insist that there is danger of their becoming self-willed if they are not compelled to submit at an earlier age. One point is certain: it is best to let the colt run perfectly free until the time comes when you have the leisure to control him completely and effectually. Half-breaking is worse than no breaking; orders once given must be obeyed or orders would be better withheld.

The first step to be taken, in breaking a young horse, is to convince him most satisfactorily that his halter is stronger than himself. If he breaks his first rope he will never forget it; you may fasten him afterwards a hundred times with a timber chain and he will make a hundred attempts to break it—because his memory is better than his judgment. He must not be suffered to break loose, at the first tying, on any consideration whatever. We often see very gentle horses that will stand quietly in harness for hours, if you attempt not to fasten them; yet they will give your halter a try as soon as they find you have attempted to make them fast. This will never be the case if you have done your duty in halter breaking.

HOW TO MAKE A HORSE GO.

The next step is to teach a horse to move at your bidding. For unless you can do this it is of little consequence whether you can fasten him or not. A well broken horse will move when you desire he should, either forward or backward.

You must be extremely cautious how you issue your first orders to "move." You must not expect to be able to drag your horse after you until he has become used to following—you cannot even "lead him to drink" unless he wills to follow, and his will should be won by kindness, unless you prefer to rule always by brute force.

After your colt is fairly halter broken—after he has been made fully sensible that your power, at the post, is superior to his, you will do well to coax him to move, either by inviting him to eat something agreeable, or to follow some agreeable company. You may tie his halter fast about his mother's neck, and he will walk by her side; or you may tie him to the shaft of the wagon to which she is harnessed, and let him travel with her.

In some districts we find colts of four months old travelling with much regularity and order by the side of the mother that carries the family to meeting in the chaise. The colt's halter is made fast to the fore end of the shaft, and he is kept out of mischief, more effectually than some children are, during the whole of the service. Colts that have been taught to go to meeting are half broken; whereas if they were allowed to run perfectly free, going to meeting would be of no service.

Now your colt is taught to stand and to move at your request; after much repetition he will acquire such a habit of obedience that it will be natural and easy to him. Before he is old enough to draw a load you can place a harness on him and let him become used to that. He should never be allowed to draw hard when young. Nor should any burthen, heavier than a saddle, be placed on his back before he is three years old. Some owners will not allow a grown man to ride before the colt is four.

BEST AGE FOR BREAKING.

We cannot see but one objection to halter breaking while the colt is quite young, and that is the temptation to back him before his spine has become strong enough to bear a great weight. The owner must guard against such an abuse, and he will then have a horse more kind, more gentle, more safe, and more certain in draft, than if his colt were allowed to run wild till three or four years of age. In addition to this, the labor of breaking will be found less if you commence with the first summer; and young colts bear restraint with less repining and loss of flesh than full grown colts.

When you first put a young horse to drag a load, be quite sure it is a light one. Never let him conjecture that his load can keep him back. Teach him to proceed till you command him to stop, and mind that he stops on ground where he can readily start again. Speak plainly and distinctly to him. Say "whoa" when you mean whoa, and say "go" or "come," or something that sounds quite differently from whoa, when your meaning is different.

We have had high spirited horses that would stop at once, by the word of mouth only, when the harness failed and the reins were broken—when the sleigh upset, and when the chaise broke down. With such horses you feel more safe than when you depend wholly on the rein, or your blind bridle. You have a double chance of safety in case of accident.

BACKING OUT.

Horses as well as broken oxen should be taught the art of backing. How much we are troubled to back some carriages out of a shed! A young horse should be taught to walk backward, while in a cart or chaise, where the ground descends and where he can easily follow. It is almost as easy to teach him to go back as to go forward. Speak to him—say "back," plainly, and use such plain language as an Irishman can understand.

From the Boston Cultivator.

Poultry.

A correspondent in Richmond, Me., contemplating to keep a large number of fowls, makes inquiries as to the best breeds, mode of management, the number that may be kept together, the best grain raised in Maine for food, &c. &c.

Although we have kept various breeds of fowls, we cannot determine which is best, and if inquiry be made of those who pay much attention to the subject, we find that opinions are as various as they are about the kinds of cattle. If we consult our poultry books, they only describe the different varieties, leaving the reader to make his own decision. It is the same with fowls as with different kinds of cattle, one excels in one thing, another in another. It is difficult to find all the desirable qualities united in one breed.

The Polands or *Top-Knots* are among the most noted birds. They are middling size, very beautiful, good layers, excepting in cold weather, and not inclined to sit. Their flesh is excellent, but not good for the market, as their legs are black. They are rather tender, and the young chickens not so easy to raise as those of the hardy races. This bird is seldom found pure in New England, where people are noted for attempting improvements by mixtures.

The Dorking's are a famous breed, combining several good qualities. Good layers, sitters, nurses, and their flesh is good. Their legs are generally of a light or flesh color, having been bred in England where this color is preferred, yellow being the most objectionable color in that country. These are seldom found pure long after they have been imported. Some prefer the large white, others say they are too coarse, and give their preference to the small white, still leaving room for other opinions in favor of the speckled variety.

The Buck's County is a large, hardy race; and though the chickens have hardly any feathers till they are 4 or 5 weeks old, being as ugly looking as a toad, yet they are hardy. This bird is large. We have seen capons in this market from Pennsylvania, about 18 months old, that weighed, dressed, 19½ lbs. a pair. They often astonish the *Natives* who inquire, "what fowls are these?" being puzzled to tell whether they are *turkeys* or *geese*, never thinking that they are hens. When these chickens are about half grown, they are as large as other birds nearly full grown, and will sell well to persons who do not know what is good to eat neither before nor after it is cooked. Their flesh is hard and coarse-grained, and they are long in coming to maturity. They will answer for soups, broth, and stews. They are not very good layers and their eggs are small for fowls of a large size.

The Game breed is the best fighters. But since men have left off fighting themselves, they are not inclined to rear fowls for cruel sports. They are good layers and are remarkably hardy. Their flesh is the finest of any. But they are so pugnacious that the male chickens often kill one another. A little touch of this breed is well in the chieftain of a flock, to give him a marshal bearing. We have a noble *crow biddy* which has a tincture of this blood; but he does not fight, for he never runs after those who are disposed on his appearance to trust to speed for safety. One-sixth or one-eighth of this breed is enough in a class of animals that have as high a *sense of honor* as a duelist.

The Boobies are valued by some, but we think that they are too clumsy and coarse; they lay small eggs for large fowls, and they are tender; the chickens are difficult to rear.

The Guilderlands are called fine fowls, but they are as yet but little known, and their peculiar qualities are not well defined.

The Russian or *Siberian* fowls are called excellent layers. They are of a very grotesque appearance, having feathers resembling the beard of a Jew, and quills or feathers on their legs. But little is known of them in this country, and being scarce they are difficult to obtain.

As to food in Maine, we believe that roots will be the cheapest, such as potatoes and carrots, using some pumpkins with them, and while hot, after boiling, stir in meal and bran. When grain is plenty, it is most convenient to use that as the principal food, especially in cold weather. In some large poultry establishments in Europe, roots are the principal food.

We have heard and known several cases of keeping many fowls together, say several hundred, and almost invariably failures have taken place from the fowls being sick, or not laying enough to pay expenses. Whether the want of success has been owing to mismanagement, or to evils that naturally result from large flocks, we cannot tell. We should think it advisable in case of keeping large numbers, to divide them into flocks of about 50, or less, each. It may answer to have 100 in a flock, but we think they will not do so well as a smaller number.

Reward of Industry.——The Eufaula (Alabama) "Shield," of the 1st instant, says:—We were shown on Saturday last, a beautiful set of Silver Castors, which were awarded by the Apalachicola Chamber of Commerce to Col. A. McDonald, of this place, for the best lot of cotton of twenty bales, sold in that city during the last season. The castors are plain and neat, costing $101 in the city of New-York. Thus has the worthy Colonel been rewarded for his industry and skill—and as an inducement to others to direct their attention more to the quality than the quantity of their cotton, we will state that Col. McDonald's premium cotton commanded, when sold, at least two cents more than the highest market price for good cotton. For his present crop nine cents have been offered in the city of New York and refused. Had every planter in the cotton-growing region, pursued Col McDonald's plan of raising cotton, no one can begin to estimate the advantages the country would now be reaping. When will the people learn wisdom?

Sore Backs or Galls on Horses.—Rub white lead in sweet oil until a good paint is made, and apply a coating of this to the injured place. Milk will do where no oil is to be had. It is one of the most effective applications.—Some for the same difficulty use a solution of vitriol in water; but, in most cases, the white lead is preferable.—*Far. Cabinet.*

Horticultural Outline.

AN OUTLINE of the first principles of HORTICULTURE, by JOHN LINDLEY, F R S. &c. &c., Professor of Botany in the University of London, and assistant Secretary of the Horticultural Society.—[CONTINUED]

III.—STEM.

57. The stem is that part of the plant which is developed above-ground, and which took an upward direction at the period of generation.

58. It consists of a woody axis, covered by bark having stomata (131) on this surface, bearing leaves, with leaf-buds in their axillæ, and producing flowers and fruit.

59. The points where leaves are borne are called *Nodi;* the spaces between the leaves *Internodia.*

60. The more erect a stem grows, the more vigorous it is; and the more it deviates from this direction to a horizontal or pendulous position, the less is it vigorous.

61. Some stems are developed under ground, such as the Tubers of the Potatoe and the Cormus of the Crocus; but they are known from roots by the presence of leaves, and regular leaf-buds upon their surface.

62. Stems increase in diameter in two ways:

63. Either by the addition of new matter to the outside of the wood and the inside of the bark, when they are *Exogenous;* ex. Oak;

64. Or by the addition of new matter to their inside, when they are *Endogenus;* ex. Cane.

65. In Exogenous stems, the central portion, which is harder and darker than that at the circumference, is called *Heart-wood;* while the exterior, which is softer and lighter, is called *Alburnum,* or *Sap-wood.*

66. The inside of the bark of such stems has also the technical name of *Liber.*

67. The Heart-wood was, when young, Alburnum, and afterwards changed its nature, by becoming the receptacle of certain secretions peculiar to the species.

68. Hence the greater durability of Heart-wood than of Sapwood. While the latter is newly formed, empty tissue, almost as perishable as bark itself, the former is protected against destruction by the introduction of secretions that become solid matter, which is often insoluble in water, and never permeable to air.

69. The secretions by which Heart-wood is solidified are prepared in the leaves, whence they are sent downwards through the bark, and from the bark communicated to the central part of the stem.

70. The channels through which this communication takes place, are called *Medullary Rays* or *Silver grain.*

71. Medullary rays are plates of cellular tissue, in a very compressed state, passing from the pith to the bark.

72. The wood itself is composed of tubes consisting of woody fibre and vascular tissue, imbedded longitudinally in cellular substance.

73. This cellular substance only developes itself horizontally; and it is to it that the peculiar character of different kinds of wood is chiefly due.

74. For this reason the wood of the stock of a grafted plant will never become like that of its scion, although, as will be hereafter seen, (IV,) the woody matter of the stock must all originate in the scion.

75. The stem of an exogenous plant may therefore be compared to a piece of linen, of which the weft is composed of cellular tissue, and the warp of fibrous and vascular tissue.

76 In the spring and autumn a viscid substance is secreted between the wood and the liber, called the *Cambium.*

77. This Cambium appears to be the matter out of which the cellular horizontal substance of the stem is organized.

78. In Indigenous stems, the portion at the circumference is harder than that in the centre; and there is no separate bark.

79. Their stems consist of bundles of woody matter, imbedded in cellular tissue, and composed of vascular tissue surrounded by woody fibre.

80. The stem is not only the depository of the peculiar secretions of species, (67,) but this is also the medium through which the sap flows in its passage from the roots in the leaves.

81. In Exogenous stems, (63,) it certainly rises through the alburnum, and descends through the bark.

82. In Endogenous stems, (64,) it probably rises through the bundles of wood, and descends through the cellular substance; but this is uncertain.

83. Stems have the power of propagating an individual only by their Leaf-buds. If destitute of Leaf-buds, they have no power of multiplication, except fortuitously.

IV.—LEAF-BUDS.

84. Leaf-buds are rudiments of branches enclosed within scales, which are imperfectly formed leaves.

85. All the leaf-buds upon the same branch are constitutionally and anatomically the same.

86. They are of two kinds, viz: *regular* or *normal,* and *adventitious* or *latent,* (119.)

87. Regular leaf-buds are formed at the axillæ of Leaves.

88. They are organs capable of propagating the individual from which they originate.

89. They are at first nourished by the fluid lying in the pith, but finally establish for themselves a communication with the soil by the woody matter which they send downwards.

90. Their force of development will be in proportion to their nourishment; and, consequently, when it is wished to procure a young shoot of unusual vigor, all other shoots in the vicinity are prevented growing, so as to accumulate for one shoot only, all the food that would otherwise have been consumed by several.

91. Cutting back to a few eyes is an operation in pruning, to produce the same effect by directing the sap, as it ascends, into two or three buds only, instead of allowing it to expend itself upon all the others which are cut away.

92. When leaf-buds grow, they develope in three directions; the one horizontal, the other upward, and the third downward.

93. The horizontal development is confined to the cellular system of the bark, pith, and medullary rays.

94. The upward and downward developments are confined to the woody fibre and vascular tissue.

95. In this respect they resemble seed; from which they differ physiologically in propagating the individual, while seed can only propagate the species.

96. When they disarticulate from the stem that bears them, they are called *bulbs.*

97. In some plants, a bud, when separated from its stem, will grow and form a new plant if placed in circumstances favorable to the preservation of its vital powers.

98. But this property seems confined to plants having a firm, woody, perennial stem.

99. Such buds, when detached from their parent stem, send roots downwards and a stem upwards.

100. But if the buds are not separated from the plant to which they belong, the matter they send downwards becomes wood and liber, (56,) and the stems they send upwards become branches Hence it is said that wood and liber are formed by the roots of leaf-buds.

101. If no leaf-buds are called into action, there will be no addition of wood; and consequently the destruction or absence of leaf-buds is accompanied by the absence of wood; as is proved by a shoot, the upper buds of which are destroyed and the lower allowed to develope. The lower part of the shoot will increase in diameter: the upper will remain of its original dimensions.

102. The quantity of wood, therefore, depends upon the quantity of the leaf-buds that develope.

103. It is of the greatest importance to bear this in mind in pruning timber trees: for excessive pruning must necessarily be injurious to the quantity of produce.

104. If a cutting with a leaf-bud on it be placed in circumstances fitted to the development of the latter, it will grow and become a new plant.

105. If this happens when the cutting is inserted in the earth, the new plant is said by gardeners, *to be upon its own bottom.*

106. But if it happens when the cutting is applied to the dissevered end of another individual, called *a stock,* the roots are insinuated into the tissue of the stock, and a plant is said to *be grafted,* the cutting being called a *scion.*

107. There is, therefore, little difference between cuttings and scions, except that the former root into the earth, the latter into another plant.

108. But if a cutting of the same plant without a leaf-bud upon it be placed in the same circumstances, it will not grow but will die

109. Unless its vital powers are sufficient to enable it to develope an adventitious leaf-bud, (119.)

110. A leaf-bud separated from the stem, will also become a new individual, if its vital energy is sufficiently powerful.

111. And this, whether it is planted in earth, into which it roots, like a cutting, or in a new individual, to which it adheres and grows like a scion. In the former case it is called *an eye;* in the latter, *a bud.*

112. Every leaf-bud has, therefore, its own distinct system of life, and of growth.

113. And as all the leaf-buds of an individual are exactly alike, it follows that a plant is a collection of a great number of distinct identical systems of life, and consequently a compound individual.

114. Regular leaf-buds being generated in the axillæ of the leaves, it is there that they are always to be sought.

115. And if they cannot be discovered by ocular inspections, it may nevertheless be always inferred with confidence that they exist in such situations, and may possibly be called from their dormant state into life.

116. Hence, wherever the scar of a leaf or the remains of a leaf can be discovered, there it is to be understood that the rudiments exist of a system of life which may be, by favorable circumstances, called into action.

117. Hence, all parts upon which leaves have ever grown may be made use of for purposes of propagation.

118. From these consideratione it appears that the most direct analogy between the animal and vegetable kingdom is with the Polypus of the former.

119. Adventitious leaf-buds, are in all respects like regular leaf-buds, except that they are not formed at the axillæ of leaves but develope occasionally from all and any parts of a plant.

120. They are occasionally produced by roots; by solid wood, or even by leaves and flowers.

121. Hence roots, solid wood, or even leaves and flowers may be used as means of propagation.

122. But as the development of adventitious buds is extremely uncertain, such means of propagation can never be calculated on; and form no part of the *science* of cultivation.

123. The cause for the formation of adventitious leaf-buds is unknown.

124. From certain experiments it appears that they may be generated by sap in a state of great accumulation and activity.

125. Consequently, whatever tends to the accumulation of sap in an active state may be expected to be conducive to the formation of adventitious leaf-buds. *[To be continued.]*

AN ACRE.—An acre of land contains—4 roods, (or quarters,) each containing 40 poles or perches or rods; 160 rods, 16½ feet each way; 4,840 square yards of 9 feet each; 43,560 square feet, of 144 inches each; 174,240 squares of 6 inches each, each containing 36 inches; 6,272,640 inches, or squares of one inch each.

STUMP LIFTER.—What is the best kind of machine for taking out stumps? Many contrivances have been got up for the purpose of clearing fields of stumps. One of the most common in this section is the wheel and axis, mounted on high posts so as to lift the stumps up. The Albany Cultivator has a cut of one which it says cost $300 or $400, and which has cost the inventor, first and last, $10,000, to bring to perfection. This appears to be an excellent machine, but although it requires but a single horse to pull up a stump of the largest rate, yet it costs too much for "these diggins."

We have seen the following very simple plan of stump clearing, adopted with good success.

Take a strong, stiff, hard wood stick of timber, say fifteen or twenty feet long and six inches in diameter. Cut around the stump and take off some of the roots. Then place the timber upright against the stump, and chain them together strong. From the upper end, which is now in the air, let the chain pass to the axletree of a pair of cart wheels, to the tongue of which a pair of strong oxen are attached. When all is ready, start the oxen along, and the stump "*keels over*" as easy as you capsize a cabbage in a garden.—*Maine Farmer.*

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SOUTHERN CULTIVATOR.

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Mode of Cultivating Tobacco in the Island of Cuba.

Your nurseries are the first to be attended to, in your preparation for a crop, by selecting at the proper season a rich and tolerably moist piece of new ground, and prepare it by burning it off very clean, and breaking it up. The seed is then to be sown broadcast upon it, and when they are up, they are to be overlooked daily, to see that the cut-worm does not commit ravages among the young plants; and as fast as the plants arrive at a proper size, they are to be transferred to the Tobacco field, to make room for the smaller plants of the nursery. As casualties frequently arise to destroy some of the nurseries, it is necessary to guard against a probability of not having a sufficient number of plants, by making three or four nurseries, at an interval of one or two weeks each. Much attention should be observed to keep both your nurseries and field very clean, particularly of grass, and for that reason new lands are preferred for both. In Cuba, they plant on an even surface, and disturb it as little as possible with the hoe, only picking out the grass or weeds which spring up. The plants, when transferred to the field, are to be planted in squares, at about from two to three feet apart, according to the strength of the land. The high lands in Cuba are such as produce the quality of Tobacco, both as to strength and color, that suits the American market best, and such lands correspond nearest to our high hammocks. The greatest enemy to the plants, both in the nursery and in the fields, (while small,) is the cut-worm, which has to be looked after early every morning, and wherever they have eaten the plants, they are to be found and killed, either on the plant or on the ground near it. When the plants get to be larger, then the large green Tobacco-worm is to be constantly guarded against, and the suckers also continually broken off as fast as they appear, and when the Tobacco is judged to be of a sufficient height, it is to be topped and allowed to mature for cutting. The time of maturity is ascertained by the leaves changing gradually their color, beginning at the bottom leaves, from their deep green growing color, to a yellowish green; but if this is not sufficiently obvious, and you deem your Tobacco ripe, you may test it by crushing together the tip of any of the upper leaves, which, if it snaps, is a sign of its being ripe; but on the contrary, if it does not snap, it is not fully matured. When ripe for the knife, it is cut down near the ground, leaving two suckers, which have been spared a week or two prior, ready to grow up and produce a second crop, and also a third crop may be realized in the same manner. The Tobacco is to be conveyed carefully in wide thongs of cowhide to the house, to be hung up; a shed is preferred, with free space for ventilation beneath, and after tying the plants together, two to each string, and leaving space enough between them to insert a wooden peg, you hang them up, by intruding them above each rafter up to the ridge of the house, being careful not to hang them so near that they will touch or crowd each other in drying, or your Tobacco will mould. Also when the weather is moist, you must make small fires enough under it, to keep out the moisture, but not enough to heat your Tobacco. When the leaves are perfectly dry, the whole are to be taken down, and placed in a press for a few hours, the object of which is, if the Tobacco is too dry to strip off without breaking the leaves, that they may become soft and pliable, but great care must be taken that it does not heat, and it must be strictly examined, by inserting the hand to ascertain that it becomes not too hot. The press is made by putting rails or poles crosswise of each other, in form of a rack, and placing cow-hides under, over and around the Tobacco, and placing upon it something somewhat weighty. It is then to be stripped leaf by leaf from the stock, and being selected, the wrappers from the fillers, to be tied at the butts, and prepared for market. It is sometimes usual to put it again in press after being stripped.—*Floridian.*

Tanning on the Plantation.

Tanning leather, for the use of the plantation, is an item of good management that should not be overlooked by any planter. Nor would it be as much overlooked as it is, if the simplicity of the process was generally known—that process, I mean, that will suffice for making leather for home use. The *tanner* by profession, in order to prepare an article that will command a good price in market, and have a merchantable appearance, puts the hides and skins through a greater number of manipulations; and, that he may work to better advantage, has his arrangements on a more extensive scale.

The vats, tools, and implements really needed, are few and simple. Four *vats* will generally be found all-sufficient; one for a *pool* of fresh water, and for *baiting;* one for *liming;* another for *coloring;* and a fourth for *tanning*. The best size, in the clear, is seven feet long, four and a half feet wide, and five feet deep. They should be placed so as to be easily and conveniently filled with water from a spring, running stream or cistern. Dig the holes 9 feet, by 6½ and 6; if the foundation is clay, the depth need not be over 5 feet. Form a stiff bed of *clay mortar* in the bottom, on which to lay the floor, and on it erect the sides and ends of the vat, of plank of almost any kind, sufficiently thick to resist the pressure from without—two inches will be thick enough. When this is done, and the whole nailed fast, fill in the vacant space round with *well-tempered* clay mortar, ramming it effectually: it is on this, and not the planks, that dependence is placed for rendering the vat perfect. When well made, a vat will be good for a long lifetime—the *ooze* preventing the decay of any but the top round of plank. Such a vat will hold 15 large beef hides (30 sides,) besides a number of small skins.

The material used for tanning, is the bark of the red or black oak, stripped when the sap flows in the spring, stacked and dried—of which, about four pounds are supposed to be necessary to produce one pound of leather. There is an article occasionally used, called "catechu," which is an extract made from the wood of a mimosa-tree, a native of India, half a pound of which answers the same purpose. Galls, willow bark, the bark of the Spanish chesnut, and common elm, as also sumach, are all used by the tanner. It has been recently found that the root of the palmetto answers an equally good purpose with the best oak bark.

Bark has to be ground as wanted; or if the quantity needed is small, and it is not thought advisable to incur the expense of a *bark-mill* (from $10 to $18,) it may be pounded in a large mortar, or beat up on a block. It will require one third more of *pounded* than of *ground* bark, to afford equally strong *ooze*, which is the infusion of bark.

The principal tools requisite, are a *fleshing-knife, currier's knife*, a *brush* like a stiff horse-brush, and a *fleshing-beam*. The fleshing-beam is made by splitting in two a hard-wood stick of about a foot in diameter; inserting two stout legs, some thirty inches long, in one end of the split side, so that the other end rests on the ground, with the round side up, the elevated end being high enough to reach the workman's waist. A fleshing-knife may be made by bending an old draw-knife to suit the *round* of the fleshing-beam.

The skins of bulls, oxen, cows, and horses, are called *hides;* those of calves, deer, sheep, &c., are known as *skins*.

Fresh and *dried* hides receive the same treatment, except in the washing process. Those that are salted and dry (and no hide should be dried with less than from two to four quarts of salt being rubbed on the flesh side—dried without salt, it is extremely difficult to soften them,) require to be steeped, beaten, and rubbed, several times alternately, to bring them to a condition sufficiently soft for tanning.

Green or fresh hides must be soaked in pure water from 12 to 24 hours, to extract all the blood, &c., and soften the extraneous fleshy matter, which must then be removed—throwing one hide at a time on the fleshing-beam, *grain* or hair-side down, and scraping or shaving off with the fleshing-knife, which must be somewhat dull, or the skin is apt to be cut. They are then put in the *liming-vat*, which is supplied with strong lime-water, by filling the vat a little over half full of water, and adding thereto four bushels of unslaked (or of air-slaked) lime, or at the rate of two-thirds of a bushel of lime to the barrel of water. This will suffice for fifteen hides; each time that they are removed and a fresh lot of hides put in, add another bushel of lime, which will keep up the strength for a twelve month. Before using, stir the lime well up, and while it is thus mixed with the water, put in the hides evenly, so that the lime will settle on every part of them. They are to remain here from ten to fifteen days, or for three or four days after the hair will rub off with the finger completely and with ease. While in the liming-vat, they must be moved up and down every other morning, to expose them to the air, and to the equal action of the lime. Being now ready for unhairing, cut each hide in two, by slitting them along the centre of the back with a knife, forming them into *sides*. Throw ten or twelve of these sides on the fleshing-beam, and strip the hair off with the knife; and as they are unhaired, throw each one into the vat of fresh water to bait or soak. When the lot of sides and skins in hand have been all unhaired and thoroughly washed, throw them again, and at once, on the fleshing-beam, with the *grain* or hair side up, and *wash them over* (rub and press them) with the knife until all the gummy or mucilaginous matter is worked out. This should be repeated two or three times during ten or twelve days, being each time baited anew in fresh water. And this *working over* must only be done when the sides feel soft and smooth to the touch; as they will at times, from some unexplained cause, feel rough, at which time they must not be *worked over*. While they are thus *baiting*, they must not be neglected, or they will soon spoil. Tanners are in the practice of adding 1000th part of sulphuric acid (oil of vitriol) to the last *bait*, which has the effect of swelling the pores and distending the fibres, and thus rendering the skins more susceptible to the action of the ooze: forty-eight hours generally suffice for this last *baiting*.

In the meantime, some good strong *ooze* should be prepared for the first *tanning* process, called *coloring*. Fill a vat a little more than half full of water, and add bark, in the proportion of one and a half bushels of *ground*, or two bushels of *pounded* bark, to the barrel of water, which will bring the vat up to about two thirds full. When the bark has soaked from four to five days, the sides are put in, and allowed to remain fifteen days; during which they must be *once* well and carefully *fleshed* and *worked over*, and must be drawn up and down every morning, for the first week at least, and the bark well *plunged* or stirred up, to have them *color* evenly.

After this, the vat being now two thirds full of this same *ooze*, after drawing out the hides, lay a

good coating of fresh bark, of say an inch thick, on the top of the water, on which it will float; lay on this a side, spread out evenly; and if it has to be lapped over in any part, lay on more bark until it is all well coated, taking care to place those at the bottom of the vat now, that were at the top last time. On this side lay an inch coating of bark, and on that another side, and so on, with alternate layers of bark, until the vat is full, or the sides all laid away.

In this, which is called the *first bark*, the sides must lie four weeks. They are then drawn out, and the spent-bark, taken out with a *skimmer* or *drainer*. The sides are then replaced as before, with alternate layers of fresh bark, in the same ooze, which has acquired some additional strength, notwithstanding the amount of tanning and extractive matter contained in the bark, that has become intimately combined with the animal fibre of the hide. In this *second bark* they remain six weeks undisturbed, when they receive a *third bark*, in the same way, in which they are left another six or eight weeks. Three *barks* will suffice to tan deer, hog, calf, and other small skins; four *barks* will make good sole leather, but five are preferable.

The *tanning* process being completed, *sole* leather is taken out of the vat, rinsed effectually, and dried in the shade, hanging the sides up by two of their corners to joists, where they remain until wanted. Those sides intended for upper and harness leather, (which are those of cows, &c.—the largest and thickest bullock hides being used for sole leather,) as also deer, hog, and other small skins, being thoroughly rinsed, are spread out on a strong table, with the grain or hair side up, and scoured with a stiff brush, like a very stiff horse-brush, occasionally throwing on pure water, until *all the ooze* is scoured out. Tanners use the edge of the stone, made smooth, to assist in rubbing out the ooze, and all the water that can possibly be rubbed out. They also use what they call *a slicker*, being a dull edge of copper of about six or seven inches long, set in a piece of wood, to serve as a handle.

After they are all served thus, and rubbed as dry as possible, the table is cleaned off, and the skins thrown back upon it, *grain side* up, and are rubbed with tanner's oil (cod-fish oil) as long as the leather will receive it. Harness leather must be completely saturated. As they are oiled, fold them up and lay them aside. When they are all gone over, lay one on the table at a time, flesh side up, and with a rag rub on all the *dubbing* that the leather will absorb. Thin hides require but a small quantity; harness leather must have a heavy coating.

Dubbing, which consists of equal parts of tar and tallow, melted together, and well mixed, must be made the day previous to being used. Lard *may* be used in place of tallow, but will require a lesser proportion of it. Each side of leather is then hung up by two corners to joints, there to remain until perfectly dry, or until wanted. If iron or steel touches a hide during the process of tanning, when in the least wet, or even moist, it will discolor it, forming an indelible black mark.

To *blacken* harness or other leather, take the skin when completely dried, and if any greasy spots appear, showing that more oil or dubbing has been applied than the leather could absorb, wet the spots with a little strong ooze, and scrub them out with a brush. Then apply a good coat of *copperas*, (sulphate of iron) dissolved in ooze, until the leather has a good color all over. After this, when dry, put on another good coat of oil. The leather may then be smoothed off with a rounding edge of polished steel, or glass, or stone. T. Affleck.

Ingleside, (Miss.) Sept. 19, 1843.—[*Am. Agr.*

Yellow Locust.—If you have but little fencing timber fit for posts on your farm, sow a few pounds of yellow locust seed, and when the plants are two years old they may be transplanted. In twelve years from the time the seed is sown you may begin to cut them for posts. Say you, twelve years is a long time to wait; but you should recollect, that every farmer has some spot where they might be grown, and that, as fencing is a dear article, every farmer should endeavor to grow his own timber.

In Setting Trees, do not place them deep, and let the earth around them remain concave that it may catch the water.

Corn-Stalk Sugar.

To Col. A. G. Summer, Editor South Carolinian:—

Dear Sir—When I saw you last, you asked me for some directions for cultivating Corn-stalks and making Sugar. I transcribe you an article, containing much useful information on the subject, from the Saturday Courier, published in Philadelphia. I now take pleasure in complying with my promise, to furnish you with my own experience.

DIRECTIONS FOR CULTIVATING THE CORN-STALKS, AND MAKING SUGAR.

"In various portions of the country, the cultivation of Corn for the manufacture of Sugar, continues to excite attention. The public are seeking information upon the subject, as the discovery that Sugar can be made from the stalks of Corn, is of recent date. We take pleasure in presenting our readers any facts that may be of importance, upon the subject. Dr. Naudain, of Delaware, who has had opportunities to gather knowledge upon the various experiments that have been made, presents some views which will not fail to be regarded with interest.

"With regard to the culture, it is stated that Corn should be planted as Broom-corn is commonly planted, very close in the row, probably a stalk every three or four inches. The tillage will be the same as for Broom-corn. When the young ears begin to appear, it is necessary to pluck them off carefully, and to repeat the gathering as often as necessary, so as *to prevent the formation of any grain*. Because, if grain be allowed to form, it takes all the Sugar from the stalk. About the time the corn begins to harden, the making of Sugar should be begun.

"It is not necessary to say anything about a proper mill to crush the stalks and separate the juice, because mills of the cheapest kinds only should be employed now, until the business would fully warrant an expensive outlay. It would probably be found that the common cider mill, with plain cylindrical nuts, would be quite sufficient for the farmer who would raise a fourth or half an acre of Corn for Sugar, for his family, and this quantity would be quite sufficient for satisfactory experiment.

"When the juice is separated from the stalk, about a tablespoon full of whitewash, made of the *best quick lime*, and about the consistence of thick cream, should be added to each gallon of the juice, and then the boiling should commence. The scum that rises should be carefully removed; and the juice, if this process has been properly conducted, will be quite clear, nearly colorless. Then commences the process of evaporation; and when the juice has boiled down in about the proportion of eight gallons to one, the boiling will be completed, and it may be poured out into a shallow, tight wooden box to grain.

"It has been ascertained, although as yet the reason is not known, that if the juice be boiled in a deep vessel, like the common cooking vessel, Sugar will seldom be obtained; while, if it be done in a shallow vessel, so that the juice at the commencement of the boiling shall not be more than three to five inches deep, Sugar would be obtained without difficulty. It has been ascertained, also, that the Sugar from Corn will not grain so readily as that from the Sugar-cane; and in some instances, it has remained more than a week after the boiling, before the Sugar was formed, and yet excellent Sugar was made.

"It should be particularly remembered, that the juice should be boiled as soon as separated from the stalk. It becomes acid very soon, and no Sugar can be made if the juice be allowed to stand two or three hours before it is boiled. The juice will even spoil in the stalk before it is ground, if the stalks be cut off a few hours before grinding. It is necessary, then, that every part of the process should be done with the greatest despatch. The stalks should be brought to the mill as soon as cut, and ground immediately. The vessel for boiling ought to be properly filled in two hours grinding, and the process of boiling down should immediately commence, and be continued until completed.

"Excellent Syrup, superior to the best Molasses, will be obtained by observing the above directions, and boiling five gallons of juice to one gallon.

"The juice of the Corn-stalk is very rich in Sugar, when cultivated in the manner suggested. Tested by Beaume's Sacharometer, the instrument used to measure the strength of syrups, the juice of the Corn-stalk weighs 10 to 10½ degrees, which is about the weight of the best cane in the West Indies, and is richer than the juice of the cane in Louisiana, which is seldom heavier than 8½ degrees.

"One gallon of juice will produce nearly 1½ pounds of Sugar; and one acre of good Corn will yield, if carefully expressed, from 700 to 1000 gallons of juice."

I have but little information to add to the above article. My kettle holds eighty gallons, though a sixty gallon kettle might answer the purpose, but probably it would be best to procure a shallow vessel, as above recommended for making Sugar. I made three boilings before I made good syrup, not boiling down sufficiently the two first boilings. Prepare yourself with a skimmer, a gourd with a long handle will do to remove the scum when it begins to boil, and for a short time after. Leave off skimming when you see the dark glutinous scum is pretty well removed. Also, prepare yourself with an iron ladle, with an iron handle attached to it about three feet long, (which any blacksmith can make,) perforated with small holes. Whoever attends the kettle must use this ladle, in raising the juice with it, when likely to boil over. When the juice boils down considerably, you will see the bubbles begin to show and burst on the surface. When you see a few such bubbles, if it be your object to make syrup, I think then is the time to take it out; but if you wish the syrup to granulate, boil till the bubbles become general on the surface. You can also test it, by dipping out some syrup with a tablespoon, and when it cools sufficiently, by taking it between your thumb and fore finger; and if it inclines to rope, it is syrup, but if it will rope about an inch it will granulate. You can boil rapidly at the commencement while the juice is thin, but as it thickens boil with more moderation. If you boil too rapidly after the bubbles begin to burst on the surface, you will certainly burn it, and it will give it a candy taste. If you cannot get lime conveniently, lye will answer the purpose. I should say, put in about a half a pint of lye to every fifteen gallons of juice. Throw in the lye or whitewash made from the lime, immediately after you quit removing the glutinous scum. When you have boiled to satisfy yourself, take out the syrup and put it in some shallow vessel to cool. I am inclined to think, when the juice has been extracted from the stalks by a wood mill, that if they were chopped up and boiled in water, good vinegar could be made from them. I advise you to build a wood mill. The expense is trifling. You can get a mechanic in my neighborhood, who will build you one for twenty dollars, by furnishing him two assistant hands; otherwise, send over a common mechanic, and after looking at mine, which is a good model, you can have one made at home. I advise you to plant your Corn for experiment in bottom land (if not rich, make it rich by improvement) in drills, from four to six inches in the drill, and the drills from thirty to thirty-six inches wide. Now, sir, I close my crude directions, by wishing that you may win in this race, and that we may all win, and that another article of general consumption may be added to the products of South Carolina.

Yours respectfully, James S. Pope.

Island Ford, Edgefield Dist., S. C., Feb. 1845.

☞ *We* sow half a bushel of corn (cost 33 cents) on two acres planted with corn—on the surface. We thus coax the birds to come and see us, and we make it their interest to meddle with nothing that is planted. It costs us less than twine, or tar, or feathers on a pole.—*Plow.*

Butter.—Difficulty in Churning.

Mr. Cabinet—Please to ask your folks, instead of writing so many things which we know already—and some we don't want to know—to turn their attention to the department of *female husbandry*, and instruct us a little in that.

In the days of our grand-dames—as many a legend tells us—when witches were almost as numerous as cats, and quite as mischievous, riding broomsticks on their errands of mischief, the good housewife frequently encountered the greatest difficulty from their malicious interference with her household affairs; unless her stable door and "that dear cot her home," were protected by the potent charm of an old horse-shoe, the horses' manes and tails would be twisted into *cues;* the cows would either be sucked dry, or their milk turned to blood, or when churned would not make butter; her vinegar would not stay in the barrel, nor her soap in the tub, nor could she even supply its loss, unless she used the precaution to stir the soap pot with a *sassafras* stick, *top down*. In those perilous times, stern necessity devised many means to break the spell, to burn the witch, or to douse her into scalding water. But to us who are young, this is mere matter of history—fabulous history it would seem—for no sooner did the people cease their efforts to *keep the witches out*, than they made the discovery that there were none to *get in*. Oh, pshaw! I sat down to inquire about churning, and here is a homily on witchcraft.

It is a fact unfortunately too well known, that in small dairies of one or two cows, perhaps cows which have been milked for several months, there is often much difficulty experienced in churning the cream into butter, especially in cold weather—sometimes the cream is converted into a thick froth, and will not *break;* at other times, the butter forms into small pellets resembling fish eggs, and will not *gather*. Now it is no trifle to have all the trouble and labor of gathering the cream, and churning a whole day, perhaps two or three of them, and have to eat your buckwheat cakes without butter at last. Formerly it was only necessary to expel the witch, and all was right; but now-a-days, there is no witch, and we don't know what to do.

One thinks her cow is too poor to churn for and exchanges her for one no better. Another can't get butter because her cows are fed on turnips or pumpkins. A third condems oats' straw as feed for cows, and who would not agree with her in that; and some think that even the oats themselves, ground either alone, or with corn, make inferior butter or none at all.

Now, all this may or may not be so. We think there is some difference in cows, and in cow-feed too; for we see a great difference between the milk of different cows, and of the same cows under different keeping. Still, as the complaint seems only to prevail in winter, we think that winter may have something to do with it, especially as our own cream will churn readily one week, and hardly at all another, cows and food the same.

Now, what do your Cabinet folks say to this? you often talk about chemistry. Now can't you tell us what is the chemical process of converting cream into butter, what constitutes the difference between the two; and what are the essential conditions necessary to effect the change? Do tell us where the cream-pot should be kept in cold weather? How it should be stirred and managed? What put into it? How the churn should be prepared, &c. &c.

Do tell us all about it, and oblige a whole heap of Young Wives.

[It would afford the editor no small gratification, if he were able to remove a difficulty, which has from time immemorial, for aught we know, perplexed and annoyed, not only "heaps of Young Wives," but also any quantity of *old* ones, who had thought that in most matters they had cut their wisdom teeth. We must, however, leave this to wiser people, and hope some of our readers will be able to render assistance in the premises. There is an excellent article under the head of *Butter*, in the Farmer's Encyclopedia, which is too long for the Cabinet, and to which we can only refer. We can very well sympathise with those who are worried in this way, having many a time watched with no little chagrin, the prolonged and fruitless labors at the churn, for six or eight, or even twelve hours: and then, after all, if the *buckwheat cakes* were not eaten *dry*, they might as well have been, for the stuff that was produced when the butter did *come*, it indeed it came at all, was not worthy of the name of butter, and hardly that of decent *grease*. Perhaps there is no better plan for having butter in winter, and little difficulty in the churning of it, than to feed the cows well with Indian meal and green food, as carrots, turnips, potatoes, &c., and to keep the milk or cream at a moderate temperature. A friend in Jersey, and by the way, an excellent house-keeper, remarked to us a few weeks ago, that she kept her milk and cream, during the winter, altogether in a closet in the kitchen: thus, at a constant temperature, from 55° to 65°, it readily soured, and she had no difficulty in *getting* her butter; and the quality of it, when she does *get* it, ourselves are particularly fond of testing. This plan of keeping the milk warm, is, we believe, practised to a very considerable extent, by our large and nice dairy people on this side the Delaware.—*Ed. Far. Cabinet.*]

[The following is from the Ohio Cultivator, recently established by Mr. Bateham, formerly proprietor of the Genesee Farmer. He seems to be mightily tickled with having got two *lady* contributors to his columns, and well he may be, since few of his brother editors are so fortunate as to get *one*. He prefaces "Emily's" contribution with the following remarks, the *spirit* of which is imputable to the fact that the writer is (fortunately or unfortunately?) a *single* man, though *doubly blessed* with female correspondents.—*N. E. Farmer.*]

"*The Campbells are Coming!*"—Stand aside, gentlemen! front seats always reserved for the ladies! We felt quite sure that we should have the assistance of the ladies in our enterprise, and, sure enough, here it comes! 'Tis true, they are naturally a little coy at first, and need some *coaxing;* but when they *do* become enlisted in a good cause, it is sure to go ahead. We have, therefore, no longer any fears about the success of our undertaking. The Ohio Cultivator will not only be sustained, but eminently successful in accomplishing the great object for which it is designed.

We have received two communications from female contributors, both of them of a plain, practical character, aiming at utility rather than amusement. The first is from a farmer's daughter, and we think will be useful to many of her sex at the present time:

BUCKEYE MODE OF MAKING BUTTER.

Mr. Editor—Having read in the second number of your truly valuable paper, that no one had contributed for the department which you are so kind as to appropriate to the use of ladies, I feel inclined to put in my mite, small as it is, in the hope that it will encourage others of my sex, for I think it is a pity that they should neglect so good an opportunity for exercising their talents, and "showing their quality."

My object in writing is, to inform your readers that I have derived much assistance in the performance of my duties as a farmer's daughter, from reading agricultural papers. My father has taken the Genesee Farmer for several years, and I have found much instruction in its columns that has been of advantage to me: one instance of this kind I will relate.

I have for several years had the entire care of the milk department in my father's family. I therefore read, with great interest, whatever related to making butter and cheese, and I found much that was different from what I had been in the habit of practicing. One case of this kind was, directions for making butter in winter, according to what is called the Russian method, by which it was said butter could be made in winter as sweet, and with as little churning, as in summer. So I set about trying the experiment, and the result exceeded my expectations. My new practice is as follows:

Before I go out to milk, I put a kettle, say one-third full of water, and large enough to let the milk pail into it, on to the stove, where it will get boiling hot by the time I have come in with the milk. I then strain the milk into another vessel, and wash the pail, (which should always be of tin,) then pour the milk back into the pail, and set into the kettle of boiling water till the milk becomes scalding hot, taking care not to let it boil, then pour it into crocks or pans, and set it away in the cellar for the cream to rise in the usual way. As little time should be occupied in this heating process as possible: hence the advantage of having the water ready hot when the milk is brought in.

Cream procured in this way, will seldom require more than twenty minutes churning, while by the common practice, the poor dairy-maid may have to churn for hours, and then, perhaps, have to throw it away, as I did myself on two occasions, before I happened to gain this valuable piece of information.

Respectfully, &c. Emily.

P. S.—(A lady always adds a postscript.) I forgot to say, that if you get a "Buckeye" wife, and she makes butter for you in winter according to this method, you will find it but little inferior to that made in summer. E.

Kindness to Animals.

The following, which we copy from the Massachusetts Ploughman, we commend to the special reading of every one who has charge of beasts of burthen. The example of the owner of the runaway oxen alluded to, cannot be too generally followed. If kindness, instead of the brutal treatment usually meted out to dumb beasts by their drivers, were resorted to, we have no doubt that many of the faults and tricks to which they are subjected might be overcome.

Mr. Editor—In passing through the town of S——, a few days since, I stopped at the residence of a distinguished farmer of that town; it so happened during my short stay, his steers which he was working at the time, by some means, escaped him and ranaway. After much running and trouble, they were overtaken and brought back, which done, the good man very deliberately and good naturedly stepped into his corn barn and brought out several clever ears of corn and gave them to eat; at the same time patting them on the sides, saying, "There *Buck* and *Bright*, take *that* and *that*, and know better than to run away from me again." The steers seemed to forget their skittishness at once, and became tame and familiar. They indicated as much as to say, "Master, we were afraid, wherefore, we ran away; but now, we believe thee to be our friend, and shall no more fly from thee."

There, thought I, is a lesson of moderation and kindheartedness worthy the regard of all those who have the care and management of dumb beasts. And it is here *noted* for the special consideration and behoof of all such as are in the constant habit of maltreating their domestic animals. What a contrast this to the manner of some, who, instead of forbearance and kind dealing, upon every occasion of waywardness in their horse or ox, fly at him, cudgel in hand, and deal "death and damnation on his defenceless head like a very Turk!" How many noble animals have had their courage broken down and rendered spiritless by such brutal treatment—it is worse than *brutal*, for no brute animal will treat his fellow so unnaturally! How many colts and steers have been thus spoiled in training to service! "The merciful man is merciful to his beast!"

Nor are others less culpable who leave their cattle exposed to the inclemency of winter weather, without shelter, and a sufficient and proper supply of food. Man, take care of thy beast and be kind to him, else his voice may be heard in heaven testifying against thee!

Respectfully, B. F. Wilbur.

From the Mobile (Ala.) Register & Journal.

Indigo.

That a new system of planting must be adopted in the South, is a singularly general opinion. For individuals to discover their errors, is not entirely a common occurrence; but for a whole country to be convinced of an erroneous course, is assuredly singular, and a flattering omen of the probable correction of error. The least informed of our citizens appear to have picked up, within a few months, the solid reasons for a deviation from the track that we have been in for years, and admit the superior good sense of the Northern farmers in their plan of "mixed crops." This, with others, is certainly one of the lessons of practical wisdom, that the depressed state of things has taught our people, for the sheer fact is, this depression has set them to thinking.

The idea of a "full crop" of cotton, grew up with the article, in our planting community, and strange as true, it never was applied to any other production of agriculture throughout our country. Had the same idea got hold of the Northern and Western farmers, as regards the article of hemp, the same result would have followed, and long ere this, that plant would not have been worth raising.

Unfortunately for the South, the idea which we now can view as preposterous in the extreme, has in its result destroyed for the present the possibility of labor directed to the production of the great hitherto staple of the South finding a fair remuneration, and placed the country in the awkward state of embarrassment in which we find it. One assurance, however, of a better state of things, is that unanimity of sentiment and views in the community, as regards an immediate change of our course and the adoption of a wiser one.

A few days ago, I was forcibly struck with the absurdly extravagant inconsistency of the course the country has been pursuing, by observing a domestic incident. On sitting down to dinner, certainly not a sumptuous, but simply a comfortable one, I was astonished to see the number of States and Territories of the Union, with different parts of the habitable globe, that appeared to be called in requisition to provide for it. I saw before me a part of a ham from Westphalia, a middle of bacon from Ohio, a piece of Fulton Market beef, potatoes from Connecticut, with onions from Massachusetts, a pudding, the basis of which was produced in South Carolina, mustard from England, sweet oil from Florence, pepper from the East Indies, sugar from the West Indies, and coffee from Java. The desert, although simple, brought together the North and South—apples from Vermont, and oranges from St. Augustine, etc., and last of all a Bologna sausage, made of no one knows what, but all the way from Italy, consequently, like all other foreign preparations for the gourmand, must be superior. The production of Zerez in the way of liquid, and a little of France, in the form of cogniac, settled the account.

I confess I was left after a heavy dinner with the reflection that the *rationale* of all this could not be laid down, and as soon as possible I quit reflecting on the subject.

My last paper suggested to the planting interest the addition to their crops of INDIGO. This dye-stuff, it must be recollected, we import annually to a large amount, and this consideration, added to the fact, that no substitute has been found for it, the vast number of fabrics it is necessarily attached to, and the increase of our manufacturing establishments, most certainly offers a rational encouragement to direct our labor to its production. And to other considerations, that the labor required for its production, embraces but a short portion of the year, is light as any other cultivation; and admits attention to other valuable productions of agriculture, and last, but not least, the freight or transportation of this article is almost nominal.

The last consideration to those who notice the expense and the time required in the different transportations necessary to bring the article of cotton to market, will be kept in view and duly appreciated. A large amount in value can be put into a small package, and by keeping in a dry state, this article does not deteriorate with age.

From a communication made by a dyer of no small celebrity in the North, it is evident that we have a superior climate and soils for the production of this dye-stuff, in addition to which the writer of this article had sent to him a sample of cotton fabric, the blue colors of which was given by the production mentioned in a paper heretofore, and which, for a transparent hue, could not be excelled. A future paper will give what may be to some new, and who may not be particularly acquainted with the mode of cultivation, the best soils and most approved mode; also, the process of preparing the coloring matter for market.

SOUTH ALABAMA.

From the New England Farmer.

Necessity of supplying the Soil with the Constituents of the Crops grown on it.

The new light which the improved state of science is throwing on agriculture, must be hailed by all *thinking* farmers with joy. At present this light is restricted in its radiance, but few, comparatively, out of the ranks of the learned, feeling its beneficial influence. But the time seems to be approaching—let us bid it speed—when in the culture of the earth, *science* will guide practice, and good farming, the most profitable farming, become an art which will require the skilful exercise of intelligent MIND, more than the exercise of physical power, to pursue it with the greatest success.

Chemistry, the patron-genius of agriculture, is now lending its aid as it never before lent it, to dispel the darkness which has too long enveloped the farmer in his pursuit, and teaching him to see, and enabling him to comprehend, the true processes by which his crops and animals are formed, and the necessary conditions required to make the one heavy and the other fat, at the least expense and with the most profit. The desirable light is being constantly diffused by scientific men, particularly in England and Scotland, in lectures and communications through the press, and thousands seek it as eagerly as they do their own prosperity, and, indeed, their prosperity depends in an important degree upon it.

To no one, we think, are the farmers on either side of the Atlantic, more deeply indebted for efforts to benefit them by imparting valuable scientific knowledge, than to Professor Johnston, of Scotland. The following abridged report of one of his late lectures before the *Dumfries Farmers' Club*, on the necessity of returning to the soil the constituents of the crops taken off, I think will interest many of your readers:

"The different substances of which plants are composed, must exist in the soil on which they grow: according to the nature of the plant to be reared, so ought the land to be manured. Thus, while wheat grain contained only two per cent. of ashes, hay contained ten per cent. Hence, the wheat required a much larger amount of combustible aliment than hay. It was true that the whole of the combustible matter was not obtained directly from the soil, as a large portion was derived from the air; but from five to ten per cent. of the straw of wheat was obtained from the soil: hence the provision made in leases, that no straw should be carried off the land. Different kinds of hay carry off different quantities of inorganic matter from the soil, and consequently have different effects upon the land.

"Every plant grown, requires, in accordance with the nature and composition of the soil, the proportion of the ingredients in its ashes. If no alteration of crop is made, nature will become exhausted in some of her resources, and the plant for want of requisite nourishment from the soil, must die. We have facts to prove that nature will not forever grow the same plant on the same soil. The Black Forest consisted first of oak, then of pine, and now it is again covered with broad-leaved trees; and as with trees, so with crops; and as on a large, so on a small scale.

"Different modes of husbandry have been adopted. Instead of oats being grown fifteen or twenty years on the same soil, the rotation of three white crops and six years' grass was adopted: this also, has become antiquated, and now the preferable alternation of white and green crop is adopted. Alternating crops, and adding such manures as have been carried off by preceding crops, is the only profitable mode of cultivation, while nature will also assist by the going on of certain circumstances, such as the decomposition of minerals, &c.

"A soil containing just sufficient lime for a luxuriant crop of rye-grass, would be far deficient for either clover or lucerne. The soil must contain in abundance what your crop specially requires, and consequently the necessity of selecting the manure to suit the crop wanted.

"The ground becomes exhausted in many ways. By cropping too long with either one kind or different kinds of grain and straw, it becomes exhausted of some of its soluble matter by the action of the rains, just in proportion to the wetness of the soil. By the application of proper manures, the waste may be replaced. Feeding on the ground will replace a portion of the waste of solid matter, by the dung voided by the animals; but a great portion of the *soluble* is lost, both by being, to a small extent, irrecoverable, and because of the direct waste by carelessness or ignorance. Those soluble or saline substances, are principally contained in the urine of cattle, and just in proportion as it is lost, so is the direct waste. Guano is not a more valuable manure than the urine of cattle. By building suitable tanks, the whole of the barn-yard saline might be preserved, and 900 lbs. of good solid matter, equal to the best Peruvian Guano, would be the annual produce of one cow. We have frequently been astonished at the results of certain saline substances when scattered over unhealthy plants, and by the first shower washed into the soil and immediately consumed by the plant as its proper and necessary food; and just in proportion to the ease with which it gets the substances upon which it is supported, and of which it is composed, will it vegetate and flourish.

"To resume: Suppose any of the substances of which a plant is composed, to be already in the ground in sufficient proportion, then any addition cannot do good. Suppose soda to be in sufficient quantity for hay, any addition would be unprofitable for a rye-grass crop, while it would be of immense benefit to clover or lucerne. And again, some soils contain it in sufficient quantity for every variety of crop, consequently any addition would be unprofitable. Hence the reason of so many conflicting opinions respecting the utility of various manures. One tries gypsum, in whose soil it is deficient, and finds it an invaluable manure; another applies it to his soil, which is already well supplied with it, and pronounces it worthless.

"Milk contains so much bony earth, that in 75 years, a cow pastured on an acre of land, will carry off a ton of bones. Hence, (the Professor said,) some lands used for dairy purposes in Cheshire, had, in the course of years, deteriorated to such a degree that they were not worth more than from 5s. to 10s. per acre, just because the cows pastured on them had carried away all the bone out of the soil. Bone-dust was at length applied as a top dressing, and the results were so astonishing, that the land increased 700 per cent. in value, and the rector's tithes were increased five-fold. Any or all other manures, had the soil wanted bone, would have proved ineffectual. The bones added just what had gradually been taken off in the lapse of years, in consequence of the peculiar husbandry of the district."

FRUIT IN THE FAMILY.—Is it not strange, in a country so capable of producing fruits of almost every kind in abundance, that so few have apples or any other fruit for the winter nights? It is a fact, perhaps not known to all, that fruit constitutes the best desert after dinner, and it is most wholesome for every one. Too often farmers think, they will not live long enough to enjoy the fruit if they were to plant orchards; but they should recollect peaches will bear in two or three years from the bud, apples in three or four, and pears in a little longer time; and even if the older people should not live to enjoy all their labor, they should do something for posterity. Let the aged give a good example to

the young, and the next generation will do better than the present. But little ground is necessary for an orchard, and nothing pays so well for the labor and expenses. Moreover, the farmer who regards appearances, should be ashamed of a place naked, and free from fruit trees. Nothing, indeed, is so ornamental as luxuriant fruit trees loaded with their annual treasures.

From the Tennessee Agriculturist.

Wool.

We have the satisfaction of knowing that our efforts to draw the attention of the farming community of our own immediate region to the important subject of wool growing, is being realized, and that they are awaking to a sense of the vast resources that are presenting themselves through sheep raising, and also of the increasing value of the mountain lands in this State adapted to this purpose.

A few facts connected with the history of other countries, when brought before the notice of the farmers of Tennessee, and indeed of the whole of the Southwestern States, if considered with care, will, we think, induce many of them to revive their system of sheep husbandry, and extend them to their utmost limits.

The growth of wool has never been undertaken by any country or by any people, without returning to that people all the blessings to be enjoyed on this earth, that peace and plenty could bestow. The political situation of Spain may for a time, and no doubt will, operate against that prosperity which she has so long enjoyed through her wool trade; and it is probable that her flocks may comparatively degenerate, through the anarchy and confusion that reigns through her once fair provinces. In this respect, she stands a warning to every true patriot, though it is satisfactory to know that even this confusion had not taken place until the civilized portion of the globe have availed themselves of the treasures once possessed by Spain alone, but now happily spread to nearly every corner of the earth.

One reference that we will make to exemplify the results of a judicious system of sheep husbandry, is to that of Germany, standing as she does before the world, as the greatest exporting wool country known. It is to be borne in mind, that previous to the year 1765, Saxony was not a sheep raising country, and that it was entirely owing to the enlightened policy of her then ruler, who enforced his views, especially amongst his own tenantry, making it a part of his agreement with those to whom he rented, that they should keep a certain number of sheep. And let us now see her condition. It appears from the parliamentary documents, that the wool imported from Germany into England, in the year 1841, amounted to 20,953,775 lbs., being more than a third of all the foreign wool, including all the colonies, imported into that kingdom in the course of that year.

Let us also look at the wool producing colonies of England. That of New South Wales, established in 1787, under all the disadvantages of her convict and criminal population. In the year 1841, (a period of 54 years from her first settlement,) she imported into England 7,993,060 lbs. of wool; while her more infant establishment of Van Dieman's Land, sent into the mother country 3,507,531 lbs.—and it is worthy to remark, that the first ship landed in that island did not take place till 1807. The total amount of wool imported into England during the year 1841, was 56,170,974 lbs., (which is presumed to be equal to the amount grown in that country)—making a total of 112,341,948 lbs. It also appears that there was, at the close of the year, 6,912,060 lbs. of foreign wool in bond, and, presuming there was about the same amount of home grown wool unmanufactured, the amount used in the manufacturing establishments of England for 1841, would be as near as possible 100,000,000 lbs.

We have not at hand any report of the amount of wool grown in the United States in 1841, though we have of that of her imports, which, it appears, was 11,409,764 lbs. In 1839, the wool grown in this country was 34,802,114 lbs.; and the probability is, that the amount was not much increased in 1841, which, if we take as a data to work upon, we have a total of 47,211,878 lbs., being nearly one half the amount manufactured by England that year.

Our imports of manufactured woolen goods, from England alone, in that year, amounted to £1,521,880, or $1,366,353—so says the parliamentary report. What amount we imported from Germany, France, &c. we are at present uninformed of. That France is manufacturing extensively, and that she is short of the raw material, we are assured, from the fact of her having agents through the whole Western and Southwestern States, engaged in the purchase of every quality of wool; and, taking all these circumstances into consideration, we have this state of things presented before us:

First, that as a pastoral people withal, and beyond the necessary resources under our control, we do not grow sufficient wool for our own use, but import upwards of $10,000,000 worth of manufactured woolen goods yearly to meet our demand for that article, besides a large proportion of the unmanufactured material. That, as a commercial people, upon which we pride ourselves, we are too careless to take advantage of and meet the wishes of a good customer for an article which we can raise in the greatest abundance, and at a certainly larger amount of profit than any people. Will not our farmers reflect on these things? Once again, with a view to drawing their attention to the subject, we inform them that every farmer in the State can have cash for every ounce of wool he can raise, at more than remunerating prices; that one house in Nashville alone, is authorized to purchase 1,000,000 lbs.—indeed, an unlimited amount for French exportation; that home consumption must necessarily increase; that, with ordinary attention, the quality and staple of the wool itself will be so improved as to produce a greater return; that our particular section of country is better adapted to sheep raising than any other in America; that our climate is such that we can do all Spain or Australia can accomplish; that, indeed, nothing is wanting but the judicious action of the farmers of Tennessee in the improvement of their breed of sheep, and an expansion of their flocks, to insure themselves and the State at large a position unequalled in the annals of agricultural history. C. F.

From the American Farmer.

Washington's Opinion of Agricultural Life

It is refreshing to us, and we hope it is to every lover of freedom, to read anything from the pen of Washington—and still the more refreshing, when it may happen to be upon the subject of Agriculture. In the belief then, that the following opinion of the farmer's life, from the Father of his country, may serve to reconcile every tiller of the soil to his lot, we give it insertion. But why need we say, that it may serve to reconcile the tillers of the soil to their lot? Surely there is no man owning a farm who is discontented with his position; for, of a truth, if there be one condition more than another, which any man might desire without incurring the sin of covetousness, it is to be the owner of a good farm, well stocked, to be out of debt, to have a good wife, and a family of children around him. There are other situations where a man may possibly make more money. The merchant, for instance, may realise more profit in a month, than a farmer would in half a life time. But then, where one merchant *dies rich*, there are ninety-nine who become bankrupt—and then, their gains, if gains they make, are realized amidst the cares, anxieties and tortures of the mind; for their's is a life of hazard and uncertainty, dependent upon so many contingencies for success, as, in numerous instances, to make even the most brilliant success, a dear price for the wear and tear of mind and the laceration of feelings. While the owner of a fertile farm, unless avarice be his besetting sin, has everything around him to gratify all the aspirations of his heart, sweeten the pathway of life, and make him happy. Come what may—drought or rain—luxuriant crops or short ones—high prices, or low ones—if he be prudent and frugal, the bosom of the earth, in its generous yieldings, will always afford to him and his, both food and raiment, and a little to spare, either to be laid by for a rainy day, or dispensed to his fellow man, in "binding up the wounded heart, or pillowing the aching head;" and what more, pray let us ask, does man want while he may be permitted to remain on earth? He that wants more is not imbued with that becoming sense of gratitude which is due to the author of his being. Riches, we are aware, have their attractions, and often weave around the brow of the undeserving chaplets which but ill become it. We are aware also, that although an eminent philosopher hath said that "knowledge is power," it would have been much nearer the truth, had he said, that *wealth* is power—but with this belief firmly impressed upon our mind, by the daily evidences of tame submission to the power of money by which we are surrounded—still, we would not exchange that glorious state of independence which belongs to the thrifty owner of a homestead of two or three hundred acres of good land, for any other condition. Although such an one may amass wealth slowly and moderately—though he may realise but a competency, still that wealth, or that competency, is earned by the most pleasurable, healthful and virtuous of all human pursuits.

But as we find ourself running riot under the influence of enthusiasm, we must cry halt, and introduce the opinion which Washington entertained of the calling of an Agriculturist.

In one of his letters to *Arthur Young*, Gen. Washington used the following language:

"The more I am acquainted with agricultural affairs, the better I am pleased with them; insomuch, that I can no where find so great satisfaction as in their innocent and useful pursuits. In indulging these feelings, I am led to reflect how much more delightful to an undebauched mind, is the task of making improvements on the earth, than all the vain glory which can be acquired from ravaging it by the most uninterrupted career of conquest."

Nutritive Qualities of Tea.—M. Peligot states that tea contains essential principles of nutrition far exceeding in importance its stimulating properties; and shows that, as a stimulant, tea is in every respect the most desirable object of habitual use. One of his experiments upon the nutritive qualities of tea, as compared with those of soup, was by no means in favor of the latter. The most remarkable products of tea are: 1st, the tannin or astringent property; 2d, an essential oil to which it owes its aroma, and which has a great influence on its price in commerce; and 3d, a substance rich in azote, and crystalizable, called *theine*, which is also met in coffee, and is frequently called *cafeine*. Independently of these three substances, there are eleven others of less importance, which enter more or less into the compositions of tea of all the kinds imported into Europe. What was more essential, as regards the chemical and hygienic character of the plant, was to ascertain the exact proportion of the azoted (nitrogenized) principle it contains. M. Peligot began by determining the total amount of azote in tea, and finished by finding that it was from 20 to 30 per cent. greater than in any other kind of vegetable. M. Peligot states that by reason of this quantity of azote, and the existence of cafeine in the tea leaf, it is a true aliment.

Fruit.—The demand in England for American fruit is likely to become a matter of considerable importance. A large quantity of apples was sent there last season and paid well. Many orchards of five, ten and twenty thousand trees have lately been planted in the Hudson River Counties, with a view of growing apples for export to foreign countries. We see no reason why peaches from New Jersey, and other Atlantic regions where they will grow, cannot be sent to England by steamers, and arrive in good condition.—*Newark Advertiser.*

Manures.

We extract the following excellent remarks from an article appearing in the South Carolina Temperance Advocate:

In the application of manure we should have an eye to its permanent benefits. We should guard against its waste: and that method is to be preferred which best secures us against this.

There is a popular opinion that manure *sinks:* that although it may be wasted, to a certain extent, by evaporation, the principal waste is occasioned by its actually descending into the earth, by the action of rains, until it gets beyond the region occupied by the roots of the crops to be cultivated, and ceases to do them any good.

If this were so, to any practical extent, it would be a very good thing: for it would deepen the soil; and we should have nothing to do but to plow deep, and turn up the manure again before it sinks too far; when it would have its former effect upon the crop, until it should sink a second time. And this operation might be again repeated, with the like beneficial results. It would follow, too, that the pervious soil would be the most valuable for manuring; because it could sooner and more easily be made deep.

But is the popular opinion true, that manure is wasted by sinking? I shall proceed, in the first place, to prove that it is not; and then, to show the wrong practices that have flowed from it, and will continue to flow from it, so long as it holds possession of the popular mind.

That manure does not sink beyond a proper depth, may be easily ascertained by very simple experiments and by a very little reflection.

Let any one who doubts, put a spigot in a common cider barrel, knock out the head of it, and fill it with clean sand, nearly to the top. Then let him pour upon the sand the most impure liquid manure he can find. He will be able to draw from the spigot nearly pure water. The impurities, which constitute the manure, will have been detained by the sand, by filtration, within a short distance of the top of the barrel.

It is upon this principle that farmers are in the habit of clarifying their cider. It is also a well known method among grocers for freeing their liquors of objectionable matter; and every confectioner habitually employs it in his business.

If we look to the operations of nature, we shall recognise it there. If the impurities, on or near the surface of the earth, were carried down by rains, we should never be able to get a palatable drink of water. But the beneficent Parent of all good, has, in the beautiful arrangements of an all-wise Providence, so ordered it, that the rain which descends upon the surface of the earth, shall be drained of all its own impurities, and of those it encounters near the surface, by passing through the superior strata; and it gushes out, pure and transparent, in refreshing springs and wells.

I take it for granted, that whoever bestows a little reflection upon these things will be convinced, that the opinion that manure sinks beneath the reach of the roots of cultivated plants, is entirely erroneous.

It is an indubitable fact, however, that after a time, manure does cease to produce any sensible effects? I think it occurs by evaporation. Perhaps a few simple experiments will establish this.

If you enclose a portion of manure in a box, and place it where it shall not be exposed to the action of light and heat, it will retain its fertilizing qualities, for almost any assignable time; and will even acquire, from the atmosphere, (if accessible to it,) an addition to them. But, if you place it on a board or stone, or in a tin box, open at the top, but enclosed at the sides, (a method which I select, as rendering it certain that no part can sink, though it may escape at the top,) and then expose it to the rain and sun, or to the sun alone, it will, in a very short time, become entirely inert, and its escape will be rapid in proportion to the intensity of the heat to which it is subjected.

There are other proofs. Every body has observed the rapid deterioration of land, exposed to the sun, without the benefit of trees, or of a crop, to shade it.

Having thus learned that manure is not wasted by *sinking*, but by *evaporation*, this may be the proper place to inquire the reason of the well known fact, that, when covered at the same depth, it is wasted sooner in sandy than in clay land. This depends upon the superior heat of the one over the other; which, of course, causes a more rapid evaporation. And this, again, may be ascertained by a simple experiment.

If, at any given hour of a summer day, you insert a thermometer in two contiguous soils, one abounding in sand and the other in clay, or insert it in two boxes, the one filled with sand, the other with clay, you will find the temperature of the former to be several degrees higher than that of the other. The necessary inference from this I have already stated.

We have now seen the popular notion of manure sinking, is an error. That on the contrary, it evaporates. We have seen that this arises from heat; and that this abounds more in sand than in clay.

The universal practice, which has followed that popular erroneous opinion, has been to deposit manure shallow in the sand, from an apprehension that it might sink, and, of course, would sink more rapidly in that kind of soil, which is more pervious than in clay, whish is less so. And so long as this abstract notion that manure sinks, prevails, so long will this practice prevail, as the necessary consequence of it.

I have shown that *manure does not sink, but evaporates:* and evaporates more rapidly from sand than from clay. What is the necessary inference? Is it not *that the practice of making a shallower deposit in sand than in clay, should be* EXACTLY REVERSED? The danger of evaporation being greater in the former than in the latter, the deposit should be deeper to avoid it.

I might extend this paper by other practical remarks and inferences; as, for instance: that the evaporation of manures being established, it is of importance in all cases where other circumstances will permit, to deposit them deeply, not only with a view to the permanent improvement of the soil, but to prevent the unhealthy contamination of the air by the deleterious gases escaping, by evaporation, from the fertilizing matter. Liebig's work, and that beautiful little treatise, "*Popular Vegetable Physiology*," might have been consulted with advantage by all, but I would particularly recommend the latter as containing the science of the former in a more attractive form, and in a style level with the plainest understanding. COATSWOOD.

MAKING COMPOST.

Capt. Abel Moore's Statement to the Committee of the Middlesex (Mass.) Society.

The importance of manure to the farmer is so apparent, that the manner of increasing it, in quantity and quality, without reducing the value of the same, becomes a matter of interest to all who are engaged in agriculture; and it is a well established fact, that manure can be more profitably used as a compost, than in any other way.

My attention was particularly drawn to the subject of making compost manure, about five years since, for at that time I could not purchase stable manure, without paying more for it, than the real benefit derived from its use. About that time, I built a barn 80 feet long, by 40 feet wide, with a cellar under the whole of it, and I then began making compost in a way that proved more profitable than I had previously found. I began by fixing troughs in the cellar, under the holes were I put down the manure, with hogsheads placed under the same to receive the urine from the cattle, and when full, I placed a bed of loam and peat mud and emptied the urine on to it, and set them again.

I have always kept hogs in my barn cellar, and, for the last three years, have kept two yoke of oxen, seven cows, one bull, and two horses, through the year. I tie up the cattle in the barn every night to save the manure; and in addition to the above, I have usually wintered from twenty to twenty-five head of young and fat cattle, and oxen.

For the last two years, I have adopted a new method, which I think is better than any other that I have tried. I always kept at hand a plenty of good loam and peat mud, both in my barn-cellar and barn yard. I have windows opening from the cellar into the yard, through which I put down most of the loam and mud, and place it under the holes where the manure is put down, and after it has remained there about one week, I spread it over the hog-styes in the cellar, which are 80 feet long by 24 feet wide; but before spreading the loam or mud, I sow corn on it, which will cause the hogs to root and turn the whole over.

So valuable do I consider urine for compost manure, that I have barrels placed in my sheds to receive the urine from the house, which are emptied on to the manure heaps when full; and also, I have plank troughs made on runners, placed under two privies, and when they are partly full, I hitch on a yoke of oxen and draw them to the barn cellar, and bury the contents in the loam and mud.

At intervals of a few weeks, I mix in lime, salt and plaster, at the rate of about one bushel each of lime and salt and a bushel of plaster to a cord of the compost. Lime aids the fermentation, and the salt and plaster, I believe, have beneficial effects on most of my lands.

I always fork over my manure very light before using it, and cast it out of the cellar and yard twice a year.

There can be no better economy in the making of compost manure, than by adopting a course of using the urine of cattle to the best advantage. Filling up the hog pens with loam and mud at about the same time, and allowing it to remain until it is wanted for use, does not, in my opinion, answer so good a purpose as putting the loam, &c. in as fast as it becomes saturated with urine. In the one way, your compost is well mixed with the droppings and urine of the cattle, and in the other the droppings are all on top before it is forked over, and but partially saturated with the urine.

The urine of cattle, I think, possesses as strong and enriching qualities, when properly applied to loam or mud, as their droppings.

Peat mud can be easily rotted and fit for making compost, by digging the same in the summer or fall of the year, throwing it into moderate sized heaps and allowing it to freeze and thaw during the winter.

Very truly yours, &c. ABEL MOORE.

From the New York Farmer.

The dung of horses, sheep, and of cattle generally, act as fertilizers only in proportion as they are combined with certain soils. On sandy, calcareous soil, they are very profitable—such soils being deprived of the silicate of potash, and of the phosphate; while on a dry soil, rich in potash, or on a soil formed of the ruins of granite, of porphyry, or clingstone, these manures are of little value. On the contrary, poudrette is an excellent fertilizer of such soils.

The efficacy of urine as a manure is well known in Flanders. In China, the people are prohibited by law from throwing that and the excrement away. China is the country of experiment; ages have given to the people discoveries of all sorts, which Europe achieved, but could not imitate; for the Chinese books give no scientific accounts; they give mere receipts for their operations. The last half century has, however, given us not only the knowledge which enables us to equal them in many arts, but to surpass them; and this advance among us is due to the judicious application of chemistry. But how far in the rear is our agriculture still, when compared with the Chinese. They are admirable gardeners; they know how to give each plant its proper education; to prepare for it its appropriate soil. Among them agriculture has attained the highest degree of perfection. In that country, which differs from ours in natural fertility of soil, they attach very little impor-

tance to the dung of animals. Among us, we have written huge volumes, but made few experiments. In China, they never manure their grain crops, except with human excrement—while we scatter over our land the dung of animals, full of all manner of weeds, the seeds of which are undigested by the animals, and which spring up with great power among our useful plants. We need not be astonished, then, that in spite of all our efforts, the noxious weeds cannot be extirpated from our fields. A celebrated botanist (Ingenhouse) who visited China with the Dutch embassy, states that it was impossible to find in a Chinese field of grain, one single weed.

In agriculture, the grand maxim is to give back to the soil in full measure (no matter in what form) all that is taken from it by the crop; and to regulate that, by the wants of each particular plant. The time will soon come, when we shall no longer manure our lands with the solid manures, but with solutions exactly suited to the crop desired.

Of dry horse dung, upwards of 70 per cent. is mere water. The dung of a horse well fed with chopped straw, oats and hay, I found to contain, when dry, only ten per cent. of the solid parts of those substances. Therefore, in carrying upon your farm two thousand pounds of horse dung, you carry on to it fifteen hundred pounds of water, about four hundred pounds of vegetable matter, and only about one hundred pounds of the salts necessary for another crop of hay, straw and oats, which your horses have eaten. These salts are essentially composed of phosphates of lime and of magnesia, and silicate of potash; the latter salt should predominate in the soil, while the phosphates abound in the grain.

[*Translated from the Revue Scientifique et Industrielle, by* H. Meigs.

From the Albany Cultivator.

SAVING MANURES.

The effluvium or gas, arising from decomposing animal or vegetable substances, though exceedingly disagreeable to our olfactory senses, is the congenial food of growing plants.

Arthur Young said, many years ago, "he who is within the scent of a dung hill, smells that of which his crops would have eaten if he would have permitted it." Sir Humphrey Davy demonstrated this. He placed a quantity of fermenting manure in a retort, and ascertained that it gave off a liquid containing a large proportion of salts of ammonia. Seeing this result, he introduced the beak of another retort filled with similar dung, under the roots of some grass in the garden, and "in less than a fortnight, a very distinct effect was produced on the grass, upon the spot exposed to the influence of the matter disengaged in fermentation; it grew with much more luxuriance than the grass in any other part of the garden." It is hence obvious that by permitting the escape of the gas evolved during fermentation, the valuable portions of the manure are dissipated in the atmosphere.

"The loss of *gaseous manure*," says Mr. Hannam in his excellent essay on the Economy of Waste Manures, "arises from the escape of the carbonic acid and the ammonia, of the vegetable and animal matters in the manure heap, during the process of fermentation and putrefaction; both of which gases are essential in the nutrition of vegetables. * * * When this evolution of ammonia and carbonic acid takes place under the root of a plant, it is what we want; but when it takes place, as is generally the case, months before the compost is used, the manure is robbed of its most valuable constituents."

"It is worthy of remark," continues Mr. Hannam, "that the richer manure is in nitrogen, the more serious the loss is; as the more nitrogen a substance contains the more prone it is to ferment and throw off ammonia." The observation of every farmer will corroborate this; for all have noticed that the richer the manure the stronger the odor arising from it.

The most effectual means, probably, of preventing this waste of the gaseous portion of manures, would be to apply them to the soil before fermentation takes place. In this case the gases would be taken up by the growing crop.—Stable or barn manure, is sometimes deposited in cellars, where, from the low temperature, and seclusion from the air, it undergoes little or no change. Thus kept, it retains its original strength, and is much more powerful and enduring in its effects, than that which has undergone decomposition in the open air. But there is often so large a portion of undecayed vegetable fibre, (litter, &c.) in manures, they cannot conveniently be applied in a green state. Besides, for some crops, the action of green manures is not quick enough; and for other crops, as wheat and other small grains, they tend to promote too great a growth of straw, and increase the liability to rust.

It becomes, then, necessary under certain circumstances that manures should pass through a state of fermentation before they are applied to the soil, and the question is, how can this object be accomplished without loss?

Reason teaches, and experience proves, that substances must be mixed with manure, which will absorb the gaseous portions as they are generated. *Earth* is a good absorbent. If a dead animal be enveloped in the earth before putrefaction commences, and allowed to remain so until the carcass is decomposed, the earth will have absorbed the nauseous fumes occasioned by the decomposing animal matter, and will be found rich in those principles which constitute the food and growth of vegetables. This example teaches that mixing soil with manure or covering the manure heap with a layer of soil while undergoing fermentation, will preserve much of its value which would be otherwise lost. There are other substances which are preferable to common soil—such as charcoal, (which will absorb ninety times its own bulk of ammoniacal gas, and thirty-five times its volume of carbonic acid gas,) and peat or swamp muck. The latter in many parts of the country, can be had in the greatest abundance, and it is, beyond doubt, one of the best means of augmenting the farmer's stock of valuable manures. In its composition and absorbing power, it much resembles charcoal—being principally the carbonaceous matter of decomposed vegetables. Every farmer who can conveniently obtain peat or muck, would do well to place a layer of it under all his manure heaps—to mix it with barn or stable manure in forming composts, covering the piles with a coating of it to prevent the waste of the gases, and throwing it liberally into the stalls of horses and cattle, to absorb the urine. Results will show that the labor thus bestowed in the use of swamp muck, will be rewarded a hundred fold.

Other substances are used as *fixers* of ammonia, &c., which act somewhat differently from those above mentioned—such as gypsum, and various kinds of acids. The theory of their action is, the ammonia, being an alkaline gas, will by combination with any acid, form a neutral salt. Gypsum is a combination of lime and sulphuric acid. When this is applied to fermenting manure, the sulphuric acid of the gypsum leaves the lime and unites with the ammonia, the acid having a stronger affinity for the ammonia, than for the lime with which it was combined. Mr. Hannam in the essay before referred to recommends that the manure heap be covered with peat or some absorbent, and "this coating kept well saturated with sulphuric acid and water, say a weak mixture of ten gallons of water to one of acid." Mr. Hannam adds, that any other acid which may be obtained at a cheaper rate, will act as well, as the ammonia will combine with any acid. Either the application of gypsum, or the acid solutions mentioned, will soon affect such a *fixture* or combination, that little or no smell can be perceived.

In regard to the use of *salt*, which has been by some recommended as a fixer of ammonia, Mr. Hannam says—"My own observation teaches me to prefer acid to any salt, as it is equally cheap, more easily used, and is, therefore, likely to be more efficacious."

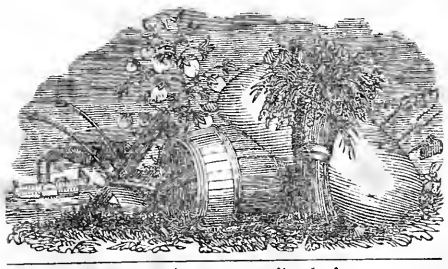
To Prevent Rust in Wheat.

From the Farmer's Register.

"As far as my observation extends, lime is an effectual preventive of the rust. Putrescent manures and clover lays, on the contrary, almost always induce it if the season be at all unfavorable at the critical period of ripening. The reason I take to be this: putrescent matter, by furnishing more food than the plant can elaborate, produces a state of plethora, which results in the extravasation of the sap at the season of greatest vigor. This indeed I understand to be the theory. The tendency of lime is to check this redundancy of growth, by providing in some way the specific food of the plant. Whether this be done by enabling it to decompose carbonic acid with greater activity, or by furnishing it with silicate of lime, or by contributing to the development and formation of the grain, rather than to an exuberant vegetation, cannot perhaps be determined. When I was in the great wheat growing district of western New York, some years ago, I saw fields of wheat that I was told would yield twenty-five or thirty bushels to the acre, which I could not have supposed, from any previous observation, would have produced more than ten. The soils of that region, being of a diluvial formation, are so rich in calcareous matter, from the former attrition of the lime rocks scattered over the country, that they frequently effervesce with acids. The stem had so little blade that it appeared almost naked. Plaster of Paris, which has been recommended as a protection against the rust, though it be lime in another form, does not contribute much to the formation of grain. Its tendency is eminently to increase the bulk of vegetable growth, and therefore, when it acts on wheat, to induce rust and mildew. To guard against the rust then, such application to the soil appears necessary as would afford specific nourishment to the seed. In every analysis of wheat there is found a portion of lime. There are also some manures that furnish the specific ingredients, but those only, I believe, which are concentrated in their energy. I have read nothing lately which sheds more light on the distinction I have attempted to draw, between manuring for the grain and manuring for the straw, than the detail of some experiments with guano, by J. E. Teschemacher, of Boston, and contained in his address to the Horticultural Society. Some plants treated with guano, the balsam for instance, produced very inferior flowers; but not a flower missed bearing its seed vessel, and every seed vessel was filled with perfect seeds; while other plants of the same species and growing under the same circumstances, with the exception of the guano, had only a portion of the seeds perfect in each pod, though the flowers were very fine.

"There is a neighborhood in Maryland which I occasionally visit, the inhabitants whereof form a little community of intelligent and industrious farmers, who mostly belong to the same society of which I am a member, namely that of the Friends or Quakers. They do their own work; and when one works with his own hands, he is more likely to make both ends meet. They find it to their interest to haul lime from six to ten miles to apply to a soil by no means naturally fertile. The crops of wheat on their limed lands are invariably good, and but little affected by rust.

"A few years ago, a friend of mine, in an adjoining county, planted an acre or two of ground in pumpkins. The vines were so much infested with bugs that he sprinkled caustic lime over the leaves for the purpose of destroying them. In the fall the lot was seeded to wheat, and at the ensuing harvest the locality of every hill was conspicuously visible. In each spot where the lime had been applied, the straw was bright and of a golden color, without the least appearance of rust, while in every other part the wheat was completely ruined. If it is not too late in the season, I would suggest the trial of a small piece of ground with lime or ashes, if it was no more than a few yards square. Ashes would be as beneficial as lime, for they afford potash.



The Southern Cultivator.

AUGUSTA, GA.

THURSDAY, MAY 1, 1845.

Correspondents.

It would not be a very difficult task to make the Cultivator a scientific paper, filling it with the speculations of philosophy, and extracts from Chaptal, Davy, Liebig, Johnston, Boussingault, and others. But this is not what the country wants just now. A paper so made up would not find many readers, simply because what would be offered to be read, would be too far removed from the every day business of the planter. What we want now, is a plain account of the experiments of men of plain common sense. There are now but few persons engaged in tilling the soil who do not believe that old processes may be varied with certain benefit to the crop and profit to its owner: and thus believing, they are very likely to make experiments of some sort or other, and note the results. When they meet their neighbors on public occasions, these experiments and their results are the subject of conversation, unless party politics should happen to exclude every thing else. It would not be much trouble, of a long winter night, or a rainy day, to write out an account of these experiments for publication in the Cultivator. Now, this is just what we want: that our planters shall enlarge the sphere of their conversation, and besides talking with their immediate neighbors, shall talk through the pages of the Cultivator with men engaged in the same pursuit, one hundred miles distant; that the planter on the Savannah River shall talk and compare notes with the planter on the Chattahoochee, and he of the mountains with him of the sea coast, without leaving their own firesides. But, you say you can't write. You can talk, though; and all you have to do is to banish the idea so prevalent, that when you take pen in hand you must get on stilts, and go hunting big words in the Dictionary, wherewith to construct high sounding sentences: thus trying to write in a style and manner altogether different from that you use when talking to your neighbor. Banish this notion altogether; take your pen, and put down on paper, just *what* you would say to your neighbor—just *as* you would say it when speaking of your experiments, and you will then succeed to a certainty. If there should be some errors in spelling and grammar, never mind that—we will take care to have every thing right in that respect.

When the country shall have become deeply interested in the results of experiments thus detailed, then will be the time to bring forward the science of the matter; then men will begin to be anxious to know the plain why and because of these results. Then we may venture to introduce a larger portion of philosophy into the pages of the Cultivator. But, for the present, for the great mass of our readers, we want just such articles as our paper of to-day contains, over the signatures of our correspondents; these we can safely recommend as specimens of what planters should write about, and of the way in which it should be written.

When we shall be able, with the Albany Cultivator, to boast of having three hundred correspondents, most of them practical, working planters, and shall have such a subscription list as will warrant our incurring the expense necessary to make the Cultivator, in other respects, what we wish it to be, we shall feel that we have not lived altogether in vain.

Silk.

We have received the specimens of domestic silk referred to in the letter of our correspondent, Mr. Cassidey, in another column. They are deposited in the store of Messrs. Newton & Lucas, Athens, for the inspection of those persons who take an interest in such matters. All who have seen them, pronounce them to be very beautiful.

We have on hand, and shall insert soon, perhaps in our next number, "A brief History of the Silk Culture in Georgia," by the Rev. Wm. B. Stevens, of the University of Georgia. It is a very interesting account of the efforts of the Trustees to establish that culture in Georgia; and having the advantage of being compiled from the records of the Colony, every statement in it may be received with implicit confidence in its accuracy.

The Agricultural Press.

Since our last publication, we have received the first number of the "Arkansas Farmer," published, monthly, away over yonder at Little Rock, by J. Gish, and edited by an association of practical planters. It is a very creditable publication, indeed, to all the parties connected with the getting of it up; and if the planters of that region will only read it carefully, they cannot fail to be very largely benefitted by it.

Then there is the "Plow Boy," a brisk, lively, good humored little fellow that "comes whistling o'er the lea" from Cincinnati. He proposes to give you a lecture, monthly, on all that appertains to the life, occupation, and well-being of a farmer, and asks you only twenty-five cents a year for it.

And from Cleveland, Ohio, we have the first number of "The Western Reserve Magazine of Agriculture and Horticulture," a very neat and well filled octavo of 24 pages, monthly, and pictures to boot, at one dollar a year, by F. R. Elliott.

The Albany Cultivator acknowledges the receipt of thirteen thousand subscribers from 1st January to 1st April—just one thousand a week, all paying too in advance. This is creditable to Northern farmers, and shows clearly that they perfectly understand the secret of keeping the people of other States who don't read tributary to them. When will Southern planters act with so close a regard to their own interest, as to extend the like amount of patronage on the Southern Cultivator?

More Rasping.

The two pictures in the last number of the Cultivator, of Southern planters and their economy, so admirably drawn, resembled the originals so exactly, that we are sure our readers would like to have more of them. Accordingly, we have selected another, not a whit inferior, in point of accuracy, to the other two. See the extract below, from Mr. Gregg's essay.

It would be a very interesting matter to ascertain exactly what has become of the proceeds of the cotton crop of Georgia, since it first became an article of cultivation here, or even for the last ten years. Suppose that, for the period last named, the average crop has been two hundred and fifty thousand bales, of three hundred and fifty pounds each, and that the average price has been ten cents per pound. This would give a gross income, for the ten years, of eighty seven and an half millions of dollars. Now, what has become of this immense amount of wealth, created by the culture of cotton in a single State? It is certainly not to be found among ourselves. We must look for it in Kentucky and Tennessee, New York, Boston, Lowell, &c. Indeed, over the whole of the Northern States there may be found decisive evidences of its lavish expenditure. And it would be a very curious matter to ascertain exactly how much of it has gone West, how much North and East, and how very little of it is where it ought to be, that is, among ourselves, who created it.

In this matter of absenteeism, by which so large a portion of the product of Southern labor is transferred to the North, without a substantial equivalent, if there were any reciprocity, between the North and the South, the result would not be so ruinous to us. But though we go North yearly, and spend our money there profusely, who ever heard of Northern people coming South and doing the same thing among us. Oh, no—they are too keen for that. Even those who are compelled to come South during the winter, on account of health, often contrive by engaging in some business or other, to return in spring better off than when they left home. Their plan is to stay at home, unless compelled to seek a milder climate in winter; or if they do travel for pleasure, to go any where but to the South: thus taking care to keep up the drain upon our resources, getting from us all they can, both by their own efforts and by the system of national legislation they have forced upon us, and keeping all they get. Nor are they to be blamed for all this. They are but obeying the dictates of what has always been human nature. They are only doing what people have done in all ages of the world, since the words "property" and "money" were first known, and the things signified by them, understood. It is we of the South, who have been such simpletons as to allow ourselves to be fleeced in this manner, who ought to be scourged from folly. Mr. Gregg says:

"One would not suppose that the South was laboring under embarrassments, if he were to

see the crowds that are continually thronging the Northern cities and places of amusement. I have heard the number variously estimated at from 40 to 60 thousand in one summer. Taking the lower estimate of the two, and allowing for the expenses of each individual $300, (and this is certainly below the mark,) we shall have $12,000,000 transferred yearly from the South to the North, by absenteeism. As bad off as we know South Carolina to be, yet we are certain she furnishes her full *quota* of this immense sum. Go where you may, in the city or out of it—in what direction you please, and you can scarcely set your foot into a railroad car, in which you will not find some half dozen persons from this State. The register book of every fashionable hotel that I visited, exhibited a large share of names, with South Carolina attached to them. Nor are our people remarkable for their economical habits, as the bar-keepers will inform you, that their wine bills exhibit liberality even to wastefulness. You may see them, too, flying around cities, in the finest and most costly equippages that money can procure, and while a *millionaire* of New York is content to ride in an *omnibus*, from Wall-street to the upper part of the city, many of these persons, not worth ten thousand dollars, would be ashamed to be seen in such vehicles. With tailors, milliners, mantua-makers, &c., these persons are considered to have gold without measure, and it is a perfect *windfall* for them to meet occasionally with one. You cannot step into a furniture store, carpet warehouse, or dry goods establishment, where fine silks and laces are sold, without meeting persons from our State, making lavish expenditures and purchasing thousands of articles of wearing apparel, which are not worn until they return home, where the same articles can be obtained in stores of our own tradesmen, at cheaper rates than those at which they were purchased at the North.

"At one tailor's establishment in Boston, I was informed by the propricter, that his sales for the last year, to Charleston alone, amounted to upwards of $50,000, and this year he expected they would reach $80,000. How much trade others in Boston in the same business receive from Charleston, and what amount falls to the lot of the fashionable clothiers of New York and Philadelphia, cannot be estimated, but there is little doubt, that the amount would be found quite sufficient to support three or four fashionable establishments in our own city."

Subsoil Plowing.

We cannot impress too strongly on the minds of our readers the importance of subsoil plowing. In the Southern part of the United States, so liable, of late years, to long and parching droughts, it may be set down as being very nearly the first element of success. Manure is essential—just as essential to the well being of plants, as are corn and hay for animals. Yet, if there is any thing that will enable us to do with less manure than would otherwise be necessary, it is subsoil plowing; simply because, by loosening the soil to a greater depth, it furnishes to the roots of plants a more extensive range, in which to collect their food, and gives them a power of resisting drought which no one will believe possible until he shall have seen it.

We cannot get subsoil plows here except at a very heavy and unreasonable expense for transportation, there being no manufactory of the article at the South yet, so far as we know; and perhaps those made for Northern soils, even if we could get them readily, would not suit our purposes, in our light and exhausted soils. The best substitute will be to use a good turning plow to the depth of the top soil. In the bottom of the furrow run two or three times, as deep as it can be made to go, what is usually known as a coulter; turn the next furrow of top soil on to the subsoil thus loosened; then use the coulter as before, in the bottom of the new furrow—and so on, through the whole field. So great is the benefit of thus loosening the subsoil, that we have seen it confidently stated that the produce of any soil would be doubled by this process, without a particle of manure.

If any one would like to see subsoiling, as we have described it, effectually and neatly done, he has only to visit the plantation of Judge Dougherty, near Athens.

"By cultivation," says the American Farmer, from which we quote what follows, "the potash on the surface, originally existing in most soils, is taken up by the growing plants, and unless such soils be periodically *ashed*, in the course of a series of years, that portion of the land within the reach of the roots, must become deprived of this necessary element of its fertility, and hence it is, that soils which were once renowned for their wheat-producing qualities, cease to yield that grain in such quantities as to render its culture profitable. Without potash be present, the sand of the soil cannot be dissolved, and as that is the essential principle in the formation of the outer crust of corn-stalks, as well as that of all the families of small grain, as wheat, barley, rye, &c., the exhaustion of cultivation must either be supplied by the application of *ashes*, or some other alkaline substance possessing the attribute of dissolving the sand, and forming the compound called the silicate of potash, or the culturist must draw upon the *subsoil* for a supply. Hence, then, it is obvious, that there is no other way left, of procuring such supply from beneath the surface, in the first instance, but by breaking up the *subsoil*, and bringing it within the *indirect* chemical action of the solar and atmospheric influences, and ultimately of turning portions of it up to be *directly* acted upon by the same powerful agents; thereby not only commingling an important ingredient with the theretofore exhausted surface soil, but deepening the bed of the plants, and thus enhancing the range whence they derive their sustenance.

"If the subsoiling of land was productive of no other good effects than those we have alluded to, it would be worth four times the cost it may occasion. But there are other beneficial resulting effects. In *moderately* moist lands, by the process of percolation, which it encourages and augments, subsoiling serves to relieve the roots of the superabundance of water which, in tenacious clays, always abounds, and imparts to them the medium of healthful existence. We mention in this connection 'moderately moist lands,' because where they may be what is technically called *wet lands*, subsoiling might prove not to be an effectual means of draining, and it might be found necessary and proper to drain such lands by *covered or open drains*, prior to the operation of subsoiling. But even in wet lands it would be found highly efficacious, because, although the operation might not be sufficient of itself, yet it would prove of infinite service. By deepening the soil, moisture, in times of drought, would be much longer maintained than in shallow tilth, as it is a well established fact, that its tendency is upwards, and that that tendency is encouraged by the voltaic action of the roots—therefore, as a necessary consequence, the plants would draw a supply from the subsoil long after the moisture in the surface soil would have been abstracted by the sun and air.

"Having thus briefly stated our views of the good effects of subsoiling, we would be permitted to ask some of our agricultural friends, to make experiments to test the efficacy of subsoiling. This may be done by subsoiling an acre of corn ground, and simply plowing the adjoining acre, manuring and cultivating both alike, and measuring the product of each. We do not profess to be a prophet, but we will venture the prophecy, that the subsoiled acre would yield one-third more than the one which was not—and surely if an operation which will cost no more than the ordinary plowing of an acre will add so much to the production of the soil, no man should hesitate to make an experiment, because his *interest*—that great lever which propels mankind onward to exertion—will be inevitably promoted by it."

The Alpaca.

Mr. Allen, of the American Agriculturist, says: "Keeping Alpacas on the mountain ranges of the Southern States, would yield the planters large profits, and compensate them for the low price of cotton on the seaboard." Mr. Hatch, of the Western Cultivator, says: "In Virginia, North and South Carolina, and Georgia, there are mountains and highlands enough, if converted into walks for the sheep of the Andes (Alpacas,) as would, in a very few years, add a million to the annual income of those States."

We have here, from two remote and widely different quarters, New York and Indiana, at the same time, an indication of a new pursuit for the people of the South. That the introduction of the Alpaca would be attended with very great advantages, if it should succeed, we have no doubt. The wool is in great demand for the manufacture of the very fine and peculiar cloth so much prized by the ladies, three and an half millions of pounds having been imported into England last year.

The Alpaca is represented to be a very gentle, docile and graceful creature, living and thriving on coarser food than common sheep require, and enduring the winter better. Indeed, the principal difficulty attending the attempt to introduce them into England, is thought to arise from the excessive luxuriance of English pastures. But even with this disadvantage, the animal is found to come to maturity sooner, by two years, in England, than in the Peruvian mountains; and the fleece is increased from ten to seventeen pounds. Their flesh, when young, is eatable—the carcass weighing about 180 lbs. But the wool is the chief article of value, being fine, soft and silky, and commanding high prices and ready sales.

Alpacas can be bought of the Earl of Derby, near Liverpool, for about two hundred dollars per pair. But they can be brought from their native country at less expense. The first cost and expense of transportation to the shipping

port, it is said, will not exceed $5 per head; cost of transportation to a port in the United States, is supposed not to exceed $20—making cost in Charleston or Savannah, $25. To this, should be added the expenses of a native shepherd, who should, in all cases, be got to take charge of the animals during the voyage.

English noblemen and farmers are bestowing great attention on the introduction of the Alpaca into England and Scotland; and thus far, their efforts have met with extraordinary success. Why should not our planters be eager to engage in an enterprise, that may add so much to the resources of our country? The only serious impediment that we can see in the way, discouraging every thing like enterprise in the business of wool growing, or the introduction of the Alpaca, comes from the multitude of worthless dogs with which the country is infested. Mr. Chiles, of Harrodsburg, Kentucky, recently lost seventy select fine wooled breeding ewes in one night, by dogs. It can't be too often repeated, that before our people undertake raising either Sheep or Alpacas, with any reasonable expectation of success, they must be supplied with the shepherd's dog. Of this most faithful and most useful animal, we add hereunto an account taken from the Salem Register, Ohio, into which paper it was copied from a late English work:

THE SHEPHERD'S DOG.

The shepherd's dog in his own department is a perfect miracle of intelligence. He understands the sign, the voice, the look of his master. He collects the scattered sheep at the slightest signal, separates any one that is indicated from the rest of the flock, drives them wherever he is told, and keeps them all the while under perfect control, less by his active exertions than by the modulations of his voice, which expresses every tone from gentle instruction to angry menace. These are his ordinary performances, visible every day in a thousand pastures. But he can do greater wonders. It chanced one night that seven hundred lambs, committed to the keeping of the Ettrick shepherd, broke loose from his control and scampered away in three divisions over hill and plain. "Sirrah, my man," said Hogg mournfully to his *colly*, meaning it for an expression of grief, and not for a direction, "they're awa." Silently and without his master's knowledge, for it was too dark to see, the dog left his side, while the shepherd passed the hours till morning in a weary and fruitless search after his wandering charge. At the dawn of the day he was about to return home with a heart full of despair, when he caught a sight of Sirrah guarding at the bottom of a deep ravine, not, as he at first supposed, one division of the lambs, but the whole of the vast flock, without a solitary exception. "It was," says James Hogg, "the most extraordinary circumstance that had ever occurred in my pastoral life. How he had got all the divisions collected in the dark, is beyond my comprehension. The charge was left entirely to himself, from midnight until the rising of the sun, and if all the shepherds in the forest had been there to have assisted him, they could not have effected it with greater propriety." On another occasion the same famous shepherd saw a dog, when it was utterly dark, put upon the path of a ewe that had been lost by her owner near a neighbor's farm, and which was supposed to have mingled with her fellows that were feeding in the surrounding pastures. "Chieftain," said the master of the dog, pointing to the spot from which the sheep had gone off, "fetch that, I say, sir—bring that back; away." And away he went, and back he brought, in half an hour, the identical sheep. A sheep-stealer, who was at last discovered and hanged, used to carry on his trade by secretly signifying the particular sheep that he desired out of a large flock, as he viewed them under the pretence of purchasing, to his dog, who, returning by himself a distance of several miles at night, drove the selected sheep, which was undoubtedly the fattest, to his fastidious owner. Both Scott and Hogg relate this picturesque story more circumstantially from the annals of the Justiciary Court, in Scotland. Sir Thomas Wilde knew an instance in which three oxen out of some score, had mingled with another herd. "Go fetch them," was all the instruction the drover gave his dog, and he instantly brought along with him those very three. A cattle dealer, accustomed to drive his beasts for nine miles to Alston, in Cumberland, once for a wager, sent them alone with his dog. The animal perfectly understood his commission. He kept the straight road, ran, when he came to a strange drove, to the head of his own to stop their progress, put the beasts that blocked the path upon one side, then went back again to the rear to hie on his charge, and thus adroitly steering his way and keeping his herd together, he carried them safely to the destined yard, and signified their arrival by barking at the door of the dwelling.

Agricultural Education.

Even in North Carolina they are going ahead of us in the business of agricultural education. An agricultural school has been recently established in Ashe county, in that State, under the patronage of Bishop Ives. The establishment comprises about five hundred acres of land, with the necessary buildings. The pupils are required to labor, only so much as may be necessary to illustrate practically the principles they are taught in the school. In all the branches of a liberal education, the course of instruction is thorough. The expenses are one hundred and twenty-five dollars per year, for tuition, board, washing and fuel.

In connection herewith, we copy from the Southern Planter a letter from Bishop Ives to the Editor:

Raleigh, March 12, 1845.

My Dear Sir—Many thanks for your very interesting and useful publication, which I have received; also, for the straw cutter, which I hope soon to receive. The progress in agricultural knowledge and improvement, is most gratifying. The evidences of increased interest in the subject here, are striking. The book merchants, Turner & Hughes, inform me, that during the late sitting of our Legislature, more books on agriculture were disposed of than had been for the *previous seventeen years*, the length of time in which they had done business in this place. This is encouraging, not only to the worldly economist, but to the Christian minister, for I regard the cultivation of the soil as intimately connected with the religion and morality of a country. My own observation has led to this conviction, and hence, in an attempt to do something for the spiritual interests of our roving mountaineers, I have felt it my duty to endeavor, first of all, to break up their habits of idleness and hunting, and infuse among them a spirit for the improvement of their rich, but neglected lands. Indeed, I look to the change of feeling now going on in favor of agriculture in this State, as one of the most promising signs of the times, both in regard to the physical and moral advancement of the people.

Excuse these quite unintentional remarks. At a future time, I may take up this subject in earnest, with a view to aid in the impression which your deserving periodical is slowly, but surely producing in favor of agriculture.

With the truest regard, your friend and servant, L. S. Ives.

We cannot close this article more appropriately, than by making an extract or two from an address delivered in October last, by Ralph R. Phelps, before the Hartford County (Connecticut) Agricultural Society; by the way, one of the very best of the very many good essays on domestic economy and home education, which we are indebted to the Yankees for.

Speaking of the disposition of young men "to leave the farm for a profession, a clerkship, a trade, or even a pedlar's trunk or cart," he assigns, among the causes of the prevalence of this spirit, "false ideas of honor and respectability, surly, morose and scolding habits of parents," and "the rough, uncouth and comfortless appearance of many farmers' houses and out-buildings." Mr. P. then proceeds to point out a remedy, as follows:

"Let no farmer's wife think her children too good to labor; but on the contrary, let her strive early to fix habits of industry. Let every mother teach her sons, that while labor on the farm is honorable, idleness, ignorance and vice alone bring reproach. And when this lesson is thoroughly impressed on the mind of her son, and corresponding habits are formed, that son will be likely to make an efficient man and a useful citizen, whether he be following a profession, or be engaged in the more safe and more pleasant pursuit of agriculture. But when the mother, without this lesson, and without these habits, undertakes to make her son a gentleman, she is far more likely to make him a loafer.

"Let parents labor to give all their children a good education. Let the absurd notion, that a farmer needs no education, be banished from every dwelling. There is no pursuit where intelligence and a well cultivated and a well disciplined mind is more necessary, than in the proper management of the farm. Let the mind be enlarged by a knowledge of history, political economy, and especially the sciences connected with agriculture. Let the young farmer enrich his mind by general reading. Let him thoroughly understand our political institutions; and be able to judge of his political rights and duties, without the aid of some demagogue, who had rather devote his time to watching over the public interests, than to the pursuit of honest industry. In short, let the farmer be able to reason, to examine and to judge for himself, and he will soon take the elevated rank in society to which his calling entitles him, and he will no longer have the opportunity of complaining that professional men have too much influence. This will have a great tendency to attach farmers' sons to their homes and to their farms."

For the Southern Cultivator.

Deep Plowing.

Mr. Camak—By your request, I give you the result of a trial made by myself the last year in deep plowing. Having received, late in February, several varieties of wheat, distributed from the Patent office, I immediately prepared a small piece of ground in the following manner: first, I ran a good turning plow and followed in the same furrow with a long scooter. I attended to it in person, and am certain that the ground was thoroughly broken, to the depth of *both plows*. The wheat, as I feared, was too late, and was destroyed by the rust. A thick coat of crab grass came up and was suffered to grow until August, when it was cut and cured—making, on about a quarter of an acre, three cart loads of most excellent hay of unusual length, measuring three feet and upwards. Indeed, it was the thickest and most luxuriant plat of grass I ever saw.

The land was *without manure*; the season was unusually *dry*, so much so, that I made but little over half a crop of corn. I had another piece of land left for the purpose of making hay, which I know to be a great deal richer, having had the drainings of the horse-lot for years.

This received one single plowing, but did not produce grass high enough to cut. These facts led me to reflect upon the cause of the difference between the product of the two pieces, without intending it as a comparative experiment. The result, together with the attending circumstances, satisfied me that the superior yield of the *unmanured* piece could be attributed alone to the thorough and *deep* plowing it received in the spring. Very respectfully,

WILLIAMS RUTHERFORD, Jr.

Cowpens, Walton Co., March 21, 1845.

For the Southern Cultivator.

Bread-Stuffs--A Contrast.

The consequences of an abundance of Bread-Stuffs on the prosperity of a Country, contrasted with an absence of that plenty and cheapness.

Any one who has occasion to visit the Northern States, observes, on returning homeward, a fact that startles him, in the difference presented to the eye, in the two sections of country. *There*, he sees an appearance of comfort; men of very moderate means live in neat houses; those of greater wealth in splendid ones; there seems to be a place for every thing, and every thing is in its place. *Here*, the picture is altogether different; people seem to regard their places of abode as necessary evils, and pay as little attention to making them either neat or comfortable as possible. They seem to esteem a house and its fixtures like an Arab does his tent, as something that is to be occupied for only a brief moment, and any pains and expense in adapting it to comfortable living, as an unnecessary waste of time and money. As to ornamenting the grounds around it, with trees and shrubbery, such an idea does not seem to have occurred to the occupant.

There, if you have occasion to stop at a house in the country, you find at the table, food prepared properly; and butter, milk, and seasonable vegetables are set before you. *Here*, you have that eternal dish—fried bacon, or pork, if it is winter, swimming in grease, "and nothing else," except "long *collards*" and bread. The owner may have his principal wealth in cattle, to the amount of many hundred, as is the case in some places, and if it is winter or spring, he has not an ounce of butter to offer you, and rarely even milk enough to put in your coffee.

Inquire the price of building a house *there*, and the amount is small. *Here*, the cost is so great, as to deter any one from building a good one, any where else than in a large town. It would be thought extravagance to entertain the idea in the country.

There is a cause for this disparity in the condition and appearance of these two sections of the same country. What is that cause? This question has been often asked in our presence, and the answer has always involved some abstrusity wholly irrelevant to the subject, in our view of the case. Are we less intelligent than our neighbors? Has a genial sun rendered us less capable of the use of our mental faculties than they? This will hardly be admitted. The real cause, from its very obviousness, seems to have been overlooked, in searching after remote ones. *It is because they produce bread and meat in abundance, and we do not.* That there are other auxiliary causes, in the way of unequal revenue laws, &c. which tend to raise one section and depress another, we doubt not; but the radical cause is the one we have stated, we believe.

In order to see its effect readily, let us suppose you have a house to build. You must have lumber, brick and lime; a carpenter is to be employed to build the house, a bricklayer to make the chimnies and plaster the walls. The sawyer asks you a price for the lumber that appears high, when taken in connection with the plenty and cheapness of water power and pine timber, but he solves the difficulty very soon, by telling you the price he has to pay for corn, to subsist himself, his hands, and his mules, which haul the stocks to the mill and the lumber away from it. Each mule, purchased from a Kentuckian, costs him $75 or $80, and the corn to feed them costs him, to assume the current rates in Macon at this date, 75 cents per bushel. It is easy to see the effect of this on lumber. The same reasons apply with the brick-maker, and lime-burner, precisely. Then go to the carpenter and bricklayer and tell them the price of building a house and a chimney and of plastering at the North, and ask them why they cannot afford to work at the same rates. They will tell you that living is cheap at the North, it is dear here. And you have a solution of the whole mystery, and build your house at twice the cost which would be necessary, if you lived in a country where provisions were plenty and cheap.

But here the farmer turns upon us, and asks, What is to become of me if I can get but 25 cents for my corn? We answer, that with an abundance of corn at that price, and every thing else at a proportionate rate, you will live more plentifully, more comfortably and independently in every respect; yourself, and the whole face of the country and its population, from the pettifogger to the pig, inclusively, will be better off and happier. What is the difference to the farmer in dollars and cents, if he gets 25 cents for his corn, and can build a house for $400, or if he gets 75 cents, and the house costs him $1200? It is as broad as it is long, so far as cost is concerned. But as to his comfort and the general prosperity of the country, there is a great difference.

There is this essential difference in the habits of a Northern and a Southern man. *The one*, whether in Connecticut or in Georgia, if he removes here permanently, thinks in the first place of making himself, as Baillie Nicol Jarvie says, "what he calls comfortable." Then he looks out as keenly as other men for the ways and means of getting rich, but he must be comfortable while he is doing it. Every thing must be neat and *tidy* about him. *The other*, without any systematic economy, is indifferent about the present, and lives altogether in the hope of realizing a fortune in the future, when he expects to live as he pleases. And when that time arrives, habit has grown to be second nature, and as to the enjoyments of life he is no better off than when he began—"Always to be, but never blest.—Frequently careless even in his personal attire, and always slovenly in the arrangement of his house, out-houses, gates, fences and grounds.

With every element of prosperity a country could ask, we of the Southern States are the most dependant on others, of any people within our knowledge; and the face of the land presents to a stranger the most poverty-stricken aspect of any that meets his eye anywhere.—This is a humiliating confession from a son of the soil, "one to the manner born," but however disagreeable, it is a truth that must be known and felt by all before the evil can be obviated. We scourge our lands by continuous crops of cotton, without a year of rest or rotation, and buy every thing; while others improve their lands and make every thing at home they can. Not to speak of wearing apparel, and other like articles of necessary use, every one of which, coarse and fine, is made elsewhere, and is a source of drain to the industry of this section. But look on your tables and see if your meat does not come from Tennessee; look at your plows and see if every mule that draws them is not bought of Kentucky; even the horses which draw your carriages come from there.

Many pursue a line of policy on this subject, the very reverse of their own interests, from a mistaken idea of what their true interest is; others do so from sheer inertness and a want of reflection; some from being deluded by maxims applicable to particular situations and necessities, and not capable of general application. The Island of Malta imports all its bread stuffs, and why? Because it is a rock, and incapable, from its want of soil, as well as size, to raise them. Is that the case here? England imports bread stuffs and yet prospers;—and what is the reason? By her gigantic power having, through a credit system of her own, made herself the heart of the monetary world, she can display an appearance of prosperity, in despite, and not by reason, of that deficiency, in the capacity of the realm, to produce provisions sufficient for its accumulated population. Some of the West India Islands, and some plantations on the Mississippi, do not raise their provisions, but the reasons which may be good there, do not hold here. We, to be prosperous, must make bread and meat plenty and cheap. Turn the question as you will, it resolves itself into this.

In a succeeding article, we discuss the question of raising our own meat, and endeavor to show that it is the present, as well as prospective interest of the farmer to do so. J. B. L.

Macon, Ga.

For the Southern Cultivator.

Can a farmer buy his meat cheaper than he can raise it at home?

It is a common place remark with a class of slip-shod sort of planters, that "a man can buy his meat cheaper than he can raise it." At some particular junctures, when corn is high and meat low, this may be momentarily the case, if cotton happens to bear a fair price at the time. Taken for a series of years, this maxim is devoid of truth, and ruinous to individuals and the country in its effects. And what guaranty has he that the supply of meat from abroad may not fall short, as has been the case this year with mules? And no circumstance tends more to bring about that result, than the late very low prices, which are calculated to dishearten the Tennesseean, and prevent his bringing the former quantity to market. This year meat has been unusually low, and that very fact may add 50 per cent. to its price another year, and the meat buying farmer will find himself at the mercy of the Tennessean. To reason by analogy this will very likely happen. Any one can recollect that in 1843, good mules sold here for $30 to $35, and the same description brought $75 this past winter. What safeguard has the planter who raises neither meat or mules, against these periodical revulsions in the market of those articles?—revulsions dependant on the laws of supply and demand, which his helpless situation prevents him from averting from his own door. A planter who raises corn, near a large market town, may sometimes make money by selling his corn at a high price, which usually happens once or so in a season, and buying his meat. But the great mass of farmers live at a distance from a market, and have no such advantages. But if even this one turns speculator and sells corn to buy meat, he will find, in an average of years, he will make but little by it.

Let us examine the question of meat-buying closely. Say two acres of land will produce a bag of cotton weighing 400 pounds; this, at five cents, will be $20. What would this same two acres of ground produce, if cultivated in corn and fed to four hogs of a year old? We have estimated that it produces 800 weight of seed cotton to the acre, according to the above calculation, and land which yields that much cotton will bring 40 bushels of corn. Well, that would be 40 bushels of corn, which, fed to four hogs of a year old, at the rate of ten bushels to each, would make each one weigh certainly 175 pounds net. Multiply this by four, and we have 700 pounds of pork as the result, which, at three cents per pound, is $21—a difference of a dollar against the theory of "it is cheaper to buy than to raise,"* with the additional advantage of placing the farmer above the contingencies of a short supply and high prices.

Since we began this article, in looking over our papers, the following apposite remarks of the Albany Cultivator, on the subject of the pork market, has met our eye, and we transfer it here as a corroboration of our suppositions. We had supposed, in the usual course of things, this fluctuation *might* take place, and it seems that in fact *it has taken place* sooner than we expected:—

"DEFICIENCY IN THE SUPPLY OF PORK FOR 1844.—We are not surprised at the falling off in the amount of pork slaughtered in the West last season. From 1838 to 1841, it is well known that an excitement, amounting almost to a mania, prevailed through the country in relation to hogs. Improved breeds were sought after with great avidity, and in many instances very high prices were paid, particularly for Berkshires.—The natural consequence of this excitement was, first, that unusual numbers of hogs were reared and fattened, and of course the pork market was glutted. The unprecedentedly low prices of pork in the western markets, for the years 1841 to 1843, proved almost ruinous to those farmers who relied on that article for their chief income. Many farmers were forced to sell their hogs for no more than a dollar and fifty cents per hundred, 'dead weight,' and in some instances for less. They could not stand such low prices, and hence followed the second result of the former

*Let practical farmers examine all the above calculations, and make such alterations as may suit the yield of their land, and accord with their experience, and they will find that we are not far from right in the main.

excitement, viz: the raising of but a small number of hogs, and the falling off in the quantity of pork killed in the western country last year. We see it stated in various papers that the amount packed at Cincinnati last year was less by one-third than for the year previous. At St. Louis it is said the decrease is still greater; and through the State of Illinois there is said to have been a falling off of from one-third to one-half. In Ohio the falling off was much greater, as we are informed, at the interior slaughtering places, than at Cincinnati. In the Scioto valley, for instance, where the number slaughtered at nine places in 1843 was 121,800, the number for 1844 is only 48,350. It seems probable, from present prospects, that pork will command at least remunerating prices the coming fall, and those farmers who had the foresight to see this, and have wisely provided themselves with a sufficient stock of a good breed of hogs, will be likely to reap their reward."

So we may expect an increase of price, for some time to come, and the same causes which have produced this reaction in Ohio, will probably develope themselves in Tennessee a year later, in time to affect the next winter's supply of pork here. Now let us suppose that the planter, who purchased his meat last winter at three cents, should have to pay five cents for it the next, and see how our calculation above will stand affected by it. The 700 pounds of meat at that increased price would be worth $35, which would be a difference of $15 against his anti-meat raising system. And while these serious changes are taking place, may there not be a decline in cotton?—Such things take place occasionally, as he is aware; and, instead of purchasing his meat with cotton at five cents, or, in other words, giving a pound of cotton for a pound of meat, may not cotton fall to four cents? In that case it makes the difference stand against his theory at $19, or very near one hundred per cent.

We trust that we have shown, that if at particular times, for a short period at best, the planter does well to buy his supply of meat, with the proceeds of his cotton and corn, in the main that plan is destructive of his own interests, and in a high degree prejudicial to the general welfare and prosperity of the community at large. The farmer is truly the bone and sinew of the country. His prosperity makes all others prosperous, and his ruin is succeeded by a destruction to all other callings. If, collectively, the farmers of a country pursue a correct policy, which results happily to themselves, the whole land smiles; if they pursue the infatuated course, heretofore followed in Georgia, the country is clad in the lugubrious raiment of sack-cloth and ashes. When will the farmers of Georgia pursue their true interests, and raise the dejected head of their beloved State? J. B. L.

Macon, Ga., April, 1845.

For the Southern Cultivator.

The Bommer Method of Making Manure.

Mr. Editor—At the request of a friend, who entertains perhaps too favorable an opinion of my practical knowledge of planting, I send you, for publication, the following remarks on my experiment on the Bommer method of making manure. It was no part of my purpose, at the outset, to publish anything in relation to this process, which I knew was already in the hands of many who were every way more capable of performing this public service. This will account for, if not excuse, that want of precision in the results of the experiment, which could alone render it of the slightest importance to scientific agriculture. Where this precision is wanting, my individual opinion must go for what it is worth.

In the latter part of 1843, I purchased the patent Bommer method of making manure, and, in January, 1844, I put up a heap 30 by 40 feet, and 6 feet high, composed of leaves, straw, a large proportion of which was of corn-stalks, which I watered for about six weeks, according to the printed directions which accompany the patent. During this period, the weather was extremely cold and dry, which is considered the most unfavorable state of the atmosphere, for fermentation or decomposition. On examination of the heap, I found the materials had very unequally decomposed; that the most solid matters, as the corn and cotton-stalks, were but slightly decomposed, while the less solid, such as straw, leaves, &c., were rapidly rotting, though not thoroughly decomposed. Into the lye, with which the heap had been watered, I put four barrels lime, thirty pounds saltpetre, and two two-horse wagon loads of fresh stable manure.

About the first of March, one half of the heap was hauled out, on one part of a field of worn land, the other part of which I manured with lot and stable manure, and planted the whole field in corn. The yield was, I think, about double the usual crop; and the best judges that saw the field pronounced that part manured by the Bommer manure decidedly the best. The other half of the heap was hauled out on part of a cotton field, otherwise unmanured. In the spring and first part of the summer, there were periods of protracted drought, and the product of manured lands, whether with cotton seed, stable manure, or Bommer's manure, was not what might have been anticipated. But the decided superiority of the Bommer manure, imperfectly rotted as it was, over the stable manure, was so marked that the slightest observation could not fail to detect the difference in the size and vigor of the stalks and ears. Its effects upon the cotton was no less decided; and though I did not weigh the product, I feel assured that it was increased by the Bommer manure at least one hundred per cent. over the *unmanured* part of the field.

In February, 1844, I put up another heap; of the labor and time employed on which, I am enabled to give a more specific account. I had fifteen hands and two wagons engaged in this work; the materials employed were pine leaves, straw, and corn-stalks, all in a dry state, much the largest portion being pine leaves. The site was cleared of trees and shrubs, by digging up their roots. The vat was excavated, and the grate constructed, and 500 wagon loads of material were put on, and all in readiness for watering in eight days.

This may give an idea of the labor necessary to putting up the first heap, though greatly exaggerated as to the time and labor to be bestowed on any subsequent heap—for full half the time and labor was consumed in clearing the trees, excavating the vat, and making the grate, which need nothing but slight repairs to keep them serviceable for years. On this last heap, I used ten barrels of lime, four loads ashes, forty pounds saltpetre, four bushels common salt, and about four loads fresh stable manure. From this heap, I hauled on a cotton field about 300 wagon loads of as fine, rich, well rotted manure as I have ever seen, and have manured for the present crop about thirty acres in drill, filling up the furrow with the manure. I have applied the lye to my garden vegetables, with the most happy effects. Under its application, beets and cabbage plants thrive beyond any thing in my former experience in gardening. It is, indeed, to this mixture, I ascribe the chief efficacy of the manure, and the absorption of the largest quantity of the compound is of the greatest importance to the fertilizing property of the manure. The frequent and thorough watering is therefore of indispensable necessity. Disappointment awaits the farmer who does not give this part of the process constant attention. To obviate as far as possible, this laborious part of the process, I have used a common plank pump, of three inches bore, made by a common carpenter with a hose made of cotton or osnaburgs, which should be oiled or painted. With these appliances, three able bodied hands watered the heap, after it was fully saturated, in three or four hours.

In conclusion, I have no hesitation in declaring my opinion, that a planter may manufacture as much of this manure in the year as he can haul out in the next spring; that the labor and trouble of the method, when once fairly under way, is scarcely beyond what is incident to making manure of any other kind; that the expense is trifling, in comparison with the returns of the outlay; and I heartily and honestly recommend it to every farmer and planter, who wishes to increase the product of his fields, and render their improvement permanent.

Yours, &c. William Byne.

For the Southern Cultivator.

Silk.

Mr. Camak:—In order to induce my brother farmers to plant less cotton and turn their attention to something else, I would inform them, through your valuable paper, that I have been raising silk in this county for the last six years, and have found it a profitable and interesting employment. So well satisfied am I that it is the best agricultural pursuit now followed, that I have just completed an extensive cocoonry, and planted out five acres more of mulberry trees; and I intend to increase my stock annually. I have all my cocoons reeled, made into sewing silk, dyed, and put up in skeins, by my own family; and I find no difficulty in selling it at a fair price.

I am prepared for reeling extensively; and would give a fair price for cocoons delivered at Savannah, or at the twenty or thirty mile station, on the Central Rail Road. For good cocoons, of the present year's crop, cured by exposure to the heat of the sun, (which is much better than steaming or baking in an oven,) from which all the double and soft ones have been picked, and the floss taken off, I will give two dollars and fifty cents per bushel. A first rate article would be worth something more.

I send you a few skeins of silk as a sample of what has been done, and of what, (with a little care and attention) might be done, by almost any farmer in the State.

Your ob't. serv't. Hugh Cassidey.

Bermuda Grass.

To the Editor of the Southern Cultivator:

Dear Sir—Your much esteemed favor of 24th Feb. was duly received; and the reason for my not answering it before this, was, first, I have been much of the time since from home, and secondly, you have asked me for information on a subject which I consider of more importance to the agricultural interest of our State than any other; and on which, if it can be given satisfactorily, the man who does it will deserve, not *only the silver cup*, but the thanks and gratitude of our whole community. Its importance, therefore, caused me to hesitate whether I could give you the desired information, as I have not yet satisfied myself fully whether to look upon *Bermuda Grass* as a friend or enemy, a blessing or a curse. You have asked me to give you, in detail, both my opinion of the value of the grass and my plan to get rid of it, when we want the land it occupies for other purposes. Now, if I could tell you satisfactorily how to accomplish the latter, without too much expense, (if indeed it can be killed at all,) then there would be no difficulty in saying, that this grass would be invaluable. Not so much for grazing, as Mr. Spalding states, or for hay, as Mr. Affleck says in your January number, as for the great benefit to our worn out lands, by putting them down in this grass, while not in hoed crops, to keep them from washing, and for giving them a sod of turf to supply the place of red clover. The ten thousand roots and runners, with considerable substance, (as one of the above named gentlemen states,) afford valuable organic matter, to be turned under, when the land is fallowed, previous to a hoed crop, which I have found much improves the soil, when you succeed in killing and causing these roots, &c. to be decomposed in the earth.

This brings me directly to the task of giving you my little experience in killing it, when the land is wanted for other purposes. Some four or five years since, I had a favorite four acre lot, which had been entirely overrun by this grass, so as to be rendered useless for any other purpose than grazing. I concluded to try my hand in killing the grass in this lot, if I did not in other now large growing patches on my farm. I prepared myself with Ruggles, Nourse & Mason's celebrated four-horse plow; put four strong mules to it, in April, turned the sod over, (better to have been done in the fall so as to have the benefit of the frost,) let it lie a month, then harrowed it well with a heavy iron-tooth harrow, then drilled and planted the common cow-pea three feet wide, and cultivated well. The peas grew finely; I should think, off the four acres, I saved twelve or fifteen tons good pea-hay, pulled up by the roots when the peas were ripening. I sowed the lot down in wheat as soon as the peas came off. I took from the four acres, without manure, over one hundred bushels of clean wheat. By this time, by means of the pea crop, which was large, and succeeded by a wheat crop, also very good, I had so shaded the sun-loving Bermuda that I could

hardly see any of its roots, much less the above-ground runners. So great was my supposed triumph, that I crowed largely over my fallen enemy, and talked much of its value among my neighbors, and told them that I did not dread it, but rather intended to court a still more intimate acquaintance with it. After the wheat crop came off, I manured but lightly, fallowed and put the lot in readiness for Ruta-Baga. In July I commenced sowing in drills. I am certain I took from these four acres, over three thousand bushels of the finest turnips I ever saw grow in any country. After the turnips came off, I saw, in many places in the lot, bunches of the Bermuda. I then planted the whole four acres in squashes, and made a fine crop for my hogs, and as fine a lot of Bermuda as I had at the beginning! So, I thought I had killed it, but found I was mistaken. I now think I did not pursue the rotation of overshading crops long enough, to kill every root in the ground.

I have no idea it can be killed in any other way than by overshadowing crops by those who have much of it, without too much expense. As to killing it by any kind of plowing, or planting hoed crops among it, this is utterly impossible, and particularly on our red stiff lands, such as mine are. It is a great deal easier to manage it in light and sandy lands; though even in these, you do not exterminate it, but by constant culture you may keep it under so as to make crops.

I am now just commencing to try a new method of destroying this grass, and that is, by a rotation of peas and Jerusalem artichokes, or perhaps peas, wheat, and then artichokes. I have, from what I have seen of the artichoke, great faith in its being a valuable smotherer, for I would as soon try to drown a fish by throwing him in the water, as to kill Bermuda Grass by never so much working in the sun. Besides, if this will kill it, you do so with a most valuable crop for swine.

I have tried various other methods to kill this grass, with little or no success, and which it is needless now to mention, as to my mind there is no way so likely to be successful as by overshadowing crops, and that in succession for some two or three years; and when we shall be able to manage it, (if, indeed, we shall ever be,) it will be looked upon as a great blessing, which I must think a kind Providence intended it to be.

JOHN CUNNINGHAM.

Greensboro, (Ga) March 20, 1845.

Bowling Green Agricultural Society Fair.

The Annual Fair of the Bowling Green Agricultural Society will take place at Bowling Green, on Friday, the last day of October next, when the following premiums and honors will be awarded:

For the best acre of upland corn, a silver cup, value.....$3 00	Best bull, cup.....$3 00
2d best acre.....1st honor	2d best.....1st honor
3d best.....2d honor	3d best.....2d honor
Best acre of low-ground corn, cup.....$3 00	Best cow, cup.....$3 00
2d best acre.....1st honor	2d best.....1st honor
3d best.....2d honor	3d best.....2d honor
Best acre of wheat, cup.....$3 00	Best two year old heifer, cup.....$3 00
2d best acre.....1st honor	2d best.....1st honor
3d best.....2d honor	3d best.....2d honor
Best acre of oats, cup.$3 00	Best spring calf, cup..$3 00
2d best acre.....1st honor	2d best.....1st honor
3d best.....2d honor	3d best.....2d honor
Best acre of sweet potatoes, cup.....$3 00	Best boar, cup.....$3 00
2d best acre.....1st honor	2d best.....1st honor
3d best.....2d honor	3d best.....2d honor
Best half acre of turnips, cup.....$3 00	Best sow, cup.....$3 00
2d best half acre..1st honor	2d best.....1st honor
3d best.....2d honor	3d best.....2d honor
For the best three year old colt, silver cup..$3 00	The heaviest hog under eighteen months old, in proportion to age, cup.....$3 00
2d best colt.....1st honor	2d heaviest.....1st honor
3d best.....2d honor	3d heaviest.....2d honor
Best two year old colt, cup.....$3 00	Best conterpane, cup.$3 00
2d best.....1st honor	2d best.....1st honor
3d best.....2d honor	3d best.....2d honor
Best spring colt, cup..$3 00	Best eight yards of domestic jeans, suitable for gentlemen's wear, cup.....$3 00
2d best.....1st honor	2d best.....1st honor
3d best.....2d honor	3d best.....2d honor
Best brood mare, cup $3 00	Best article of Negro clothing, cup.....$3 00
2d best.....1st honor	2d best.....1st honor
3d best.....2d honor	3d best.....2d honor

The Society have set apart ten dollars to be awarded by their committees, to articles manufactured by the ladies, not enumerated in their premium list, such as capes, collars, caps, &c. or any fancy article made by a lady.

JOHN W. MOADY, *President.*
William Jewell, Secretary.

Farmers' Convention.

MILLEDGEVILLE, 31st March, 1845.

The Agricultural Convention of the State of Georgia assembled this day at 12 o'clock, M., at the Court-house in this city. Delegates from the counties of Morgan, Cobb, Paulding, Putnam and Baldwin, appeared and took their seats; when, for the purpose of organization, on motion of Maj. Wm. Y. Hansell, a delegate from the county of Cobb, Col. Herschel V. Johnson, of Baldwin, was called to the Chair.

The Chairman having announced that he was prepared to receive any proposition which the Convention had to make, Mr. Turner, from the county of Putnam, offered the following resolution:

Resolved, That His Excellency the Governor of the State of Georgia for the time being, be chosen President of "the Agricultural Association of the State of Georgia"—which was adopted.

It was *resolved*, on motion of Mr. Grantland, from Baldwin, that the Chair appoint a Committee to wait upon his Excellency, Gov. Crawford, and inform him of his appointment.

Whereupon the Chair appointed Messrs. Grantland, Turner and Harris that Committee.

The Committee having informed Gov. Crawford of his appointment, and conducted him to the Chair, after a few remarks relative to the objects of the Convention, he announced the body ready to proceed to business.

On motion of Mr. Harris, it was

Resolved, That Dr. John R. Cotting be appointed Corresponding Secretary, and Benj. T. Bethune, Esq., Recording Secretary of the Agricultural Association of the State of Georgia.

On motion of Mr. Jones, of Paulding, it was

Resolved, That the President appoint a Committee of five, whose duty it shall be to draft a Constitution for the Association, and to recommend to the Convention the various subjects which shall be appropriate for its consideration. The Committee named by the Chair, were Messrs. Jones, Turner, Johnson, Hansell and Spear.

The Convention then adjourned till four o'clock, P. M.

FOUR O'CLOCK, P. M.

Convention met pursuant to adjournment.

Judge Jones, Chairman of the Committee to draft a Constitution, &c. reported the following:

Art. 1. This Society shall be known by the name of the "*Agricultural Association of Georgia*," and shall be composed of the members of all Agricultural Societies or Associations which are, or shall be hereafter formed in this State; and its annual meetings, which shall be held on the second Monday of November in each year, in the city of Milledgeville, shall consist of a Convention of such delegates as each of said Societies shall send.

Art. 11. Its officers shall consist of a President, who shall be the Governor of the State for the time being, and as many Vice-Presidents as there shall be Agricultural Societies or Associations in the State; the several Presidents of which shall be ex-officio Vice-Presidents of this Association—Recording and Corresponding Secretaries—the Recording Secretary acting ex-officio as Treasurer.

Art. III. The object of this Association shall be to promote, by all proper means, the advancement of the Agricultural and domestic economy of the State in all their various departments.

Art. IV. At each annual meeting, there shall be an Executive Committee of five, appointed to receive the reports of such committees as this Association may appoint and such other matter as may be refered to them through the Corresponding Secretary, and to perform such other duties as may be required of them, or as may properly fall within their province.

Art. V. The funds of this Association shall be composed of such moneys as may be raised by voluntary contributions.

Art. VI. This Constitutionmay be altered or amended by a vote of the majority of the members present at any annual meeting.

Which report was received and adopted.

The Committee further recommend the appointment of the following committees:

1st. A Committee of——to report to the next annual meeting on the subject of the Agriculture of Georgia.

2. A Committee of—— to report on Grains.

3. A Committee of—— to report on Stock.

4. A Committee of —— to report on such plants as may be profitably introduced, and which are not now cultivated.

5. A Committee of—— to report on manures.

The Convention approved of the recommendation of the Committee, and on motion, it was *Resolved*, That the various blanks be filled by the Chair with the number three.

The President then stated, that, as it was necessary he should know the names of gentlemen composing the different Agricultural Societies in the State, to enable him to make judicious appointments, the committees would not be appointed until the various societies had been heard from.

Mr. Johnson offered the following resolution:

Resolved, That the Corresponding Secretary write to the respective Agricultural Societies of this State, informing them that their members are constituted members of this association, and that their respective Presidents are ex-officio Vice Presidents of the same; and that he request the said societies to furnish him with a full catalogue of their members, to the end that they may be entered on the records of this association, in the event of their being willing to become members thereof—which was adopted.

The following resolution was also adopted:

Resolved, That we recommend to the several societies of this State, to take into consideration the propriety of recommending to the next Legislature an appropriation for the purpose of procuring seed and grains of various kinds from different countries, for distribution among the various Agricultural Societies, and to report the result of such deliberation to the next annual meeting of this association.

The Association then adjourned *sine die*.

GEORGE W. CRAWFORD, *President.*
Benj. T. Bethune, Recording Secretary.

Cobb County Agricultural Society.

Pursuant to a previous notice, a large and very respectable portion of the citizens of Cobb assembled at the Court House in Marietta, on the 25th ult., with the view of organizing an Agricultural Association.

On motion, Hardy Pace and James Lemon, Esq's., were called to the chair, and Andrew J. Hansell, Esq., requested to act as Secretary.

The meeting was first addressed by Hon. John A. Jones, a delegate to the Convention about to assemble in the city of Milledgeville and *en route* to that point, in a highly interesting speech. H. R. Foot, Esq., was next called out, who ably discussed the propriety of an efficient organization of such a society, and the imperative necessity of an agricultural education. Jas. Lemon, Esq., one of the Chairmen, made an appeal to his fellow farmers of Cobb.

Col. Chas. F. M. Garnett, from the Committee to draft a constitution, &c., reported a constitution, which was unanimously adopted. The constitution was then signed by a number of our citizens; and on motion of Col. Garnett, the Society then proceeded to the election of its officers for the present year. On counting out the ballots, it appeared that the following gentlemen were unanimously chosen:

C. J. McDonald, President.

Vice-Presidents—H. R. Foote, Sam'l. Young, Wm. Harris, T. M. Kirkpatrick, Jas. S. Bulloch, Jas. Lemon, Hardy Pace.

William P. Young, Treasurer.

Andrew J. Hansell, Secretary.

On motion, Resolved, That Maj. Wm. Y. Hansell, be and is hereby appointed our delegate to the approaching Agricultural Convention, to be holden in the city of Milledgeville, on Monday the 31st ult., and requested to represent our Society in that body, which was unanimously agreed to.

On motion the Society then adjourned, subject to the call of the executive committee.

HARDY PACE, } *Ch'n.*
A. J. HANSELL, *Sec.* JAS. LEMON, }

Agricultural Society.

The Barbour County Agricultural Society met in the Town Hall, Eufaula, Ala., on the 15th March; the President, Col. McDonald, in the chair, John Gill Shorter, Esq., Secretary, pro tem.

The committee appointed last meeting to revise the constitution of the society, reported a substitute, which was adopted.

John A. Calhoun, Esq., Dr. C. Battle, and B. Gardner, Esq., were appointed a committee to draft by laws for the society, and to report the same to the next meeting.

Standing committees, to examine and report on crops, horticulture and improvement in mechanism, were appointed by the President, as follows:

To examine crops below Eufaula, Gen. R. C. Shorter, Mr. Wm. Abney, Mr. John W. Raines.

To examine crops above Eufaula on the river, Major Thomas Flournoy, Dr. C. Battle, Mr. A. McGehee.

To examine crops on the Barbour Creek, Mr. William DeWitt, Mr. James Tucker, Mr. Treadwell.

To examine crops on the Cowikee Creek, John A. Calhoun, Esq., Dr. A. P. Crawford, Gen. Wm. Wellborn.

Committee on Horticulture, John Gill Shorter, Esq., Mr. Wm. S. Paullin, Dr. William H. Thornton.

Committee on Mechanic arts, Z. J. Daniel, Esq., Mr. E. C. Holleman, Mr. W. Archer.

Messrs. B. Gardner, J. G. L. Martin and Thos. Cargile, were appointed a committee to select a suitable person to address the society at its next meeting.

On motion, it was ordered that the President also appoint four persons to discuss, at the next meeting, the following question: "What are the benefits to be derived from Agricultural Societies?" Messrs. Buford, Hemphill, Calhoun and J. G. Shorter were appointed debaters.

A letter from Dr. Richardson, to the President, was read, on the culture of cane and the manufacture of segars, and a sample of sugar raised by Dr. R. in Barbour county, shown to the society.

The society then adjourned to meet again in the Town Hall on the second Wednesday in May, the day of the Horticultural fair.

A. MCDONALD, President.
JOHN GILL SHORTER, Secretary *pro tem.*

Agricultural Meeting.

In pursuance of a previous notice a meeting of the Barbour County Agricultural Society was held in Glenville on the 22d inst, when, on motion of Major Denard, Col. A. McDonald was called to the chair, and George D. Conner was requested to act as Secretary pro. tem.

The Chair explained the intention of the meeting to be, to submit to the consideration of the citizens of Glennville, a hearty co-operation with the Barbour County Agricultural Society in its objects to improve and develope our farming resources, and of giving them the opportunity of adopting the new constitution of the Society, which was then read. On motion of Dr. Richardson, the constitution was adopted by a unanimous vote; an opportunity was then given for the admission of members under the constitution, and twenty-two additional names were announced.

The following gentlemen were appointed committees to examine crops and their condition, &c. in the vicinity during the ensuing season, and report at the next regular meeting of the Society.

1. On the Cowikee Creek, Dr. Dubose, Col. Sanford and Massalon Glenn.
2. On the Hachachubee Creek, Dr. Richardson, Major Denard and J. B. Baird.
3. In Browder's neighborhood, M. A. Browder, Malachi Ivey and Nathaniel Roach.
4. Glennville neighborhood, W. H. Owens, Dr. J. G. Byrd and Richard T. Morrison.

Committee on Horticulture, Dr. George D. Conner, A. S. Glenn, J. G. Conner, Thomas Denard and Dr. Flake.

Maj. Dent and Col. Ott were appointed a committee to examine the crops on the upper part of the South Cowikee, with power to appoint some other farmer to act with them.

After the regular business of the meeting had been disposed of, the President entertained the meeting in an appropriate manner, in explaining his views on the importance of well organized societies; their importance at the present time of the depressed price of cotton; the advantage of patronizing agricultural papers; the expediency of devoting special attention to the quality as well as quantity of our chief staple. The address abounded with most excellent suggestions relative to a well regulated system of farming, and was delivered with a zeal worthy of the occasion. It was listened to with interest, that gave evidence that it was highly appreciated by a larger meeting than common on such occasions.

Fifteen dollars were immediately handed in by way of a commencement in getting up a Fair next fall.

Glennville, Ala., March 22, 1845.

Breaking Young Cattle.

The people of New England, and none more than those of Massachusetts, have always been celebrated for the breeding and management of oxen, and as the following plan, from the pen of *Mr. Buckminster*, the enlightened editor of the Massachusetts Ploughman, appears to us to contain much good sense and sound philosophy, we commend it to our readers:

"It is sport, rare sport, for boys to yoke young steers, and fret them, till they are tame; and tire them down, till they are tame; to whip them hard for obstinacy---for moving too fast or too slow. Boys will teach them a bushel of tricks sooner than a peck of good manners. Boys must not handle steers till they have been handled by men; and men have not all philosophy enough to make steers kind and obedient.

There is not so much risk run in breaking steers as in tutoring colts. The ox is so patient he "will endure all things," even ill tutoring. In the yoke, in the centre of a strong team, he must go, will ye nil ye, and in time he will think it prudent to draw a moderate load rather than feel the lash or the goad.

But what a vast difference you find between oxen that have been properly broken and such as have loosely "borne the yoke in their youth," and had their own way at a hill or in the mire? Can they back a loaded cart, or will they know your voice at a plow?

Ill tutored oxen will fail you in your utmost need. They are as bad as untrained men at the raising of a broad side of a barn; they never draw even, and one is not ready to put forth his strength till his yoke fellow has exhausted all his store. Then you leave your loaded sled in the woods and go for the mare; or you unlade a part and hie home in a pet.

Oxen should never know but that they can draw any load you put them to, and they will never suspect it under a perfect teamster. He will never let them draw when he finds the load quite too heavy, and by crying out to them to stop when they cannot go he persuades them that they are stopped by his command alone.

Steers may be yoked at a very early age. When it is convenient, shut them up in a shed or strong pen, and gently place a light yoke on them there. Do not attempt to force them to march now, but wait till they have become used to this burthen. Feed them with something a little better than every day fodder, and satisfy them that you intend no harm. If your shed is large, it will be prudent to pass a rope around the hind part of their bodies to prevent their turning their yoke upside down, and making the near one the off ox. A rope will prevent this, for it will keep their hips as near to each other as their necks are. Some tie their tails together for this purpose; but a rope is better.

When your steers have become a little used to the yoke, you can put a chain on and let them be used to the clanking of the links. Chain them fast to a post in your shed, and let them feel that this front chain and the yoke are stronger than they are. They may stand for half a day chained fast, and you need to look to them only occasionally.

Now you should unyoke gently and let them have their liberty, evidently by your own consent. On the morrow, yoke them again in the same place and with the same care. Then yoke up your oxen, and driving to the shed, make fast your steers to the oxen instead of the post. Let the whole four stand awhile, that the steers may see no harm is intended.

Soon you may urge them forward close after the oxen, and without using a whip. Let them follow round and round the yard, chained to the oxen, never putting them to draw till they have learned to follow without fear.

After this exercise you can bring a light sled, or a pair of wagon wheels and tongue, and gently fasten your steers on this tongue. Let all stand a few minutes; then move forward gently, not to terrify the young fellows too much on finding a moving pole between them, and a pair of rolling wheels behind. Keep them in gear four or five hours to-day, having a rope on the horn of the nigh one to make both follow directly after the oxen.

In this way you can use your steers to follow your oxen without striking a single blow. For the only cause of obstinacy which we so often find in steers, is *ignorance* and *fear*. They know not what you would have, they fear giving offence, and they will prefer your lashing and beating to any motion they can make. You know this is the case, for, unyoked, you can drive one, or two, or a dozen, through any part of your field, and no one thinks it advisable to stand and endure the lash in preference to moving.

But you must teach your steers to lead as well as to follow your oxen. This requires skill, to prevent bad habits. When first put to lead they will incline to run from you, unless you have a rope on the near horn. But you will soon habituate them, *if you avoid beating*, to march straight forward; and they will suffer you to advance and come to their heads without attempting to sheer off, if they find you friendly. In a snow path you will find it more easy to make them tractable than in a plow field.

It is quite important that young cattle should be loaded so light that they can overcome all obstructions without great effort. They should not suspect that any load can stop them. If they have not been set, and whipped, and bothered, by vicious teamsters, you will find them ambitious to do all in their power for you on rising a hill, or in miry carting. You will command their whole strength without striking a blow, and you will be more sure of getting out of the mire than by the use of all the whips you can command.

But your cattle will not go; nor will they stop when you desire, unless you use good language to them; not Greek, or Latin, or Hebrew, but good plain English. You may use the Hebrew well enough, provided you understand it, and provided you alone are to be the driver. But if you do not; or if you intend that others, who know nothing but English, shall drive your oxen occasionally, you will find the "English Tongue" the "Only Sure Guide," as Perry said of his spelling book, when it treated of that tongue.

Those who have heard the language of various drivers will not think this an unimportant rule. Oxen must be more knowing than lads in Greek to get a clear idea from the sounds made in their ears by their uncivil drivers. The same rigmarole, harum scarum, *hi, hoi, whoi*, who-hay, is used whether the team is to move or to stop---to haw or to gee---to keep quick time or to back the load; and the astonished ox---the *native* ox---must wait till the goad quickens his ideas, or till the butt end of the handle on his nose has planted the seed for a wen, to disfigure his face, cause him pain, and shorten his life.

Should not the doctrine of *transmigration* be taught to cruel masters? Who would thus abuse an ox if he himself is to take his turn in the yoke and under the goad-stick?"

Horticultural Outline.

AN OUTLINE of the first principles of HORTICULTURE, by JOHN LINDLEY, F R. S. &c. &c., Professor of Botany in the University of London, and assistant Secretary of the Horticultural Society.—[CONTINUED.]

V. LEAVES.

126. Leaves are expansions of bark, traversed by veins.

127. The veins consist of spiral vessels enclosed in woody fibre; they originate in the medullary sheath and liber; and they are connected by loose parenchyma (7) which is full of cavities containing air.

128. This parenchyma consists of two layers, of which the latter is composed of cellules perpendicular to the cuticle, and the lower of cellules parallel with the cuticle.

129. These cellules are arranged so as to leave numerous open passages among them for the circulation of air in the inside of a leaf. Parenchyma of this nature is called *cavernous*.

130. Cuticle is formed of one or more layers of depressed cellular tissue, which is generally hardened, and always dry and filled with air.

131. Between many of the cells of the cuticle are placed apertures called *stomata*, which have the power of opening and closing as circumstances may require.

132. It is by means of this apparatus that Leaves elaborate the sap which they absorb from the alburnum, converting it into the secretions peculiar to the species.

133. Their cavernous structure (129) enables them to expose the greatest possible surface of their parenchyma to the action of the atmosphere.

134. Their cuticle is a non-conducting skin, which protects them from great variations in temperature, and through which gaseous matter will pass readily.

135. Their stomata are pores that are chiefly intended to facilitate evaporation; for which they are well adapted by a power they possess of opening or closing as circumstances may require.

136. They are also intended for facilitating the rapid emission of air, when it is necessary that such a function should be performed.

137. The functions of stomata being of such vital importance, it is always advisable to examine them microscopically in cases where doubts are entertained of the state of the atmosphere which a particular species may require.

138. Leaves growing in air are covered with a cuticle.

139. Leaves growing under water have no cuticle.

140. All the secretions of plants being formed in the Leaves, or at least the greater part, it follows that secretions cannot take place if Leaves are destroyed.

141. And as this secreting property depends upon specific vital powers with the decomposition of carbonic acid, and called into action only when the leaves are freely exposed to light and air (279,) it follows that the quantity of secretion will be in direct proportion to the quantity of Leaves, and to their free exposure to light and air.

142. The usual position of leaves is spiral, at regularly increasing or diminishing distances; they are then said to be alternate.

143. But if the space, or the axis, that separates two leaves, is reduced to nothing at alternate intervals, they become opposite.

144. And if the spaces that separate several Leaves be reduced to nothing, they become verticillate.

145. Opposite and verticillate Leaves, therefore, differ from alternate Leaves, only in the spaces that separate them being reduced to nothing.

From the Maine Cultivator.

How to make Soap.

MESSRS. EDITORS—If you think the following article worthy of an insertion in your valuable paper, it is at your service. I have seen a great many well written articles on Agriculture, Cookery, &c. &c, but as I do not recollect of seeing any thing written on "making Soap," I will give you the following, which is the result of *years* of experience:

First, set up your tub as usual, with sticks and straw, and then put your lime (slaked) on the straw to the depth of three or four inches—then take a long stick that will come a few inches above the top of the tub—wind a hay rope around the stick, nearly its whole length—let the stick go through the tub two or three inches, then you can draw your ley without putting your hands into it underneath. Put your grease into the kettle, and turn in about two quarts (or enough to cover the bottom of the kettle) of your strongest ley. Boil a few minutes, then turn in a little more ley, and continue to turn in as the ley boils over, until your kettle is about two thirds or three quarters full, when you can fill up the kettle, and after skimming the contents well, dip out and empty it into the barrel. Put in two pounds Rosin to one barrel Soap. If your ley is of sufficient strength, you will be *sure* to have *good* Soap. I have heard people complain a great deal that they did not have "good luck" in making Soap. Their ashes were not good or not made from good wood, or something or other. But if the above directions are carefully followed, I can assure them that they will have no reason to complain of "poor luck," or any thing of the kind.

N. B.—Clear grease does not require more than ten minutes boiling, but where there are bones, it takes longer time. Some people put lime in the middle of the cask or tub, but the main use of lime is to strain the ley, and make it pure—therefore it should be put on the top of the straw at the bottom of the tub. AN OLD HAND.

Grey, February 28th, 1845.

From the Boston Cultivator.

Grinding Grain for Animals.

The trouble and expense of grinding or crushing grain for animals, are generally much less than the saving that is made by this operation. Most animals eat their food, especially that which they prefer, rather greedily, and frequently swallow down grain without chewing or even cracking; this passes the animal without digestion, as is evident to any observer who has the care of stock, and fowls often live well upon the grain that thus escapes decomposition; and where such grain is suffered to remain in the manure, it is often seen growing luxuriantly, a living evidence of the waste in such a mode of feeding.

Economy is of the highest importance in every department of rural affairs. Some farmers may say that they cannot afford the trouble and expense of grinding grain. Then, of course, they cannot afford to pursue a more expensive way of feeding. As a matter of convenience many persons feed grain whole, without examining the subject, or once thinking how much they lose by it. Let such reflect a little, and they may be disposed to try the effect of ground food and judge of the result from experience.

Grain has grown after passing through the stomachs of horses, cattle and hogs. Sheep grind their food better; and fowls swallow coarse gravel, which, in the gizzard, serves the purpose of *mill-stones*, in grinding grain and other hard food, to powder, and the gravel is ground in turn, and its place supplied by a fresh lot.

Besides the saving of grain by grinding, as appears from its being better digested, as well as from numerous experiments, it is evidently better for the health of animals to have such food as will be readily digested, requiring less labor in this process, according to the views of a shrewd farmer who dismissed a hand who was a great eater, as he observed, it would require all his strength to digest his food.

At some of the agricultural warehouses are machines for grinding grain, which may be operated by a man or boy; and in the winter season, labor can frequently be applied to this purpose with very little inconvenience. One hour in this way, in a more leisure season, may save two hours in raising grain, in the busy time of planting, haying or harvesting.

From the Boston Cultivator.

Seed Wheat.

MESSRS. EDITORS:—We are told, that, in the Island of Jersey, (England,) where the farmers sell their *produce* and live upon the *refuse*, it is customary for them to tie their wheat in small sheaves, and by striking each twice or thrice across a barrel while lying on its side on the floor, a superfine sample of wheat is obtained for market, after which the sheaves are thrown by, to be clean thrashed in the evenings of winter by lamp light.

I have just met with the account of a farmer in Vermont, to whom his neighbors resorted for the purpose of securing seed wheat of superior quality; very fine in appearance, remarkably productive and of early maturity; he readily commanded three dollars per bushel, when the price of wheat was a dollar and a quarter, calling it the red and genuine *Barrel wheat*. But the secret was at last discovered; he used, before thrashing his wheat, to select the best sheaves, and striking them over the side of an empty barrel as it lay on the floor, three or four times before laying them down to be clean thrashed, he obtained in this very simple way a very superior seed, wheat, which the whole county coveted at a double price. Thus the largest and ripest kernels were separated and collected without labor or difficulty, and a profitable business was carried on, until his neighbors discovered how to make "Barrel wheat" for themselves. EDMUND LAWRENCE.

Newark, N. J.

VALUABLE AND SIMPLE MEDICINE.—When food is taken that causes oppression, the best remedy is hot water in which the rind of old cheese has been grated, to be drank freely. This simple remedy ought to be in the possession of every family, as it will generally afford speedy relief. Some fifty years since, a young lady died in this town from the effect of eating fruit. A post mortem examination was had, and some experiments were made; nothing was found to have so good an operation upon the contents of the stomach as the grated cheese rind. Soon after another lady was placed in a similar dangerous situation from the same cause. Her medical attendant prescribed the above remedy, and immediately relief was obtained. The medicine became popular with the past generation, and a lady of that age wishes us to publish it to this and succeeding generations.—*Portsmouth Journal.*

DRESSING WOUNDS AND ULCERS.—Dr. Langier's new method consists in applying on the surface of the wound or ulcer a solution of gum arabic, and on it a bit of goldbeater's skin; thus dressed, a wound an inch in diameter was reduced in the space of eight days to one-third or one-sixth of an inch in extent. Cicatrisation took place so rapidly that the granulations, covered with a thick epidermis, were as numerous and visible as before, but could be touched without causing pain. A wound produced by amputation of the breast highly inflamed about four and a half inches in length, and one and a half in breadth, under this treatment healed rapidly, and purulent secretion did not take place. He proposes applying this method to a wound left by amputation of the thigh.—*Medical Times.*

Ornamental Gardening.

In Colman's late writings on European agriculture, we find the following:—

"The cultivation of flowers and shrubs and vines is a remarkable and prominent feature in the landscape of England; and a circumstance which has given no little gratification to my national pride, has been the profusion of American plants, which are seen in the shrubberies and plantations and pleasure grounds, both public and private. Green-houses and conservatories are almost universal in the country where any thing like a garden exists; and the better class of houses surrounded and adorned with a great variety of flowering shrubs and plants, presenting through the season a charming succession of gay and brilliant ornaments. Even the laborer's humble cottage, too seldom, I am compelled to admit, any thing but a picturesque object, will occasionally have its ornamental shrubs adorning its doorway, and the ivy hanging its beautiful tresses over its window, forming as it were a mirror set in a frame of the richest green. The village of Marr, in Yorkshire, not far from Doncaster, and the village of Edensor, in Derbyshire, near Chatsworth, and the village of Lord Brownlow, in Lincolnshire, the best built, and by far the handsomest villages I have yet seen in England, to cottages of an excellent and picturesque construction, add those beautiful rural embellishments of vines and shrubs and flowers, and at the first sight compel a reflecting mind to admit the moral influence of such arrangements upon the character and manners of their inhabitants.

"I have said and written a great deal to my countrymen about the cultivation of flowers, ornamental gardening and rural embellishments; and I would read them a homily on the subject every day of every remaining year of my life, if I thought it would induce them to make this a matter of particular attention and care. When a man asks me what is the use of shrubs and flowers? my first impulse is always *to look under his hat and see the length of his ears.* I am heartily sick of measuring every thing by a standard of mere utility and profit; and as heartily do I pity the man who can see no good in life but in the pecuniary gain, or in the mere animal indulgencies of eating and drinking."

LIGHTNING AND MANURE.—The U. S. Gazette says, it has been discovered in England that electricity, real lightning, conducted by wire to the earth, greatly promotes vegetation, and hence many persons are enriching their grounds by this new stimulant. We hope good will come of it. This generation is certainly fulfilling its destiny. It is becoming the "utilitarian age" with a vengeance, which brings down from the clouds the lightning of heaven (*eripuit fulmen*) to manure the corn fields, substituting Jove's dread lightnings for stable manure. The guano trade will be broken up entirely, and a tempestuous season, with vivid lightning, will be worth forty muck heaps and stable yards.

And yet it is probably true, that lightning can be made to promote vegetation; that it can be conducted to the required spot, and made subservient to the desired object—and if so, man has another cause of gratitude to the giver; for he may now lay his head upon the main lightning, and render it not only innocuous, but directly and visibly useful. Let him, in the use of the element, not forget Him,

"Whose hand the lightning forms,
Who heaves old Ocean, and who wings the storms."

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A BRIEF HISTORY OF THE SILK CULTURE IN GEORGIA.

By the Rev. WILLIAM B. STEVENS, of the University of Georgia. [From Harris's Memorials of Oglethorpe.]

One of the principal designs which influenced the settlement of Georgia, was the hope of thereby creating a silk-growing province, where that material, for which England had so long been indebted to France, Italy and China, could be produced in this colonial dependency.

As early as 1609, the subject engaged the attention of the adventurers to Virginia, and in a pamphlet, called "Nova Brittania offering most excellent fruites by planting in Virginia," published that year, the writer says:—"there are silke-wormes, and plenty of mulberie trees, whereby ladies, gentlewomen, and little children, (being set in the way to do it,) may bee all imploied with pleasure, making silke comparable to that of Persia, Turkey, or any other." In 1650, Mr. Samuel Hartlib published a work entitled "Virginia Discovery of Silk Wormes, with their Benefits," in which he endeavored to show that the raising of silk was a thing very practicable in Virginia, and even asserted that as a staple, it might be made superior to tobacco, in which opinion he was confirmed by the judgment of several others. That they made some advances in this culture, is evident from the fact that the coronation robe of Charles II., in 1660, was made of silk reeled in that colony, and even so late as 1730, three hundred pounds of the raw material were exported from Virginia. Tobacco, however, soon assumed and maintained the ascendency, to the exclusion of this more useful and beautiful produce.

In 1703, Sir Nathaniel Johnson introduced the silk culture into South Carolina, but the astonishing success which rewarded the casual introduction of rice into the plantation, about eight years before, precluded a just interest in the undertaking, and as a public and recognised commodity it soon came to nought, though several persons, more for amusement than profit, still gave their attention to it; and as late as 1755, Mrs. Pinckney, the same lady to whom the province was indebted for the first cultivation of indigo ten years before, reeled sufficient silk in the vicinity of Charleston to make three dresses, one of which was presented to the Princess Dowager of Wales, another to Lord Chesterfield, and the third, says Ramsay, who narrates the circumstance, "is now (1809) in Charleston in the possession of her daughter, Mrs. Horrey, and is remarkable for its beauty, firmness and strength."

But notwithstanding these failures and the known difficulty of introducing a new branch of agriculture into a country, as was evidenced by the compulsion which was necessary by Henry IV. to introduce it into France, against the united voices of the merchants, traders, and even in opposition to the Duke of Sully, and also the indifference manifested in England, notwithstanding the able proclamation of King James on the subject, commending its cultivation; the Trustees for the settlement of Georgia determined to make one more effort, which, if successful, would enrich both the province and the mother country. The views which they entertained, however, of making Georgia supplant every silk-growing country, were extravagant and erroneous; they expected, in fact, to supply all Europe, and to produce an article of equal strength, beauty and value, with any made on the Continent. The Piedmontese, thought they, who pay half their silk for the rent of the mulberry trees and the eggs of the worm, or the peasants of France, burdened with political difficulty and stinted for conveniences, could not cope with the settlers of Georgia, where the mulberry trees (morus alba) would grow in the greatest luxuriance, where timber for their fabrics was no expense, where room was abundant and the reward sure. By this transfer, in addition to a direct saving to England of over £500,000, which she paid for this article to foreign countries, twenty thousand people were to find employment in reaing it in Georgia, and as many more at home in preparing it for market

Among the first emigrants who sailed with Oglethorpe from England in November, 1732, was Mr. Amatis, from Piedmont, who was engaged by the Trustees to introduce the art of silk-winding into the colony, and who, for that purpose, brought with him several Italians and some adequate machinery. White mulberry trees were planted in a portion of land on the eastern border of the city, called the Trustee's garden; eggs were hatched, and silk spun "as fine as any from France or Italy." They soon, however, came to a mutual rupture, and the whole process was for a time suspended by the treachery of those employed, who broke the machinery, spoiled the seed, destroyed the trees, and then escaped to Carolina. Sufficient, however, had been wrought to test its value, and they were not discouraged by this inauspicious commencement. The Trustees still adhered to their design, and the more effectually to advance it, required of every settler that there should be on his grant, ten mulberry trees to each acre.

Mr. Camuse and his wife, both Italians, with their two children, and two other individuals, were now entrusted with this business, in which they were continued six years; the two first at a salary of £60 per annum, and the four last at £100, besides the rent of a dwelling house and garden.

In June, 1734, Gen. Oglethorpe carried eight pounds of raw silk, the first produced in Georgia, to England, which was followed by a small trunk full of the same article, on the 2d of April, 1735, and after being made into orgazine by the engine of Sir Thomas Lombe, at Derby, who said that it "proved exceedingly good thro' all the operations," was sent up to London on the 14th of August, 1735, when the Trustees, together with Sir Thomas Lombe, waited on her Majesty Queen Caroline, and exhibited to her the elegant specimen of Georgia silk. The Queen selected a portion of this parcel to be wove into a pattern, and being again waited on by these gentlemen and Mr. Booth, the silk weaver, on the 21st of September, she expressed "a great satisfaction for the beauty and fineness of the silk, the richness of the pattern, and at seeing so early a product from that colony;" and to express her pleasure at such a favorable result, a complete court dress was made from it, and on His Majesty's next birth day, she appeared at the levee in a full robe of Georgia silk.

On the return of Oglethorpe, in 1735, he renewed his endeavors to bring it into active operation. For the purpose of obtaining a sufficient quantity of seed, he allowed no silk to be reeled that year, but let the worms deposit their eggs. He required, also, that the Italian women should teach a number of the colonists, and thus render general the knowledge they could impart. The Saltzburgers at Ebenezer were the most forward to adopt his views, and in March 28, 1736, Rev. Mr. Bolzius gave one tree to each inhabitant as a present from Oglethorpe, and two of his congregation were instructed in the art of reeling, by Mrs. Camuse. But though Oglethorpe gave Mr. Bolzius trees, silk worms, and a book of instructions, yet he confesses that he felt no interest in the business, nor inclination to pursue it.

In July, 1739, Mr. Samuel Augspourger carried over a parcel of raw silk which he received from Mr. Jones, the Trustee's store keeper in Savannah, and which was declared by eminent judges to be "equal to any Italian silk, and worth full twenty shillings per pound."

On May 11, 1741, Mr. Bolzius in his journal states that twenty girls, during the last two months, succeeded in making seventeen pounds of cocoons, which were sold on Friday last at Savannah for £3 8s. During this year, General Oglethorpe advanced to Bolzius £5, for procuring trees, for which sum he obtained twelve hundred, and distributed twenty-two to each family in his parish.

On May 1, 1742, fourteen pounds and fourteen ounces were sold, which brought £2 19s. 6d. Nearly half of the silk worms died at Savannah, owing, as was then supposed, either to poisoned dew or warm weather.

December 4, 1742, General Oglethorpe sent five hundred trees to Ebenezer, with the promise of more if required. The indifference of the good Mr. Bolzius had by this time passed away, and he was now a zealous advocate for its extension. A machine was erected near his house, and two women succeeded very well, by which the people were stimulated to renewed exertions, and a public Filature was contemplated. The enterprise of these Germans, seemed to excite the envious disposition of Mrs. Camuse, with whom had been placed two women from Ebenezer; but the conduct of Mrs. C. in withholding information, rendered their acquirement inadequate, and Mr. Bolzius withdrew them from her charge. The first parcel of silk made, was sent to the Trustees, who expressed themselves pleased with its quality. In 1745, the weight of cocoons was two hundred and fifty-three pounds, and of spun silk sixteen and three quarters. In 1746, the weight of cocoons was three hundred and forty-four pounds, and of spun silk eighteen pounds. Early in this year a machine for winding, and coppers for baking, together with appropriate treatises on the art, were sent over by the Trustees, but the people were indifferent and apathetic.

The Germans, however, were as active as formerly, and Mr. Bolzius, in a letter to Von Munch, dated May 6, 1747, says, that "the people last winter planted more mulberry trees than for thirteen years before," for which he promised them a bounty of one shilling for every tree which yielded one hundred pounds of leaves. The silk balls raised at this place this year, were over four hundred pounds, three hundred and sixty-six pounds of which sold for £36 12s. 10½d. The amount raised in the whole colony, was eight hundred and forty-seven pounds of cocoons, and sixty two pounds of spun silk. In 1743, the Saltzburgers reared four hundred and sixty-four pounds, but their small trees were destroyed, and some of the larger ones injured, by the late frost. They this year succeeded admirably in spinning twenty-four pounds of raw silk, the want of a chimney and proper basins, which had impeded them before, in their rude building, having been remedied. The President, writing to Secretary Martyn, December 11, 1746, says: "The fundamental cause of its stagnation, is the unaccountable backwardness of some of our dames and damsels to employ themselves in attending to the worms during the time of feeding, which I have frequently taken notice of, and it cannot be imputed to the want of leaves."

During the same period only thirty-four pounds of spun silk were raised by the Trustees' agent in Savannah. Mr. Bolzius, under date of February 15th, 1749, thus writes: "The weather being now warm and pleasant, the mulberry trees have put forth their young leaves, and our people are now turning their minds towards making of silk," and then, after expressing his surprise that so few were disposed to this culture, adds:

"one reason for this reluctance, is ascribed to the circumstance that, by ordinary labor, about two shillings might be obtained per day, whereas scarcely a shilling could be earned in the same time by the silk concern." Seven hundred and sixty-two pounds of cocoons were raised, and fifty pounds thirteen ounces spun silk, and there were two machines erected in Mr. Bolzius's yard which drew off twenty-four ounces per day. On the 29th September, 1749, the Trustees promised £2 to every woman who shall make herself mistress of the art of winding in one year. And they also gave Rev. Mr. Bolzius permission to erect ten sheds, with clay furnaces, at an expense of not more than £2 each, and ten machines for reeling, at thirty shillings each, which he says could be made better than those at Savannah for £3; they also sent them ten basins, and the good Germans felt the impulse of this substantial encouragement. In 1750, though the people in other parts of the colony mostly relinquished the silk culture, the inhabitants of Ebenezer continued vigorously employed and interested in it.—On the 2d of June they received ten kettles from the Trustees, one of which, and a reeling machine, were given to each mistress in the art of spinning, and two of the best artisans received £5 for giving instruction to fourteen young women, to each of whom was bestowed £1, for attention and industry.

Over a thousand pounds of cocoons were raised at Ebenezer, and seventy-four pounds two ounces raw silk made, producing (the price being then thirty shillings) over £110 sterling. As illustrative of the luxuriant growth of the mulberry, it may be interesting to state that two trees in front of the parsonage, ten years old, measured three feet eight inches in circumference. In December of this year, eight more copper basins were received, and public confidence in the success of the undertaking seemed revived, notwithstanding Mr. Camuse and family had left the Province, and settled at Purysburgh in South Carolina.

On the 25th December, 1750, Mr. Pickering Robinson, who, together with Mr. James Habersham, had been appointed the preceding August a Commissioner to promote more effectually the culture of silk, arrived in Savannah.

Mr. Robinson had been sent to France, at the expense of the Trustees, to study the management of filatures and the necessary process for preparing the article for market, and thus, though no operative, was qualified to take the directorship of so important a branch of industry. His salary was £100 per annum, £25 for a clerk, and a tract of land was also granted him, which, in 1763, sold for £1500.

Mr. Robinson brought with him a quantity of silk worm seed, but all failed, save about half an ounce; the Commissioners determined at once to erect a filature, which should be a normal school to the whole province, and it was their opinion that it would be "a sufficient nursery to supply, in three or four years, as many reelers as will be wanted, when we make no doubt of many private filatures being erected, which can only make their culture a general staple." The dimensions were thirty-six feet by twenty, rough boarded, with a loft or upper story, for the spreading out of the green cocoons. It was commenced on the 4th of March, 1751. On the 1st of April, the basins were put up, and on the 8th of May the reeling began. To encourage the colonists, the Trustees proposed to purchase all the balls, and wind them at their own expense, and paid from 1s. 6d. to 2s. 4d. per pound for green cocoons. The Commissioners separated the cocoons into three sorts: 1st, perfect cones; 2d, the spungy and fuzzy; and 3d, the spotted, stained and dupions. This management, however, gave great offence to some of the residents in Savannah and Purysburgh, and Messrs. Robinson and Habersham requested the Vice-President and assistants to determine the respective prices and publicly announce the same, which they did on the 26th April, by a proclamation, wherein, by way of bounty, they promised to pay for cocoons delivered at their store in Savannah, the following sums, namely: for cocoons made by one worm, hard, weighty and good substance, 2s. per pound; for the weaker quality, pointed, spotted or bruised, 1s. 3d.; for dupions, (those made by two worms,) 6d.; for raw silk, from 1st quality cocoons, 14s. per pound; for that made from 2d quality, 12s.; the product of the double cones, 6s. per pound; and they also offered, if delivered at the filature, for best cocoons, 3s. 6d.; for middling, 1s. 8d.; and for inferior, 1s. 1d., a series of prices truly astonishing, when we reflect that the real merchantable worth of a pound of cocoons is scarcely ever 6d.

Experiments were made at the filature to ascertain the relative quantity of each of these qualities in a given weight of cocoons, and the results were, that in fifty pounds of green cocoons there were twenty seven pounds of the first sort, ten pounds four ounces of the second, and twelve pounds twelve ounces of the third. After curing or baking, these fifty pounds weighed only forty-six pounds five ounces, showing a loss in ponderosity of nearly eight per cent. Besides the arrangement above specified, the cocoons were still further divided for the purpose of reeling into white and yellow, and these again, subdivided into five each, namely: 1st, hard and weighty; 2d, little woolly and weaker; 3d, very woolly and soft; 4th, spotted and much bruised; 5th, double worms.

Mr. Camuse, son and daughter, who, it appears, gave the Commissioners no little trouble by their perverse conduct, returned to Savannah and were engaged to labor at the filature, at three shillings per day, at which Mr. Habersham exclaims, "monstrous wages!" The reelers now advanced with much proficiency, and five of them, on the 16th of May, wound off eleven pounds of cocoons each. The proportion of raw silk to the cocoons, appeared, on a variety of trials, to be nearly in this ratio:—

May 10,	1751,	55 lbs.	cocoons,	1st quality, produced	117⅞ oz.
" 11,	" 8	"	"	6-9 pr thread,	18½
" 13,	" 11	"	"	produced	21½
" 15,	" 55	"	2d	"	109
" 18,	" 20	"	"	"	24
" 22,	" 15	"	1st	"	20⅜
" "	" 10	"	2d	"	13½

The whole amount of cocoons raised in the province, was six thousand three hundred and one pounds, of which two thousand pounds came from Ebenezer, and four thousand pounds were made at Whitefield's Orphan House. Two hundred and sixty-nine pounds and one ounce of raw silk, and one hundred and sixty one pounds of filogee, were prepared, notwithstanding over three hundred and eighty pounds were lost by vermin, fire and mould. The expense of the culture was large this year, owing to the erection of the filature, &c., which swelled the sum to £608 9s. 8½d. sterling. The private journals of that day kept at Savannah and Ebenezer, acquaint us, in some measure, with the arduous nature of the Commissioners' labors, and the difficulties they encountered from the want of funds, the intractableness of laborers, the novelty of the attempt, the imperfections of machinery, and the bitter opposition of those who should have sustained and encouraged them. The public duties of Mr. Habersham prevented his constant attention to this business; but the whole time of Mr. Robinson was devoted to the filature, directing the sorters, aiding the novices, advising the reelers, and in every way exerting himself to obtain success. His engagement with the Trustees expired on the 30th of August, 1751, but finding that his intended departure depressed the friends of the culture, he was solicited by the local government to remain another year, and, generously sacrificing private to public interests, he complied with their request. Mr. Habersham thus speaks of Mr. Robinson: "I think him the most prudent as well as the most capable person I ever knew, to undertake such a work, and if he could be continued here, I doubt not but that he would turn out a number of well instructed reelers, who would be able to conduct filatures at Ebenezer, Augusta, and other parts of the province." So great was the confidence which the Trustees had in him, that he was appointed an assistant in the government at Savannah; an honor which he declined, and in the same letter stated: "If due encouragement be not given to the culture of raw silk, for the term of at least fourteen years, I positively cannot think of settling in America." These gentlemen recommended the building of a house, sixty feet by twenty-six, as a cocoonry, great loss having been experienced for the want of such a structure.

In 1752, Mr. Robinson returned to England, and his place was partially supplied by Joseph Ottolenghe, a native of Piedmont, and a proficient in his art, who came to Georgia on the 18th of July, 1751, and took charge of the filature in April, 1753. In a letter to Secretary Martyn, dated September 11, 1753, Mr. Ottolenghe says, that "there were fewer cocoons raised this year, as the worms mostly hatched before the trees leaved, and that, "the people were willing to continue the business." One hundred and ninety-seven pounds of raw silk were made this year, and three hundred and seventy-six pounds in 1754, besides twenty-four pounds of filosele. The people of Augusta became interested in this manufacture, and entered, with considerable spirit, into the undertaking, promising to send hands to Savannah, yearly, to learn the art of reeling: their enthusiasm, however, soon evaporated.

On the 29th of March, 1755, a certificate, signed by thirty-nine eminent silk throwsters and weavers, was given to the "Commissioners for Trade and Plantations," stating that after examining three hundred pounds of raw silk, imported from Georgia, "we do sincerely declare that the nature and texture is truly good, the color beautiful, the thread as even and as clear as the best Piedmont (called wire silk) of the size, and much clearer and even than the usual Italian silks;" and furthermore, "it could be worked with less waste than China silk, and has all the properties of good silk well adapted to the weaver's art in most branches."

In 1755, five thousand four hundred and eighty eight pounds of cocoons were raised, and four hundred and thirty-eight pounds of raw silk spun. The good effects of the filature were now happily evident in the increased interest of the planters in the subject, who sent both their daughters and young negroes to acquire the art of reeling. In 1756, three thousand seven hundred and eighty-three pounds and one ounce of cocoons were received at the filature, and two hundred and sixty-eight pounds of raw silk reeled.

The liberal policy of the Commissioners, who had no private ends to answer, caused them to recommend the establishment of additional filatures, and in their letter to the Trustees, June 12, 1751, they advise the erection of one at Ebenezer, and another contiguous to Savannah, but Mr. Ottolenghe opposed this course and arrogated to the one in Savannah the entire monopoly of the culture. Jealousy appears to have been very conspicuous in Mr. Ottolenghe's character, and his opposition to the Saltzburgers and depreciation of their efforts, arose from this suspicious trait. He aimed to render himself solely necessary, and aspersed everything which seemed to militate with his fancied superiority. This appears not only from letters of Governors Reynold and Ellis, but from his own correspondence, where this caution and fear of rivalry is plainly discernible. His course gave offence to the Ebenezer people, who had already erected a filature in their village; who had been at a great sacrifice to send their wives and daughters to learn the art of reeling in Savannah, and who had hoped to carry on the manufacture under their own supervision and for their own benefit. Mr Ottolenghe, however, overruled their views and required all cocoons to be delivered at Savannah, and to be reeled there. Each basin at the filature had two apprentices, besides others who were employed in sorting the balls, &c., and the various operations connected with the trade, employed nearly forty persons.

In 1757, over five thousand pounds of cocoons were received at Savannah, and three hundred and sixty pounds of raw silk spun, which, says Governor Ellis, would have been more, if the eggs had not failed; and in a letter, dated 11th of March, 1757, he says, "the raising of silk seems to be no longer a matter of curiosity, it employs many poor people, and is approaching towards a staple."

Seven thousand and forty pounds of cocoons were deposited in the filature in 1758, but while the friends of this business were rejoicing in the assured success of their experiment, they were saddened by the destruction of the filature, which took fire on the 4th of July, and was totally consumed. The wound silk, which had not yet been shipped, amounting to three hundred and fifty pounds, was saved, but several thousand weight of silk balls, together with much of the reeling apparatus, were destroyed. Another and more capacious building was immediately erected and was ready for use the ensuing season.

In 1759, ten thousand one hundred and thirty-six pounds of cocoons were raised in Georgia, four thousand pounds of which were from Ebenezer, and the proceeds of their culture alone, for the season, reached £700 sterling. The opinion of those engaged in the culture, as expressed to Dr. Jared Elliot was, "that it was more profitable than any other ordinary business."

The cocoons delivered at the filature in 1760,

weighed seven thousand nine hundred and eighty three pounds, and there were spun eight hundred and thirty-nine pounds. Mr. Ottolenghe was now honored with the full appointment of "Superintendent of the silk culture in Georgia," with a salary appropriate to his station.

Five thousand three hundred and seven pounds of cocoons, and three hundred and thirty-two pounds of raw silk were produced in 1761. Governor Wright, under date 13th of July, says: "The greatest appearance that ever they had here was destroyed in two nights' time, by excessive hard and unseasonable frosts, and there is likewise a degeneracy in the seed, as Mr. Ottolenghe tells me." These frosts occurred on the 5th and 6th of April. Parliament, this year, made a grant of £1000 towards defraying the expenditure for the silk culture, and it was annually renewed until about 1766. By means of this gratuity, Mr. Ottolenghe was enabled to give a high price to the rearers of cocoons, and thus sustain the encouragement so judiciously commenced.

In 1762, fifteen thousand one hundred and one pounds of cocoons were delivered at the filature, and one thousand and forty-eight pounds of raw silk reeled, which Mr. O. declared to be the finest and best silk ever produced in Georgia.

The year 1763 showed an increase of cocoons but a decrease of silk, there being fifteen thousand four hundred and eighty-six pounds of the former and only nine hundred and fifty-three pounds of the latter. The occasion of this disparity was a season of cold, rainy weather, towards the close of April, by which the later cocoons were injured, and rendered almost useless.

There were delivered at the filature, in 1764, fifteen thousand two hundred and twelve pounds of cocoons, notwithstanding the season was so unfavorable, that Gov. Wright mentions the case of one man who expected to make from five to seven hundred pounds, who only succeeded in raising one hundred pounds of cocoons. Eight thousand six hundred and ninety-five pounds were sent by the Saltzburgers, and the whole amount yielded eight hundred and ninety-eight pounds of raw silk.

In addition to the grant of Parliament, a society instituted in London, for the encouragement of arts, manufactures and commerce, offered certain premiums for the advantage of the British American dominions, among which were:

"For every pound of cocoons produced in the provinces of Georgia and South Carolina, in the year 1764, of a hardy, weighty and good substance, wherein only one worm has spun, 3d.; for every pound of cocoons produced in the same year, of a weaker, lighter, spotted or bruised quality, 2d.; for dupions, 1d." These premiums were to be paid under the direction of Mr. O., with proper vouchers that the same were raised in either of the provinces specified.

It was agitated in 1765, to reduce the price of cocoons from 3s. to 1s. 6d. per pound, a measure which produced much dissatisfaction, and as a consequence there was a considerable falling off in the amount of balls and silk, only twelve thousand five hundred and fourteen pounds of the former, and seven hundred and twelve pounds of the latter, together with seven hundred and twenty pounds of filosele being produced. To prevent the depression consequent on this reduction, Governor Wright suggested, that instead of so much per pound, as formerly, that the ten largest quantities should receive, the highest £50, the next greatest parcel £45, and so on, gradually decreasing with the decrease in weight, until you reached the lowest quantity, to which £10 would be awarded; thus, while the expense would be greatly lessened to the Trustees, the stimulus of reward would be sufficiently sustained. This advice was not adopted, though owing to the urgent remonstrances of those best acquainted with the business, the reduction in the bounty was only 9d. instead of 1s. 6d. On the 25th April, 1765, the following order was published in the "Georgia Gazette:"

"Notice is hereby given to all whom it may concern, that by direction of the Right Honorable the Lords Commissioners of Trade and Plantations, the price usually paid for cocoons is now reduced, and that no more than 2s. 3d. per pound will be paid for cocoons raised in this province, and delivered at the public filature this season.

"By order of His Excellency the Governor.

"Geo. Baillie, Commissary."

This bounty was still further reduced in 1766, when by order of the Board of Trade, only 1s 1d. was paid per pound. The dependence of this culture on the weather, was signally instanced this year, from the fact that though many who had hitherto raised cocoons, abandoned it at the reduction of the bounty, yet such a large crop had never been produced before; over twenty thousand three hundred and eighty pounds of cocoons being delivered at the filature, which, however, only produced one thousand eighty-nine pounds of raw silk, and eight hundred and fifty pounds of filosele. This amount of reeled silk was not at all proportionate to the weight of the cones, resulting, as Mr. Ottolenghe said in a letter to Governor Wright, October 2, 1766, "to the badness of the seed, and consequent inferiority of the worms." In 1760, the cocoons weighed only seven thousand nine hundred and eighty three pounds, and yet eight hundred and thirty-nine pounds of raw silk were spun; at which rate, the product this year should have been about two thousand pounds.

On the 26th of June, Henry Kennan made proposals to the Board of Trade, for carrying on the filature; but they were of a nature not at all advantageous to the culture, and Gov. Wright, in his reply, on the 21st of October, disapproved of the plan, and exposed the fallacy of his scheme, which was in consequence abandoned.

In 1767, ten thousand seven hundred and sixty-eight pounds of balls were raised, and six hundred and seventy-one pounds nine ounces of raw silk spun; the decrease of cocoons being caused, first, by withdrawing of the Purysburgh cocoons, which last year amounted to five thousand five hundred and fifty-one pounds; and second, by the reduction of bounty, so that while last year the cocoons were delivered in by two hundred and sixty-four different persons, only one hundred and sixty individuals were this year devoted to the culture. The silk, however, was of a better quality, and sustained its high reputation in the London market.

In 1768, another plan was proposed by Mr. Delamar, "in order the more effectually to establish the growth of raw silk in America." His proposal was, to pay a bounty of 20s. per pound on every pound of good, clear raw silk imported from any of His Majesty's dominions in America, to be paid on the price such silk might sell for at public sale in London; at the expiration of ten years, ten per cent. bounty was to be allowed; the ensuing five years at five per cent., after which time the bounty was to cease. This was the general feature of his plan; it was not, however, adopted, though in many respects its provisions were highly judicious and appropriate.

But this branch of industry and commerce was fast waning before the increasing culture of more sure and lucrative products, and only one hundred and thirty-seven different persons brought cocoons to the filature this year. Governor Wright in his official letter to the Earl of Hillsborough, July 1, 1768, says, "I am persuaded that few, or none but the very poorer sort of people, will continue to go upon that article.—Several substantial persons, who did mean to make it an object when the price was higher, have, to my knowledge, given it over. The reason, my Lord, is evident; for people who have their fortune to raise or make, will always turn themselves in such a way, and to the raising and making of such commodities, as they think will answer best; and it is very clear to me, that those who have negroes, may employ themselves and negroes to better advantage, &c., than by raising cocoons at 1s. 6d. per pound, although that is, as I have said, 7, 8 or 9d. more than they are intrinsically worth."

Cluny, in his "American Traveller," printed in London 1769, says, "The climate of Georgia has been found to agree, in every respect, with the silk worm." Experience, however, proved that the climate was not sufficiently equable to secure permanent and continued success. Governor Wright, in the letter quoted above, says, "the variable and uncertain weather in spring, makes it precarious," and facts amply confirm this statement. Only five hundred and forty-one pounds of raw silk were made this year, a smaller amount, with one exception, than had been produced for ten years. In 1769, the quantity was still more decreased, both from the reluctance of the people to raise worms, and the unfavorable weather in spring. Governor Wright, on the 20th of June, 1769, says, "We had a most extraordinary prospect, till the middle of April, when I thought every thing safe, yet we had very cold rains on the 17th and 18th, which were succeeded by hard black frost on the 19th and 20th, and destroyed a great part of the worms, and will reduce the silk very much."

The silk business was now on the irretrievable decline, though it still maintained a nominal existence, and received the encouragement of Parliament. The special bounty which had hitherto been paid on cocoons, over and above their merchantable value, was suspended, and by a statute of 9 Geo. III., c. 38, a premium of twenty-five per cent. from the 1st of January, 1770, to the 1st of January, 1777; of twenty per cent. from the 1st of January 1777, to the 1st of January, 1784; and of fifteen per cent. from the 1st of January 1784, to the 1st of January, 1791, on the ad valorem value of all silk produced in America and imported into Great Britain in vessels regularly navigated by law, was substituted in its place.

The inhabitants of Ebenezer resumed the culture, which with them had long been dormant, and its revival at that time was principally owing to the influence of a very worthy man and magistrate, Mr. Wertsch, who, sanguine himself of ultimate success, had imparted to the Germans a portion of his own enthusiasm.

In 1770, they shipped two hundred and ninety-one pounds of raw silk, the result of their own industry, and as the filature at Savannah was discontinued in 1771, the Earl of Hillsborough, ever anxious to advance the produce, warmly commended the zeal of the Saltzburgers, and directed President Habersham to distribute "the basins and reels that were left in the public filature, to such persons as Mr. Wertsch shall recommend to be proper objects of that bounty;" and in the same letter he promised that he would endeavor to procure for them, this year, "a small sum from Parliament, to be laid out in purchase of utensils for the assistance of the poor sort of people in your province." This promise he redeemed.

So popular had the silk business become at Ebenezer, that Mr. Habersham, in a letter dated the 30th of March, 1772, says, "some persons in almost every family there, understand its process from the beginning to the end." In 1771, the Germans sent four hundred and thirty-eight pounds of raw silk to England, and in 1772, four hundred and eighty-five pounds, all of their own raising. They made their own reels, which were so much esteemed that one was sent to England as a model, and another taken to the East Indies by Pickering Robinson. The operations at Savannah were now totally discontinued, though Mr. Ottolenghe still styled himself "Superintendent of the Silk Culture in Georgia," and in consideration of his long and faithful service in that office, received an annuity of £100.

In a message of Sir James Wright, to the Commons House of Assembly, 19th of January, 1774, he says, "The filature buildings seem to be going to decay and ruin; may it not, therefore, be expedient to consider what other service or use they may be put to?" And the Assembly answered: "We shall not fail to consider how it may be expedient to apply the filature to some public use;" and henceforth it was used as an assembly or ball-room, a place where societies held their meetings, and where divine service was occasionally conducted: more recently, it was converted into a dwelling house, and was thus appropriated at the time of its destruction by fire on the afternoon of March 25, 1839.

Thus ended the grand project for raising silk in the Province of Georgia; for though some few individuals, together with the people of Ebenezer, continued to raise small quantities, yet, as a branch of general culture, it has never been resuscitated. The last parcel brought to Savannah was in 1790, when over two hundred pounds were purchased for exportation, at from 8s. to 26s. per pound.

On reviewing the causes which led to the suspension of this business, after so many exertions and such vast expense, which, it must be remembered, the profits of the culture never reimbursed, we find, first, the unfriendliness of the climate, which, notwithstanding its boasted excellence, interfered materially with its success. Gov. Wright frequently speaks of its deleterious influence, and the fluctuations in the various seasons, evidenced, to demonstration, that the interior was better adapted to the agricultural part of the business, than the exposed and variable

sea-board. Mr. Habersham, in a letter to the Earl of Hillsborough, dated Savannah, 24th of April, 1772, thus expresses himself on this point: "Upwards of twenty years ago, if my memory does not fail me, Samuel Lloyd, Esq., of London, who was one of the late Trustees for establishing this Colony, and was fourteen years in Italy, and very largely concerned in the silk business, wrote to me, that the best silk was produced at a distance from the seacoast, owing, I suppose, to the richness of the soil, which made the mulberry leaf more glutinous, nutritive and healthy to the silk worm; also, to their not being obnoxious to musquetoes and sand flies, and probably, likewise, to the weather being more equal and less liable to sudden transition from heat to cold: and on a conversation this day with Mr. Barnard, of Augusta, he assures me, that from two years experience in raising cocoons there, he lost none from sickness which frequently destroys two-thirds of the worms here; and he further says, that Mr. Ottolenghe told him that the silk reeled from the Augusta cocoons, "made the strongest and most wiry thread of any raised in these parts."

Second, the expensiveness of living, and the dearness of labor, which was as high as 1s. 8d. to 2s. per day, whereas 2d. or 3d. was the usual price paid the peasant in silk-growing countries. Governor Wright, in a letter to the Earl of Hillsborough, frankly told him that, "till these provinces become more populous and labor cheaper, I apprehend silk will not be a commodity, or an article of any considerable amount.

Third, the great reduction of the bounty, which being the stimulus to exertion, ceased to operate as an incentive, when from 3s. 3d., it fell to 1s. 3d., and finally to a mere premium on the general quantity imported. The poor could not subsist on these prices, and the rich could employ their lands to much better advantage than in cultivating an article which would not repay the expenses of labor: and, lastly, the increasing attention bestowed on rice and cotton, sealed the fate of the silk culture, and the planters soon learned to consider the latter of no importance, in comparison with the large and lucrative crops yielded by those more staple commodities. Other reasons might be mentioned, but these sufficiently account for its decline there, and its total neglect even to the present day. During the morus multicaulis epidemic, which spread over our country in 1838, Savannah, it is true, did not escape, and for a time the fever raged with much violence, but the febrile action soon subsided, leaving no permanent benefit, and only a few fields of waving foliage, as a deciduous memento of this frenzied excitement.

That silk can be produced in Georgia equal to any in the world, does not admit of a doubt, but whether it will ever be resumed, and when, is among the unknown events of the future.

CULTIVATION OF INDIAN CORN.

From a paper read before the Dorchester (Md.) Farmers' Club. Published by order of the Club.

Requested under a resolution of the last Club meeting, I submit to them a few additional remarks, in support of the mode of the culture of Indian corn, indicated in my last paper, on that subject. [See April No. So. Cult. p. 52.]

It will be unnecessary for me, before the members of this club, to urge the point of the indispensable necessity of the presence of Nitrogen, for the perfection of all plants designed for animal sustenance—it is sufficient to demonstrate, that the sources of this essential, elementary material, are more economically appropriated under that culture, than by the usual practice of recent plowing, and *cross* plowing, &c. &c.

The two great sources of this useful element, are 1st, the direct product of all organic bodies, in a state of decomposition—united with hydrogen, in the form of ammonia; and with oxygen, as nitric acid—2d, the indirect supply from the atmosphere, at large, when it has been diffused, from bodies decaying on the surface of our lands.

From the infinite accumulation of these materials, it is unquestionable, that the atmosphere must be loaded with these gaseous products, as well as with all other vaporable substances—and it is equally so, that being soluble in water, they will of necessity mix and descend with the rain and snow, which may fall upon the earth from the regions in which they were floating.

Notwithstanding this obvious necessity, of the presence of these gases, and others, occasioned by the causes named, yet, being not apparent to the senses, farmers, indeed in *general*, will not acknowledge the fact; and many others do not appreciate their *quantity;* which, at the first falling of rain, or snow, and especially after their long suspension, is greater than would be imagined, without actual examination—as I assure you, I have frequently witnessed, on analysis, for *my own assurance* and *gratification*.

I have alluded to this important fact, in my former paper, and I renew it, with the more earnestness, because it forms the chief basis or principle of the mode of culture therein advocated; and if admitted, the conclusion is unavoidable, that, as before explained, it is better adapted to economise the atmospheric supply of vegetable nutriment, as well as to prevent the waste, by dissipation of the products of the decomposing sward, than the usual practice of recent and cross plowing.

The *soil*, too, will be improved, not only by the artificial *fixity*, given to these volatile substances—the gases—but by the salts and alkalies of the putrescent sward which is placed and preserved in a condition to promote fermentation.

In point of *fact*, results have accorded to theory a large share of corroboratory evidence.

Though motives may be misconstrued, I will venture in aid of the problem I have proposed for solution to adduce cases of results, in comparison with those of the usual methods - for which I refer to the publications of the facts—set forth in the Delaware Advertiser, Wilmington; and in the American Farmer, Baltimore.

The first named paper notices a sweep-stake, made up by several gentlemen in Delaware, who admitted me as a member—for the best crop of Indian corn, on one acre;—the Am. Farmer, perhaps more accessible, also published it, at the same time—1829, vol. 11, p. 314; my method then, differed from the present, only in the planting of *double*-drill and one plant left, in place of single drill and two left, which latter I have found to be preferable; I think, too, in one deep bar furrow, which I have discontinued.

The product of my acre was something more than one hundred bushels shelled corn—and I obtained the stake—a silver pitcher;—I understood that my competitors all *cross plowed*.

The files of the Am. Farmer, also, in 1827, vol. 9, page 257, contains a notice of my success, in a competition for two premiums offered by the Md. Agricultural Society—for the best products of Indian corn, on ten acres, and on five acres; both of which, I had the gratification to receive—in evidence of the preference of my mode of culture—which gave me ninety bushels per acre on the five acres—and seventy six per acre on the ten.

On the second—the Maryland case, there happened a considerable drouth—and my neighbors predicted destruction to my crop—but it suffered less than theirs, which was cross plowed; which is well attested by a sweep-stake silver pitcher inscribed to that effect—which I received from them; and several of you gentlemen happen to be of the number, that made the handsome contribution; and I hope, that we may long live to enjoy the festive libations of that, and similar trophies, which you have obtained, on similar occasions, for similar achievements, on that arena of competition where victory leads to the comfort and happiness of mankind

The inveteracy of custom and prejudice, may long continue the practice of recent, and cross plowing—but I beg of you generally, to make the experiment, fairly, on a small square of your fields, if you please; and I am fully convinced, you will find the results, which I have stated, and the reasons on which they were founded, most fully and satisfactorily sustained.

This inveteracy of custom and prejudice has done much to retard the onward march of agriculture; and while its influence continues, it is a vain hope, that we shall see in general practice, a system based on principles of science and unerring philosophic induction;—while this impediment continues, the charge of "*book-learning*" will be, as it now is, a popular theme of derision; a synonym of folly with the most of our farmers; while it continues, the fact of *printing* or *writing down* an established truth, will be, as it now is, enough to discredit it, with a large class of our countrymen at home and abroad, possessing in other respects, an ordinary sagacity; it is our *business*—it is our *purpose* to ameliorate this unfortunate condition of fatuity—and teach by *ocular process*—by *results*, which may be *viewed* in *comparison* that they have not attained that *ultimate principle* of skill, which they fancy they have, innately, derived from their forefathers, and that one higher step may yet be taken by them to advantage; if successful in the reclamation, we may claim a portion of public gratitude—if not, yet by the *effort*, we have performed our duty.

Joseph E. Muse.

From Ellsworth's Report for 1844.

OKRA.

Washington City, *January*, 15, 1845.

Dear Sir:—I take the liberty to call your attention to the cultivation of one of the most valuable of vegetables, destined, at no distant day, to expel from our markets one of the most extensive articles of imports, and now admitted free of duty. I mean *okra*, whose excellence in soup is universally known and acknowledged. *Its ripe seeds burned and used as coffee, cannot be distinguished therefrom;* and many persons of the most fastidious taste have not been able to distinguish it from the best "Java." It is very easily grown. The seeds may be sown in May, in drills 4 feet asunder, an inch deep and 8 inches apart, and cultivated like corn or peas. It sends up a strong stalk, and yields a great abundance of seeds, and the "coffee" made from it is very healthy. I think it matter of great importance, especially to the western States, and herewith send a bag of seeds for distribution. Very respectfully,

Hon. H. L. Ellsworth. J. F. Callan.

Extract from the Farmers' Encyclopædia.

Okra, (*hibiscus esculentus.*)—This plant is extensively cultivated in the West Indies, from whence it has been introduced into the United States. The pods are gathered green, and used in soups. They form an important ingredient in the celebrated gumbo soup of New Orleans, and other southern places. The pods are filled with seeds and a mucilage, of a bland and highly nutritious quality. Hence, the okra is frequently recommended to persons afflicted with dysentery and other bowel complaints, eaten either boiled or made into soup. When buttered and spiced, they afford a rich dish; and, with vinegar, they make a good pickle. The plant comes to maturity in the middle States, and the pods are abundant in the Philadelphia market. Those who become once accustomed to this wholesome vegetable, contract a great fondness for its peculiar flavor. In Lousiana, and other southern States, a dinner is scarcely considered complete without okra cooked in some way or other; and the poor consider it one of their greatest blessings. The pods are of a proper size when 2 or 3 inches long, but may be used as long as they remain tender. If fit for use, they will snap asunder at the ends; but if too old and woody, they must be rejected. One peck of the tender pods are to be cut crosswise into very thin slices, not exceeding one-eighth of an inch in thickness; to this quantity, add about one-third of a peck of tomatoes, previously peeled and cut into pieces. The proportion of tomatoes may be varied to suit the taste. A coarse piece of beef (a shin is generally made use of) is placed in a pot or digester, with about 2½ gallons of water, and a very small quantity of salt. This is permitted to boil a few minutes, when the scum is taken off, and the okra and tomatoes are thrown in. With these ingredients, in the proportions mentioned, the soup is very fine. Still, some think it improved by

addition of green corn, Lima beans, &c. The most essential thing to be attended to is the boiling, and the excellence of the soup depends almost entirely on this being done faithfully; for, if it be not boiled enough, however well the ingredients may have been selected and proportioned, the soup will be very inferior, and give but little idea of the delightful flavor it possesses when well done. A properly constructed digester is decidedly the best vessel for boiling this or any other soup in; but, where such a utensil is not at hand, an earthen pot should be preferred; but on no account make use of an iron one, as it would turn the whole soup perfectly black, instead of the proper color, viz: green, colored with the rich yellow of tomatoes. The time usually required for boiling okra soup is about five hours; during which, it should be occasionally stirred, and the ingredients mashed. When taken off, the original quantity will be reduced to about one-half, and the meat "done to rags;" the whole forming a homogeneous mass, of the consistence of thick porridge.

THE HESSIAN FLY.

[Observations communicated at the raquest of the Hon. H. L. Ellsworth, by E. C. Herrick, librarian of Yale College, Conn.]

The insect commonly called the *Hessian fly*, which has for so many years ravaged the wheat-fields of our country, appears to have been wholly unknown here before the American revolution. It is usually stated that the insect was first noticed in the year 1776 or 1779, on Staten Island and the westerly end of Long Island, and was generally supposed to have been introduced among straw brought hither by the Hessian troops in the service of Great Britain. The ravages of the insect soon attracted general attention; and as early as the year 1788, serious apprehensions were excited in England that the destroyer might be conveyed thither in some cargo of wheat. The alarm there was so great, that the government took up the matter; "the privy council sat day after day, anxiously debating what measures should be adopted to ward off the danger of a calamity more to be dreaded, as they well knew, than the plague or pestilence; expresses were sent off in all directions to the officers of the customs at the outports respecting the examination of cargoes; despatches written to the ambassadors in France, Austria, Prussia, and America, to gain that information, of the want of which they were now so sensible; and so important was the business deemed, that the minutes of the council, and the documents collated from, fill upwards of 200 octavo pages." (Kirby and Spence, i, 50.) On the 25th of June of that year, an order in council was issued, prohibiting the entrance into Great Britain of wheat raised in any of the territories of the United States; intending, by this measure, to keep out the much dreaded enemy. Soon after the arrival of the news of this order, the supreme executive council of Pennsylvania addressed a letter of inquiry to the "Philadelphia Society for promoting Agriculture," who promptly replied that the plant of the wheat alone was injured, and that the insect was not propagated by sowing the grain which grew on fields infected with it. The prohibition was doubtless based on the erroneous representation of Sir Joseph Banks and Dr. Blagden, which they continued to enforce even after they were better instructed by Dr. Currie. It is sufficiently remarkable, that, although the wheat was prohibited an "entry," it was allowed to be stored; so that the Hessian fly, if concealed among the grain, would, after all, have had a good opportunity to escape into the country. In eight or ten months, the government bought the imprisoned wheat at prime cost, kiln-dried it, and resold it at great loss, and almost immediately took off the prohibition. (Memoir of Currie, ii, 65.)

In the course of a few years after this, the Hessian fly was found in every part of our country where wheat was cultivated. From the period of the revolution down to the present time, no insect in the land has received so much public attention, or has called out so many scores of pages of observation and speculation. These are to be found scattered through magagines, agricultural journals, and common newspapers. But, in defiance of them all, the Hessian fly continues its destructive work, and is probably as little under the actual control of man as it was half a century ago.

Whether this insect was an original inhabitant of this country, or was imported by the Hessian soldiers, is a question not yet settled. At the time of the discussion which led to the prohibitory order, an extensive inquiry in Europe resulted in the conclusion that the insect was wholly unknown there. Yet, in the year 1834, it was found existing in several parts in southern Europe, and injuring the wheat in the same manner as in this country. This important discovery was made by my friend, Mr. James D. Dana, who had previously been engaged with me in the examination of the Hessian fly, and was well qualified to decide upon the case. (American Journal of Sciences, xli, 153.) Moreover, we have an account from the vicinity of Geneva, in Switzerland, reported by Duhamel, of an insect destroying the wheat there as long since as 1732, in the manner of the Hessian fly; and an account, in 1823, by Raddi, of what is probably the same insect, in various places in Italy. No traces have been detected of any insect of the habits of the Hessian fly, in our country, earlier than the year 1776; and if this insect is a native of North America, what plant sustained it before wheat, rye and barley were imported? On the other hand, we have no proof that the Hessian fly has ever been found in Germany; and it is certain that, if the wheat were reaped in the ordinary manner, nearly all the available insects would be left in the stubble; and, further, the straw alleged to have been brought by the Hessians must have been that which ripened in the summer of 1775, and from which most of the insects which it contained would have escaped before August, 1776. On a question of such uncertainty, no one need quarrel with another's opinion.

The first scientific description of the Hessian fly was published in the Journal of the Academy of Natural Sciences of Philadelphia, for July, 1817, (No. 3, i, 45,) by the late distinguished entomologist, Thomas Say. He there gives it the systematic name of the *cecidomyia destructor;* and to his description adds a few remarks relative to its habits, and furnishes, also, an account of another insect, by which the fly is often destroyed. Without going into a minute and tedious technical description, the following account is offered as probably sufficient to enable an observer to identify the insect in its various transformations: The Hessian fly is a two-winged insect, with head, eyes, and thorax black; the head is small and depressed; the palpi (or mouth feelers) are three or four jointed—the basal one being the smallest; the antennæ are about half as long as the body, and consist each of from 14 to 17 oval joints, besides the basal joint, which appears double; the wings are large, hairy, rounded at the tip, and have each two or three longitudinal nervures; the abdomen is of a tawny red, and furnished, irregularly, with many black hairs; consists of seven rings or segments, besides the ovipositor, which is of two sides, and of a rose-red color; the ovipositor, when extended to the utmost, is about one-third as long as the abdomen; length of body, from the front of the head to the end of the abdomen, about one-eighth of an inch; the legs are long and slender, pale red, and covered sparsely with dark hair. The male is equal in size to the female, but generally less black, with antennæ somewhat longer, and about three-fourths the length of the body. The joints of the antennæ are globular, and slightly separated from each other. Several other species of the genus *cecidomyia*, or one closely allied to it, are common in this region. But the Hessian fly is the largest and darkest of our species with which I am acquainted.

The eggs are laid in the long creases or furrows of the upper surface of the leaves, (*i. e.* the blade or strap-shaped part) of the young wheat plant. While depositing her eggs, the insect stands with her head towards the point or extremity of the leaf, and at various distances between the point and where the leaf joins and surrounds the stalk. The number found on a single leaf varies from a single egg up to thirty, or even more. The egg is about a fiftieth of an inch long, cylindrical, rounded at the ends, glossy and translucent, of a pale red color, becoming, in a few hours, irregularly spotted with deeper red. Between its exclusion and its hatching, these red spots are continually changing in number, size, and position; and sometimes nearly all disappear. A little while before hatching, two lateral rows of opaque white spots, about ten in number, can be seen in each egg. In four days, more or less, according to the weather, the egg is hatched; the little wrinkled maggot, or larva, creeps out of the delicate membranous egg skin, crawls down the leaf, enters the sheath and proceeds along the stalk, usually as far as the next joint below. Here it fastens, lengthwise and head downwards, to the tender stalk, and lives upon the sap. It does not gnaw the stalk, nor does it enter the central cavity thereof; but, as the larva increases in size, it gradually becomes imbedded in the substance of the stalk. After taking its station, the larva moves no more, gradually loses its reddish color and wrinkled appearance, becomes plump and torpid, is at first semi-translucent, and then more clouded with internal white spots; and, when near maturity, the middle of the intestinal parts is of a greenish color. In five or six weeks (varying with the season) the larva begins to turn brown, and soon becomes of a bright chesnut color. In this state, the insect bears some resemblance to a flax-seed; and many observers speak of this as the *flax-seed* state. The larva has now become a chrysalis, or pupa, and takes no more food. The pupa within gradually cleaves off from the outer skin, and, in the course of two or three weeks, is entirely detached from it, so that the skin of the larva (now brown and hardened, and of a sort of leathery texture) has become a case or shell for the pupa inside. The *pupa shell* is, of course, in size and form, like the larva: it is oval, bulging out beneath, and of the same curve above as the outside of the stalk; divided by cross lines into twelve segments, and is about an eighth of an inch long. Within this shell the pupa gradually advances towards the winged state; it contracts in length, but not in breadth; and its skin appears covered with minute elevations. Just before evolution, we find the pupa invested in a delicate membrane, or scarf, (which, not long previous, was its outer skin,) through which many parts of the future fly may be distinctly seen. Finally, this scarf splits along the thorax, or back, and the insect comes forth, both from this and the pupa shell, a perfect two-winged fly.

This is, in brief, the history of an individual which has been so fortunate as to escape all the numerous enemies with which its race is surrounded from the moment the egg is deposited; but of these, more hereafter.

In the northern and middle States, at least, winter wheat is sown in September or October. Soon after the plants have appeared above ground, the Hessian fly begins to lay her eggs upon them; and this operation is continued during several weeks, according to the season. The eggs laid on the green leaves are in a few days hatched, and the young larvæ crawl down the stalk, and take their stations; generally clustering around the stalk at the nearest joint below. Here, by sucking of the plant, they increase in size, become full and hard, and, pressing deeply into the stalk, they impair its growth; and if their number about one joint is large, the stalk is killed. Frequently the plant, although impoverished, advances far enough to head out; but when the grain begins to fill, its own weight, or perhaps the wind, causes the stalk to break down. The injury done to the wheat is occasioned by the exhaustion of the sap, and by the pressure on the yielding stalk.

In five or six weeks, the larvæ stop feeding, the outer skin turns brown, and within this brown and leathery case the pupæ pass the winter—generally a little below the surface of the earth. In April and May, the fly is again found depositing her eggs on the same wheat, (viz: that from grain sown the preceding autumn,) and also on the spring wheat which has just come up. These eggs hatch, and the larvæ therefrom operate in the same manner as those of the autumn previous. These larvæ become pupæ about the middle of June. The flies which lay their eggs in the spring are probably in part from the pupæ which became such late in the preceding autumn, and partly from pupæ contained in stubble left the preceding summer. The period of the existence of the Hessian fly in the pupa or flax-seed state is exceedingly variable. After much observation, my own opinion is, that, in general, pupæ which become such late in the autumn evolve the winged insect partly during the next spring, and partly in the summer and autumn following. Those pupæ which become such about June, evolve the winged insect partly during the next autumn, and partly during the year succeeding.

The Hessian fly is attacked by numerous foes, which, in various stages of its existence, destroy a large part of every generation. Whether it has, in its winged state, any enemies, except the ordinary destroyers of flies, I know not. The eggs, while lying on the leaves of the young plant, are visited by a very minute four-winged insect, (a species of platygaster,) which lays in them its own eggs. From later observation, it appears that, occasionally, as many as five or six eggs of this parasite are laid in a single egg of the Hessian fly. The latter egg hatches and becomes a pupa, as usual; but from the pupa case, instead of the Hessian fly, issues one or more of these minute parasites.

The pupæ, while imbedded in the stalk, are attacked by at least *three* different minute parasites, (four-winged hymenopæra,) which, boring through the sheath of the stalk, deposite their eggs in the body within; and the latter is finally devoured by the parasite larvæ. These are the principal means by which the multiplication of the Hessian fly is restrained within tolerable limits.

Although the loss annually sustained by the wheat-growers of this country, in consequence of the ravages of the Hessian fly, is severe, yet it is well nigh impossible to ascertain even its probable amount. As long since as 1800, Dr. S. L. Mitchell, of New York, affirmed that the "insect is more formidable to us than would be an army of twenty thousand Hessians." In 1804, President Dwight, of Yale college, remarked that "this insect is feeble and helpless in the extreme, defenceless against the least enemy, and crushed by the most delicate touch; yet, for many years, it has taxed this country, annually, more, perhaps, than a million of dollars." At the present day, the amount of the injury inflicted probably far exceeds what it was forty years since; and to discover some feasible mode of exterminating the insect, or at least of arresting its ravages, is an object of great importance to this country.

Various remedial measures have, from time to time, been proposed; most of which I will here state.

1st. Steeping the seed-wheat in elder juice, solution of nitre, boiling water, or other liquids; or rolling in lime, ashes, or some other substance, in order to kill the eggs. But as the eggs of the Hessian fly are not on the seed, they will never be hurt by such processes. So far as these means give vigor to the plant, they may be of some little service.

2d. Sowing seed obtained from places in which the insect has not made its appearance, (American Museum, iv, 47.) This recommendation also assumes the error, that the eggs are laid on the grain, and will be found, as it has often proved, useless as respects this insect.

3d. Abstaining rigidly throughout the whole grain-growing region of North America from planting wheat, rye, barley, or oats, for one, two or three years, and thus starve out the insect! This plan might be effectual, but would obviously involve some inconveniences.

4th. Manuring the land very highly, so that the plants will grow vigorously, and be sooner out of the way of the insect, and also better able to resist it. This proposal has some merit, but does nothing towards destroying the insect.

5th. Sowing some variety of bearded wheat, flint wheat, &c., supposed to have a harder and more solid stalk than common wheat, and better able to withstand the impression of the larvæ. A suggestion of some value, but, equally with 4th, leaves the insect unharmed.

6th. Fumigating the wheat-field, and sprinkling the young wheat with infusion of elder and with other steeps. If successful; which is quite uncertain, it is plain that these measures are impracticable on a large scale.

7th. Sowing winter wheat very late in the autumn, so that the fly shall have mostly disappeared before the plants are large enough to be attacked. No doubt this plan is to some extent useful, but the wheat sown late is in great danger of perishing during the winter. The fly will of course attack it in the spring, yet one attack will do less damage than two.

8th. Sowing oats early in autumn on the intended wheat-field. It is supposed the fly will lay its eggs on the plant; then let them be plowed in, and the wheat sown. The fly having nearly exhausted itself on the oats, the wheat will suffer less. This plan may possibly be of some partial utility.

9th. Drawing a heavy roller over the young wheat both in autumn and spring. This process must be useful in crushing many eggs and larvæ.

10th. Permitting sheep and other animals to graze the wheat-fields while the insects are laying their eggs. By these means, large numbers of the eggs will be devoured with the leaves.

11th. Burning the stubble immediately after harvest, and plowing in the remains. This is by far the most practicable and effectual mode of exterminating the insect, or, at least, of checking its increase. In the stubble are many pupæ of the fly, at this time completely in our power; if, in reaping, the stubble is left high, the fire would sweep rapidly over a field, and destroy nearly all these pupæ; the few which escaped the fire, would, by the plow, be buried so deep as to perish in the earth; mere plowing in of the stubble must be highly useful. If the two recommendations last named were thoroughly put in practice over the whole country—not only upon wheat, but also on rye and barley, and any other plants attacked by the Hessian fly—the ravages of this insect would, in all probability, ere long, become scarcely worthy of notice.

It may not be improper, in this place, to state that the foregoing account of the habits of the Hessian fly is derived from my own long-continued observations, and that I have moreover endeavored to consult all the papers of any importance which have been published on the subject.

There are in the United States, besides the Hessian fly, several other insects which attack the wheat while in the field. Those persons who assert that the former lays its eggs on the grain in the spike or head, have undoubtedly mistaken for the Hessian fly some one of these other insects. The following brief notices of the more important of these enemies, I have abridged from the accounts comprised in Dr. T. W. Harris's "*Treatise on some of the insects of New England, which are injurious to vegetation;*" (Camb. 1842: 459 pages, 8vo.,) a work of great interest and value.

In it the inquirer will find a faithful digest of all the reliable information we have on the numerous insects which injure our plants, fruits, and trees; and, in addition, he will learn the means of defence, so far as any have been discovered. The book ought to be in the hands of every intelligent farmer and orchardist.

1. A grain moth (Angoumois moth—*alucita cerealella*, Oliv.) probably the same as described by Col. Carter, in the *Transactions of the American Philosophical Society*, volume i, 1771; and by J. Lorain, in Mease's *Archives of Useful Knowledge*, volume ii, 1812. It is about three-eighths of an inch long when its wings are shut. The upper wings are of a light brown satin color and lustre, covering the body horizontally above, but drooping a little at the sides. The lower wings and the rest of the body are ash-colored. The moth lays her eggs usually on the young and tender grain in the field; each caterpillar from these eggs selects a single grain, burrows into it, and remains concealed, devouring the meal within. Subjecting the grain to a heat of 167° Fahr., for twelve hours, in an oven, will kill the insect.

2. *The English wheat fly* (*tipula tritici*, Kirby,) is a small orange-colored two-winged gnat, which lays its eggs in the head of wheat while blossoming. The maggots from these eggs are without feet, tapering towards the head, at first perfectly transparent and colorless, but soon becoming orange-yellow; and when mature, are each about an eighth of an inch long. It is supposed they devour the pollen, and prevent the setting of the grain; the maggots fall from the spike to the earth, within which they undergo their final transformations. This insect (or one very similar to it) has done much damage in the northern States and in Canada for several years past; but no effectual mode of preventing the mischief, or of destroying the insect, appears to have been devised.

3. *The wheat caterpillar.*—This is a span-worm of brownish color, with twelve feet—six near each end of the body. It feeds on the kernel in the milky state, and also devours the germinating end of the ripened grain. It is said to be found in the chaff when the grain is threshed. We have little certain knowledge concerning the parent insect or its transformations.

In addition to these three, there are probably other insects more or less injurious to our wheat crops. Much has been published in our journals relative to these depredators; yet their habits are imperfectly understood, and many of the accounts are confused and contradictory. It is greatly to be desired that all who have the opportunity should endeavor to make careful observations, and communicate them to the public.

These observations must be accompanied by accurate descriptions of the insect under examination, and in its various stages; otherwise, most of the labor will be spent in vain.

GRADED HILL-SIDE DITCHES.

From the Farmers' Register.

In the February number of the Register, p. 88, I find an article headed "Scraps of Farmers' Conversation, by the Editor." The conversation of Mr. Old I propose to notice. He is opposed to the system of graded hill-side ditches as a preventive to the washing of the land in heavy falls of rain, because they will not effect the object desired—that on a hill-side having several ditches, if the one near the top should break, the quantity of water thereby increased in the next, together with the force with which it would descend, the second would break, and, for the same reason, all the rest; consequently more injury would be done to the land than if they had not been made. He gives an instance of one of his ditches, that he had been so particular with as to attend to in person, having been broken by the lodgment of a few blades of fodder, which seems to be conclusive that the system was a bad one. If Mr. Old had given the grade and depth of his ditches, we should have been better able to form an opinion whether he had given the plan a fair trial or not; but we are left in the dark in these particulars, as well as to the distance between them and the manner his rows were laid off; whether in checks up and down the hill, or drills parallel with the ditches, or horizontally. For the last ten years I have practised the system of graded hill-side ditches, accompanied with the horizontal cultivation, as I believe with great success in preventing my land from washing. I must, therefore, ask leave to differ with Mr. Old. If our

fields were perfect inclined planes, it would be a very easy matter to so run our rows as for each to bear off its own water so gently as not materially to wash the land. This, however, being far from the case, the question is, the best protection under the circumstances of the many undulations that we find in even a small field. It is the practice of many farmers in this section of Georgia to put in the necessary number of ditches and lay off their rows parallel with those ditches and cultivate the crop in drills. The argument for this practice is, that the rows, having the same grade of the ditches, will mainly bear off their own water. They forget that the natural undulations will very soon vary the grade, in fact change the direction of the water in different points of the row; it is therefore embodied and presses its way down the hill to the ditch below, drives across that and materially injures the land. The reason for the imperfection of this system is obvious. In one part of the field the hill may be very abrupt, at another less so, and at another still less. A ditch passing across all these various declinations, ascending the hollow on one side and descending it on the other to the natural eye, but by the instrument keeping the same grade. Now it is very easy to perceive, that in a parallel of thirty feet from the ditch, you would lose your grade, for the reason, that the fall, supposing the parallel on the lower side of the ditch, would be much greater where the hill was very abrupt, than where it was less than half as much so. Therefore the parallel row would be many inches out of the grade of the ditch at the steep part of the hill, and as compared with the ditch where the land was less abrupt. Hence the water would be thrown into bodies by this method of operation, to say nothing of the many smaller undulations, almost imperceptible to the eye, producing the same effect. And when once sufficiently embodied, the volume continues to increase, and it soon defies obstruction.

It cannot be difficult for any one who has ever used a level to comprehend the force of this reasoning It has been observed, that if fields were perfect inclined planes, it would be a very easy matter to have each row pass off its own water. Now the horizontal rows form an inclined plane taking the rows together. True the direction of the plane is changed as often as the direction of the level changes, nevertheless the same grade is preserved, measuring from the top of one bed to the top of the other; therefore the direction of the plane is changed as often as you have undulations in the land. Your level being perfect, of course your inclined plane is perfect, and when you have such a fall of water as to overrun your water-furrows, it is as apt to break over on a ridge as in a valley; for the rows being level, the water remains where it fell—the inclined plane being perfect, the water passes over in a kind of sheet, until received by the ditch below, and by it borne off. To keep your level perfect, short rows will occur between you guide furrows; because where the land is most abrupt, the guide furrows will be nearer together than when it is less so, by running rows about parallel with the guide rows the place for the short rows will be indicated by the filling of the space where the land is most abrupt; the remaining space will then be to fill with short rows by the judgment of the operator.

But to the ditches. A field that is intended to be ditched should be sown in small grain, in order to have as smooth a surface to operate on as possible. The ditches should be from 75 to 150 yards apart, regulated in their distance apart by the fall of the land, and the ability of the soil to absorb water. In fields laying comparatively well, in many cases three or four ditches are sufficient for a field of fifty acres, of which the operator must be the judge. The grade may be regulated by the ability of the soil to absorb water, giving greater fall on clay lands, and less on sandy porous soils. For land having average ability to absorb water, my grade is *three inches to twelve feet*, increased or diminished a quarter of an inch, as the soil is more or less capable to absorb water. The instrument used is the common rafter level, having a stride of twelve feet, with a plumb bob suspended from the crown by a very small cord, so boxed as to prevent the influence of the wind. The grade is indicated by a mark on the cross-bar, say two and a half feet from the crown. The grade that you may wish may be ascertained by first finding a perfect level. This is best done by reversing the ends of the instrument, until the plumb-line will stand at the same point on the cross-bar. Then place under one end of the level a block just the thickness that you wish your grade, and the plumb-line will indicate the declination on the cross-bar. I usually commence operations near the highest point of the land and in the middle of the intended ditch, and let that point divide the water, having it to run each way. By this method I encounter a less volume of water at any one point. The ditch being marked out by a chop with a hoe at each step of the level, it is opened by running several furrows with a plow, and the dirt drawn out on the lower side with weeding hoes. I prefer the ditches wide rather than deep, and concave in the bottom. A plow may pass them without inconvenience, and they occupy about the space of one corn-row. The necessary number being laid out and opened, you may proceed to lay out your guide furrows, by the mark that indicates the true level. The space between the guide furrows will be filled by running parallel rows alternate to the guide rows, the width that you may desire, for either corn or cotton, until the space is filled, finishing with short rows where they may be required, as before directed. The land is then thrown into beds by the rows, the beds opened, and the crop planted. In the cultivation, if the level is well preserved in the rows, and the water-furrows kept well open, all the water will be retained in common rains; but if the rain should be so great that the land cannot absorb it, nor the water furrows hold it, it passes over the bed in a sheet—because of the inclined plane formed by the horizontal rows—and is received by the ditch and borne off. If the grade of the ditch is a proper one, and well preserved the whole length, and properly opened and well attended to the first year, when a turf will be formed on its bank, I will ensure it not to break by the lodgment of a few blades of fodder.

The reason that hill-side ditches are in disrepute with many is because the grade is not a proper one, or not well preserved. In one part of the ditch, the grade being too great, the water passes too rapidly; in another, not being great enough, it passes too sluggishly: consequently there must be an accumulation at the point where the water moves slowest, and the volume continues to increase until the ditch is overflowed, for which the system is condemned, when the true cause is in the operator. I have seen many fields injured from improper ditching, but it has not proved to me that the system is a bad one. If Mr. Old will give us a statement of his method of operation, and cogent reasoning why the system of graded hill-side ditches is a bad one, and point out one that is better, and sustain it by incontrovertible proofs, for myself I will most cheerfully abandon the one and embrace the other.

Of one thing I am certain, that my land washes less than my neighbors' who have not resorted to the means that I have to prevent it; and I believe that many of them are finding it out, from the fact that they have commenced the system of graded ditches.

Since writing the above, I have had on my farm a very hard and washing rain, when the land was not guarded against it. Soon after the rain a field was examined that came into my possession last winter, and in the spring the necessary number of ditches had been made in it, and no attention given them since. By the way, it is a very broken field, and many gullies had been formed, across which the ditches passed as a matter of course. The crop is corn, and cultivated horizontally. I found the field well preserved. Even in the gullies across which the ditches passed, the loose dirt which fell from the plows in crossing them had not been washed out. I confidently expect, by filling these gullies with pine bushes, which I shall do this fall previous to sowing wheat, to have these gullies entirely filled, and corn growing on them.

My object in noticing the conversation of Mr. Old is to elicit information on the subject of preserving hilly land from washing from the heavy falls of rain, frequent in this country during the crop season, and as the gentleman condemns the system that I have practised with success, as I believe, I felt called on to vindicate it, and at the same time ask him for a better and more effectual one. R. S. Hardwick.

Jocassie, Hancock co., June 28th, 1842.

The Camellia.—Of this magnificent exotic there are several species and upwards of fifty varieties. The species known as *C. Japonica and Seticulata*, with their varieties, are in general cultivation in the Green Houses of Europe and America. Some of the varieties of the *Japonica*, as for example, *C. J. Variagata*, the variegated red, are so hardy as to stand the open air, either as standards, or planted against a wall; particularly if their roots are protected during frosty weather. It may here be stated as an important fact, that many tender and half hardy plants will grow freely, and produce abundance of flowers, if their roots and collars are protected, in a temperature that would kill them immediately, if these tender parts were exposed to the influence of the cold. Camellias are commonly cultivated in sandy loam, and this soil is perhaps the best for them when they are grown in pots; but when planted out in the open ground, they will thrive exceedingly well in sandy loam, mixed with rotten dung, or leaf-mould. When the plants are in a growing state, they require abundance of water, both the roots and over the leaves; taking care, however, never to wet the leaves when the sun is shining upon them; as whenever this occurs, the leaves become stained, or blotched, and look as though they were scalded. During the growing season, the Camellia requires a temperature of from fifty to sixty degrees, but when the flower-buds are formed it may be lower, till the beginning of winter, when the buds begin to swell. At this season, the temperature ought not to be suffered to fall below fifty degrees, otherwise the buds will be liable to drop off; and they will also drop if watering be neglected. It must be observed, that all the varieties of the *Camellia Japonica* cannot bear too much heat, and they prefer the shade to broad sunshine. Of the different species, *C. Sasangua*, and its beautiful variety, *C. S. Maliflora*, are the most tender. *C. Seticulata* is distinguished by the large size and brilliant colour of its flowers. It was, at first, thought tender, but it is now found to be quite as hardy as the Japonica.

Propagation.—All the species and varieties may be propagated by cuttings, taken off at the base of a leaf, or at a joint, as soon as the wood is ripened, and planted in sand under a glass; but the finer varieties are generally propagated by layering, and inarching or grafting. The French Nurserymen have a very rapid mode of procuring plants by grafting, which they effect under bell-glasses, in strong moist heat, with scions of the young wood, on stocks formed of cuttings struck the same season. The above is taken chiefly from the Ladies' Companion of the Flower Garden.

Cow Pea.—There is no doubt, in the minds of many practical farmers, that the cow pea is the best renovator of worn out, or tired land, that can be used in the South. Plant early in May, between hills of corn, and cultivate with corn; the produce for hogs alone will doubly pay all cost; it will in reality almost equal the corn crop. The vine and foliage will not only shade the land, but protect from the washing, and afford a fine quantity of vegetable matter to turn under. The reports furnished by experienced farmers, in various parts of our country, particularly in southern countries, prove this beyond a doubt. The pea is the clover of the South.—*Plow Boy.*

The Southern Cultivator.

AUGUSTA, GA.

VOL. III., NO. 6.....JUNE, 1845.

To our Exchanges.—Many of the papers with which we exchange are still directed to us at Augusta, instead of Athens. Will those who have not already done so, attend to this, and oblige by directing to us at Athens, Ga., in future?

The Hessian Fly.

The article in this paper, prepared for Mr. Ellsworth's report, by Mr. Herrick, of Yale College, we cannot commend too highly. Mr. H. is a gentleman distinguished for his habits of close and accurate investigation, and has devoted a great deal of time and labor to the study of the origin, progress and modes of existence of this most destructive insect. It is to be hoped that the suggestion of Mr. Herrick, as to the best mode of exterminating it, will be universally adopted.

The Mind and the Soil of the South.

The earnestness with which the minds of Southern men are beginning to be engaged in the improvement of the soil of the South, certainly furnishes an occasion of very high gratification to every one who takes an interest in the welfare of the country. The proofs of this direction of the public mind are abundant, and are too strong to admit of mistake. We find them, in Virginia, in the establishment of a State Agricultural Society, with Edmund Ruffin as President, and a Vice-President for every congressional district in the State; and especially in the very liberal support given by the public to the Southern Planter, published at Richmond by C. T. Botts. In North Carolina they are seen in the circulation of agricultural papers and books among the people, and in the establishment of an agricultural school under the care of Bishop Ives. In South Carolina we find them in the support given to two agricultural papers, and the establishment of a State Agricultural Society, with subordinate Societies in most of the districts of the State; and in the very liberal provision made by the State for paying the expenses of agricultural and geological surveys. They are found in Alabama, in the establishment of a State Agricultural Society; and in Georgia, in the establishment of a State Society, with the Governor of the State at its head; in the increase of County Societies, in which our distinguished men are taking the lead, as Governor McDonald in Cobb county, and Judge Berrien in Chatham; and in the increase of the circulation of agricultural papers among the people in all parts of the State. And in this connection we cannot forbear to mention that the Chatham County Society has ordered twenty-five copies of the Southern Cultivator for the use of its members; and that the Hon. Robert Toombs has ordered fifty copies for gratuitous distribution among his constituents.

Feeding Plants.—Hill-Side Ditches.

Many persons there are, still living, who remember that one of the great inducements people had to break up their establishments in the settled parts of the country, and move to "the purchase," as the different acquisitions of territory from the Indians, in Georgia and Alabama were called, was the excellent pasture for cattle afforded by the forests. The great abundance and luxuriance of the wild grapes, and wild pea-vine, and cane, every where, in "the purchase," enabled the domestic animals of the first settlers to live and thrive with very little care from their owners. Many persons seemed to think that this state of things would last always. It seemed never to have occurred to them that as the purchase was filled up with settlers, and the forests with their cattle, these native pastures, rich and luxuriant as they certainly were, would be exhausted. It has so turned out, however; and now, no man having any pretensions to thrift thinks of his cattle being able to provide for themselves, as they did formerly. They have to be fed from the products of the soil obtained by the labor and care of their owners.

Precisely the same thing has happened with our crops. Plants are living bodies, and require food, as well as animals. When the country was first cleared up, plants found in the soil an abundance of their appropriate food, which had been accumulating there for ages. This was the golden age for planters. Corn, cotton, wheat, rye, oats—indeed every thing committed to the soil grew wonderfully, and produced most abundantly, requiring not much more care than did the cattle of those days ranging in the woods. Manure was not thought of, except as a nuisance to be gotten rid of. But from continual cultivation the food for plants, originally existing in the soil, has become exhausted, just as the food for cattle in the woods has become exhausted by continual grazing. New lands were cleared and treated in the same way, until there is very little more land to clear. And now, having consumed what nature had furnished, we are compelled to provide food for our plants with the same care and assiduity that is necessary in providing food for our cattle.

The kind of food to be provided for animals—that which suits them best—is easily ascertained. Offer food that is improper, and it is rejected at once. Plants likewise have the power of choosing to some extent; but we cannot see the exercise of this faculty, as in the other case. No one would think of feeding his hogs with hay, or his horse with pork. But it is not so easy a matter to ascertain what kind of food best suits different plants. Let a practical planter set about finding out, and it will take a year to make an experiment; on wheat, for instance: and even after the experiment shall have been made, he will, most likely, be as much in the dark as before it was begun. If he put an abundance of stable manure on his land, he may find his wheat prosper wonderfully, perhaps, during winter and spring; but when earing time comes, disappointment may come with it. The wheat that promised so well, may either run up to straw, and have few grains in the head, or the straw, from weakness, may not be able to sustain the head, or the whole field may be stricken with the rust. Now the planter may suspect that his wheat has been fed with improper food. But how is he to ascertain that? By making another experiment, and using another kind of manure. This will require another year, and, perhaps, result as the other did, in disappointment. To avoid all this trouble and vexation, he must call in the aid of science.—That kind of knowledge, which has been so contemptuously called book knowledge, is the only thing that can remove the difficulty. Science tells us what wheat is made of—grain as well as straw—that nature, to make one perfect wheat plant, uses no less than fourteen distinct elementary substances; and farther, that unless the plant can find certain ingredients of grain and straw in the soil, we must supply them to the soil before we can expect our wheat crop to prosper. Whether they are already in the soil must likewise be determined by science; and what kind of manure contains them in a state and quantity most suitable for the digestive organs of wheat, can be determined in no other way so well as by calling on science for the information.

To this point—providing food for plants—a very large portion of The Cultivator has been devoted, because it is an essential one. All real improvement must begin with it. The manner of applying this food properly, after it has been provided, is the next important point. On this, as on the other, our paper has contained a great deal of very useful information. But there is still a third—the best way to prevent the unnecessary waste of this food when it shall be applied—about which we have not yet published much, except as to one branch of it, and that is subsoil plowing. Enough has been said to arouse the public mind to the importance of that operation. But how prevent its waste, in this hot climate, by the influence of sunshine and rain, and also from our plants gorging themselves with it? Mr. Ruffin has divulged that secret, in his "Essay on Calcareous Manures." Where the soil is sandy, clay must be added; and sand to a soil too stiff from clay. But the great remedy is lime. This must be an ingredient in all good soils. It gives consistency to sand and makes clay friable. But the all important agency exercised by it, according to Mr. Ruffin's theory, consists in this:—that it fixes manure in the soil; just as, in dying, the mordant fixes the color in cloth; thus restraining the influence of the sun and rain in dissipating it, and so modifying and restraining the action of plants as to prevent them from gorging themselves with food, and bringing on a diseased action of their organs.

After all our labor to provide food for our

crops, and care to apply it properly to their nourishment, and assiduity to prevent the waste of it, in this region of heavy summer showers of rain, we are liable to have the result of our labors swept away in an hour. How prevent this catastrophe? Subsoil plowing is an important preventive, as it increases the absorbent powers of the earth wonderfully, and thus prevents, in all ordinary showers, every thing like the washing away of the soil from our hill-sides. But to guard against disaster from the extraordinary showers that often fall, subsoiling alone won't do. It would, in most cases, only serve to make the ruin more complete. Hill-side ditches judiciously arranged, and these alone, after subsoiling, will effectually protect us. These, wherever they have been tried, and have been properly constructed, have afforded perfect security. That they would do so was confidently asserted by theory; that theory was right in this instance, has been proved by practice. Mr. John Cunningham, of Greene county, will tell you so, if you ask him. Men have come from great distances to see his system of ditching. Mr. Hardwick, of Hancock, gives his experience on the subject, in an article in another part of this paper, which we cannot commend too strongly to the reader's attention. Mr. Affleck, of Mississippi, gives the weight of his name in favor of hill-side ditches, in an incidental remark in his article on Bermuda grass, in this number of the CULTIVATOR. And the committee that recently examined and reported on the condition of the farm of the Hon. J. C. Calhoun say, they "were both gratified and instructed by the extraordinary management of Mr. Calhoun, by which, through the instrumentality of guard drains on all his upland fields, placed at such distances apart, and graded in such strict conformity to hydrostatic principles, that his upland fields, even those of the greatest declivity, have sustained almost as little injury from the heaviest falls of rains, as the rich low lands at their base." We might add the testimony of many others to the same effect. Let this suffice for the present.

A Suggestion.

In connection with the fairs of our Agricultural Societies, we beg leave to make a suggestion which occurs to us as having a good deal of importance. At most of these fairs, premiums to a considerable amount, in silver cups or cash, are awarded. The object of these associations is to advance the interest, and elevate the character of those who are engaged in the great business of making bread, meat and clothing, out of earth, air and water; and one of the means of accomplishing this end is the distribution of premiums to those who shall excel in this business. Now would not this object be more surely accomplished by investing the funds intended for premiums in agricultural books, and distributing them instead of the money? The Planters' Club of Hancock County, will, at their fair in November next, distribute premiums to the amount of two hundred and fifty-six dollars. This sum, if invested in books on agriculture, would throw into that community an amount of information that would be very important, and the influence of which would be felt for generations to come. Two hundred and fifty six volumes of our best agricultural papers might, with this money, be put into the hands of the planters of that county.

We would particularly object to the use of silver cups as premiums, because they are not made by our own mechanics; and the money used to purchase them, therefore, has to go North, thus adding to the drain upon our resources and industry that has brought the South to what it is. If books will not suit, better by far give the money that the cups would cost, until we can have cups made at home.

The Agricultural Press.

The American Farmer, the oldest agricultural paper in the United States, heretofore published in quarto, weekly, at Baltimore, at $2 50 per annum, after the close of the present volume, is to be published monthly, in a large octavo form, each number to contain 32 double column pages, and be embellished with engravings—the price is to be reduced to one dollar a year.

Mr. Skinner, the father of agricultural literature in the United States, having been turned out of the office of Assistant Post Master General, for opinion's sake, has been engaged by Greeley & McElrath, to edit for them a monthly journal of agriculture. It is to consist of two parts: First, *The Farmers' Library;* and second, *The Monthly Journal of Agriculture.*—Each part will contain about 50 pages every month, and the price of the whole will be five dollars per annum.

English Laborers.

In the fifth letter of D. S. Mitchell to the editor of the Albany Cultivator, speaking of laborers in England, he says: "In the barn, two laborers were threshing wheat upon a slate floor, with flails similar to those in use with us. Before I left, the threshers suspended labor for dinner; and what was it? Half a barley loaf, and a bit of cheese!—this eaten squat upon the straw, and moistened with a jug of water, and cut in pieces with their pocket clasp knives.—This is no joke; it was their *dinner;* and yet a stone's throw away, lay the three hundred acre park for old oaks to fatten on, and herds of deer to dance over, and scores of hares to trip about, and breed, and die upon. Let our farmers and farm laborers thank Heaven that they are not set down within the range of such odious contrasts. And yet, and it is a shame to every man in America, who has a spot of land and a soul—these same laborers, dining on barley bread, will save enough of time and means, to put out the sweet brier at their cottage window, to train the ivy up their chimney side, and to keep the grass green and velvety at their door."

ERRORS.—In the last number of the CULTIVATOR there were three errors that require correction.

1. In the last two lines of the article on "The Agricultural Press," "extend the like amount of patronage *on* the Southern Cultivator," for *on* read *to*. 2. In the two last lines of the article preceding the extract from Mr. Gregg's Essay, page 72, in the words, "who ought to be scourged *from* folly," for *from*, read *for our*. 3. In the list of premiums of the Bowling Green Agricultural Society's Fair, the President's name is printed MOADY. It should be MOODY.

Broom Corn--Bones--Whip Handles, &c.

The Ohio Cultivator gives us an account of three brothers, named Eaton, who have engaged in the production of broom corn, and the manufacture of brooms, on a scale that will astonish many persons whose attention has been directed to the production of cotton exclusively. One of the brothers resides near Columbus, Ohio, and is, this year, engaged in planting between five and six hundred acres of the rich land of the Scioto Valley in broom corn. Another brother resides at Circleville, twenty-five miles farther down the Scioto Valley, and is planting four or five hundred acres—making together about one thousand acres!! Besides this they have numerous contracts with small farmers in the surrounding country for as much as they can raise. All is, when gathered and properly prepared, sent over the Atlantic to London, where the third brother resides, and carries on a very extensive manufactory of brooms. The demand for these brooms in England, is said to be unlimited: and the prospect is that these three brothers, by their enterprise, energy and industry, will soon make handsome fortunes—larger, perhaps, than will soon be made by planting cotton and selling at present prices.

We add hereunto an article from a Cincinnati paper, for the purpose of giving our readers an idea of some of the thousand and one ways there are in this world of making, not only a living, but a fortune too, besides planting cotton, or broom corn, or even packing and shipping sausage skins; and of showing how other people thrive by turning to account such things as we throw away as worthless.

From the Cincinnati Chronicle.

BONES—WHIP-HANDLES—IVORY BLACK—HOOFS—PRUSSIAN BLUE—OFFAL, &c.—This is a motley heading, but is exactly adapted to what we have to say. A few days since we took a ramble up Deer Creek. We were not walking for pleasure, although the atmosphere that encompassed us was *fragrant* with ——— that we will tell by and by. We hope that the word will not be driven from the English vocabulary by this too free use of it. The creek shore, above Ninth-street, is measurably lined, and in one instance, we believe, covered by slaughter-houses—some devoted to disposing of hogs, and others of cattle—tanneries, bone-mill, grease-trying establishments, and similar odoriferous vocations; and in the winter season the stream should be known as Bloody run, for such it literally is, its color being nearly scarlet. A brewery adds its mite, as well as a steam lard and tallow manufactory, to the general aggregate of which the creek is the depository.

But however undesirable is the brink of this murmuring stream, the vale through which it runs is nevertheless a fountain of wealth. Among the establishments there is one which is a common receiver of nearly all the offal of the city slaughter-houses. From it is turned out an immense amount of grease and inferior lard. A large proportion of the daily market beef-legs and shanks are purchased by the proprietor, and after the marrow and grease are extracted, the bones are sold for the various purposes of button-making, whip-handle finishing, the manufacture of China-ware, or porcelain, and also ivory black. Of the latter, large quantities are used in the manufacture of shoe-blacking; and a mill in this noted vale is expressly appropriated to the grinding of bone, pith of horns, &c., for the manufacture of black.

Of the small bone used for black and porcelain, this house ships to foreign ports, mostly

Europe, about 400,000 lbs. per year; and of the large bone, which are principally used for the ferrules and butts of whip stocks, and the manufacture of buttons, about 130,000 pieces.—These quantities are exclusive of the amount consumed here, which is very considerable, particularly of the former kind. A few years ago, nothing of the kind was done here, and, as far as bone was concerned, was entirely a waste. The prices here, are, for the small, $16 per ton. A large contract closes with 1844, for export to Europe, at that rate, packages included; and for the latter, $10 per 1000 pieces. The price last year was $8.

Soap grease is the great staple of this Vesuvius, very large quantities of which are shipped to the Eastern cities. Forty thousand dollars worth was mentioned to us as the value of what is at this time on sale in New York alone. The prices here now are, four cents for No. 1, and three and a half for No. 2.

One of the other articles made to a great extent, is neats'foot oil, from the nether legs and hoof. This sells at wholesale at sixty-two to seventy-five cents per gallon.

Another is sausage skins, with which not only our own market is supplied, but shipments are constantly making to the South and East.—They sell here at $10 per keg—size, the same as common lard kegs.

Hogs' bristles are another thing prepared by this and other houses, or house in the city, and of this article large shipments are also made, both of the combed and tied, used by saddlers, shoemakers, &c., and of the curled. The former kind sells at 20 to 25 cents per lb. The curled are used for the same purposes to which curled hair is applied—mattrasses, cushioned chairs, sofas, &c. Who ever thought of reposing on a pig's back?

One other thing we learned in this, our evening ramble, was, that we have with us a manufactory of Prussian Blue. The stock from which it is made is cattle's hoofs, and plucks, and the blood of hogs and cattle. The hoofs command $16 per ton. The manufacturer is a German. It is but a year or eighteen months since he commenced operations, and cannot be said to be fairly under way, but has sufficiently tested the experiment clearly to demonstrate the practicability of successfully competing with the foreign article, both as to quality and price, and he expects in a few years to be able to consume a very large proportion of the blood to be obtained here.

We were also told of an instance of a foreign demand for blood. The facts we have stated are a few instances of the economy with which science is capable of making us acquainted, and of the value of the skill by which it can be effected. Shall we cultivate the arts and sciences, and encourage skill and enterprise in our country?

The Protective System.

Though we have been frequently admonished by our friends not to meddle with any thing connected, in the remotest degree, with politics; and though we stand pledged to the public to abstain from such meddling, yet we must for once disregard the admonitions, and violate our pledge. The temptation is so great, we can't withstand it. The following article suits the state of things in the South so admirably, that we must republish it, let the consequences be what they may—trusting, however, that our readers will overlook this deviation from our prescribed course, in consideration of the pleasure they will have to find that even in Indiana, a State settled chiefly by Yankees, things are managed, in some respects, pretty much as they are in our own blessed land of sunshine and wastefulness.

A PLEA FOR THE PROTECTIVE POLICY.

Mr Hatch—Now that the heat of politics is somewhat subsiding, will you allow me to exhibit some of the disastrous results which I have witnessed in Indiana, by reason of the almost universal prejudice against a *protective policy.* I am very sure that there are some chapters in the subject of protection which our farmers have not had presented to them. In consequence of the loose notions prevalent on this subject, almost all the farms of Indiana are destitute of barns, stables, sheep-cotes, pig-pens, and hen houses. There are to be sure *things* very humorously and ironically *called* stables. Several times during the past summer, sudden showers have driven me into these stables.—They are very artfully constructed; for while they seemed designed to protect from the rain and wind, they in fact are made to answer the purposes of both. The shingles or clapboards are so arranged as to bring the rain in streams through into the enclosure; and the sides are adjusted so as to produce an admirable *draft* for the wind. I do not know how a horse could be *showered* and *chilled* more effectually than in the Hoosier stables. But the great part of all the herds and flocks are left without any protection, through our trying winters, except such as their instincts can devise.

To begin with the least: Turkeys and hens are left to roost upon trees, bushes, fences, well-curbs (and as looking down into the well might make them dizzy, they very properly turn their head the other way, which, besides being safer, ensures the concealment of their manure, otherwise offensive to the eye.) The reasons for anti-protection in this case are, doubtless:—1. The necessity of hardening the constitutions of fowls; 2. To give roosters finer astronomical observations, that their *crowing time* may correspond to the true sidereal time; 3. But chiefly as an act of reciprocity to coons, foxes and weasels, who are known to sympathize very heartily in the popular doctrines of *Free Trade.*

The condition in which sheep are left through the winter, shows that our farmers have calculated that *wool* needs no protection.

My sympathies are every year enlisted in behalf of cows and cattle upon our farms, and in our villages. No one can walk the streets of Indianapolis, without meeting the supplicatory glances of most forlorn cows at every nook, where they may hide from the piercing west and northern winds. Many of them are left to subsist by picking at the dry grass, seared by the frosts, or by ranging the woods for weeds, and even tender shoots of trees. I have seen outline cows craunching straw from crockery-crates, and litter from the stables, with a ravenous appetite. Perhaps their owners think that a cow can make milk with straw as easily as the Hebrews did brick. But these operations are very different, I think, though I have not tried either.

When I ventured one day meekly to expostulate with a crusty anti-protectionist on the subject, he sharply told me to "go to grass with myself," and I could only reply, "that his cow needed that mission more than I did." Around our cabins, and about farm houses of more pretension, may be seen a bevy of shivering creatures—crumpled with cold, or drenched with chilling rains, or coated with sleet.

In a still moonlight night, when a sound may be heard for miles—when the cracking foot-steps of a benighted traveller would echo through a whole village, how often have I heard the melodious murmuring of some dozens of swine, which have crept into a heap in the open air, to keep themselves warm. Their views of the ruinous effect of the anti-protective policy, are uttered at first in *staccato* grunts—these now and then swell out to a longer cadence and quite a number in chorus. And as some little pig insinuates himself under some veteran, there commences such a performance by the whole company, with varieties of tone, movement, and part, as I am bold to say, Mozart never dreamed of with all his music.

Whatever may be the effect of these notions against domestic *protection*, I am entirely certain that they work ruin to the great department of *Internal Improvement.* I beseech of you to exert your editorial authority to persuade our farmers to redeem some of their waste time from politics and sprees, and devote it to the purposes of domestic protection. B.

Original Communications.

Plantation Economy.

Mr. Camak:—It is really with some hesitation and misgivings that I venture to give you some of my ideas about farming in Georgia. There is so much agricultural bombast (misnamed scientific Agriculture) afloat, and the public taste appearing to receive that kind of thing so freely, that I fear any effort of mine to stop that conduct, and get farmers to try my mode of thinking and acting, would be, not only unsuccessful, but probably unpleasant; still, it would please me to be useful to the cause of agriculture, as I expect to devote the remainder of my life to that vocation; and it is with me a business of love as well as profit.

In farming, as well as in every thing else, every thing is simple when it is well understood; and the fault is, not that we know too little, but that we know too much. In a way, we have a little smattering of every thing, from Liebig down; and are so exceedingly deficient in the simple elements and practical manipulations, that we are incapable of practically and economically applying and using one useful idea.

At the present prices of produce, I see no prospect of prices ever being very high again; the principal profits of a farm must be derived from its *economy;*—I mean in the application of labor, as well as in the use of its product: and no man can justly be called an economist, who does not attend to small matters as well as small accounts. I go farther. I insist that no man can comprehend his business well, nor construct those better rules for its management, who is not intimately acquainted with the details; who does not understand well the elements of those ideas that he is attempting to systematize. Well, if this be true, what a deplorable condition of things we have around us! How many of our agricultural teachers know any thing of the first elements, or the manipulations of the business they are lecturing on? They can tell you all about ammonia, talk to you of oxygen, carbonic acid, sub-soil plows, hill-side ditches, how to make manure in your stock lots, and spread it on your lands; and probably they *may* know something of *diastase* and its function in a germinating seed. All these are useful ideas. I like to see them in their proper *place,* and introduced to the people in a practical way. But when they give us their *modus operandi,* it is too expensive. We can't dive too deep into nature's laws, provided we succeed in getting truth; but we can very foolishly and ruinously misapply—miseconomise a good idea.

One of the great secrets in the success of farming, is to be able to select and use cheaply the peculiar resources that each man finds about his particular location. Here is economy again, and requires an intimate knowledge of facts as well as discrimination. In fact, we may go through any farm that I know of, and I believe that 20 per cent. can be gained by a more judicious or economical application of the resources and efforts used, and pertaining to the farm. If this is true, would we not do well to commence our agricultural studies in the alphabet; and not commence reading until after we have past *cru-ci-fix.*

Man has been defined to be a tool-making animal. I believe when he goes into the field to work, he always takes some tools with him. Well, would it not be better for him to always select the most suitable ones, and then learn how to use them to the best advantage? How much of the success of a farm depends on the plows used, and how few persons have devoted attention to the structure and improvement of plows! On that subject I am sure great improvements can be made, and profitable economy used, both

in the application of horse-power, and the outlay for plows. The same remark is applicable to many other tools, though I have not space to enumerate them.

In reclaiming and fertilising our exhausted lands, much more can be effected by economy. Almost every farm and field has, contiguous to it, the elements of fertility that can be more cheaply used than the tedious process of hauling, to and from your farm-yard, litter and manure. For this you must study in the field rather than the books. The practice of deep or sub-soil plowing must be a powerful agent in fertilising, and improving the susceptibility of our exhausted lands. We had better study to understand this thing before we begin, else we will waste much labor as well as money, before we acquire the necessary tact:

I see, on every farm, much labor expended in hauling manure. Would we not do well to calculate the difference in the expense and results of raising and turning under green crops, litter, or whatever we have near the field? I think much economy could be used there.

On the subject of draining thoroughly all wet land, and ditching the hill-sides, so as to prevent washing, I believe all are now agreed; and I know, from experience, that much can be saved by understanding well the text, before you begin the commentary.

I could extend this paper, by giving more cases of bad economy in farming, though this will suffice for an illustration. I am not opposed to cautious speculation in farming, but it should be used to illuminate, enlighten; not to supersede, or supplant well-tried practices. Farming is, essentially, a practical business; and none but a practical, successful farmer should ever be high authority. Theory should be the handmaid, not the head of farming institutions; and though we can, by careful incredulity, improve our practices, by listening to the teachings of theory, there are few nuisances that we should be more guarded against, if we aim to thrive by farming.

I will return, and urge again on my farming brethren to first study and improve, as much as they well can, on those ideas, practices and tools that they expect to continue using on their farms. First make yourself master of that; then resort to the most successful practices and best experience you have around you, or that you have inherited from practical parents. Carry these home; modify and apply them to your peculiar wants. Make yourself familiar with the use of these; and then, when you have leisure, and you can appropriate two hours every day, sit down and hold a friendly confab, with those who do all their plowing in the shade. They will teach you how to spend money, and how to do a great many foolish things on your farm. But if you will listen carefully, and select with caution, you may, once in a while, get a good idea from them; and one good idea, properly used on a farm, will pay for any *ten* agricultural papers in the United States. But before you spend money on a new idea, study it well, if you want to profit by farming.

I may, at some future time, if I have health and leisure, give you my ideas more in detail, on particular practices and projects, that I see proposed to farmers, if I should be vain enough to suppose I could be useful.

Respectfully, J. S. WHITTEN.

Mount Zion, May 6, 1845.

For the Southern Cultivator.

Cotton Culture.

MR. CAMAK:—Having seen the report of Mr. R. P. Sasnett and others who have been experimenting upon Dr. Cloud's plan of planting cotton, and having, in '44, made a small trial myself, and discovering that my result approached so near in quantity that of Mr. R. P. Sasnett, I am encouraged to report through your very useful periodical, the quanty of seed cotton which I grew per acre. The land, in a natural state, is a sandy ridge, had been cultivated several years, and was, consequently, somewhat exhausted; perhaps six or eight hundred pounds might have been grown upon it, unassisted by manure. In '43 it was not cultivated, but was used as a pasture for calves. In February of last year, I had the land broken deep with a scooter plow, after which I hauled out my manure and laid it in piles at suitable distances. On the 2d of April, I laid off the rows at the distance of 2½ feet the narrow way. This was performed with a very narrow plow. On the 3d of April, the rows were run off the wide way, 4 feet, with a shovel plow, and the manure deposited in the check, in such quantity as to nearly fill the shovel furrow at each hill; after which the bedding or ridging was performed the wide way with a very simple kind of turn plow, leaving enough of the middles unplowed to retain the small scooter marks as guides in planting. On the 4th of April the ridges were opened with a small scooter and light stock, the seed rubbed in leached ashes, and a few dropped in each hill and covered with feet. The ground being dry at this period, the seed did not vegetate till after the fall of a shower, which was 15th April.—After the rain the middles were turned out. As soon as the cotton was up it was hoed, leaving three or four stalks in a hill. The second working was performed by running a small plow round the cotton, and leaving the middles unplowed, and hoeing out, leaving two stalks in each hill. In June the middles were plowed and the cotton hoed. At this period I discovered that the cotton was not inclined to branch properly, and consequently I thinned it down to one stalk in a hill.

At this time the plants were blooming, and on many stalks several bolls were found. Early in July I plowed and hoed the ground very lightly, which finished the culture. On the 16th July I topped the cotton plants; it branched so as to fill up the row the wide way, and produced two thousand and thirty-four pounds per acre. Had the thinning been performed in proper time, I doubt not but that the product would have been larger. This fact is detailed as an error in the cultivation. One stalk in a hill is enough, and if thinned as soon as possible every body knows that fruit will be produced the sooner.

The manure used was "compost," prepared from stables. The kind of seed planted was Rio Janeiro. I shall say something of this cotton in my next. Yours,

MILES SCARBOROUGH.

Mt. Pleasant, Meriwether co., April, 1845.

For the Southern Cultivator.

MR. CAMAK:—We have, this day, held the spring meeting of the Barbour County Agricultural Society, the proceedings of which we will send you as soon as they are published.—The number of reports presented by the farmers to the Society, showing the quantity of land planted in cotton, and the quantity in provision crops, compared with 1844, will show that, although we are planting largely of cotton, still the provision crop is much increased, with a considerable decrease of the cotton crop. We trust that our Society has become firmly established in the affections of the farmers of the country, and that the good effects of our association will be seen and felt throughout this region of country, in the improvement of its agriculture.

We are rapidly passing into the year 1845, and in a few more months the fate of the crop will be known. Up to the present time the prospects in this section of country cannot be said to be flattering, owing to the considerable quantity of cold weather and frosts in the month of March, and the long continued drouth in the month of April, and even up to the 10th of May, making near six weeks without rain: and when it is recollected that our sandy land soon swallows up the rain that falls, and becomes dry, the length of time that we have been without rain has been most seriously felt in checking the young crop in its growth, both corn and cotton. The oat crop, which is the principal small grain of this section, has been greatly injured for want of rain. Should the seasons be good from this time, the crop of the present year may be equal to that of last year.

As the subject of manures is every day becoming more and more important, I would be much pleased to see, in the CULTIVATOR, well written essays on the proper and best plan of preparing manure. I noticed last summer, in the county of Elbert, large quantities of oak leaves collected in the woods and thrown in piles, there to remain until spring, then to be applied to the land. I have commenced the making of manure by hauling the pine leaves (as my land is situated in the long-leaf pine country) into a lot where my cattle are penned. I haul into the same lot the blue marl. My cattle are constantly penned on the straw and marl. From the effect, up to the present time, the most salutary results will grow out of this system of manuring, as the cotton in the rows where we put the compost, is now twice as large as that where there was no manure put.

I would also be much pleased if some of the contributors to the CULTIVATOR would give, through its columns, the properties of the Bermuda grass, as to its value for stock. I am disposed to give up my hilly lands to the Bermuda grass as a pasture, and only cultivate the level lands, and manure them highly. By this arrangement I think I can grow wool profitably in this climate. I see that Mr. Affleck, of Mississippi, is out in favor of the Bermuda grass, and there is no man whose opinion I more respect than I do that of Mr. Affleck.

The olive seed that you had the kindness to give e are not as yet up. Still I hope they will come up, as I am anxious to make a trial to raise the olive.

We expect, if spared, to spend the summer in the West and North. As we expect to make our trip, as far as we can, an agricultural one, should any thing take place, or should I see any thing that I think will interest my brother farmers, I will write you. Your friend,

ALEXANDER MCDONALD.

Eufaula, Barbour Co., Ala., May, 1845.

For the Southern Cultivator.

Bermuda Grass.

MR. CAMAK:—I find in your April No. a call upon Mr. Spalding and myself for information on the subject of eradicating Bermuda grass. From my own experience I can give you but little information. I have made much inquiry, however, of others; and the result is, together with what little experience I have had, that it is an extremely difficult matter to *eradicate it entirely*; but not at all to smother and check it, so far as to permit the cultivation of any crop. Nor do I think it advisable to destroy it entirely; as, if a proper system of rotation be carried on, Bermuda should occupy the ground three years in seven—thus: 1, 2 and 3 years, Bermuda, cutting a crop of oats the first year; 4th, Egyptian or winter oats, (sowed the previous October, turning the Bermuda sod carefully and completely under—which, by the way, requires one of Ruggles, Nourse & Mason's sod plows) the oats followed by a complete covering of peas; 5th, Corn, with peas and pumpkins; 6th, Cotton; 7th, Cotton, with oats sowed amongst the cotton at the last tending—the treading will injure them but little—and after the oats are cut, the ground is left to be occupied by Bermuda for three years again—which will not be the case, if the previous crops have been well managed, without replanting. Apply the manure to the corn crop, and as a top-dressing to the Bermuda in March of the second year. *Of course*, the stock, with the exception of hogs and the sheep fattening for the butchers, have no business in the pea or corn field. The poorer spots, after receiving a dressing of manure, will be more rapidly improved and give a better return by two successive crops of sweet potatoes, covering the vines up carefully each time, than by any other crop.

Such a system will not only improve the land highly, each term, but it will allow of Bermuda grass being freely introduced. It would also directly enrich the planter, inasmuch as it would enable him to turn his attention to other things

than cotton; compel him to raise less of that overdone crop; enable him to gather it much sooner and send it to market in better order, as he would assuredly gather much more to the acre; and it would, with the addition of *a complete series of horizontal ditches*, entirely stop his land from washing.

It is always remarked here, that no matter how poor the ground may be that is taken possession of by Bermuda, it rapidly improves, becoming dark-colored and mellow, and showing in the bettered appearance of the corn, the improvement that the soil receives from a covering of this grass.

I have never recommended the introduction of this grass, without adding a caution as to the trouble it is certain to occasion under improper management. At the same time there is one query I should like answered—is it not better to cover with this grass the naked, exhausted, washed hills that have been thrown out as incapable of being longer cultivated in corn and cotton with advantage, and which exist to the extent of many thousands of acres in all the cotton growing States, *even if it never could be eradicated*, than to leave them as they now are, utterly worthless and valueless? Few of the lands in this State or in Georgia, are so worn, but that a covering of Bermuda grass could be had upon them, capable of supporting five head of sheep to the acre, and every year's grazing would improve them. Had I such a farm as many I could name, I would infinitely rather *cover it with Bitter Coco*, than leave them as they now are.

Even now there are many farmers in Kentucky, Ohio and Indiana, who dread the introduction of Blue grass on their farms, so troublesome is it under careless or improper management. I do not consider Bermuda grass much more so.

In the rotation recommended above, I have a special eye to the smothering of this grass.—With the oats sowed amongst the cotton, I should sow, and *do sow*, about a gallon of red clover seed per acre, which affords a fine bite after the oats are cut, and until the Bermuda covers the ground. True, red clover lasts but one year here—in the North it lasts two—ripening its seed and dying. But, if not grazed too close, there is enough of seed dropped to cover the ground pretty well a second year. And whether or no, it far more than pays, in early and rich pasturage, the trouble and expense incurred.

There are not near enough of winter oats grown in the South. They make a famous winter pasture, and are *much* better feed for horses and mules than corn, costing, at the same time, much less labor to make, and leaving the ground unoccupied by the middle of May, for a full crop of that most valuable of all our crops, *cow peas*.

Volumes might be written upon the advantages to the cotton planter of changing his present miserable practice of occupying two-thirds instead of two-sevenths of his land in cotton, and of giving the attention they deserve to oats, cow peas, sweet potatoes, Bermuda grass, clover, corn, hogs and sheep, home manufactures, &c, &c. Years of toil on the part of our agricultural editors, and other friends of improvement, will be required before much can be effected. I fear that *improvement* and change for the better, have received a sad check from the recent *unfortunate* rise in cotton. It will be the means of materially increasing the already excessive over production.

Let me congratulate you on the improvement you have already effected in the SOUTHERN CULTIVATOR; and urge upon the farmers of Georgia to come out and give us a proper insight into the state of things in that State. Yours, truly,

THOMAS AFFLECK.

Ingleside, near Washington, Miss., April, 1845.

For the Southern Cultivator.

Wool.

MR. EDITOR:—I beg to offer the following statement of the yield of wool from a small flock of *Leicester* sheep which I have just had sheared; and, at the same time, will remark that they have not been once fed during the past winter, having been on a rye lot of 10 acres the whole time.

If any of your reader's flocks can beat the yield, I would be glad to hear from them.

I have a few young Bucks for sale.

Augusta, May 25. B. H. WARREN.

MR. WARREN:—According to your directions, I had sheared last week your twenty *Leicester* sheep. Their yield was 112 lbs. of wool.

The young buck's fleece was 10 lbs.; the old one 7½ lbs. It may be proper to remark, that three out of the twenty sheep were late lambs, and not full grown—so that some allowance should be made for them. Very respectfully,

JOHN W. MORRISS.

Bedford Farm, May 1, 1845.

For the Southern Cultivator.

Tanning on the Plantation.

MR. CAMAK:—I see in your last CULTIVATOR directions for *plantation tanning*, by Mr. Affleck of Mississippi. Having tanned my hides for a number of years, and believing it to my interest, I suppose it will be profitable to others who have many raw hides.

I have succeeded well, and think my leather firmer and more valuable for negro shoes, and the coarse harness on my farm, than tan-yard leather; and as my plan is a much cheaper one than Mr. Affleck's, and as economy is my hobby-horse, I just thought I would ride him out this morning to keep him healthy.

I tan from 10 to 15 hides a year, of various sizes. I have two vats 5 by 7 feet, 4 feet deep, sunk in the ground near a falling branch, so constructed at the bottom that I can draw a plug and wash and empty them. I begin in March; soak my hides ten days in running water. Two or three times I take them out and give them a good rubbing or washing. They are then ready for the lime, as we call it. I then put them in one of my vats, and divide equally among them from 3½ to 5 bushels of good ashes and 2 or 3 quarts of lime, and cover the whole in water.—The lye had better be strong, and if you err, err on that side. Every few days I take them up, or rather stir them up, and mix them again, so that all parts shall be equally acted on by the lye and the atmosphere, in the top and the bottom of the vat. If your ley is right, in 10 or 12 days your hides will be thickened to two or three times their first thickness—feel more like a sheet of jelly than any thing else, and the hair will slip easily. Then slip off the hair, and with a drawing knife or a currying knife, scrape off the loose flesh and cellular matter on the other side, and as much of the lye as you can, without bruising the hide: and then put them back into fresh and clean water. Every other day take them up and give them a good rubbing or scouring, for 10 days. They are then ready for the bark; and by that time you can slip the bark off your oak trees and have it ready for the hides. I never grind my bark. I take it from the tree, and with a drawing knife, take off the rough on the outside, and just beat it enough to cause it to lie flat in the vat. In my other vat I do all my tanning, and commence with a layer of bark, then of leather, and so on; and so lay it in the vat that every part of each side of the leather shall lie against bark; and when I am done, I immerse this entirely in water.

The first year you had better boil an ooze in kettles or pots, and use that instead of water, and afterwards always preserve your old ooze to use next year instead of water. I let this lie until the 1st of August, and put in a second bark precisely as the first, and let it lie until sometime in October or November, when my leather is fully tanned, if these directions have been followed. When the leather is well tanned, it presents a yellow, spongy appearance, through and through; otherwise, you will see a white or hard streak in the centre. When I take it up I scour the ooze well out of all.—That I intend for sole leather, I straighten and dry; that for upper leather, I wash well, then grease well with the cheapest oil I have, and after drying 8 or ten days, I moisten it, curry off the spungy, soft part from the flesh side; and when moist, beat it or break it over some rough surface until it is comparatively soft, and the grain side is all puckered up, or wrinkled into small wrinkles. Then, when my leather is thoroughly dried and shrunk, it is fit for use.

Respectfully, J. S. WHITTEN.

Mount Zion, May, 1845.

For the Southern Cultivator.

Berkshire Hogs.

MR. EDITOR:—When a boy, it was a part of my business to feed the sows and pigs. From habit, or a partiality for "old Ned," or a swinish disposition, I became fond of hogs. This early attachment has not left me. I love to feed them, and to rub them, and to read about them too; in such books, for instance, as the "American Swine Breeder." I give my pigs big names, such as "Sam Jones," "Ben Sherrod," and "Prince Albert." They seem to know their names, and I think are just as worthy of them as some bipeds are to be dubbed General. "*Victoria*" is a favorite name with me. You know she is said to be often "in a delicate and interesting situation," and I like to have her good example imitated. It is the best way to increase the stocks.

While reading the SOUTHERN CULTIVATOR for April, I came to a piece headed "Berkshire Hogs," and signed by "One of the Buckets." Formerly there was a man in this county sometimes called "*Ned* Bucket;" 'tis said he went to Texas and did some tall walking after he got there. This "*One*" may be some of the same family: but—I don't know—people are mistaken sometimes.

"One of the Buckets," it seems, like your humble servant, is fond of hogs, and especially Berkshires. He, like many others, has succeeded finely with them. I am glad that he has. He seems to think that I have *not* succeeded because I did *not* feed them. Now, I suppose Bucket guesses we don't make much corn down this way, and that 'tis *root hog or die.*" Well, I wish he may never be deceived worse than when he thought so.

I recollect reading a long time ago, in some old book, about a man who tried to learn his mare to live without eating. He curried, and brushed, and rubbed, and did all that sort o'thing The poor mare remonstrated, and *told him, food* would do *better without currying*, than *currying* without *food*. Her remonstrances were disregarded, and just as her education was completed, she unfortunately *died*. Some years since, I walked three long summer days, the 4th, 5th and 6th of July, in the woods bordering the Okefenokee Swamp, without meat or bread, or even a "substitute," good or bad.

From what I have read, and from my own experience, I have come to the conclusion that quadrupeds, and bipids too, feel a little more cheerful, and do a little better, when they have good appetites, and a plenty of something good to eat. I have not tried to raise hogs on the wind.

"Bucket" tells some very pretty things about the Berkshires, and I do not doubt a single word he says. He has succeeded finely; "*but mind, he feeds them.*" Ah! *there* is the secret. He does not try to raise hogs without "*corn*," or a "*good substitute.*" That word "*feed*" is a comprehensive term; I *don't understand it*, and would be glad if "Bucket" would explain.

I will just give a short history of "my way," and "Bucket" will be the better able to point out my errors, and others may guard against them also. Heretofore I had fed my hogs in the woods, with corn, turned them on grain fields in summer, on peas and potatoes in the fall, and finished off on a floored pen. I had the scrub stock of the country, with a dash of the Cobbett. I raised plenty of pork and to spare. But I had heard and read about the Berk-

shires. They grew large, had beautiful forms, splendid hams, paid better for their keep than any other breed, and fattened kindly at any age. My hogs generally were not quite large enough. Sometimes one would reach three hundred, but not often. I wanted bigger ones. I must keep pace with my neighbors. Berkshires I must have. An opportunity soon offered. I purchased a pair of pigs of the importer himself, (and a gentleman too,) some of old England's *best*—paid sixty dollars cash—no mistake about it. I had heard something about the Yankee way of cooking and mixing and so on. Well, I thought I *could do* as well as the Yankees, and that I *would do* the thing right. One of Mott's agricultural furnaces was ordered and brought home. A fine steam mill is hard by, owned by clever folks, and very convenient to turn corn into meal. 'Twas not long before I had a hundred or more full blood and half blood Berkshire pigs. It so *happened* we had plenty of corn and potatoes; a fine turnep patch, and more coleworts than we could eat. I had seen some good hogs raised in Georgia, and some good ones brought from Tennessee and Kentucky; I had heard of Dr. S. D. Martin's Woburns, of A. B. Allen's Berkshires, of the Bedford, of the Suffolk, and of the improved Chinese hog, &c., and I intended to raise (for I had of old England's best) just as good as the best. Corn was sent to mill, potatoes dug, vegetables gathered, and Aaron went to cooking. The kettle was filled with corn meal, turneps, or coleworts, and potatoes; water was added, and the whole boiled until thoroughly done. My pigs were fed with this food three times a day, all they would eat. Corn on the cob lay by them all the while. I have now tried the Berkshires four years. I have had plenty of corn and to spare all the time. I have taken more care, and had more attention paid to my hogs, than ever before. They have been kept and fed in the woods and in the field, in lots and in close pens, sheltered and bedded; they have been fed on corn alone, and on corn with "good substitutes," and on raw food and on cooked food. The result is, I have not succeeded; the Berkshires have paid less for their keep than any hogs I ever had.

I wish to be distinctly understood. I do not presume to say the Berkshires have not done well in the hands of others. I am aware they have been highly prized by intelligent and practical men; men of good judgment and of undoubted veracity. I dispute no man's word, and impugn no man's motives. I speak of my own experience and for myself only.

I acknowledge I have not fed Berkshires—to profit. But my friend "*Bucket*"—"*Ah! he feeds his hogs.*" Will he tell me how?

Houston county, April, 1845. CLODHOPPER.

For the Southern Cultivator.

A Freak of Nature.

MR. CAMAK:—*Sir*—The Siamese Twins are a great curiosity, and rendered the more so, as they were a freak of Nature in the human species. I have one to communicate, which I think much greater, and were it not that it is from the brute instead of human nature, it would greatly transcend the former, as to the interest it would excite in the curious. I send this statement to you, and if you think proper, you may give it a place in your CULTIVATOR, not that it is exactly appropriate for such a journal, but that it may interest some of your readers, as many of them are engaged in rearing horses and mules; and because, too, as a subscriber to your valuable paper, I wish to cast in my mite of that which might interest.

On the 29th of March, I had a mare that foaled a mule colt, (or colts, I do not know which to call it,) of full size, though dead when I found it, with two perfect heads and necks coming handsomely out of one perfect body, without any deformity, and each head and neck as large as we would suppose the body ought to have, had it but one. I had it skinned as neatly as I could, and stuffed with bran; and this was done in the presence of Dr. B. F. Rea; and on examination, he found it had two hearts and two stomachs, connected with one set of intestines, thus far forming two distinct organizations, partly separate, as in the heads and necks, then blended in one body, partially through a part of the internal organs, and then strangely united in one, as to the balance, such as intestines, legs, &c. &c.

If any one wishes to see the skin of this strange anomaly of nature, I invite him to call at my house in Greensboro and he can do so, and after my friends have seen it, I propose to have it placed in some well regulated Museum.

Respectfully, yours, &c.

W. W. D. WEAVER.

Greensboro', April 26, 1845.

For the Southern Cultivator.

MR. CAMAK:—In renewing to you the assurance of another year's acquaintance, I felt gratified at the course the CULTIVATOR was taking; and have had one unitorm belief, that it will conduce to the essential interests of Georgia.

Falling over from an honorable profession to agriculture, I wish that my knowledge of medicine could be transferred to agriculture. I wish I could approach the subject with as much confidence as I think I may touching clinical cases. I will promote our interest better by inquiry than an exposition of any imperfect notion I may have in planting, cultivating or gathering.

These three years past the trees in my apple orchard have dropped their fruit from the time it begins to form until it ripens. Now, under the trees, you may find all sizes, from a garden pea to a hickory nut, covering the ground. In March a few of the trees had curled leaves.—The blossoms were yellowish, sickly, and fell off. The balance of the orchard looked thrifty, but the trees are afflicted with the same scourge they have been these three years. Opening the repudiated fruit we find, through all its sides to centre, a dark passage made by some insect, whose form and action the eye cannot discover. In the centre of the apple we find, sometimes, a maggot, but the parent I know nothing of only from its influence. I have read somewhere that by beating the trees in the evening, with cloths spread underneath, the insect might be caught and burned. I have not found it so; and the mischief will go on until the insect gets too weak, or the fruit too strong, to continue the mischief.

Late planted cotton has not come up, and that on dry clay soil is no better. Other well-broken land and early plantings get along better than could be expected from such deep and extensive drouth. The oat crop is cut off—its scantiness was never known before. That sown early is shooting half ancle high—that later, is ashamed to head at all. But relying on the CULTIVATOR's theoretic, we expect yearly to amend our *practiques*, and by acquiring other resources of the State, (which it may be capable of,) to bring us to that state of independence the planters enjoyed in years gone by. I salute the editor with the courtesy of friendship, and trust its guidings may, in future time, be quoted as a standard to better informed agriculturists.

May, 1845. N. CRAWFORD.

EXCRETORY DUCT OF THE FEET OF SHEEP.—Chancellor Livingston, 1st President of the N. Y. State Agricultural Society, says, the legs of sheep are furnished with a duct, which terminates in the fissure of the hoof; from which, when the animal is in health, is secreted a white fluid, but when sickly, the ducts are stopped by the hardening of the fluid. He says he has, in some instanees found that the sheep were relieved, by merely pressing out the hardened matter with the finger from the orifice of the duct in each foot; it may in some cases be proper to place their feet in warm water, or to use a probe or hand brush for cleansing this passage.—*Farmers' Cabinet.*

☞ An hour's industry will do more to beget cheerfulness, suppress evil humors, and retrieve your affairs than a month's moaning.

Agricultural Meetings.

Agricultural Meeting in Chatham.

At an adjourned meeting, held on the 16th ult., at the Court House in Savannah, for the purpose of organising an Agricultural Society, a respectable number of Planters, and others engaged in agricultural pursuits, were present; JOHN LEWIS, Esq. in the Chair, and GEO. P. HARRISON, Acting Secretary. The minutes of the last meeting were read and confirmed.

On motion, the Constitution, adopted at the last meeting, was reconsidered, and after one or two slight amendments, was adopted.

The By-Laws, reported to the last meeting, were then taken up by sections, and after various amendments, were adopted.

The meeting then proceeded to organise the Society, by electing officers under the Constitution.

When the Hon. J. M. Berrien was unanimously elected to fill the office of President, and John Lewis, Esq., of Chatham County, Thomas S. Clay, Esq., of Bryan County, and Clem. Powers, Esq. of Effingham County, were elected to fill respectively the offices of First, Second and Third Vice-Presidents.

The President elect being absent, John Lewis, Esq., First Vice-President, resumed the Chair. The Society then proceeded to fill the remaining offices; and the following gentlemen were elected to the same, viz: George J. Kollock, Corresponding Secretary, George P. Harrison, Recording Secretary, Samuel C. House, Treasurer; Robert G. Guerard, Librarian; and Dr. William H. Cuyler, George Jones, William D. Hodgson, William P. Bowen, and Dr. John S. Law, were elected to compose, with the President and three Vice-Presidents, *ex officio*, the Board of Managers.

It was then, on motion—

Resolved, That the Corresponding Secretary of the Society be directed to subscribe to such a number of copies of the Southern Cultivator as will be necessary to supply each member with a copy, on the best terms that can be done; and also to retain one copy, to be deposited with the Librarian, for the use of the Society.

Resolved, That the Corresponding Secretary, in connection with the Board of Managers, be directed to publish such of the proceedings of this Society as they may deem proper, in the gazettes of this city, and in the *Southern Cultivator.*

On motion the Society adjourned.

JOHN LEWIS, 1st Vice-Pres't.

GEO. P. HARRISON, Rec'g Sec'y.

CONSTITUTION.

Article 1. This Society shall be called "The Agricultural Society of Chatham and adjacent Counties."

Art. 2. Its object shall be to collect and diffuse information concerning Agriculture in all its departments and connections; and to encourage and improve the same amongst ourselves.

Art. 3. The officers of the Society shall be a President, three Vice-Presidents, Corresponding Secretary, Recording Secretary, Treasurer, Librarian, and a Board of Managers, who shall be elected by ballot at each annual meeting. Should a vacancy occur in any of said offices, by death, resignation, or otherwise, it may be filled up by ballot, at the next regular meeting of the Society. And if it should happen in any office other than that of the President or Vice-Presidents, it may be filled up until the next regular meeting by the presiding officer.

Art. 4. There shall be an annual and quarterly meetings of this Society, at such times as may be established by the By-Laws.

Art. 5. The day before the annual meeting of this Society, there shall be an exhibition of Agricultural products, stock, manufactures, and such other things as the Society may choose to encourage.

Art. 6. The President, or in his absence, either of the Vice-Presidents, may call an extra meeting of the Society, upon the request of three members.

Art. 7. Any person wishing to become a member of this Society, may do so, by subscribing to the Constitution, and paying the amount of contribution money, unless objection is made, in which case a majority present may admit him. Each member shall pay an annual contribution of three dollars.

Art. 8. Five members, including at least two officers, shall constitute a quorum, and he empowered to transact the regular business of the Society, except at the annual meetings, when thirteen shall constitute a quorum

Art. 9. The Society shall pass such By-Laws as they may deem necessary to carry out the object of the Association.

Art. 10. This Constitution can be altered or amended only by a vote of two-thirds of the members present at the annual meeting; and a notice to that effect having been given at a previous meeting.

The Constitution of the Society is now in the hands of John Lewis, Esq., first Vice-President, at his office in the Exchange. Those who are friendly to the cause in which we are engaged, and are disposed to unite with us in the effort to improve our Agriculture, are requested to call and sign the Constitution as early as is convenient, as it is of importance that we should have a full list of our members at once.

GEORGE J. KOLLOCH, Cor'g. Sec'y.

Agricultural Meeting in Habersham.

CLARKSVILLE, May 6, 1845.

At a meeting held this day, at this place, by a respectable portion of the citizens of Habersham county, it was resolved that said meeting form itself into an Agricultural Society, and proceed to the election of a President, first and second Vice-Presidents and Secretary—the latter of whom shall be Treasurer.

Whereupon, James R. Wyly was chosen President, George D. Phillips first, and William W. Alley, second Vice-President, and Phillip Martin, Secretary and Treasurer.

When the President elect took the chair, it was resolved that a committee of three be appointed by the chair to draft a constitution and by-laws for the government of said society, to be reported for consideration at our next meeting—whereupon the chair appointed George D. Phillips, John T. Carter and Malcom J. Walker that committee.

Resolved by the meeting, That John W. H. Underwood and Malcom J. Walker be, and they are hereby appointed corresponding Secretaries of this Society.

Resolved, That the chair appoint some member to address the society at its next meeting, on some branch of agriculture—whereupon the chair appointed William B. Wofford, to address the society at its next meeting.

The meeting then adjourned until the first Tuesday in July next.

JAMES R. WYLY, Pres't.
PHILLIP MARTIN, Sec'ry.

Planters' Club of Early.

On the fifth of May, notice being previously given, the citizens of Early met at the court house in the town of Blakely, for the purpose of forming a Planters' Club. On motion of Mr. S. H. Trulock, Major Joel Crawford was called to the Chair, U. Trulock to act as Secretary. After some appropriate remarks from the Chair in the way of explanation, there was appointed a committee of five to draw up articles of constitution, when Maj. J. Crawford proposed to read to the committee articles which he had previously drawn up, which, after being read the second time, were unanimously adopted, and handed over to the Secretary. On motion of Judge William Castleberry, the names were next taken of such individuals as wish to become members of the Club, when some twenty-four gentlemen enrolled their names. It was resolved that each member should, on enrolling his name, pay the sum of fifty cents, to defray the necessary expenses.

On motion of Mr. Reese, it was

Resolved, That it shall be the duty of the President, with the consent of the Vice-President, to appoint a speaker for the regular sessions, which will be the first Thursday in January and May.

The Club then proceeded to the election of officers. Major Joel Crawford was elected President, Judge Wm. Castleberry first and S. H. Trulock second Vice-President, U. Trulock Secretary and Treasurer. On motion,

Resolved, That the Secretary be requested to notify Judge Wm. Taylor that he is chosen to deliver an Agricultural Address at our next meeting, on the first Monday in July next, Maj. Crawford his alternate, and L. Everingham alternate to Maj. Crawford.

Resolved, That the Secretary furnish an account of our meeting to the Fort Gaines Whig, and request its publication therein.

URIAH TRULOCK, Sec'y.

Horticultural Outline.

AN OUTLINE of the first principles of HORTICULTURE, by JOHN LINDLEY, F. R. S. &c. &c., Professor of Botany in the University of London, and assistant Secretary of the Horticultural Society.—[CONTINUED.]

VI. FLOWERS.

146. Flowers consist of two principal parts, viz: *Floral Envelopes* (149,) and *Sexes* (VII.)

147. Of these, the former constitute what is popularly considered the flowers; although the latter are the only parts that are absolutely essential to it.

148. However different they may be in appearance from leaves, they are all formed of those organs in a more or less modified state, and altered in a greater or less degree by mutual adhesion.

149. The Floral Envelopes consist of two or more whorls of transformed leaves; of which part is calyx, its leaves being called sepals, and part corolla, its leaves being called petals.

150. The Sexes are also transformed leaves, (187.)

151. The calyx is always the outermost, the corolla is always the innermost whorls; and if there is but one floral envelope, that one is calyx.

152. Usually the calyx is green, and the corolla colored and more highly developed; but the reverse is frequently the case, as in Fuchsia, Ribes sanguineum, &c.

153. A flower being, then, an axis surrounded by leaves, it is in reality a stunted branch, that is, one the growth of which is checked and its power of elongation destroyed.

154. That Flowers are stunted branches is proved, firstly, by all their parts, especially the most external, occasionally reverting to the state of ordinary leaves; secondly, by their parts being often transformed into each other; and, thirdly, by the whorls of flower-buds being dislocated and actually converted into branches whenever any thing occurs to stimulate them excessively.

155. Their most essential distinctive character consists in the buds at the axillæ of their leaves being usually dormant; while those in the axillæ of ordinary leaves are usually active.

156. For this reason, while leaf-buds can be used for the purpose of propagation, flower-buds cannot usually be so employed.

157. Being stunted branches, their position on the stem is the same as that of developed branches.

158. And as there is in all plants a very great difference in the development of leaf-buds, some growing readily into branches, others only unfolding their leaves without elongating, and many remaining altogether dormant, it follows that flower-buds may form upon plants of whatever age and in whatever state.

159. But to produce a general formation of flower-buds it is necessary that there should be some general predisposing constitutional cause, independent of accidental circumstances.

160. This predisposing cause is the accumulation of sap and of secreted matter.

161. Therefore whatever tends to retard the free flow of sap, and causes it to accumulate, will cause the production of flower-buds or terility.

162. And on the other hand, whatever tends to produce excessive vigor causes the dispersion of sap, or prevents its elaboration, and causes sterility.

163. Transplantation, with a partial destruction of roots, age, or high temperature accompanied by a dry atmosphere, training obliquely or in an inverted direction, a constant destruction of the extremities of young growing branches, will all cause an accumulation of sap, and secretions; and consequently all such circumstances are favorable to the production of flower-buds.

164. But a richly manured soil, high temperature, with great atmospheric humidity, or an uninterrupted flow of sap, are all causes of excessive vigor, and are consequently unfavorable to the production of flower-buds.

165. There is a tendency in many flowers to enlarge, to alter their colors, or to change their appearance by a transformation and multiplication of their parts, whenever they have been raised from seeds for several generations, or domesticated.

166. The causes of this tendency are probably various, but being entirely unknown, no certain rules for the production of varieties in flowers can be laid down, except by the aid of hybridising, (210.)

167. It often happens that a single branch produces flowers different from those produced on other branches. This is technically called a sport.

168. As every bud on that branch has the same specific vital principal (113,) a bud taken from such a branch will produce an individual, the whole of whose branches will retain the character of the sport.

169. Consequently, by buds an accidental variety may be made permanent, if the plant that sports be of a firm woody nature, (98.)

170. As flowers feed upon the prepared sap in their vicinity, the greater the abundance of this prepared food, the more perfect will be their development.

171. Or the fewer the flowers on a given branch the more food they will severally have to nourish them, and the more perfect will they be.

172. The beauty of flowers will therefore be increased either by an abundant supply of food or by a diminution of their numbers (thinning,) or by both. The business of the pruner is to cause these by his operations.

173. The beauty of flowers depends upon their free exposure to light and air, because it consists in the richness of their colors, and their colors are only formed by the action of those two agents, (281.)

174. Hence flowers produced in dark or shady confined situations, are either imperfect or destitute of their habitual size and beauty.

175. Double Flowers are those in which the stamens are transformed into petals; or in which the latter, or the sepals, are multiplied. They should not be confounded with *Proliferous* (183,) and *Discoid Compound Flowers* (184.)

176. Although no certain rules for the production of double Flowers can be laid down, yet it is probable that those Flowers have the greatest tendency to become double, in which the sexes are habitually multiplied.

167. In Icosandrous and Polyandrous plants, either the stamens or the pistilla are always very numerous when the flowers are in a natural state; and it is chiefly in such plants that double Flowers occur, when they become transformed.

178. It is therefore in such plants that double Flowers are to be principally expected.

179. In proportion as the sexes of Flowers habitually become few in number, do the instances of double Flowers become rare.

180. Double Flowers are therefore least to be expected in plants with fewest stems.

181. Whenever the component parts of a flower adhere by their edges, as in monophyllous calyxes, monopetalous corrollas, and monodelphous, or polyadelphous stamens, the tendency to an unnatural multiplication of parts seems checked.

182. Therefore in such cases double Flowers are little to be expected; they are, in fact, very rare.

183. Proliferous Flowers are those in which parts that usually have all their auxiliary buds dormant, accidentally develop such buds; as in the Hen and Chickens Daisy, in which the bracteæ of the involucrum form other Daisy-heads in their axillæ; or, as in certain Roses, in which the capillary leaves develop leaf-buds in their axillæ, so that the flower becomes a branch; the lower leaves of which are colored and transformed, and in their ordinary state.

184. Discoid compound Flowers are those in which the central florets of a flower-head acquire corollas, like those of the circumference, as in the Dahlia; the cultivated variety of which should be called discoid, and not double.

185. These two last are so essentially different from double Flowers, that whatever laws may be supposed to govern the production or

amelioration of double Flowers, can have no relation to proliferous or discoid Flowers.

VII. SEXES.

186. The sexes consist of two or more whorls of transformed leaves, of which the outer are called *Stamens* (188,) and the inner *Pistillum*, (191.)

187. They are known to be modifications of leaves, because they frequently are transformed into petals which are demonstrably such (149,) and because they occasionally revert to the state of leaves.

188. The stamens bear at their apex an organ, called the *anthor*, which contains a powder called *pollen*.

189. When the anthor is full grown it opens and emits the pollen, either dispersing in the air in consequence of the elasticity with which it opens; or depositing it upon the stigma (191,) or exposing it to the action of wind, or such other disturbing causes as may liberate it from its case.

190. The pollen consists of exceedingly minute hollow balls, or cases, containing myriads of moving particles, which are the fertilizing principle of the stamens.

191. The pistillum has at its base one or more cavities or *cells*, in which bodies called *ovula* are placed; and at its apex one or more secreting surfaces called *stigmata*.

192. The ovula are the rudiments of seeds.

193. If the fertilizing powder of the pollen come in contact with the stigma, the ovula in the cells of the pistillum are vivified, and become seeds.

194. But if this contact does not take place the ovula cannot possibly be vivified, but shrivel up and perish.

195. The phenomenon of vivification takes place in consequence of the descent of a portion of the moving particles (190) of the pollen into the ovula, where such particles form the commencement of future plants.

196. In wild plants a stigma is usually acted upon only by the pollen of the stamens which belong to it.

197. In this case the seeds thus vivified will, when sown, produce new individuals, differing very little from that by which they were themselves produced.

198. And, therefore, wild plants are for the most part multiplied from generation to generation without change.

199. But it is possible to cause deviations from this law, by artificial means.

200. If the pollen of one species is placed upon the stigma of another species, the ovula will be vivified; and what is called a *hybrid* plant will be produced, by those ovula when they shall have grown to be seeds.

201. Hybrid plants are different from both their parents, and are generally intermediate in character between them.

202. They have little power of perpetuating themselves by seeds, but they may if woody be perpetuated by cuttings (312,) buds (354,) scions (335.) &c.

203. Therefore, no hybrids but such as are of a woody perennial character can be perpetuated.

204. It usually happens that the hybrid has the constitution and general aspect of the polliniferous parent; but is influenced in secondary characters by the peculiarity of the female parent.

205. This should always be borne in mind in procuring new hybrid plants.

206 Really hybrid plants must not be confounded with such as are spaceous, in consequence of their origin being between two varieties of the same species, and not two species of the same genus.

207. Hybrid plants, although incapable of perpetuation by seed, are often more abundant flowerers than either parent.

208. This is probably connected with constitutional debility, (162.)

Pennyroyal, it is said, if woven in their nests, will protect hens from vermin.

JASSIMINE.—The *Jassimine* is celebrated more for the delicacy of its odor and flowers, than for the pretty love legend connected with its European history. The custom which prevailed in some countries, of brides wearing Jassimine flowers in their hair, is said to have arisen from the following circumstance: a grand duke of Tuscany had, in 1699, a plant of the deliciously-scented Jassimine of Goa, which he was so careful of, that he would not suffer it to be propagated. His gardener, however, being in love with a peasant girl in the neighborhood, gave her a sprig of this choice plant on her birthday; and he having taught her how to make cuttings, she planted the sprig as a memorial of his affection. It grew rapidly, and every one who saw it, admiring its beauty and sweetness, wished to have a plant of it. These the girl supplied from cuttings, and sold them so well as to obtain enough money to enable her to marry her lover. The young girls of Tuscany, in remembrance of this adventure, always deck themselves on their wedding day with a nosegay of Jassimine, and they have a proverb, "that she who is worthy to wear a nosegay of Jassimine is as good as a fortune to her husband."—*Western Cult.*

SUBSOIL PLOWS.—In many soils, not otherwise rich enough for corn, it would be a good practice to make a furrow six inches deep, in the fall with a common plow, then let a subsoil plow run in this furrow ten or twelve inches more; and it would be still better to put cornstalks and other manure in this trench, and list it in, when thoroughly wet, with a small plow or hoe; the land to remain in this state till planting time. The subsoil plow is valuable; by its use the soil will be less wet in great rains, and more moist in great drouth. Where the subsoil plow is used, in

comparison with only the common plow, the yield will be fifty per cent. more, and the crop in dry weather always green. The subsoil plow has doubled and frequently trebled the crops in England.—*Farmer and Gardener.*

Cotton Beds.—A Good Suggestion.

We find the following in the Albany Cultivator Cotton beds are becoming very much in use on steamboats on the Western rivers, and they are considered superior to any kind but hair:

Cotton Beds.—We have received from J. A. Guernsey, Esq., a copy of the "Southron," published at Jackson, Mississippi, containing some remarks on the advantages of cotton for bedding. These advantages may be summed up as follows. It is claimed that "it is the cheapest, most comfortable, and most healthy material for bedding, that is known in the civilized world." In addition to these, may be named *superior cleanliness;* vermin will not abide it: there is *no grease* in it, as in hair or wool; it does not get *stale* and acquire an *unpleasant odor*, as feathers do; moths do not infest it, as they do wool; it does not pack and become hard, as moss does; nor does it become dry, brittle and dusty, as do straw or husks; and in many cases *medicinal.*" It is said not to cause that lassitude and inertia, which is produced by sleeping on feathers. People not acquainted with it, have supposed they have been sleeping on the best feathers, when in fact their beds were made of cotton. The relative cost of cotton compared with feathers, hair, &c., may be seen from the following statement:

Cost of a Hair Mattrass.—They are generally sold by the pound and cost from 50 to 75 cents per pound. Thirty or forty pounds will cost $15 or $20.

Wool.—Thirty pounds of wool at 30 cents per pound, $9; twelve yards of ticking at 12½ cents per yard, $1 50; labor, thread, &c., $2 75. Total, $13 25.

Feathers.—Forty pounds feathers at 30 cents per pound, $12 00; fifteen yards of ticking at 12½ cents per yard, $1 87½; labor, &c., $2 75 cents. Total, $16 62½.

Cotton.—Thirty pounds cotton at 8 cents per pound, $3 40; twelve yards ticking at 12½ cents per yard, $1 50; labor, thread, &c., $2 75. Total, $7 65.

It is recommended to run the cotton through a "picker," where one can conveniently be obtained, before using. This gives it additional cleanliness and buoyancy.

The substitution of cotton for bedding throughout the United States would be an immense saving, besides opening a new avenue for that article to an extent according to the estimation of this writer, equal "to more than two of the largest crops of cotton ever produced in the United States."

Dig Deep and you'll find Treasure.—We commend the following anecdote to the particular consideration of those who are yet addicted to the practice of shallow plowing, and who think that no good comes from deep stirring of the soil. By adopting the practice of deep plowing, a new source of wealth would be opened on many farms, which the "*skinning*" culture of a century or two had never developed. But to the anecdote—which, though old, is just as good as if it were "bran new:"—

"An old farmer, on his death-bed, told his sons, who were not very industrious lads, that he had deeply buried his money in a particular field, which was the most barren land on his farm. In consequence of this information, soon after the old man's death, the sons began to dig (and they dug deeply too) all over the field—and this they did again and again, for it was long before they quite despaired of finding the money. At length, however, they gave up the search, and the land was planted with corn; when, from the deep digging, pulverization and clearing which it had received in the search for the money, it produced a crop which was indeed a treasure."

It might result to the profit of some of our farmers' sons, should they imagine their fathers had deeply buried a bag of dollars in some barren field, and be led to dig in search of the treasure—and though they might not find the expected wealth, their exertions would be amply rewarded, as is illustrated in the anecdote.—*N. E. Farmer.*

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PENDLETON AGRIC'RAL SOCIETY.

REPORT OF THE COMMITTEE ON FARMS, MADE TO THE SOCIETY ON THE 10TH OCTOBER, 1844.

Mr. Thomas M. Sloan's Farm.—The Committee commenced their operations by visiting the farm of Mr. Thomas M. Sloan on the 16th of September. This farm consists of about one hundred and thirty acres of low grounds, on the Seneca river, and as much, or a greater number of acres of good upland. It has always been regarded as one of very great value, not only by reason of the great natural fertility, but also durability of its low grounds.

The Committee have not been able to decide upon its present, compared with its former, productive powers; but judging from the evidences presented to them, by the heavy crop of corn and pea vine now upon the land, they are of opinion that the management of the proprietor has been at least such as to enable him to reap a rapid succession of abundant crops for the last twenty years, without materially impairing its value.

This, however, is only applicable to the low grounds: the upland fields have not fared so well. Either by reason of a too rapid succession of tillage crops, or by the total neglect of guard drains, or in all probability both, a portion of the upland fields have shared, to some extent, the fate so commonly attendant upon our agricultural operations, of being washed into gullies, and otherwise materially impoverished.

The Committee were gratified to discover that Mr. Sloan has become fully awakened to the importance of the subject; has recently constructed several guard drains by way of experiment; and seems determined to extend them as far as may seem necessary to the safety of his upland fields.

So far as his uplands are concerned, the proprietor has adopted a rotation consisting of a tillage crop and a small grain alternately. On the low grounds, he informed us he was in the habit of cultivating two successive tillage crops, and every third year a crop of small grain.

Mr. Sloan regards the pea crop as one of very great value. We found it co-extensive with his entire corn crop: and although large quantities are gathered annually as provender for stock, yet a still greater quantity must necessarily be returned to the soil, and to this, as a principal cause, the Committee are disposed to ascribe the durability of these low grounds, together with that of several other farms, similar in all respects to the one under consideration.

The crop on this farm was good throughout, and consisted of an equal number of acres of corn and cotton. The quantity to the hand was fourteen acres, exclusive of small grain.

The wheat crop was said to be good, and far beyond the quantity required for domestic consumption. The hogs were very fine, principally of the Berkshire breed. The cattle were not seen by the Committee. The farm houses, consisting of stables, corn cribs, cow houses, &c., were very good, and the horses in good condition.

The last object to which the attention of the Committee was directed, was an excellent grist mill, a very superior threshing machine, a cotton gin, a cutting machine, a corn sheller, and a corn crusher, all under one roof, and capable of being employed at the same time, or separately, as desired.

The Committee were much pleased with this extraordinary combination of mechanical and laboring operations. They regard this establishment not only as one of great convenience but of profit also.

In conclusion, the Committee, after all they have seen on this farm, have come to the conclusion, that Mr. Sloan is a successful planter; and from the amount of old corn, and other evidences of abundance which every where met the eye, they have no doubt but that if famine should desolate our fair country in his day, he will be one of the last survivors.

Mr. Robert A. Maxwell's Farm.—This farm, like the preceding, is one of very great value, consisting of extensive low grounds, of remarkable fertility, and of a still larger amount of upland. The low lands were exclusively appropriated to the culture of corn, intermixed with peas, and the uplands to the cotton crop.

The Committee have no data on which to base a calculation as to whether this farm has improved or degenerated. But from the acknowledgment of the proprietor, that his operations, especially on his low grounds, had not been governed by any regularly established rotation, the Committee are disposed to infer, notwithstanding the crop was highly superior throughout, that his efforts heretofore have been directed more towards the maintenance of its general productive powers, than to any great improvement of them. Necessity is a stern law, and one whose requisitions are most commonly complied with. But a habitual reliance upon resources that never fail, and never deceive us, is apt to lull the mind into a state of apathy, if not false security, which cannot fail to retard our progress in the prosecution of agricultural enterprises and improvements.

The Committee are firmly of the opinion, that after witnessing the low grounds, not only on Mr. Maxwell's farm, but also those on the other river farms which they have examined, and with a full knowledge of their great recuperative powers, that the adoption of a more lenient rotation, in connection with other auxiliary means, would refresh and enrich the low grounds rapidly, and at the same time increase the annual profits of the planter.

The Committee were gratified to discover that the proprietor, as if sensible of the importance of this policy, had under way an experiment with the red clover, covering an area of thirty acres, and intended in due time to be given to the land, which though unpromising, by reason of the extraordinary drought that had afflicted the country during the latter part of the season, may, nevertheless, under more favorable circumstances, prove a source of interest as well as profit to the owner.

The Committee were also informed by Mr. Maxwell of an experiment, the result of which when completed, he has promised to lay before the Society, that will no doubt prove a source of interest as well as of instruction, to all who are interested in the important business of reclaiming waste and worn out lands. This experiment was made upon a field thickly set with sedge grass, which was first turned in, and will be followed this fall with a crop of rye, to be also given to the land, with peas, to be in due time applied in the same way.

The attention of the Committee was also drawn to an experiment at manuring a very exhausted piece of land with leaves spread upon the surface and plowed in, with a spade full of swamp mud to each hill. The result when compared with a portion of the same field not thus managed, was said to be the difference between an ear and a nubbin. But as Mr. Maxwell has furnished a reply to the interrogatories addressed to the several competitors, in which this experiment will be fully detailed, the Committee decline offering any further observations on the subject.

In the cultivation of the uplands upon this farm, which are exclusively appropriated to cotton, the proprietor has illustrated in a very satisfactory and convincing manner, the advantages of horizontal plowing, or that near approach to it, which provides that each furrow shall convey away its own superabundance of water, and yet so gently as to leave the soil behind.

This object has been fully accomplished by Mr. Maxwell, with the exception of a few points, throughout a cotton crop of more than one hundred acres. And although a considerable portion of these lands have been in cultivation for many years, and some of them consist of steep hill sides, yet no gullies were seen by the Committee, or other proof of material injury from washing away of the soil.

In the business of guard drains, Mr. Maxwell has not yet embarked. But so thoroughly has he become convinced of their indispensable importance, that we have every reason to expect that by the next anniversary of our Society, through a combination of guard drains and intermediate horizontal culture, this farm will exhibit unquestionable proofs of refined agricultural operations.

As to manuring on this farm, the quantity made, and the manner of making and applying it, the Committee beg leave to refer to the reply to the interrogatories.

The stock of horses exhibited to the Committee were of good quality, though not in fine condition, owing no doubt to the fact that the proprietor assigns a greater number of acres to each plow horse than is usually done. The cattle were very fine and of improved breed.—The hogs were also highly superior, and generally of the Berkshire breed. And here the Committee beg leave to state a fact which has a material bearing upon the important question as to the relative merits of the Berkshire and the original stock of the country, (alias land pikes.) A lot of the common stock, some eight or ten in number, about equal in age, and reared under equally favorable circumstances, with a much larger lot of Berkshires, were closely observed by the Committee; the contrast was most disparaging to the native breed; they were not only much smaller, but evidently much less thrifty.

As to the agricultural implements on this farm, they were sufficiently numerous and of good quality, and the same merit was considered due to the negro and other farm houses, with but few exceptions.

Hon. J. C. Calhoun's Farm.—The Committee next proceeded to examine the farm of the Hon. John C. Calhoun, and although it may be truly said that nature has done much for it, yet to its proprietor clearly belongs the merit of very superior management.

Acting upon the theory, that lands possessing the greatest natural fertility, must ultimately become exhausted by a too rapid succession of tillage crops, without some adequate return; and from the destructive effects of washing

rains, Mr. Calhoun seems to have found a resource for the former, in the cultivation of the pea crop, and for the latter, in the application of guard drains to his upland fields, evidently equal to the necessities of his position in both respects.

The Committee are of opinion, that the evil of greatest magnitude, and the one which more than all others combined, tends to frustrate our agricultural operations, and impoverish our fields, is that which we suffer from heavy falls of rain, and the consequent washing of our lands. It is true, that tillage does its part, especially when unconnected with a rotation of crops, tending to give rest, and impart refreshment to the soil. But compared with the other mischief, it is but as the drop in the bucket.—To this, as a principal cause, is to be ascribed the almost incalculable amount of worn out and waste lands, and yawning gullies, which disfigure and disgrace almost every farm that meets the eye throughout our country. It is this ruinous tendency, unchecked by a single contrivance, but as tamely submitted to as if it were one of the irresistible decrees of destiny, which has led to the suicidal policy of abandoning fields as soon as their original fertility became exhausted, and felling the forest in search of the means of further subsistence; and finally, it is this which has caused so many thousands of our countrymen to exchange "their own, their native land," with all its tender endearments, for the toils, privations and dangers of our western frontier.

Deeply impressed with the importance of this subject, the Committee were both gratified and instructed by the extraordinary management of Mr. Calhoun, by which, through the instrumentality of guard drains on all his upland fields, placed at such distances apart, and graded in such strict conformity to hydrostatic principles, that his upland fields, even those of the greatest declivity, have sustained almost as little injury from the heaviest falls of rain, as the rich low lands at their base.

The Committee are aware that such a statement is likely to be regarded as the offspring of that enthusiasm in reference to agricultural enterprises and improvements, which well directed experiments too often prove to be fallacious.—But regarding the farm of Mr. Calhoun as the first, if not the only one, in this section of our country, upon which this policy has been fully illustrated, and as furnishing proof approaching to mathematical certainty, of the facts stated by the Committee, they have deemed it a duty incumbent on them, to bring to the notice of our planters, not only the principles upon which this measure has been conducted, but also the results which have followed.

Their attention was first directed to Fort Hill, a field of about forty acres, terminating at its base on the one side, in the low grounds, and connected with the uplands on the opposite side, by a depression considerably lower than its summit. This field, by reason of its descending in every direction, necessarily required to be literally belted with guard drains. Certain points appeared to have been selected, at which the water could be discharged with the greatest safety, and a series of drains were directed round the hill, with a descent just sufficient to convey away the water, and yet so gently as not to enlarge or deepen their channels. The number of these drains was made to correspond with the necessities of the field, as determined by the amount of its declivity, being more numerous and nearer each other where the descent was greatest.

The Committee were not informed as to the amount of this descent, or deviation from the horizontal line. But judging from the eye, they were supposed to equal from three to five feet in the hundred yards.

As a further measure of precaution, the intermediate drill rows were run out horizontally, or nearly so: an arrangement which, by the aid of the first great measure of safety to the soil, seemed to have enabled each furrow to retain its own water, or to have parted with it so gradually as not to leave a trace of the slightest injury.

The Committee did not learn how long this celebrated hill had been in cultivation, though appearances justify the conclusion that it must have been cleared thirty or forty years; yet, notwithstanding the soil was evidently good originally, judging from the very heavy crop of corn and pea vine now upon the land, the Committee are induced to believe its productive powers have scarcely diminished.

In other hands, or even in the hands of the proprietor himself, had the above precautionary measures been omitted, the field must ere now have exhibited in many places a series of gullies and abraded surfaces, and been destined soon to take rank with the waste and worn out lands of our country.

The remaining portion of the uplands on this farm, with the exception of various patches in the vicinity of the homestead, were appropriated to cotton. And although the greater part of them was fresh land, that had been but a few years in cultivation, yet, fully impressed with the importance of upland drains, and acting upon the policy that it were easier to prevent than to remedy an evil, a sufficient number of them to protect the lands have been already made, with the same caution, and with the same success attendant upon those on Fort Hill.

The amount of land required for these drains is very inconsiderable, and the amount of soil conveyed away through them, though comparatively small, may often be diverted, as we saw it done in several instances on Mr. Calhoun's farm, to some impoverished spot which would be improved, or to some wet depression which they would elevate and reclaim.

The low grounds on this farm were exclusively appropriated to the corn crop, intermixed with peas throughout. The corn crop was very fine, and the entire surface of the earth was covered with the most luxuriant crop of pea vines we ever witnessed.

By reason of Mr. Calhoun's absence, the Committee are uninformed as to his management of the pea crop, nor do they know any thing concerning his rotation of crops. But all concur in the opinion that a return annually to the soil, of the vast amount of pea vines on each acre of land, would amount to an adequate compensation for all that is taken from it by the corn crop.

The stock on this farm, consisting of horses, hogs and cattle, were of good blood and in fine condition. The farm houses were sufficiently numerous, and both comfortable and convenient. And this was more especially the case with the negro house, which consisted of a building of stone of superior masonry, two hundred and ten feet in length, divided into aparments, with separate fire-places, sufficiently large for all the purposes of comfort and healthful ventilation.

The Committee, in conclusion, have no hesitation in pronouncing the management upon this farm highly superior. The useful and the ornamental have been most happily blended, not only throughout the principal tillage crops of the farm, but also the more refined horticultural operations of the homestead.

Mr. A. F. Lewis's Farm.—The Committee next proceeded to examine the farm of Mr. Andrew F. Lewis; and in justice to this gentleman, and in advance of any remarks in reference to his agricultural operations, they regard it as their duty to state that he is the youngest planter belonging to the list of competitors.—But although he became the proprietor of a landed estate of very great value, only three years since, he has, in that short period, given the most satisfactory proof that he possesses an amount of agricultural skill and enterprise that entitles him to rank with our most experienced planters.

His farm, like the preceding, lies upon the Seneca river, and consists of nearly equal parts of low grounds and good upland. And although a considerable portion of the latter had been neglected for several years previous to his occupancy of them, and overrun with sage, noxious weeds and shrubs, yet the whole has been reclaimed during this short period, and a good crop of corn and pea vines now occupies this hitherto unsightly waste.

In addition to the above improvement, the Committee consider Mr. Lewis entitled to much credit for an extensive and successful application of the spade to the drying of a portion of his low-grounds, heretofore too wet for cultivation.

The corn crop on this farm was confined principally to the low grounds. And although the pea crop was not co-extensive with the entire corn crop, yet they had been very judiciously cultivated with the corn on the uplands, where they were most needed as manure; and a portion of the low grounds exhibited them sown broad cast at the last plowing, in a state of uncommon luxuriancy.

The cotton crop, as on the preceding river farms, occupied the whole or nearly all of the upland fields. And here, again, the Committee had the pleasure of witnessing the salutary effects of guard drains, to a considerable extent. They were planned and executed in a way similar to those described on the farm of the Hon. John C. Calhoun, and with results both gratifying and successful.

The stock of hogs on this farm was of the most improved breed, and at least equal to any we have seen. The cattle were also very fine. As to the horses, they were not only very fine, but in superior condition. The Committee have no hesitation in awarding to Mr. Lewis the credit of having surpassed all his competitors in this important branch of domestic economy.

The farm houses were uniformly comfortable and convenient, and the agricultural implements of good quality.

Dr. O. R. Broyle's Farm.—The farm of this gentleman was next examined. The proprietor has had possession of it only four years.—At the time it came into his hands, it was regarded as an upland farm principally, though there was attached to it, of creek and branch low grounds, very wet, and of equivocal value, probably one hundred acres.

The proprietor, acting under an impression long entertained by him, that the swamps and morasses of our district needed nothing but effective draining to make them not only very productive, but also very durable, has planned and executed the most extensive operations in ditching, and has succeeded in reclaiming, in a more effectual manner than has been done on any other farm known to the Committee, almost his entire low grounds, and has exhibited a crop of corn rising out of bogs heretofore impassable in many places, equal to the most productive low grounds on the Seneca river.

The operations of the proprietor on these low grounds, and their productiveness, believed to be the consequence of thorough draining, are well calculated to teach an instructive lesson concerning the value of the many thousands of acres of swamp lands in the upper districts of the State, and an equally valuable one as to the means necessary to bring them into cultivation.

The Committee were also pleasurably entertained by examining a crop of rice on this farm, of the most astonishing luxuriancy, and judging from the appearance of the present crop, and from the amount reported from one acre on this farm by a Committee of the Agricultural Society last year, they entertain no doubt but that rice may be grown as successfully in this district, as in any portion of the southern States.

The crop of corn on this farm was equal, or nearly so, to that of the other competitors, and the cotton crop, though comparatively small, was generally good.

The farm houses, though new, and some of them unfinished, will be comfortable. The horses were in good condition, but the remaining portion of the stock, consisting of hogs and cattle, were not generally of improved breed, and decidedly inferior to the fine specimens exhibited on the other farms.

Maj. R. F. Simpson's Farm.—This farm is the only one examined by the Committee that is exclusively of upland. And although it contains large bodies of creek and branch bottoms of great fertility, as yet some ten or fifteen acres have been imperfectly dried, but which, notwithstanding the unfavorable circumstances of the experiment, made quite a satisfactory yield.

This farm, when it came into the hands of the proprietor, some seven or eight years since, though once very fertile and productive, had been materially injured by the bad management of a succession of overseers, whose known rule of operations is to make the greatest possible yield to the hand, without the slightest regard to the preservation of the land.

For this reason the proprietor found it to be his first duty, as it was his best policy, to set at once about the important business of repairing injuries imposed upon him by the improvidence of others.

In pursuance of this policy, and stimulated by the necessities of his position, Major Simpson embarked at once in the business of guard drains, as a work of paramount importance, and has continued his operations in this respect until they occupy a position in every field on his farm.

Under this management, a considerable portion of the old lands on this farm have improved, and promise ere long to be restored to their original fertility.

The corn crop on this farm was very good, considering the drought, which is commonly most injurious on upland. The cotton crop was also very good, and no doubts were entertained by the Committee, but that both corn and cotton crops had been well cultivated.

The negro and farm houses on this farm were sufficiently numerous and comfortable.—The horses were in good condition. The hogs and cattle, though not generally an improved breed, were good specimens of the native stock.

Col. John E. Calhoun's Farm.—As the last of their official duties, the Committee proceeded to inspect the farm of Col. John E Calhoun, consisting of an immense body of upland, and of several hundred acres of low grounds, at the confluence of the Keowee and Twelve Mile Rivers. These lands possess, in the opinion of the Committee, a greater depth of soil, and higher productive powers, than any they have examined. And this, together with its superior improvements in buildings, of every kind, from the dwelling house down to the stables and farm houses, make this one of the most valuable farms in the upper country.

Such being the advantages of Col. Calhoun, the Committee have been at a loss in assigning him his position, and defining his merits as a farmer, because it involved the necessity of discriminating between what was due to nature, and what to art.

A good crop, with most planters, is only looked for as a compensation of much toil, and preliminary preparation. But a good crop, with Mr. Calhoun's advantages, is the almost certain consequence of simply planting the land, and cultivating it in the ordinary way.

The condition of this gentleman, (and the remark applies with nearly equal force to the other river planters,) is similar to that of an executive or judicial officer with a fat salary for life. The certainty of an annual stipend beyond the reach of contingencies, is apt to abate to some extent that zeal in the discharge of their official duties so well secured under a different policy by the exercise of the elective franchise.

It is true their lands are rich, and produce annually very abundant crops, but possessed as they are of the most astonishing recuperative powers, and producing as they do, the so called clover of the south, with unsurpassed luxuriancy, it is a matter of some astonishment to the Committee, that these low lands have not been improved, even beyond their present productive powers. It is a governing maxim with many, to "be content with doing well." But although it contains a moral of a highly conservative character, in reference to most of our operations, yet it is wholly inapplicable to agricultural enterprises. It is true there may be a point beyond which the power of production cannot be extended, but that furnishes no excuse, even on the score of personal interest, why all due efforts should not be made to reach as near that maximum point as possible, at least by means so cheap and available as those alluded to.

The crop of both corn and cotton on Colonel Calhoun's farm was superior throughout, and had evidently been well cultivated.

In respect to guard drains, now so generally esteemed of indispensable importance, Colonel Calhoun has not yet engaged. But in the business of horizontal or grade plowing, he has displayed a management that has been most flatteringly signalized by success. He exhibited large fields of hilly land, which, though they had been long in cultivation, showed but slight traces of those destructive evils attendant upon a neglect of this salutary precaution.

The Committee, as has been before observed, regard the farm houses, stables, and other out buildings on this farm, as decidedly superior to any they have witnessed. And the stock of hogs, horses, and cattle, as far as seen by them, of good quality, and, with few exceptions, in good condition.

In addition to the common farm horses, the Committee had the pleasure of examining Col. Calhoun's stock of blooded horses, which claim their genealogy from the most renowned champions of the turf, both in England and the U. States.

In conclusion, the Committee beg leave to state, that actuated by no motive but that of a zealous wish to do their duty, and to gain all the information in their power in respect to the policy of our best planters, with the view of laying the same before our fellow-citizens, that it might become the common property, and thereby add to the general prosperity of the community at large; they have not only visited the farms of all the competitors, but have closely scrutinized their plans, practical operations, and general management, with but slight and unavoidable omissions. And after an attentive survey of the whole ground, we honestly believe that we live in the midst of an agricultural community, whose pretensions would not be disparaged by a contrast with any, even the most improved sections of the State. And although our present progress, compared with what it should be, is but as the dawn that precedes the meridian sun, yet, unless the Committee have been completely deceived by the evidences before them, there is a spirit of improvement abroad in the land, owing in a great degree to the zeal and efficiency of the presiding officer of the Society, which, directed by the lights that modern science has thrown upon our pathways, cannot fail in due time to reclaim the declining fortunes of our country, and counteract the downward tendency of those destructive measures which have so long disgraced our agricultural operations.

In approaching the last act assigned to the Committee by the Society, that of awarding certain specified premiums, to the proprietors of the first, second and third best managed farms, the Committee beg leave to be discharged from the performance of that very delicate and responsible duty. The reasons which have led them to this conclusion, are based upon the fact, that the claims of some three or four of the most prominent competitors are so nearly balanced, that a discrimination in favor of either would be wholly gratuitous and inconclusive. And secondly, that notwithstanding the visiting Committee, as appointed by the President, numbered six besides its Chairman, the services of only three have been made available in visiting all the farms. A circumstance which has thrown the responsibility of deciding this delicate question on a much smaller number than was intended.

The Committee, as their last, but in no wise least duty, feel themselves called upon to express their unfeigned admiration of the superior management of those departments of the homestead proper, over which our kind hostesses, the farmers' wives, have undivided control. For although the farmers themselves have filled their barns and granaries to repletion, and crowded their stock pens with Durham cattle and Berkshire hogs, they have only furnished the raw material. And to their better halves belongs the surpassing credit of those matchless culinary preparations, and horticultural operations, which have so amply compensated the toils of the Committee, and established for themselves the most undoubted claims to the credit of superior domestic management. All which is respectfully submitted to the consideration of the Society.

O. R. Broyles,
R. A. Maxwell,
Thos. M. Sloan,
Andrew F. Lewis.
R. F. Simpson.

ADDRESS OF COL. McDONALD.

Before the Agricultural Society of Barbour county, Ala.

Gentlemen:—In considering the subject of Agriculture, we find that so much has been written of late years, that every point seems occupied; that the whole ground has been so taken up by the first agriculturists of the country, and the greatest statesmen of the age, such as Buel, Colman, Seabrook, O'Neal, Webster, McDuffie and Rives, who have all appeared before the American people as the advocates of agriculture, with a host of others, that we may well despair of bringing before you much that will be new or interesting. It however becomes our duty to press home the subject, to give line upon line, and precept upon precept, however conscious we may be that many of our suggestions will fall still-born from our lips. The earth every where abounds with the elements of human happiness and comfort. To man has been consigned by his Creator the capacity and duty of cultivating the earth; and it has been wisely ordained, that in the proportion as he discharges his duty, in that proportion is he prosperous, happy and comfortable.—The cultivation of the earth was the first employment of man. It is still the great business of all civilized nations, and particularly so in our country. It must ever remain so. It is alike necessary to our health, our comforts, our wants and our happiness. All other arts and employments are dependent upon and have grown out of agriculture. They are necessarily dependent upon it for support and existence.

If agriculture were to cease, all other arts and trades would fail. The face of the earth would again become a wilderness and man a savage. A survey of the present condition of the globe will show us, that nations are enlightened and prosperous, in proportion to the improved or neglected state of agriculture, and that other arts of useful industry prosper or decline, as this parent art is productive or unproductive. Spain, Italy, Asia Minor and Egypt, have in turn been the granaries, in a measure, of the civilized world. While their agriculture flourished, they were prosperous and powerful; but as the agriculture of those countries declined, their energies were broken down, and their population have become poor, miserable objects of pity. Farmers and mechanics form the great body of our population. Their labors constitute the principal source of the wealth of this country; consequently all and every thing that can be done to render their labor more profitable, is adding to the amount of human happiness. The illustrious Franklin, who sustained towards his country the honorable appellation of mechanic, patriot, statesman and philosopher, has pronounced agriculture the most honorable of all employments, being the most independent. The farmer, says he, "has no need of popular favor, nor of the favor of the great, the success of his crops depending only on the blessing of God and his own industry."

In speaking of the farmer, we mean all who cultivate the soil. Whether he be called planter or farmer, we look upon them as belonging to the same class: we regard them as brothers, though geographically separated from each other; and no matter if one should raise rice and cotton, another corn, another wheat, another sugar, another tobacco, they are all agriculturists—all equally dependent upon the bounty and goodness of their Creator. Gentlemen, we have every inducement to exert all our energies in the cause

in which we are engaged—the improvement of the agriculture of our interesting section of country. We have cast our lots in one of the most desirable portions of the United States, for while we can raise by proper attention every product that can be produced in more northern regions, we can, in our mild climate and vigorous soil, raise many valuable and highly important products that cannot be produced where the winters are long and the summers short. In speaking of different sections of country, I believe, however, that the Almighty has distributed his blessings with an impartial hand. Although I know it has been common for gentlemen in addressing Agricultural Societies, to claim for some particular sections of country advantages over other sections, my opinion is, that wherever you find the industrious, prudent, careful farmer, whether he reside in the North, South, East or West, there you will find the happy man.

Those of us that are old enough to recollect the state of agriculture forty years past in the South, and compare it with what it is at the present time, must see the most striking improvements. At that day, the entire crop of small grain was cut down with the old fashioned sickle. A man would have been driven from the field that would have attempted to introduce the cradle into a wheat field, in the upper parts of Georgia. I have often seen twenty reapers at a time taking down the narrow swarth. It was considered a breach of the rules of that day, that three heads of wheat should be found to reach each other after the reapers had passed over the field. Fifty pounds of cotton was considered a good day's work for a hand to pick out. Our valuable southern staple was then packed, or rather pounded, into a round, unshapely bag, and, if it had been ever so nice, it was so saturated by throwing water into the bag to enable the packer to get in some cotton, that the cotton was measurably spoiled before it left the gin. We then hauled it from one to three hundred miles on wagons. I have known it hauled with a four horse team from Georgia to Virginia. The plow we then used was the old fashioned cutter, the common shovel, and the heavy and awkward bar-shear. Twisted *raw hide* was used to a considerable extent in the place of the trace chain. Tobacco, which was then extensively cultivated in the upper part of Georgia, was tumbled over, or rather rolled through, the mud hundreds of miles to market, under the appellation of the rolling hogshead; it often being a matter of much doubt, after reaching the market, whether the tobacco would pass the inspection or be condemned as worthless.

How changed is every thing since that day. Our small grain (I wish we were raising more of it) is now taken down with the well constructed cradle, and in many sections it is taken down with horse power. Our cotton, that has done more to give employment to the world, and to regulate exchanges among the different nations of the earth, than any other product, has been so improved in its preparation, that in many instances we have been enabled to give it almost the appearance of silk. We now press it into a nice, portable square package, that is easily transported to any given point. From one to two hundred pounds is now considered a day's work for a hand to pick out. That most important implement of husbandry, the plow, has been so improved by our ingenious and enterprising mechanics, that a hand will now perform nearly double the quantity of labor in a day that was formerly done, and do it much better. I am not prepared to say when our plows will be seen to pass and repass through our fields propelled by steam; though from the rapid march of improvement, I have no reason to doubt but that the day will come when that and other improvements equally astonishing will take place. I have barely touched on the improvements that have been and are constantly in progress in agriculture and agricultural implements.

Notwithstanding the improvements that have been made, and are now making, to advance the cause of husbandry, it is true, that it is far behind all other arts and sciences: for while in this age of improvement, almost every art and science has improved with the velocity of a railroad car, agriculture has moved along at a snail's pace. The reason is apparent to every one that has taken the trouble to investigate the matter. We have been raised on a virgin soil. It has been our habit to cut down the forest, and in a few years skim off the surface, and before the trees that we had belted, to enable us to grow corn and cotton under them, were fairly dead, we have heard of some other new country that held out inducements, as we supposed; the consequence has been that we have been all the time moving from one new country to another; we have never remained long enough at any one place to make experiments in agriculture, or to become comfortable. Even in my short day, and short it is, (still I find myself, gentlemen, getting a little in the grey of the evening,) I can well remember when the Oconee river, in our sister State, Georgia, (which State has given birth to many of us,) was the western boundary. Since that day, our adopted State, Alabama, has sprung into existence, and though but little over a quarter of a century old, in point of agricultural improvement, and in the amount of agricultural productions, has already surpassed some of the other States, and in a few years will be up by the side of the most prosperous. There is no portion of the globe, whose inhabitants are more deeply interested in every thing calculated to advance the cause of agriculture, than the one we inhabit. In England one-third of its inhabitants are employed in agricultural pursuits; in France two-thirds; in Italy three-fourths; while in the U. States it appears, from the most accurate calculation that has been made, that seventy-seven out of every hundred of the population are employed in the cultivation of the soil. In our own State it has been ascertained that thirteen-fourteenths of them that labor are employed in agriculture.

Our soil and climate are surpassed by none in the world in point of fertility and mildness.—There is the greatest responsibility resting on us as farmers. It is our indispensable duty, as it should be our greatest pride, to set about an improved state of husbandry. The old skinning system of taking every thing from our kind and indulgent mother earth, while we add nothing to her in return, should be abandoned at once, while our country is new, while our soil is strong and healthy, before deep gashes are cut in her back by the washing rains. Let us adopt the old horizontal system of plowing. Before our level land is exhausted by a constant pressure of crops, and we begin to turn out field after field as worthless, let us commence the manuring system, and the more so, as we have great advantages over many other portions of country in point of manuring, on account of the extensive beds of blue marl that every where are to be found on the banks of our streams; in this way we will be enabled to make our lands produce even double the present crop, and, indeed, we may far exceed that point. It is not known by any living man what an acre of land may be made to produce by a high state of manuring and proper cultivation.

It is my impression that by a judicious system of manuring our lands, the common pine lands of this section of country can be made to produce fifty bushels of corn to the acre, and two thousand pounds of cotton, as an average crop. I am so confident of success, that I have made a commencement. During the last year I prepared some six thousand bushels of compost manure on my farm, besides our cotton seed. The compost was prepared by hauling into a lot where our cattle are constantly penned, about equal parts of marl and pine straw. After suffering it to remain some three or four months, we haul it out in January. We have the present year, by way of trial, placed it in the drills. We consider this only a commencement; for, if spared, we expect this year to make more than double the quantity of last year, for I have such confidence in the importance of manuring, that I expect to devote much of the labor of my hands to its preparation. The idea of travelling over one hundred acres of land, to gather what should be produced on twenty, is so far from that wise and judicious course of agriculture, that I hope no farmer will consent to be satisfied with it.

It is only necessary, gentlemen, to look upon the present signs of the times, to see that there is throughout our entire country, a strong disposition to improve its agriculture. There has been a greater number of meetings of the farmers within the last six months, than has taken place in six years previous. This speaks a language not to be misunderstood. Those primary meetings are the forerunners of important movements that will follow. It is what I have desired to see for the last five years—a concert of action on the part of the cultivators of the soil for its improvement. It is time, it is high time, that we go to work in good earnest. During last summer, I took a trip of three months through the States of Alabama, Tennessee, and my native State, Georgia. My object, from the day I left home until I returned, was to see the state of agriculture. I took no part in the exciting topics of the day. A great many of the farms that I passed in the different States presented any thing else but a thriving appearance. I was often reminded of a remark made by Dr. Manley, in his excellent address before the Alabama State Agricultural Convention in 1841, that many of our farms appeared to the passer by, as if a shower of houses had fallen on one day, and a shower of rails the next. It is pleasing to repeat, that we have brighter prospects in view at the present. The ball is put in motion, let us keep it rolling, and in a few years the face of the country will be changed. It is from our mother earth that we have to dig out the heavy debt we owe to England, every dollar of which let us pay, and, as farmers, present an honorable and square front to the world. But in the meantime, we should endeavor to make two ears of corn grow where one grew before. By a high state of manuring our lands, and a proper attention to all the various branches of our avocation, our harvest will be increased double. Let our State step forward and throw the weight of her influence on the side of improved husbandry. Let our legislative bodies meet but once in two years. Take the money thus saved, and employ a suitable man to make a Geological and Agricultural survey of the State; also employ a professor of Agriculture in our State College; also, let there be a model farm established, where agriculture will be taught, practically as well as scientifically. We have examples before us in several of the States. Look at the vast improvements in Agriculture in New York and South Carolina. The Legislatures of those States have done much to promote the cause of husbandry. I will give you an extract of the message of Governor Noble, of South Carolina, to the Legislature of that State in 1839:

"In giving you information of the condition of the State, (says the Governor,) I should feel that I was obnoxious to the charge of neglecting one of the most important branches of industry, were I to be silent on the subject of agriculture. This pursuit of the great mass of the people has claims upon your fostering care and attention; it is the source of our wealth and power, and furnishes the means of our commercial exchanges. Its importance seems never to have been realized by the constituted authorities of the State; it is a lamentable truth, that while other branches of industry have received an impulse by wholesome laws, the great interests of agriculture have been passed by almost with silent contempt. It is now time that the State dismiss from her councils this cold indifference, and take such action on the subject as will promote its success."

Since 1839, the State of South Carolina has, as is well known, been one of the most persevering States in urging forward the claims of agriculture. She has her State Agricultural Society, and most of the districts or counties have their County Societies.

We have examples of the high estimation in which the greatest men of America have held agriculture; for they have all been practical agriculturists, or the devoted friends of agriculture, and after serving their country in the highest stations in the gift of the people, have retired to spend the evening of their days on their farms.

Agricultural Societies, from their introduction into the United States up to the present, however, have been considered, and are now viewed, as one of the principal means of improving the agriculture of the country. This association is nothing more nor less than a set of farmers, convened together to consult as to the best means of promoting their common interest; here there is no selfish object. One farmer presents one improvement, another another, and as almost every farmer conducts his farm in many respects different from his neighbor, by each giving his mode, culture and his success in his system, we have it in our power to gather up and apply much useful information, that would otherwise be entirely lost, or be confined to one farm alone. We not only often learn much by a personal examination of each other's mode of culture, but by the system of appointing committees to look, not only into the mode of culture adopted by different farmers, but to note down and re-

port the quantity of land cultivated in the various products. Should this system become universal *throughout* the State, and the reports sent up to the State Society annually, it would enable the farmer to act in the sale of his crop with a much greater knowledge of what he was doing; there would not be this constant guessing as to the probable quantity of this or that product raised. The advantages growing out of Agricultural Societies, in giving rewards or premiums for the best domestic fabrics, have done much to promote industry, creating a laudable competition, and has often led to most valuable results.

Next to Agricultural Societies as a means of improving the husbandry of the country, the reading of agricultural papers and periodicals has done and is doing much. As an evidence of the high value set on agricultural papers by the cultivators of the soil—they are daily growing into their confidence. The prejudice heretofore existing against every thing written on the subject of agriculture, generally called book-farming, is rapidly giving way to a more enlightened view, and instead of one agricultural paper that stood up solitary and alone, twenty years past, as the friend of Agriculture, there is now over thirty of these papers published, in every section of our wide spread country, scattering light and spreading useful knowledge and information in every direction. Although General Washington lived long before an agricultural paper was thought of in America, so important did he consider the perusal of Agricultural works, that he sent to Europe and procured the publications of the best writers on agriculture, and read them with diligence and reflection, drawing from them such scientific and practical hints as he could advantageously use in improving his farm.

The improvement of mechanic arts is equally important with that of the improvement of husbandry. We are indebted to the Mechanic for our success as farmers; at every step that we take without these indispensable implements of husbandry, in daily use, by which we are enabled to cultivate the earth, what could we do? How could we succeed as farmers, without the plow, the hoe, the axe, the hundred other implements, that are indispensable to our success as farmers, that are furnished us by the industrious and ingenious Mechanic? We are indebted to the Mechanic for the houses we occupy, for the cloths we wear. Without the printing press, how would we be informed of the various improvements that are constantly going on in agriculture? What disposition would we make of our surplus products, without the aid of the Mechanic?—without the steamboat and the ship, to transport our cotton to distant lands, and furnish us with the indispensable articles in daily use? We should succeed but poorly as farmers. Hence we say that the farmer and the mechanic, are twin brothers, alike dependent on each other for support and success.

It is not at all wonderful that our Heavenly Father, should have selected a garden as the residence of the first pair. None but those who cultivate a garden can form any just idea of the pleasure it affords those who spend a portion of their time in this delightful employment. We have never yet sufficiently appreciated the comforts, to say nothing of the luxuries of a well-cultivated garden. Indeed, Horticulture is only an improved state of Agriculture. A well cultivated garden, will supply half the daily demands of a family. In our sunny South, we may be supplied with vegetables and fruits all the year round from the garden, of some kind. I know it has been common with us to turn over the garden to some extent to the ladies, and in many instances, (be it said to their honor) they manage it much better than we do; for they have that proper taste, so necessary to the management of a nice and handsome garden. And if we, in our travels through the country, would make it our business to collect wherever we go, all the rare and valuable vegetables, fruits and flowers, (yes, flowers, if you please,) and place them in the hands of our wives and daughters, they would give a good account of them. I believe there is no time so profitably spent as that devoted to the preparation and cultivation of a garden. Here, morning, noon and night, you make your application for nourishment, and if you have done your duty well, you do not apply in vain; you not only are supplied with that which is pleasant and palatable, but that which is healthy. We have said that the ladies have sometimes conducted the arrangements of the garden; and, so far as flowers are concerned, here is her appropriate home; here, surrounded by the blossoms she has cultivated with her own fair hands, she delights to dwell. It has been most appropriately remarked by some writer, that while the seeds, vegetables and fruits of the earth, are the bounties of the Almighty, that flowers are his smiles. We would recommend every farmer, and indeed every one, to cultivate a taste for Horticulture. Nothing aids so much as a well conducted garden, no matter how small it may be, to make home a pleasant and happy place. After we have toiled throughout the day, how pleasant to return in the evening, and seat ourselves under some shade tree in the garden that we have planted with our own hands. Nothing is so well calculated to soften down our nature as a stroll through a beautiful flower garden. The man who plants a fruit, or a shade tree, becomes to some extent a public benefactor.

A few of the friends of Agriculture, anxious to improve the state of husbandry in our new country, where but the other day, the red man of the forest was the only occupant, met in this town in 1839, and formed themselves into an Agricultural Society. Since the formation of an association, some of its early and most devoted friends have gone to that bourne from whence no traveller returns. Many of us yet live, and enjoy the pleasure of meeting together from time to time, to consult for the good of the whole. That our society has accomplished all that its friends hoped for, we do not pretend to claim: that it has done some good, we are equally confident. All we now want, to make the Barbour county Agricultural Society, the great centre from which shall be spread out useful and important knowledge, that will do much to improve the farming interest of this country, is a united effort, on the part of its members. The farmers of this country have it in their power, to make it one vast garden; and by a universal effort to improve the Agriculture of these United States, they can soon become the grainery of the world.

CULTIVATION OF ASPARAGUS.

Of all vegetables, treated as "*greens*," the asparagus is considered by most, as standing at the head of the list. Comparatively few, however, provide themselves properly with a supply; or even where they have had an abundance, it is not of the first quality. Perhaps a few hints on its culture, and on the mode of obtaining the finest, may be acceptable at this time.

The difference between large and small asparagus, depends very much on cultivation, a deep, rich soil, and *plenty of room between the plants*, producing the largest growth. Something also doubtless is to be attributed to the variety; as by a successive selection of seed from the thriftiest plants, an ultimate improvement may be obtained. Hence, in making a bed, seed from those plants which are known to be very large, are to be preferred. If good plants, one or two years old, can be obtained at hand, the bed will of course be accelerated one year.

A common and a good practice in preparing an asparagus bed, is to trench the ground two spades deep, and then return the earth thus removed, mixed with alternate layers of nearly an equal quantity of stable manure, until the top of the bed is six inches above the surface of the ground. But a great improvement on one part of this process is—after each layer of soil is thrown on the preceding layer of manure, to *intermix it very thoroughly* with the manure, by means of a coarse iron rake, potatoe-hook, or other suitable tool. This thorough admixture of soil and manure, though scarcely ever practised, is of the greatest importance, as large lumps of pure manure and of earth, without being finely divided and interfused, form but a poor material for the extension of the fine and delicate fibres of the growing plants.

The bed being ready for the reception of the plants from the seed bed, which should be removed with the least possible injury to the roots, proceed to lay off the trenches for the rows. One of the greatest errors with most cultivators is crowding their plants too closely together; they wish, after so much labor in the preparation of a fine bed, to obtain the largest possible supply from it, but defeat their own purpose by the slender and diminished growth resulting from such treatment. The nearest possible distance which ought ever to be admitted in an asparagus bed, is one foot apart *in* the row, and eighteen inches *between* the rows. Thus, if the trenched bed is four feet wide, only two rows can be admitted, instead of four or five, as usually practised. This may be seen by the following diagram, the dots indicating the plants,

. . . . . .
. . . . . .

which are placed, not opposite, but alternating with each other, which gives the more space between them. If there are eighteen inches of space between the rows, then there will be fifteen inches from the rows to the edge of the bed, which is none too much for the proper extension of the roots. The trenches for the plants should be made six inches deep, and wide enough to admit the roots spread out horizontally, which must be done with the fingers. The depth should be such that two or three inches of earth may be spread on the crowns of the plants. The beds may be made of any length to suit cultivators. One a hundred and fifty feet long and four feet wide will supply an abundance for a moderate sized family.

After a bed is transplanted, it should remain uncut for two seasons. Cutting sooner will greatly injure its subsequent thriftiness.

If it is remembered that the two chief requisites for success, are *plenty of room* for the growth of the plants, and a *deep, fertile soil*, no one need be at a loss in the cultivation of this fine vegetable. Good, constant, and cleanly culture, as every one must know, is indispensable. These requisites are of vastly greater consequence than large varieties merely. Indeed, the fact that with good cultivation and management, no plants are small, and without that none are large, has led many intelligent persons to suppose that the difference between giant and small varieties is owing entirely to these circumstances, and they are not far wrong.

One advantage which may be derived, from planting the rows more distant than is usual, besides large growth, is the facility of keeping the ground cultivated, a light plow drawn by one horse being passed freely between them.

With such distances, and the facilities afforded for horse cultivation, much finer plants may be had from a rich, deeply plowed soil only, than without them from a trenched bed two feet deep, though depth and distance combined are the best.—*Albany Cultivator.*

From the Maine Farmer.

Asparagus is now extensively cultivated in the Middle and Northern States, and is generally much admired as an esculent. But owing to some imperfection in its management, it is seldom presented in our markets in that degree of perfection of which it is susceptible. In the country, it is almost invariably small, hard and tough, presenting but few attractions either to the eye or palate. As we have been requested to publish an article, relative to the cultivation of this vegetable, we present the following from the Southern Agriculturalist, detailing the *modus operandi* pursued in Spain, and which we believe is in most respects strictly coincident with the practice usually pursued by experienced gardeners and horticulturalists in our own country.

Asparagus is a plant found naturally on the beach of various parts of the coast of Europe, where it is covered by the drifting sand, and watered by salt water on high tides. Sand and salt water occasionally may, therefore, be regarded as indispensable conditions for maintaining it in health. How seldom is this thought of! It, however, explains in part, the excellence of St. Sebastian asparagus.

It seems that at the mouth of the Urumea is a narrow strip of land, about three feet above high-water mark, consisting of alluvial soil and the wearing away of sand-stone hills, at whose foot

it is placed. This is the asparagus ground of St. Sebastian. Beds are formed five feet wide, without any previous preparation except digging and raking. In March the seed is sown in two drills, about two inches deep, and eighteen inches from the alleys, thus leaving a space of two feet between the drills. The rows run invariably east and west—doubtless in order that the plants may shade the ground during the heats of summer. When the seedlings are about six inches high, they are thinned to something more than a foot apart. Water is conducted once a day among the alleys and over the beds, so as to give the seedling an abundant and constant supply of fluid during the season of their growth. This is the cultivation during the first year.

The second year, in the month of March, the beds are covered with three or four inches of fresh night soil from the reservoirs of the town; it remains on them during the succeeding autumn; the operation of irrigation being continued as during the first season. This excessive stimulous, and the abundant room the plants have to grow in, must necessarily make them extremely vigorous, and prepare them for the production of gigantic sprouts.

In the spring, the asparagus is fit to cut. Doubtless all its energies are developed by the digging in of the manure in the autumn of the second year; and when it does begin to sprout, it finds its roots in contact with a soil of inexhaustible fertility. Previously, however, to the cutting, each bed is covered in the course of March very lightly with dead leaves, to the depth of about eight inches; and the cutting does not commence till the plant peeps through this covering, when it is carefully removed from the stems, in order that the finest only may be cut, which are rendered white by their leafy covering, and succulent by the excessive richness of the soil.

In the autumn of the third year, after the first cutting, the leaves are removed, and the beds again dressed with fresh night-soil as before; and these operations are repeated year after year. In addition to this, the beds are half under salt water annually at spring tides.

Let any one compare the mode of culture with ours, and there will be no room for wondering at the difference in the result. The Spaniards use a light, sandy soil; we are content with anything short of clay. They irrigate; we trust to our rainy climate.

Some years since, we had a bed of Asparagus which from some unknown and inscrutable cause, suddenly ceased growing; the spires no sooner attained a certain height, than, like the fabled trees around the tomb of Protesalaus, they withered and died away. We manured and watered, but all to no purpose, and we at last gave up all idea of renovating the plants, in despair. In digging about the roots, we found that they had been lacerated and almost wholly consumed by worms, a few of which were still at their work on the tubers. They were cornworms, or bore so near a resemblance to them that it would have been difficult to distinguish them apart. Influenced by the presumption that the roots were hopelessly injured, we determined to apply salt to the bed in order to test its efficacy both on the asparagus, and in destroying the worms. We accordingly applied half a peck, and to our surprise the asparagus started almost immediately, and in a short time acquired a degree of vigor and luxuriance surpassing even its former growth. Since then we have used salt as an ordinary manure for this root, and our experience has proved conclusively to our own mind that it is decidedly the best and most efficacious stimulant that can be applied.

A correspondent says, "I have an asparagus bed, 30 feet by 5 feet, on which I put one hundred weight of salt, about the middle of March, last year, and also this year. The increase of crop, both with regard to size and number, is most extraordinary." In another place, a case is given where too heavy and often repeated dressings of salt destroyed the asparagus, though the precise amount of this over-dose is not given.

HORTICULTURAL OUTLINE.

AN OUTLINE of the first principles of HORTICULTURE. by JOHN LINDLEY, F R. S. &c. &c., Professor of Botany in the University of London, and assistant Secretary of the Horticultural Society.—[CONTINUED.]

VIII. FRUIT.

209. Fruit, strickly speaking, is the pistillum arrived at maturity.

210. When the calyx adheres to the pistillum, and grows with it to maturity, the fruit is called *inferior;* as the Apple.

211. But when the pistillum alone ripens, there being no adhesion to it on the part of the calyx, the fruit is called *superior;* as the Peach.

212. The fruit is, therefore, in common language, the flower, or some part of it, arrived at its most complete state of existence; and, consequently, is itself a portion of the stunted branch. (153.)

213. The nature of its connection with the stem is therefore the same as that of the branches with each other, or leaves with their stem.

214. A superior fruit, consisting only of one, or of a small number of metamorphosed leaves, it has little or no power of forming a communication with the earth and of feeding itself, as real branches have. (89.)

215. It has also very little adhesion to its branch; so that but slight causes are sufficient to detach it from the plant, especially at an early age, when all its parts are tender.

216. Hence the difficulty of causing peaches and the like to *stone*, or to pass over that age, in which the vascular bundles that join them to the branch become woody, and secure them to their place.

217. For the same reason they are fed almost entirely by other parts, upon secreted matter which they attract to themselves, elaborate, and store up in the cavities of their tissue.

218. The office of feeding such fruit is performed by young branches which transmit nutriment to it through the bark. (69.)

219. But as young branches can only transmit nutriment downwards, it follows that unless a fruit is formed on a part of a branch below a leaf-bud, it must perish,

220. Unless there is some active vegetation in the stem above the branch on which it grows; when it may possibly live and feed upon secretions attracted by it from the main stem.

221. But inferior fruit, consisting at least of the calyx in addition to the pistillum, has a much more powerful communication with the branch; each division of its calyx having *at least* one bundle of vascular and fibrous tissue, passing from it into the branch, and acting as a stay upon the centre to prevent its breaking off.

222. Such fruit may be supposed much more capable of establishing a means of attracting secretions from a distance; and consequently, is less liable to perish from want of a supply of food.

223. It is therefore not so important that an inferior fruit should be furnished with growing branches above it.

224. Fruit is exclusively fed by the secretions prepared for it by other parts; it is therefore affected by nearly the same circumstances as flowers.

225. It will be large in proportion to the quantity of food the stem can supply to it; and small in proportion to the inability of the stem to nourish it.

226. For this reason, when trees are weak they should be allowed to bear very little, if any fruit; because a crop of fruit can only tend to increase their debility.

227. And in all cases each fruit should be so far separated from all others as not to be robbed of its food by those in its vicinity.

228. We find that nature has herself in some measure provided against injury to plants by excessive fecundity, in giving them a power of throwing off flowers, the fruit of which cannot be supported.

229. The flavor of fruit depends upon the existence of certain secretions, especially of acid and sugar; flavor will, consequently, be regulated by the circumstances under which fruit is ripened.

230. The ripening of fruit is the conversion of acid and other substances into sugar.

231. As the latter substance cannot be obtained at all in the dark, is less abundant in fruit ripened in diffused light, and most abundant in fruit exposed to the direct rays of the sun, the conversion of matter into sugar occurs under the same circumstances as the decomposition of carbonic acid. (141 and 279.)

232. Therefore, if fruit be produced in situations much exposed to the sun, its sweetness will be augmented.

233. And in proportion as it is deprived of the sun's direct rays that quality will diminish.

234. So that a fruit which when exposed to the sun is sweet, when grown where no direct light will reach it, will be acid; as Pears, cherries, &c.

235. Hence acidity may be corrected by exposure to light; and excessive sweetness, or insipidity, by removal from light.

236. It is the property of succulent fruits which are acid when wild, to acquire sweetness when cultivated, losing a part of their acid.

237. This probably arises from the augmentation of the cellular tissue, which possibly has a greater power than woody vascular tissue of assisting in the formation of sugar.

238. As a certain quantity of acid is essential to render fruit agreeable to the palate, and as it is the property of cultivated fruits to add to their saccharine matter, but not to form more acid than when wild, it follows that in selecting wild fruits for domestication, those which are acid should be preferred, and those which are sweet or insipid rejected;

239. Unless recourse is had to hybridism; when a wild insipid fruit may be possibly improved, (204,) or may be the means of improving something else.

240. It is very much upon such considerations as the foregoing that the rules of training must depend.

IX. SEED.

241. The seed is the ovulum arrived at perfection.

242. It consists of an integument enclosing an *embryo* which is the rudiment of a future plant.

243. The seed is nourished by the same means as the fruit; and, like it, will be more or less perfectly formed, according to the abundance of its nutriment.

244. The plant developed from the embryo in the seed, will be in all essential particulars like its parent species;

245. Unless its nature has been changed by hybridising. (204.)

246. But although it will certainly, under ordinary circumstances, reproduce its species, it will by no means uniformly reproduce the particular variety by which it was borne.

247. So that seeds are not the proper means of propagating varieties.

248. Nevertheless, in annual or biennial plants, no means can be employed for propagating a variety, except the seeds; and yet the variety is preserved.

249. This is accomplished solely by the great care of the cultivator, and happens thus.

250. Although a seed will not absolutely propagate the individual, yet as a seed will partake more of the nature of its actual parent than of any thing else, its progeny may be expected, as really happens, to resemble the variety from which it sprung, more than any other variety of its species.

251. Provided its purity have not been contaminated by the intermixture of other varieties.

252. By a careful eradication of all the varieties from the neighborhood of that from which seed is to be saved, by taking care that none but the most genuine forms of a variety are preserved, as seed-plants: and by compelling by transplantation a plant to expend all its accumulated sap in the nourishment of its seeds, instead of in the superabundant production of foliage, a crop of seed may be procured, the plants produced by which will, in great measure, have the peculiar properties of the parent variety.

253. By a series of progressive seed-savings upon the same plant, plants will be at length obtained, in which the habits of the individual have become as it were fixed, and capable of such exact re-production by seed, as to form an exception to the general rule; as in turnips, radishes, &c.

254. But if the least neglect occurs, in taking the necessary precautions (252,) to insure a uniform crop of seed, possessing the new fixed properties, the race becomes deteriorated, in proportion to the want of care that has occurred, and loses its characters of individuality.

255. In all varieties those seeds may be expected to preserve their individual characters most distinctly which have been the best nourished, (243;) it is consequently, those which should be selected in preference for raising new plants from which seed is to be saved.

256. When seeds are first ripened, their embryo is a mass of cellular substance, containing starch, fixed carbon, or other solid matter; and in this state it will remain until fitting circumstances occur to call it into active life.

257. These fitting circumstances are, a temperature above 32 degrees Fahr., a moist medium, darkness, and exposure to air.

258. It then absorbs the moisture of the medium in which it lies, inhales oxygen (278,) and undergoes certain chemical changes; its vital powers cause it to ascend by one extremity for the purpose of finding light and decomposing its carbonic acid (279,) by parting with its accumulated oxygen, and to descend by the other extremity for the purpose of finding a constant supply of crude nutriment.

259. Unless these conditions are maintained, seeds cannot germinate; and, consequently an exposure to light is fatal to their embryo, because (278) oxygen will not be absorbed in sufficient quantity to stimulate the vital powers of the embryo into action, for the purpose of parting with it again, by the decomposition of the carbonic acid that has been formed during its accumulation. *(To be continued.)*

Artificial Manures.

From the Albany Cultivator.

The preparation and use of manures constitute one of the points in which the advance of modern agriculture is most apparent. For this advance, we are indebted to the application of chemical science to an investigation of the substances most commonly used to promote the growth of plants. An imitation of the operations of nature has thus been effected, in which there has been a decided improvement on the original, as the change necessary to convert organic matter into the fertilizing material is effected in a very short time; the bulk diminished while the efficiency is increased; and the disgusting offensive character beloging to some of the original compounds entirely done away. Substances, too, once wasted, or rather considered of no value, are now in the course of a few weeks converted into manures of the first quality. Every discovery of this kind is of importance to the agriculturist; for although some of them, it is probable, will not be made useful on a large scale, and some of the preparations cannot become common in this country; still there are many which we are confident will be extensively used everywhere; and the better they are known, the more highly appreciated by the farmer or gardner.

Poudrette, or prepared night soil, is one of the most valuable of these prepared manures, concentrating in a great degree the elements of fertility; and as prepared, being easily portable, used with facility, perfectly inoffensive, and very powerful in its action. The demand for this article is constantly increasing, and the proofs of the value of the manure rapidly accumulating. The value of poudrette, compared with good stable or barn yard manure, is estimated as one of the former to from 12 to 15 of the latter; and some have even estimated the difference as still greater. When we remember that this manufacture is designed to convert what has always been a nuisance and source of multiplied diseases in our cities, into a means of fertility and wealth, its importance will be duly estimated.

Another preparation, which is receiving some favor, is that produced by Bommer's patent, in which all ligneous or woody plants, such as straw, cornstalks, weeds, roots, sea-grass, and in fact all vegetable matters, are converted into manure in a much shorter period than by the usual course of decomposition. It is pronounced, as efficient as stable manure, more lasting, and costing but little. The process of preparing this manure has nothing difficult about it. It is probable the patent, for a time, even were its value unquestioned, prevents the extensive use which this mode of preparing vegetable matter might otherwise have obtained. Of the peculiar forms of the process we know nothing; but the testimony in its favor from those who have tried it, appears ample. Patent manures, patent implements, and patent medicines, are very apt, however, by practical farmers, to be placed in the same category.

The English agricultural journals have within the past year frequently alluded to the qualities of a new fertilizing preparation called Daniel's Patent Manure. The specifications of the patent have been received in this country; and though evidently intended to mystify, rather than disclose, the real process of making the manure, it is easy to see that a powerful manure must be the result of the combination. According to the specification, the materials of the manure are divided into three classes.—First: ligneous matters, peat, straw, weeds, &c. Second: bituminous matters; such as mineral coal, (bituminous doubtless) asphaltum, pitch made from coal tar, or other pitch, mineral resin, and also tar. Third: animal matter; such as butcher's offal, graves, flesh of dead animals, also fish.

The ligneous matters are reduced to powder by grinding, or by the action of caustic lime. The bituminous matters are also ground into powder; if sticky like pitch, a small quantity of dry quick lime is added to prevent adhesion to the machine; if liquid, they are converted into vapor by dry distillation, in which vapor the ligneous materials are saturated; or if preferred, the soft bituminous matters are dissolved in water, to which caustic alkali has been added, and in this the ligneous matters are steeped.—The animal matters are mixed with the ligneous and bituminous ones, and then the whole reduced to a powder.

Such a preparation cannot fail to be a fertilizer of the most powerful kind, though it is evident the process needs much simplification before it can be adapted to the use of farmers generally.

Guano is probably the most powerful natural manure known; and the artificial one that shall most nearly resemble that, will doubtless be the most valuable. Voelckel's analysis, the latest and best of this substance, as given by Dr. Dana in his Muck Manual, shows that it contains in the various salts of ammonia 32 parts in 100, sulphates of potash and soda 9 parts, phosphate of lime 14 parts, soluble geine or humus 12 parts, and insoluble undetermined organic matter 20 parts. The artificial manures are valuable in proportion as they furnish the materials for the ammonia, phosphates, and sulphates, which abound in guano. It is likely, indeed certain, that the immense masses of guano existing on the islands of the Pacific, are in a very different chemical condition from what they were when first deposited by the sea fowl that frequent those coasts and islands; consequently in no fresh manures in any country, can we expect to find the same combination of fertilizing substances as in guano. In no other country could such masses have remained without the wasting or dissipation of their most valuable parts, or their entire substance; the nearly total absence of rain in the guano region, preventing such a result. The guano is, therefore, not only the result of the accumulation, but the chemical combination of ages, and what agriculture requires of science, is the discovery of the means of effecting in a short time what nature has been centuries performing.

In all preparations of artificial manures, two conditions are requisite; first, value as a fertilizer; and second, facility and simplicity of preparation. With the first, the labor of manufacture is lost; without the second, few farmers will be able to avail themselves of the benefits such manures offer. Thus far, we are inclined to the belief, that of all the artificial manues, poudrette best fulfils these two conditions; but it by no means follows that other combinations may not be discovered, equally simple, and more powerful. Of one thing we may be assured; all such preparations, when brought within his reach and his means, will be hailed by the farmer with pleasure.

Time is Money.

From the Union Agriculturist.

Dear Sir:—I begin to fear that yourself and others may think that I do nothing but write; as I send you something for every number of your paper. Well, suppose that should be the conclusion,—if I had nothing else to do all would be well. But farmers have something to do, besides writing for agricultural papers.—This all know; how then, many will inquire, does C. find time to write. If I may answer the question myself, I shall say, that I am troubled to dispose of my spare time—of the long winter evenings—of the stormy days, and a great many bits and ends of time.

I may be answered—teach your children; make and mend such articles as you can that you need; read the newspapers, and such books as you have or can get. This I do, and yet there is spare time.

My wife and self manage to teach seven children; and during the winter, keep them at their studies more hours than if they were at school. I make and repair all the wood part of my tools, and some of the iron, and repair all our boots and shoes; my wife and daughters, the oldest sixteen, work up our wool, about 70 pounds, both spin and weave it; myself and boy, thirteen years old, till about forty acres, and provide for stock that require 40 tons of hay, besides all the coarse fodder that we can muster; this, besides all the incidental work about the house and farm, we do without hiring.—Books and papers are literally worn out by being read. The Chicago Democrat or Union Agriculturist, is hailed with as much joy as an old friend; and if, as we frequently do, we receive a paper from distant friends, nothing could give greater pleasure, except the appearance of those friends.

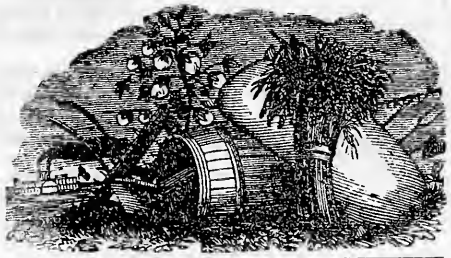
A great wonder with me is, how men and families spend their time, without even a paper or a book, or any thing else of the kind. Even their Bible might as well be made of wood, bound and gilt, to save appearances, as to be filled with the words of God.

Never have I written, except in the evening; and then generally have some half dozen children about the same time at their studies.—Some with slates, some with books, and some with more mischief than study. Even now, one little one pops up her head, with, "Father, how much is eleven times six?" "Set down eleven and multiply it by six." "What, six times eleven?" "No, six times one, and then six times one again." "O! I see; sixty-six." "Now multiply 7, 8 and 9 in the same way?" So I write, teach and rest myself; at the same time killing *three* birds with one stone.

Now to my reasons for writing. If I say I write to benefit others, none will believe me in these selfish times; well then, I write to amuse myself, and to use time. A. CHURCHILL.

Avon, March, 1841.

A correspondent of the Charleston Evening Post mentions a rattlesnake that was found dead in the woods, near Georgetown, South Carolina, which was 7 feet long, had 73 rattles, and teeth an inch and a half long.



The Southern Cultivator.

AUGUSTA, GA.

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Articles intended for publication in the SOUTHERN CULTIVATOR (except advertisements) must be in the hands of the Editor at Athens by 12 o'clock of the 20th of the month; otherwise they cannot be inserted in the number published on the first of the month next thereafter.

Many postmasters continue to send money for subscriptions to the editor at Athens. They are particularly requested to address, hereafter, all letters relating to subscriptions to the publishers at Augusta.

The reader's attention is particularly directed to the Report, published in this number, of the Committee on Farms of the Agricultural Society of Pendleton District, S. C. The whole report will be found very interesting; and more especially that part of it which describes the farm and extraordinary management of the Hon. John C. Calhoun.

☞ The reader will, we hope, have detected and corrected for himself, in the ninth line of the editorial article on feeding plants, in our last number, the unfortunate error by which the word *grapes* was put for *grasses*.

Products of Southern Industry.

Somebody has written, that "mankind might do without physicians, if they would observe the laws of health; without lawyers, if they would keep their tempers; without soldiers, if they would observe the laws of peace; and without preachers, if each one would take care of his own conscience;---but there is no doing without farmers."

If this be true as regards farmers, how much stronger the case is as regards the planters of the South, must be manifest on an examination of the following table. How would the United States get along without the 50 or 60 millions of wealth brought into the country every year by our cotton crop? What would become of the millions of people in other parts of the United States who live chiefly by means of this wealth? Is it at all surprising that the people of other States, who, by means of their own resources, can hardly keep soul and body together, seeing what the annual income of the South is, should strive so diligently to get their hands into our pockets? But it is surprising---it does move our especial wonder---that our people should, so patiently, and for so long a time, have submitted to a system of pillage according to law, and of waste from their own folly and bad management, that has made the South one wide scene of desolation, compared with the appearance of things among our neighbors who are living mainly on the fruits of our industry.

When will the South awake to a proper sense of its own true interest, and of the importance of its industry not only to the rest of the United States, but to the whole civilized world. Just look at this table, made out by the National Intelligencer from the public records, for the year ending 30th June, 1844.

TABLE

Showing the export of leading articles of domestic produce, for the year ending the 30th June, 1844. According to the table, the amount exported of each article was as follows:

Cotton	$54,063,501
Tobacco	8,397,282
Rice	2,182,468
Bread stuffs	9,056,960
Beef, Pork, &c	6,149,379
Products of the sea	3,350,501
Products of the forrest	5,908,712
Manufactures of cotton	2,898,780
Other manufactures	5,080,854
All otker articles	2,726,760
Total amount of exports was	$99,715,197

We say again, examine this table carefully, and compare the exports of Southern agricultural products with the exports of all other articles of every sort put together.

Total exports, near	$100,000,000
Cotton alone, more than half the whole, over	54,000,000
Cotton and Rice, over	56,000,000
Cotton, Rice and Tobacco, over	64,000,000
All other exports, less than	36,000,000

With such an income annually, what ought not the South to be---and what is its condition? Let every one who has any hand in the creation of this vast amount of wealth, look around him, and ask himself what has become of it. Then let him, with firm resolve, set about correcting, as far as he can, the existing state of things, by supplying his wants, as far as possible, from his own plantation; buying, if he must buy, nothing that he can do without, of either food, clothing, implements or luxuries, that is not the product of Southern labor; and, above all, repressing in himself, and discountenancing in others, that spirit of absenteeism, that has wrought us, perhaps, as much mischief as any other single folly we have indulged ourselves in.

Southern Folly.

Our Southern people are, beyond all question, the slowest to learn wisdom of any people on this earth. Here we are with an impoverished soil, a staple to the cultivation of which all our energies have been devoted in times past, now reduced to a price in the market that barely remunerates the planter for his outlay of capital and labor---if, indeed, it does that; pressed down and plundered and spurned by an unprincipled combination, who contrive, by iniquitous laws, that we shall eat only such part of the fruits of our own labor as they choose to allow; and surrounded by enemies who are both openly and in secret striking at the very existence of our institutions, and of our property; and yet we coolly and calmly and inconsiderately indulge in our old habits of profusion and extravagance, formed when cotton bore a good price, and money was abundant; when the Constitution afforded us protection from plunder, and our institutions were not meddled with. Read the following extract from an account, by the New York Herald, of the late race on Long Island between Peytona and Fashion, and the conclusion is irresistible that the people of the South have yet to suffer more severely before they come to their senses. It is too bad to have it said of us, sneeringly and contemptuously, "how freely the South will spend its winnings---Peytona didn't fly round the Union course so fast as her liberal supporters will dash through their tens and their fifties, 'till they reach the last dollar." "The Southern men will spend their last cent here." Surely men who will act so as to expose themselves to such remarks---who will act in a manner so utterly ruinous to the part of the country in which they live, and in which they expect to die --squandering their money among a people who, when all is spent, regard them with supreme contempt, who have not one single feeling of sympathy with us of the South. Surely men who act thus ought to suffer.

From the New York Herald.

And has not the North been well licked? Half a million of dollars has been lost. That's the way to reach the tender sensibilities of the Northern men. As

The touched needle trembles to the pole,

so do their souls forever turn to that great nervous centre of sentiment and feeling---the pocket. That is the only accessible avenue to their humanity, and into that the South has now "walked" with a vengeance. Half a million of dollars! How the poor creatures bleed! The shock vibrates in every nerve. It will take years of thimble-rigging to make up the loss to many of our respectable, honorable, liberal, upright, loafing Northern "jockeys." And then, how freely the South will spend its winnings! Peytona didn't fly round the Union Course so fast as her liberal supporters will dash through their "tens" and "fifties," till they reach the last dollar. The hotel-keepers---the *cabaretiers* ---the professors of the *bille*---and all the practical philosophers who kindly reduce the plethora of the votaries of pleasure and "the turf," are felicitating themselves on the victory of the South. The Southern men, say they, will spend their last cent here; whilst the Northern and Eastern men, if they had won, would have buttoned up their pockets and "mizzled."

Kenilworth Pigs.

The American Agriculturist, speaking of the pigs purchased of R. L. Allen, of Buffalo, by David Bryan, of Bellevue, Talbot county, Georgia, says they are of "the largest and finest white breed to be found in England. Two sows of this lot were judged to weigh over 500 lbs., in good breeding condition, and may be fattened to weigh 700 lbs. The yearling boar was large and fine and would weigh about 400 lbs. There were some younger ones in the lot quite as promising. These animals were ordered by Mr. Bryan, for the purpose of meeting the taste of those planters who wish more size than is generally found in the other good breeds. We are confident they will be satisfied in this respect, and get their pork with a reasonable amount of feed, which is seldom the case with overgrown animals. We are glad to notice these improvements going forward at the South. We can confidently recommend the importation of Mr. Bryan to his neighbors in Georgia."

Oatmeal as Human Food.

The American Agriculturist, in the number for March, spoke in commendation of the value of oatmeal as food for man. Thereupon also Blackwood's Magazine holds forth in the following lofty style in praise of Scotland's favorite oat-cakes and porridge, bannocks and brose:

"You won't pity us Scotch oatmeal eaters any more, Mr. Cockney, we guess. Experi-

ence and science are both on our side. What makes your race horses the best in the world, may be expected to make your peasantry so too. We offer you, therefore, a fair bet. You shall take ten English plowmen, and feed them upon two pounds and a half of wheaten flour a day, and we shall take as many Scotch plowmen, and feed them upon the same weight of oatmeal a day---if they can eat so much, for that is doubtful---and we shall back our men against yours for any sum you like. They shall walk, run, work or fight you, if you like it, and they shall *thrash* you to your heart's content. We should like to convince you that Scotch porridge has some real *solid* metal in it. We back the oat cake and the porridge against all the wheaten messes in the world. We defy your home made bread, your baker's bread, you household bread, your leaven bread, and your brown Georgies---your fancy bread and your raisin bread---your baps, rolls, scones, muffins, crumpets and cookies---your bricks, biscuits, bakes, and rusks---your Bath buns, and your Sally luns---your tea cakes, and saffron cakes, and slim cakes, and plank cakes, and pan cakes, and soda cakes, and currant cakes, and sponge cakes, and seed cakes, and girdle cakes, and singing hinnies---your short bread and your currant buns---and if there be any other names by which you designate your wheaten abominations, we defy and detest them all. We swear by the oat cake and the porridge, the substantial bannock and the brose---long may Scotland produce them, and Scotchmen live and fight upon them!"

Sheep.

We have thrown together below several extracts from other papers, on the subject of sheep raising and wool, as a new business for the South.

From the South Carolinian of May 15.

THE CAROLINA MOUNTAINS FOR SHEEP WALKS.—There is not in the world a finer country for sheep husbandry than the mountainous regions of South Carolina. If a few of our enterprising landholders, who are largely interested in those high-lands, would unite in some plan of operations for inducing the settlement of respectable emigrants from Europe or the Northern States—emigrants familiar with the grazing business, and wool growing—our mountain regions would soon present returns scarcely inferior in value to the products of the lands in the best agricultural sections of the State. The entire Districts of Spartanburg, Greenville, Pickens, Anderson, with portions of Laurens, Union and York, would afford room for many millions of sheep.

Sheep husbandry is rendered profitable with land valued at thirty dollars an acre in the hard climate of Vermont, also in Spain, Germany and England, in which countries land cannot be bought at any price; and with these examples before us, why should we longer neglect to improve the resources within our reach? Let us hope that a few of our enterprising landholders will unite their efforts and go ahead resolutely in this good work. We think we could refer them to persons who could devise a plan of operations that could not fail to prove largely beneficial to all concerned.

From the South Carolinian of May 22.

FINE FLOCKS OF SHEEP IN THE VICINITY OF COLUMBIA, S. C.—The practical agriculturist and genuine lover of rural affairs, would be both gratified and amply repaid by visiting the magnificent flocks of sheep belonging to Col. Wade Hampton and Mr. B. F. Taylor, in the neighborhood of this city. Those who wish to be convinced of the fact that we can successfully raise fine sheep in our Southern climate, should go by all means. Examples like these are worth more than a heaped up mountain of arguments, theoretically prepared by those who take interest in advocating such things through the medium of the agricultural journals. The flock of Col. Hampton is superior to any other we have ever seen in any part of the U. States. They are pure blooded Liecesters, and Bakewell himself were he living, would be proud to own them. They cannot have lost much, if anything, of their characteristic superiority, if we judge by some of his animals which have matured. Mr. Taylor's flock is chiefly Merino with a dash of the blood of the African or Broad-tailed sheep, and they have shown themselves to be extremely fine and prolific. He recently showed us the fleece of a buck lamb 14 months old, which weighed 10½ pounds. Dr. Parker, the Superintendant of the Lunatic Asylum in this city, has just shorn a pair of last spring's Liecester lambs, about 14 months old, bred by Col. Hampton, and the weight of the fleece from the buck lamb was 13½ pounds whilst that from the ewe lamb weighed 11½ pounds.

Col. Hampton has shorn all his lambs of the present season, and we will make the wool growers of the North open their eyes, when we state that the average weight of the fleece of about sixty head, was four pounds each. He has done this in order to relieve them from the oppressive heat of summer.

On visiting his flock a few days since, we found them in fine condition, without the least appearance of disease of any kind amongst them, and what is remarkable, they have kept in good order on very short pasturage, which is one of the best evidences we can give of the thrift of this remarkable breed of sheep.

With such flattering results before us, why should we despair of making a great portion of our State profitable in this branch of rural enterprise. We have already adverted to the superior advantages of our mountain regions as sheep walks, and we shall on some other occasion gather information and give our own views upon the propriety of introducing good breeds of sheep in the middle sections and lower-country of South Carolina. That the whole sand-hill region bordering on our extensive swamps is eminently adapted to this business, has been fully proven by the success of the flocks above mentioned.

We should like to see such flocks obtain throughout the State, and we fancy the gentlemen above named would do all in their power to gratify such individuals as might desire to make the experiment, by furnishing them superior stock animals, at a moderate rate, when their prices are compared with the heavy and hazardous expenses of importing them immediately from England or the North.

John Randolph said he would walk a hundred yards out of his way merely to kick a sheep. We would go a journey of fifty miles to admire a good flock. He might have been wise in his aversion to these animals. We know we are wiser in our great fancy for them.

After reading these extracts, consider what Mr. Buckley of Yates county, N. Y., says on the same subject in a letter to the editor of the Albany Cultivator.

"I cannot help thinking that the middle and eastern portion of Tennessee, the western part of North Carolina, and northern part of Georgia, has greater natural advantages for the raising of sheep than any other portion of the U. States. I spent the summer season exploring the mountains of those State, and may give you some further account of them in future letters."

Then we have a letter from Mr. Skinner to Mr. Clingman, of the Buncombe district, N. C., in which he says:

"Well, I am happy to add that two enterprising and most meritorious citizens of your State have agreed to take measures for the importation of the Alpaca sheep into the mountains of North Carolina."

In Tennessee they are actively engaged in increasing their stock of sheep. Indeed, every where they are going ahead of us in Georgia, in efforts to rescue themselves from the embarrassments produced by the state of the cotton markets. When will our people be aroused to a proper sense of their own interest!

In this connection we cannot omit to call the reader's attention to one of the difficulties attendant on raising sheep—and no trifling one it is.

From the Frankfort (Ky) Commonwealth.

DOGS AND SHEEP.—A few nights ago, we learn sixty-three choice ewes, selected for breeders on account of the fineness of their wool, owned by our friend Capt. John A. Holton, of Franklin county, were killed by dogs.

The destruction of sheep by dogs has long been a sore evil to the farmers of Kentucky. From the best information we have—and we have devoted much inquiry to the point—we calculate that there are annually about 10,000 sheep destroyed by dogs in the State of Kentucky. The destruction of 100 sheep in each county would give this grevious total. We know one excellent farmer, in another county, who alone has lost 600 sheep in years past, killed by dogs.

The absolute loss of the value of the sheep actually killed by dogs, is not the most serious consideration growing out of the evil. Twenty or thirty or fifty thousand dollars loss per annum distributed amongst the farmers of the State, though inconvenient portions of the loss sometimes fall upon individuals, would not be utterly intolerable: especially under the consolatory remembrance that while one loses his mutton and wool, the dogs of others, who are fond of dogs, have abundance of delicate food.—But the evil stops not here. Hundreds and thousands of farmers, owing to the terrific destruction of sheep by dogs, are utterly deterred from engaging in sheep husbandry, for which the great abundance of hill lands, now lying unproductive, are admirably adapted.

We have not a doubt that, if the ravages by dogs could be stopped, in five years from this day, two millions of dollars worth of wool, grown on lands now entirely unproductive, would be produced in Kentucky; and the amount would be gradually and indefinitely increased.

By our laws $8 are paid for every wolf killed in the State. This is designed for the protection of sheep; and in that view, we approve the policy. But at the same time, we doubt whether in any one of the last five years more sheep have been destroyed in the whole State by wolves, than were killed a few nights ago by dogs on the farm of Capt. Holton.

The disinclination of the Kentucky Legislature to adopt just measures to stop the ravages of dogs, has ever been an inexplicable puzzle to us. We have always regarded some provision on this subject as demanded no less by the public will than by considerations of policy and justice, looking to public and private interests.

The address delivered by Col. A. McDonald, of Eufaula, Ala., before the Agricultural Society of Barbour County, will be found in the columns of to-day's paper. By a perusal of which, much information will be received of interest to the agricultural portion of our community and others.

Col. McDonald is not only a theoretical planter, but adopts the best and most approved system of planting, and never fails to receive a greater remuneration for his labor than any other planter in this section of country. He has done much for the interest of the Southern planter.

We visited, by invitation, the Colonel's garden, a few evenings since, where we found a fine vegetable garden, filled with all the vegetables of the season, in great perfection. His flower garden was arranged beautifully with shrubs and flowers, which no doubt, from appearances, has had much time bestowed upon it.

His selection of fruit trees and varieties of grape, are not equalled in this section of country. We saw growing luxuriantly, the madder, and from the appearance of the young plant, we do not doubt but it can be raised successfully in this climate.—*Eufaula Shield.*

An English Farmer's Wife.

Here is a beautiful chapter from the third part of Colman's European Agriculture. Every reader may profit largely by the lesson it contains. Those who know the writer, and who have seen something of English rural life, have seen enough to convince them that, though called, even by the author, a pencil sketch, the picture is by no means overdrawn.

PENCIL SKETCH OF AN ENGLISH FARMER'S WIFE.—*By Henry Colman.*—I must claim the indulgence of my readers, if I give them an account of a visit in the country, so instructive, so bright, so cheerful, that nothing but the absolute breaking-up of the mind can ever obliterate its record, or dispel the bright vision from my imagination. I know my fair readers—for with some such I am assured my humble reports are kindly honored—will feel an interest in it; and if I have any unfair readers, I beg them at once to turn over the page. But mind, I shall utter no name, and point to no place; and if I did not know that the example was not altogether singular, and therefore would not be detected, I should not relate it. I know very well, as soon as I return to my native land, if Heaven has that happiness yet in store for me, a dozen of my charming friends—God bless them!—with their bright eyes, and their gentle entreaties, will be pressing me for a disclosure; but I tell them beforehand, I am panoplied in a stern philosophy, and shall remain immovable.

I had no sooner, then, entered the house where my visit had been expected, than I was met with an unaffected cordiality which at once made me at home. In the midst of gilded halls and hosts of liveried servants, of dazzling lamps and glittering mirrors, redoubling the highest triumphs of art and taste; in the midst of books, and statues, and pictures, and all the elegancies and refinements of luxury; in the midst of titles, and dignities, and ranks, allied to regal grandeur—there was an object which transcended and eclipsed them all, and showed how much the nobility of character excels the nobility of rank, the beauty of refined and simple manners all the adornments of art, and the scintillations of the soul, beaming from the eyes, the purest gems that ever glittered in a princely diadem. In person, in education, and improvement, in quickness of perception, and facility and elegance of expression, in accomplishments and taste, in a frankness and gentleness of manners tempered by a modesty which courted confidence and inspired respect, and in a high moral tone and sentiment, which, like a bright halo, seemed to encircle the whole person—I confess the fictions of poetry became substantial, and the *beau ideal* of my youthful imagination realized.

But who was the person I have described? A mere statue to adorn a gallery of sculpture? A bird of paradise, to be kept in a glass case? A mere doll, with painted cheeks, to be dressed and undressed with childish fondness? A mere human toy, to languish over romance, or to figure in a quadrille? Far otherwise: she was a woman in the noble attributes which should dignify that name: a wife, a mother, a housekeeper, a farmer, a gardener, a dairy-woman, a kind neighbor, a benefactor to the poor, a Christian woman, "full of good works, and almsdeeds which she did."

In the morning, I first met her at prayers; for, to the honor of England, there is scarcely a family, among the hundreds whose hospitality I have shared, where the duties of the day are not preceded by family worship; and the master and the servant, the parent and the child, the teacher and the taught, the friend and the stranger come together to recognize and strengthen the sense of their common equality in the presence of their common Father, and to acknowledge their dependence upon his care and mercy.

She was then kind enough to tell me, after her morning arrangements, she claimed me for the day. She first showed me her children, whom, like the Roman mother, she deemed her brightest jewels, and arranged their studies and occupations for the day. She then took me two or three miles on foot to visit a sick neighbor, and, while performing this act of kindness, left me to visit some of the cottages upon the estate, whose inmates I found loud in the praises of her kindness and benefactions. Our next excursion was to see some of the finest, and largest, and most aged trees in the park, the size of which was magnificent; and I sympathized in the veneration which she expressed for them, which was like that with which one recalls the illustrious memory of a remote progenitor. Our next visit was to the green houses and the gardens; and she explained to me the mode adopted there of managing the most delicate plants, and of cultivating, in the most economical and successful manner, the fruits of a warmer region. From the garden we proceeded to the cultivated fields; and she informed me of the system of husbandry pursued on the estate, the rotation of crops, the management and application of manures, the amount of seed sown, the ordinary yield, and the appropriation of the produce, with a perspicuous detail of the expenses and results. She then undertook to show me the yards and offices, the byres, the feeding-stalls, the plans for saving, and increasing, and managing the manure, the cattle for feeding, for breeding, for raising—the milking stock, the piggery, the poultry yard, the stables, the harness-rooms, the implement-rooms, the dairy.—She explained to me the process of making the different kinds of cheese, and the general management of the milk, and the mode of feeding the stock; and then, conducting me into the bailiff's house, she exhibited to me the Farm Journal, and the whole systematic mode of keeping the accounts and making the returns, with which she seemed as familiar as if they were the accounts of her own wardrobe.

This did not finish our grand tour, for, on my return she admitted me into her boudoir, and showed me the secrets of her own admirable housewifery, in the exact accounts which she kept of every thing connected with the dairy and the market, the table, the drawing-room, and the servants' hall. All this was done with a simplicity and a frankness which showed an absence of all consciousness of any extraordinary merit in her own deportment, and which evidently sprang solely from a kind desire to gratify a curiosity on my part, which, I hope, under such circumstances, was not unreasonable. A short hour after this brought us in to another relation; for the dinner-bell summoned us, and this same lady was found presiding over a brilliant circle of the highest rank and fashion, with an ease, elegance, wit, intelligence, and good-humor, with a kind attention to every one's wants, and an unaffected concern for every one's comfort, which would lead one to suppose that this was her only and her peculiar sphere.—Now, I will not say how many mud-puddles we had waded through, and how many dung-heaps we had crossed, and what places we explored, and how every farming topic was discussed; but I will say, that she pursued her object without any of that fastidiousness and affected delicacy which pass with some persons for refinement, but which in many cases indicate a weak if not a corrupt mind. The mind which is occupied with concerns and subjects that are worthy to occupy it, thinks very little of accessories which are of no importance. I will say, to the credit of Englishwomen—I speak, of course, of the upper classes—that it seems impossible that there should exist a more delicate sense of propriety than is found universally among them; and yet you will perceive at once that their good sense teaches them that true delicacy is much more an element of the mind, in the person who speaks or observes, that an attribute of the subject which is spoken about or observed. A friend told me that Canova assured him that, in modelling the wonderful statue of the Three Graces, from real life, he was never at any time conscious of an improper emotion or thought; and if any man can look at this splendid production, this affecting imbodiment of a genius almost creative and divine, with any other emotion than that of the most profound and respectful admiration, he may well tremble for the utter corruption, within him, of that moral nature which God designed should elevate him above the brute creation.

Now, I do not say that the lady to whom I have referred was herself the manager of the farm; that rested entirely with her husband; but I have intended simply to show how grateful and gratifying to him must have been the lively interest and sympathy which she took in concerns which necessarily so much engaged his time and attention; and how the country could be divested of that dullness and *ennui*, so often complained of as inseparable from it, when a cordial and practical interest is taken in the concerns which necessarily belong to rural life. I meant also to show—as this and many other examples which have come under my observation emphatically do show—that an interest in, and a familiarity with, even the most humble occupations of agricultural life, are not inconsistent with the highest refinements of taste, the most improved cultivation of the mind, the practice of the polite accomplishments, and a grace, and elegance, and dignity of manners, unsurpassed in the highest circles of society.

Life in the Country.

The following exquisite gem we take from the third number, just published, of Colman's European Agriculture.

"To live in the country, and enjoy all its pleasures, we should love the country. To love the country is to take an interest in all that belongs to the country—its occupations, its sports, its culture, and its improvements, its fields and its forests, its trees and rocks, its valleys and hills, its lakes and rivers; to gather the flocks around us, and feed them from our own hands; to make the birds our friends, and call them all by their names; to wear a chaplet of roses as if it were a princely diadem; to rove over the verdant fields with a higher pleasure than we should tread the carpeted halls of regal courts; to inhale the fresh air of the morning as if it were the sweet breath of infancy; to brush the dew from the glittering fields as if our path were strewed with diamonds; to hold converse with the trees of the forrest, in their youth and in their decay, as if they could tell us the history of their own times, and as if the gnarled bark of the aged among them were all written over with the record of by-gone days, of those who planted them, and those who early gathered their fruits; to find hope and joy bursting like a flood upon our hearts, as the darting rays of light gently break upon the eastern horizon; to see the descending sun robing himself in burnished clouds, as if these were the gathering glories of the divine throne; to find in the clear evening of winter, our chamber studded with countless gems of living light; to feel that "we are never less alone than when alone;" to make even the stillness and solitude of the country eloquent; and above all, in the beauty of every object which presents itself to our senses, and in the unbought provision which sustains, and comforts, and fills with joy, the countless multitudes of living existences which people the land, the water, the air, every where to repletion; to see the radiant tokens of an infinite and inexhaustible beneficence, as they roll by us, and around us, in one ceaseless flood; and in a clear and bright day of summer, to stand out in the midst of this resplendent creation, circled by an horizon which continually retreats from our advances, holding its distance undiminished, and with the broad and deep blue arches of heaven over us, whose depths no human imagination can fathom; to perceive this glorious temple all instinct with the presence of the Divinity, and to feel, amidst all this, the brain growing dizzy with wonder, and the heart swelling with an adoration and a holy joy, absolutely incapable of utterance;—this it is to love the country, and to make it, not the home of the person only, but of the soul.

Original Communications.

Manures.—Do they Sink or Evaporate?

Mr. Editor:—In the last number of the Cultivator, you invite planters and farmers to write out their experience for publication, not stilting themselves on "big words" from the dictionary, but in plain language, such as would be used in talking with each other, you kindly promising to correct errors in spelling and grammar. Emboldened by the invitation and promise, and holding you to the latter, I address myself to the work proposed, and although I give no experiments of my own, I hope to make some useful remarks on the experiments of another, to wit: a brother farmer (at least I suppose he is one) living over in South Carolina, who writes for the Temperance Advocate, (an excellent paper that, I know from its name,) and whose essay you republished on page 70 and called it "excellent." Now, I am a farmer, and want to talk to friend "Coatswood" (the writer referred to) as if we were neighbors, and had just met and were sitting on the dividing fence between our farms, or just out of the field on a log in the shade. But as I can't write a dialogue, I must do all of the talking myself, and beg your indulgence, Mr. Editor, if I write in a disconnected and desultory manner.

Every farmer will concur with the South Carolinian in advising that manures be so applied as to secure their most lasting benefits, as well as in the caution to guard against waste. But in determining as to the best means of doing the one, or avoiding the other, many things must be kept in view, such as the kind of soil and subsoil, the sort of crop, the mode of cultivation, &c.—points on which I shall say but little or nothing *now*, only so far as may become necessary in discussing the question, "does manure ever sink?" or rather, in reviewing certain experiments made to sustain the negative of that question.

Coatswood denies that it can sink, and proceeds to the proof on this wise: He fills a cider barrel nearly to the top with clean sand, then pours on the sand the "most impure liquid manure;" after which he is able to draw off "nearly pure water" from a hole in the lower end of the barrel. He says, too, "the impurities which constitute the manure will have been detained by the sand, by filtration, within a short distance of the top of the barrel." Right curious, this! If C. economises no better in other things than he does in labor-saving, he will not do for a teacher in agriculture. Two and a half feet of sand in the barrel, and the manure detained by the sand within a "short distance" of the top! Now, it seems to me that a "short distance" of sand in the barrel, say six inches, would have saved two feet of labor, i. e., the labor of putting in the two feet of *unnecessary* sand. For I suppose he will admit that six inches, perhaps less, is a "short distance" of sand. But peradventure he had some apprehensions that with less than a barrel full of sand, the water might not have been *quite so pure* as it was; and he says it was "nearly pure," not perfectly. Next I would inquire what does C. mean by impure liquid manure? He certainly does not mean wine, for in filtering that article, "I guess," he would not have found much of the impurities about the top. I suppose something from a Bommer vat, or perhaps a bucket of water brought to the consistency of unboiled mush by due admixtures from the stable, or cowpen, or henhouse, would make the liquid experimented with. At all events either of these will do, on the score of impurity, for such an experiment; and we (repeating the experiment) take some and throw it up, the water sinks, the fibrous, earthy, and such like parts constituting the chief bulk, remain on top; the finer parts of decomposed matter sink deeper, and the still finer deeper still, until the water gets to the bottom and is drawn "from the spigot (he means the hole) nearly pure water"—that is, freed from all the grosser animal, vegetable and earthy impurities, but still holding in solution or suspension some organic matter and all the soluble salts which the manure contained—salts highly prized now-a-days for their fertilizing properties—and he will not deny, "in this day of enlightenment," that they possess such properties. But, if he does, I wash my hands of his agricultural heresy and turn him over to Liebig to be better instructed. Salts can't be separated from water by filtration. Distillation and evaporation, which are nearly the same in principle, are the only means by which it can be done, (except some little things in this line that chemists sometimes do, and which are entirely irrelevant) No, friend Coatswood, you can't do it; at least this is my opinion. But if you can, your fortune is made. "All that a man hath will he give for his life." Let mariners know your success. Let all cumbrous water casks be given to the waves, and your filter be used in their stead, and then famishing at sea for fresh water will never happen until the ocean dries up.

C. next says it is upon this principle that farmers clarify cider, grocers purify wine, and confectioners do *something*, that is not printed for our edification. But I guess the cider remains sweet, and the wine alcoholic, after the process, each retaining every essential quality and constituent, otherwise it would be a losing business to them, and proof against me.

"If we look at the operations of nature," says C., "we shall recognise it there. If the impurities on or near the surface of the earth were carried down by rain, we should never be able to get a palatable drink of water." Now, that is a fact: just the thing I am trying to prove. If you will come down here, friend C., into our flat piney woods country—where the whole face of the earth is too level for water to run off, and as porous and sandy as that barrel you "fixed"—and drink some of our best water, from gushing springs and wells, as you poetically call them, you will conclude with me, that you never wrote or uttered a truer sentiment in your life, for the best is bad indeed, from the cause above stated, and the bad, though strained of wiggle-tails, is yet decidedly "unpalatable."

The next experiment I notice is a bottomless box, filled with manure, and put on a stone, exposed to sun and rain. In reference to which our writer says, "a method which I select as rendering it certain that no part can sink"—a sentiment in which I most heartily concur with him. But he will find that there is another way of "escape" besides "at the top," if he will go to the box the next rainy day, and see the rich looking ooze (tobacco chewers know the color) that flows from it. An ooze that hundreds of us misguided and ignorant country people use to water and enrich our plant beds, imagining it is the strength of the manure, so far as decomposition has disengaged its strength, and *roundly asserting and pertinaciously maintaining* that plants grow faster, get bigger, and look better by its use than those in the next row that receive no such attention.

Friend C. next says, manure exposed "to sun alone will in a very short time become entirely inert." If this be so, Mr. Editor, you, as a benevolent man ought to give extensive publicity to it, and save from unnecessary labor and exposure the thousand mariners that frequent the sunny little island of Ichaboe to procure that worthless stuff Guano, which has been accumulating there since the days of our great grand father Noah.

Our essayist says manure is sooner lost on sandy than on clayey land, and accounts for it by the greater heat of the former producing increased evaporation. I admit there is more or less lost in any kind of land by evaporation, and more in sandy than in clayey lands. This is partly owing to the greater heat, and partly to the want of tenacity in the former, facilitating its escape upwards or downwards, as rain or sunshine may favor the one or the other, By leaching ashes we get ley, the water percolates (allow one dictionary word) the ashes, dissolves the potash, and comes out ley, or potash in solution, and in this solution are many impurities. Is it any more strange or unreasonable that the strength of manure should sink more or less in any land, but especially in sandy lands which have not a good clay or "stone" foundation? If manure don't sink, how happens it that corn is so much benefited by it when thrown on the top of the ground around each hill, and that too before the manure is covered with earth? Why is the water "unpalatable," where there are large districts of very rich land, especially level land, whatever may be the nature of the undersoil or *substratum*, if salts can be filtered out, and organic matter never sinks? Why the deterioration of water in cities and even in some of our country towns, which have been long built and densely populated?—How does a meathouse near a well injure its water? Let C. answer these, and it will be an answer to a hundred kindred questions that might be propounded. Professor Brande says, he "frequently found the wells of London contaminated by organic matter," and Dr. Clark, professor of Chemistry in Marischal College, Aberdeen, states "that the organic matter which passes into the water from sewers is *not separable* by filtration." The analysis of other waters would show the same result. Indeed, for some water no chemical test or apparatus is needed. The tongue and the nose decide the question.

Mr. Editor, that abominable tyrant, Fashion, rules in other things besides dress, furniture, equipage, &c.; he invades our ancient, honorable and independent province. I deny his right, and abjure all allegiance to him. He now says, every thing like manure exhales or evaporates. What will he say next?

One interpolated extract from friend Coatswood and I shall be done for the present. "I have shown that manure does" sink as well as evaporate, and does both "more rapidly from sand than from clay. What is the necessary inference? Is it not that the practice of making a shallower deposit in sand than in clay" should be continued where there is not a good clay foundation. *May*, 1845. Salamander.

Bermuda Grass.

Mr. Camak:—I have seen in the various periodicals of the day, a number of communications upon the subject of Bermuda Grass; and as I have, perhaps, had more dealings with that grass than any man in the country, permit me to give you the result of my experience with that "critter." I have had the Bermuda grass on spots of my land for seventeen years or more, and I have tried all reasonable ways to destroy it, but I have found only one plan to succeed: and that is, to plow it up in the winter, two or three times, deep and well; in the spring, after it puts up, with the aid of a mattock under its roots, pull up every living particle that can be found, shake the dirt well out of its roots, and expose it to the hot sun for several days, then turn it over and expose it again in like manner; plow the ground again; let it lie until what grass is left comes up tolerably well; treat this crop as before, and repeat. This course, in two years, will effectually destroy it. Never disturb it with the plow or hoe only expressly to destroy it.

The idea of destroying it by covering it up, or by sowing the ground in small grain for several years in succession, or by cultivating the ground in any other way, is all a notion founded on inexperience. I have covered it over with green pine brush, cut small, laid close as possible, and packed hard, waist deep, and have adopted various other plans to destroy it, but none have succeeded at all, at all, but the plan before mentioned. Covering it over well with brush, green or dry, and letting it remain there a month or two, and then burning it off, or burning log heaps upon it in order to destroy it, I know, from experience, to be labor lost. Planking it over, as some have suggested, and breaking the joints, to say nothing of the expense of the project, is all nonsense. The idea has gone abroad that it will not grow in the shade, in briar beds, nor in the woods. This idea is partly true. It does not grow so well under these circumstances, nevertheless I can show it growing under all these circumstances. I can show it growing in a briar bed that reminds me of Fall's thicket, so dense "he could not stick a butcher knife in it;" and yet it grows luxuriantly, and is now from knee to waist high, and thick as grass gets to be.

It is said to enrich land. This may be true, but I have never reaped any benefits from it in this way. All the profits that I have ever realised from it, in any way whatever, have come to me "over the left shoulder." Some say it makes first rate pasturage. My experience upon this point is this: I have an acre of ground in front of my house covered with it, and another acre at the end of my house that has but little of the Bermuda grass upon it. On an average, I find ten head of stock grazing upon the acre that has but little of the Bermuda grass upon it, to where I find one head of stock feeding upon the Bermuda acre, notwithstanding the Bermuda acre is well matted and always affords good grazing, whilst the other acre is kept fed to the ground. I have a calf pasture of about ten acres, tolerably well spotted over with Bermuda grass, and the balance of the ground is covered with broom sedge and other spontaneous productions. The Bermuda is often suffered to head whilst the other grass is kept cropt to the ground.

It is possible that the Bermuda grass is nutricious, and does stock admirably well when they can get nothing else to eat, but it is not their choice grass.

The Bermuda grass is destined to ruin this country unless the arm of the law interposes a barrier to its dissemination, by imposing the heaviest kind of penalty upon him who dares to spread it. Once rooted in a yard, or on any portion of a plantation, and it is as good to take that plantation as a sevenpence is for a half pint.—Look at the fine plantations destroyed about Hillsborough, Powelton and other sections of the State by this grass; and is it reasonable to suppose that the owners of these fertile lands would have surrendered them to this grass if they could have arrested its course? Not they—too much sense had they to enter into any such speculation. JOHN W. PITTS.

Newborn, Ga., June 6, 1845.

Bermuda Grass.

MR. CAMAK:—My experience with Bermuda Grass commenced some eight years ago. When I came to Athens my lot was completely set with it; and about three quarters of an acre was an old field which appeared to have been worn out, and had not been cultivated for several years. In the month of August, I enclosed it, and sowed it in wheat and turnips. I had through the winter a very fine crop of turnips; and in the month of June following I harvested eight bushels of fine wheat. In the fall I plowed it, and in March planted it in corn, putting the drills seven feet apart. I plowed the corn twice, running three furrows next the corn, and leaving the middle of the rows undisturbed. In the course of the summer, I cut and saved at least five hundred pounds of as fine hay as I could have wished for; and in the fall gathered about four barrels of corn. I have cultivated the land ever since, and have never put one spoonful of manure on it; and I have never failed to make a fine crop of corn, peas and beans; and I believe the land is much better now than it was the first year I cultivated it, and produces more.

The land lies somewhat rolling, and there is not the beginning of a gully in it. This then is another advantage to land, that Bermuda grass effectually prevents it from washing.

Again, my lot and yard were thickly set with this grass. I planted my yard in fruit trees—peach, apple, pear and cherry trees. They have done well, and bear fine fruit without cultivation; and every farmer knows that broom sedge will destroy an orchard in a few years if not cultivated.

In order to destroy Bermuda grass, cover it with plank, chips, or pine brush, and you will soon get clear of it.

I find it to be the finest grass I ever had for my horses, hogs and cows, and even chickens. But keep it out of your garden. I have dug my Irish potatoes and found it had grown through some of them. JOHN FELTON.

Athens, May, 1845.

Bermuda Grass.

Will the Editor of the SOUTHERN CULTIVATOR, or Mr. John Cunningham of Greensboro, or any others who have had experience on the subject, please answer, through the columns of the SOUTHERN CULTIVATOR, the following inquiries?—viz:

What would be the expense of enriching land by planting Bermuda Grass and turning it under, compared with the outlay required when leaves and other like substances are used?

Would not the expense of planting, turning under, and *extra labour* in tending the land after the grass, be *less* than the cost of manuring land by any other means of which we have any knowledge?

May not Bermuda Grass be made to do for the South, all that clover does for the North?

After the Bermuda Grass has been turned under will it require more labour to tend the land than it would if it was well stocked with crab grass? Respectfully, P.

Monroe, Walton Co., Ga., June, 1845.

A Grape Crop safer than most others against injury by late Frosts and Drouths.

Most kinds of grain are sometimes injured by late frosts in the spring, and most kinds of fruit, as apples, peaches, pears, &c., are sometimes destroyed thereby, as was the case on the night of the 8th of April, in this region of our country. But the prospect of a grape crop is now as good as if no such frost had occurred; for the grape leaves and blossoms, for the most part, had not put forth. Again, there is something peculiar in the formation of blossoms and fruit on grape vines; as they are capable of an entire new growth the same season. Hence, if all the leaves and blossoms are destroyed by a frost, they will come out again, and a crop ensue notwithstanding; as in the case mentioned by the late Mr. Herbemont, of Columbia, S. C., where grape vines are more subject to injuries by late frosts than here. His entire crop of grapes he once considered ruined, as the blossoms and all the foliage on his vines were destroyed; but an entirely new growth produced abundantly. In my experience of more than a dozen years, I have never failed of a grape crop from late frosts, or any other cause; though some foreign varieties I once cultivated, and some American kinds, as the Isabella and Catawba frequently rotted on the vines ere maturing. This evil I obviated by cutting off in the fall (spring grafting to stocks unremoved is not apt to succeed,) the most of the rotting kinds, and grafting into their stocks those not liable to this misfortune, such as my Halifax, Norton's V. Seedling, Vine Arbour, &c.

And I add here, that a grape crop stands a drouth, in this region, better than most other agricultural products. Last season a pretty severe drouth, in a critical time for grapes, or just before most kinds ripen, caused a few only of some varieties to drop prematurely, while other kinds were not affected. True, last season I was cut short of as full a crop of wine as I expected by about ten barrels; or I made but thirty instead of forty. But this was mostly owing to a severe storm, of some days continuance, here called a gust, which blew down grapes enough for several barrels of wine. The fallen fruit was, for the most part, eaten by swine, always kept in my vineyards for such purposes, and that of helping to keep the ground scarified beneath the canopies.

I here take occasion to remark, that to those having the foresight and industry to take pains for it, a vineyard is a sure source of most pleasant and healthful fruit, for a number of months in the year, and that, too, when other sources sometimes entirely fail. Nothing more healthy do we find than well selected ripe grapes. In view of the general good health of my family and others in the abundant use of grape fruit, and that too in part of a sickly time of year in this region, I wonder not at the account of unhealthy persons, in parts of Europe, being sent for their recovery to the vineyards in Switzerland to subsist entirely for the season on a grape diet. And when we consider the very great benefits of pure wine to the human family and its happy tendency, when temperately used, to counteract the direful effects of unhealthy food, luxuries, intemperance, and disease, I wonder not that wine is called by most eminent physicians the greatest of medicines, and that the unerring voice of inspiration puts it along side of bread itself, the staff of life. And seeing the great excellency and zest of good wine, and the unhappy proneness of human beings to pervert and abuse all blessings of Providence, (the greatest often most liable thereto,) I wonder not at the emphatic warnings of the greatest moralists, and of the same unerring voice of inspiration by way of caveat; and putting the abuse thereof for the article used, calling wine a "mocker," as well as representing strong drink "raging." This is analogous to the same volume of inspiration, (not like the impostor Mahomet's false revelation denouncing a blessing because of its liability to abuse,) representing *money* or property, a blessing in itself considered, but the *love* or *idolatry* of money as the root of *all*, or (apart from the figurative language) of *most kinds of evil*. And that scripture wine was really so, or fermented, and not mere grape juice, as some vainly contend for, is quite evident from its declared abuse and the very warnings of the bible against drunkenness thereby. But scripture wine was *indigenous* to the country where made, and therefore not liable to the *adulterations* and *injurious* effects of *foreign importations*.

And may I be suffered here to remark, in conclusion, why not Americans (in a country where native vines grow more luxuriantly than elsewhere,) make their own wines, and save annual, millions of foreign dependence for the article, that properly made and used, like in eastern wine making countries, known to be the most temperate in the world, is more unequivocally good, pleasant, healthful and medicinal than any of foreign importation?

In expressing these moderate and scriptural views on the subject just touched upon, I am perfectly aware I am liable to offend *ultraists*; or certain classes of people in our day of extravagant excitements, who run from one extreme to another, seeming to *abhor nothing worse than the golden medium*.

We have now rife in our country the abolition humbug, tending to sacrifice the liberty and happiness of all our *white population* for the *fancied* good of the *blacks*. And the humbug of abolishing capital punishments, tending to sacrifice the lives of virtuous citizens to cheat the gallows of its dues as to murderers and cutthroats. And not the least of the ultraisms of the day is, the *temperance* one of *intemperately* denouncing *all liquors*, without exception, and their use. And if all the aforenamed tirades of far worse than refined nonsense, were hurled against human inventions only, I would not here protest. But I am bold to aver that they are not only against the universally benign experience of mankind in all ages, (and so the voice of Providence,) but most clearly against the plainest authority of the word of God.

Most respectfully yours, &c.

SIDNEY WELLER.

Brinckleyville, Halifax co., N. C., May, 1845.

Information Wanted.

MR. EDITOR:—The subject of this short communication, is simply to elicit through the columns of your interesting paper, information concerning the proper tillage of some grass,—timothy, clover, or any other, such as the correspondent, who may deem it necessary to answer this small request, shall think best adapted to the soil and climate of the interior of South Carolina. To the writer, who will comply with the above request, I give my obligation to procure the seed recommended, follow his directions as close as possible, and report the results of my attempt—viz:

The soil, preparation, and manner of planting.
The quantity of manure—per acre.
" " " seed "
Mode of cultivation, and seasons for mowing.

Such information, reported through the CULTIVATOR, will be thankfully received by your humble subscriber. D. G. WOOD.

Jeffrey's Creek, Darlington, S. C., May, 1845.

Palma Christi.

MR. CAMAK:—A friend of mine has requested me to ask, through the columns of the CULTIVATOR, for instruction in the manner of raising the Palma Christi, or castor oil plant:—how the seed are prepared for the press, and what sort of a press is used? If he can get the proper instruction in the business he will go into it.

While writing, I will say a word or two on the manner of raising the sweet potato. I saw last year the result of an experiment which did extremely well. The vines were cut off from some part of the patch, daily, and given to the hogs; and this was their principal food, until all the vines were taken off within 12 to 18 inches of the root. The ground cracked very

much; and, at digging time, a crop was housed superior, by at least one third, to any that had ever been raised on the same farm, on the same quantity of land. Yours, WILLIAM DAVIS.

St. Pauls, N. C., May 27, 1845.

Batter Cakes.

MR. JAMES CAMAK:—Since commencing to keep house, some month or so since, my wife has been giving me a batter-cake with which I am so much pleased, and it is so simple and so easy to make, that I am induced to send the receipt to you for your valuable paper, should you choose to insert it therein. I have never seen the same thing any where else, although it may be used by many in some sections of the country. This is the receipt for making a cheap and excellent batter-cake—better than buckwheat, viz: Make a mush of Indian meal, work it well, and let it get cool. To 1 pint of milk add 3 or 4 table-spoonsful of the cold mush, then add a little flour, to make it of the proper consistence for batter, 1 tea-spoonful of fine salt, ½ tea-spoonful of saleratus, and 1 egg if you have one, if not it does very well without, and cook as any other batter-cake on a greased griddle.

A YOUNG (Green Co.,) HOUSE KEEPER.

Greensboro, Ga., May, 1845.

Notices of New Books.

From the Dollar Farmer.

A TREATISE ON THE THEORY AND PRACTICE OF LANDSCAPE GARDENING, ADAPTED TO NORTH AMERICA, WITH A VIEW TO THE IMPROVEMENT OF COUNTRY RESIDENCES: By A. J. Downing: *Second Edition.*

This edition of this valuable and interesting work, which has but recently reached the West, presents it enlarged, revised, and ornamented by many new illustrations. It may be considered now as a very complete work, and we regard it as far the most valuable and interesting contribution ever made in this country to that class of the community to which it is specially addressed, not excepting the great works on agriculture which have distinguished this period.

We are particularly desirous of recommending this work to the attention of our readers. Much as we feel it our duty to keep them advised of all the discoveries, experiments, and improvements in agriculture, we believe that we should render them, at least those in good circumstances, a far more valuable and permanent service by simply inducing them to purchase and study this treatise on the art of adorning their homesteads, and on the principles of taste in rural scenery. By communicating such information as might enable them to increase their crops, the wealth of those who avail themselves of such information might be augmented; they might thus gain a pecuniary advantage over their neighbors who disregard such information; but it is by no means certain that their happiness, much less that of the great mass of farmers, would be increased. On the hypothesis that they become richer, the sum of their pleasure or happiness would depend at last on the manner of using the increased wealth; and nine times out of ten there would be no increase of the enjoyments of life. With regard to that large class who either cannot or will not avail themselves of the information in question, the increased production of their richer or more enterprising neighbors would be a decided injury by lessening the value of their own productions.

But the diffusion of a taste for rural scenery would produce unmixed and universal benefits. The happiness of those induced to adorn their homesteads would be increased in a degree far beyond the power of the mere accumulation of wealth. Any kind of occupation prevents ennui, but the occupation of landscape gardening partakes of the rapturous delights felt by the painter or poet in reducing to paper or canvass the visions of the imagination. Landscape gardening is as much a fine art as either painting or poetry, and it differs from these in this, that all have more or less the talent to practice it, and that there is more general capacity to enjoy its effects.

With regard to persons in poor circumstances, a taste for improving the country would promote their interests by producing a demand for labor, and by diverting labor from productive occupations and slackening the competition among producers. The blighting effects of great competition are nowhere better illustrated than in the cotton region, where all the comforts and delights of life are sacrificed in a struggle to make money, and where the struggle to make money plunges the people every day deeper in debt and poverty. If one half the labor of the South were diverted from cotton to the production of the comforts and elegancies appertaining to a high state of civilization, not merely would the enjoyments of life be infinitely multiplied there, but the wealth of the country increased.

The great obstacle to real social amelioration, to progress in genuine civilization in this country, is the inordinate thirst for gain, and the want of local attachments. In general it may be said that in the South and in the new western States the only object of the cultivator of the soil, after supplying the actual wants of subsistence, is to increase in wealth. With this object alone in view he makes a settlement, and he removes to a new farm the moment he can make a dollar by the exchange. He seems to make his temporary home as cheerless as possible, in order that no love of it may interfere to prevent his migration whenever he believes he can make money by it. No sentiment, no attachment is allowed to take root that may possibly interfere with the one object of amassing riches. He builds a cabin of logs barely tight enough to keep him from freezing, he cuts down every tree and shrub within a quarter of a mile, he surrounds it with a worm-fence, and with the plowshare he defaces every vestige of natural beauty up to his very door sill. In the South, cotton and corn, in the West, corn, flax, and hogs, are his only care. He cultivates no vegetables but cabbages and turnips, and no fruit of any kind; for fruits and the more delicious vegetables are not necessary to support life, and the cultivation of these would flatter pleasure, divert the mind from the one object of life, and beget an attachment for the soil, a sentiment of home and the delights of civilized life.

It is this migratory spirit, this sordid love of money, this worse than savage destitution of the love of home, attachment to the soil, and all the elegancies, refinements, and charms of civilization, that is tempting the people of this country to pass beyond its bounds and seize the ample domain of Texas; and one of the greatest, with us far the greatest of all objections to the annexation of Texas, is this, that it will tend to increase this Tartar spirit. Would that a wall were built up about us, on the south and on the west, that the living tide might be staid, and that our people might subside into civilization, and the love of home, the sentiment of patriotism, the amenities and tastes of a high state of cultivation, find a place in their hearts. The work before us, if widely circulated, would be a powerful auxiliary in this great social reform. Nothing tends so much to fix men to the soil, to nourish a love of country, to quench the all-consuming and all-destroying love of money, to cherish the amenities and charities of life, and generally to dignify and elevate man, as a taste for horticultural pursuits and rural scenery.

II.

From the South Carolinian.

RURAL ECONOMY. In its relations with Chemistry, Physics, and Meteorology, or Chemistry applied to Agriculture. By J B Bousgingault, Member of the Institute of France, &c. Translated with an introduction and notes by Geo. Law, Agriculturist. New York: D Appleton & Co. pp. 507.

This work gives the results and enquiries in which the author was engaged for many years, relative to the advancement of practical Agriculture. The first part of the work treats in succession of the physical and chemical phenomena of vegetation; of the composition of vegetables and their immediate principles; of fermentation; and of soils. The second comprises a summary of all that has been done on the subject of manures, organic and mineral; a discussion of the subject of rotations; general views of the maintenance and economy of live-stock; finally, some considerations on meteorology and climate, on the relations between organized beings and the atmosphere. A summary view is given of all the questions of rural economy that admit of scientific treatment. Books of this character now find admirers with all kinds of readers; and we see the whole world, from the pent-up dweller of the city, to the wild, free woodsman, excited as to researches into the mysterious and instructive kingdom of nature. We think it argues a good omen, for the prosperity of our extensive nation, that readers of such works, read them almost exclusively for the benefits which they bestow on our domestic comforts, and look to flattering results, from the even increased interest attached to researches bearing upon practical agriculture, and like the author, must "hope for conclusions important as regards science, profitable to practice, and useful to humanity." We shall make extracts from this work for our agricultural department, which will more fully show to our readers its inestimable value to the practical Agriculturist.

III.

STABLE ECONOMY: A Treatise on the Management of Horses, in relation to Stabling, Grooming, Feeding, Watering and Working. By John Stewart, Veterinary Surgeon, &c. From the third English Edition, with Notes and Additions, adapting it to American food and climate. By A. B. Allen, Editor of the American Agriculturist. New York: D. Appleton & Co.

The Horse! friend of Humanity! loved by the lazy! admired by the tasty! who does not turn with pleasure to the contemplation of a work, which treats of those means best adapted to improve his usefulness and preserve his incomparable powers? Mule and donkey, both can take care of themselves, but the horse, a creature of delicate powers when mismanaged, can be trained to the endurance of wonderful performances, by the proper knowledge relative to the wants of his constitution and peculiarities. By careful breeding and training, his strength, speed, and endurance have been wonderfully increased. Agents employed have been numerous, and their power has not been limited to one change alone, but varying according to circumstances, such as duration and repetition of their operation, and the condition of the animal at the time he is operated on. Much of this and the improved value of a well trained harness horse is owing to proper treatment from the groom, who may, by understanding the peculiar wants of an animal, from his constitutional organization, render him extremely valuable—and from the contrary cause, ignorance, may entirely ruin a good animal. All these things render the horse an eminent study—not only for his improvement, but for the benefits which may be conferred on the community by the prevalence of the best breeds for the different purposes for which they may be wanted. We have seen a Canadian pony, weighing seven hundred weight, which could and did draw in our presence, more than four times his own weight of stone, on a common cart in the streets of Montreal, up a considerable hill. These ponies have speed, endurance and good action—and living on less and coarser food than is given to the worst fed mules of this country, they are valuable in an economical point of view to their owners.

Of what benefits could we count on receiving, if such a breed of horses were introduced amongst us? Would they not soon supply the places of our large and almost worthless Kentucky horses, which "eat off their heads" before they become acclimated, and are fit to do substantial service. There is not a single strain of the Canadian blood incorporated amongst the many breeds which obtain amongst us. Good roads would tend, too, to improve the breeds of draught horses more than any one thing which we could do. The book, the title of which stands above, gives us suggestions as to all these matters—in fact, it teaches us every thing, from the construction of stables, their ventilation and appendages, to stablemen, grooming, and operations of decoration, management of the feet, &c.

It also treats of restraints, accidents, habits, vices, &c., warmth, food, water, service—which comprises general preparation for work, physiology of muscular exertion, preparation for fast work, preservation of working condition, treatment after work, accidents of work, kinds of work, repose, &c.; and closes with an admirable chapter on the management of diseased and defective horses, colts, &c.

The name of Mr. A. B. Allen is a sufficient guaranty to the American public of its adaptation to our wants and climate, and its general utility.

Dr. LEE, of Buffalo, asserts that 97 per cent. of the food of plants is derived from the atmosphere, and only 3 per cent from the soil. That a great amount is so derived has been long known. And yet the want of some single ingredient in the soil may prevent a plant from eliminating for its use this amply supply of atmospheric food. How important, then, that we should know the constituent elements of different plants, in order that we may supply each with its appropriate food.

Agricultural Meetings.

Burke County Agricultural Society.

WAYNESBORO', *April 1st*, 1845.

Agreeable to previous notice, a respectable portion of the farmers of Burke county assembled in the court house on Tuesday, 1st of April, 1845, when, on motion of Samuel P. Davis, George W. Evans was chosen Chairman, and Joseph A. Shewmake appointed Secretary.

Mr. J. B. Jones, in a few brief and pertinent remarks, stated the object of the meeting to be the organization of an Agricultural Society, and concluded by moving that a Committee of Seven be appointed by the Chairman, to draft a Constitution for the government of the Society.

The Chair appointed the following gentlemen that Committee, viz: Joseph B. Jones, Dr. Baldwin B. Miller, Judge John Carswell, Samuel P. Davis, M. C. Hammond, John Dowse, and Edmond Gresham.

On motion of Mr. Gresham, the Chairman was added to the Committee.

On motion of Mr. Hammond, the Committee was given until the first Monday in May to make their report.

On motion of Judge Whitehead, the meeting adjourned to meet on the 1st Monday in May.

JOSEPH A. SHEWMAKE, Sec'y.

May 5th, 1845.

Pursuant to adjournment, a large number of the citizens of the county assembled in the court room, to receive the report of the Committee appointed at the former meeting to draft a Constitution for the Society. Col. George W. Evans being in the Chair, Mr. James Jones was on motion appointed Secretary. Mr. Joseph B. Jones, Chairman of the Committee, then reported a preamble and constitution for the Society, which being twice read, and amended so as to allow any citizen of the State, planting in Burke county, to become a member, was, on motion of Mr. John Dowse, adopted.

The Hon. Chas. J. Jenkins, of Augusta, having been previously requested to address the Society, was waited upon by a committee consisting of Messrs. C. W. West, Mulford Marsh and Andrew Carson, to ascertain at what hour of Wednesday he could address the Society.

On motion of Jos. B. Jones, a committee of five was appointed, viz: Messrs. Jos. B. Jones, C. W. West, John Dowse, Andrew Carson and Benjamin E. Gilstrap, to nominate officers and an orator, to be elected on Wednesday by the Society.

The committee appointed to wait upon Mr. Jenkins, having reported the hour of one o'clock of Wednesday as the one appointed by him, the Society adjourned to meet at that time.

JAMES JONES, Sec'y.

May 7th, 1845.

The Society met pursuant to adjournment. The regular Chairman being absent, on motion, Mr. Thos. M. Berrien was requested to preside over the meeting, and Mr. Alexander MacKenzie was requested to act as Secretary.

Hon. Charles J. Jenkins then delivered an address on the subject of agriculture, of much beauty and practical worth.

The committee appointed at the previous meeting to nominate officers for the Society, reported the following nominations, viz: for President, George W. Evans; for Vice-Presidents, Andrew J. Lawson, John Whitehead, Baldwin B. Miller, Augustus H. Anderson; Corresponding Secretary, Quintillian Skrine; Recording Secretary, James Jones; Treasurer, John Carswell; Orator, M. C. Hammond.

On motion of Mr. Skrine, the report of the committee was adopted.

The hour for the sitting of Court having arrived, the Society, on motion of Dr. West, tendered their thanks to his Honor Judge Schley for the use of the court room, and adjourned to the first Tuesday in June.

ALEX. MACKENZIE, Sec'y. pro. tem.

Agricultural Society of Barbour Co., Ala.

At a meeting of the Agricultural Society of Barbour County, held in the Town Hall, on Wednesday, 14th day of May, 1845, pursuant to adjournment, Reports of the different Committees appointed at the last meeting were received, read, and ordered to be placed upon the journal of said Society.

To Col. A. MCDONALD, President of the Barbour County Agricultural Society:

SIR:—The Committee appointed at the last meeting of your Society, to examine the gardens in the town of Eufaula, beg leave to submit the following report:

Owing to the absence of some of the Committee during most of the time since their appointment, they have not been able to make so thorough an examination as they could have wished. They have, however, performed that duty, so far as the shortness of their time would permit, though under the most unfavorable auspices, arising out of the long dry spell which has just past. The Committee are happy to state, that they find more general attention being paid by the citizens to the cultivation and improvement of their gardens than heretofore—as well to the ornamental, as to the fruit and vegetable department; but we may suggest to our fair friends, the ladies, that there is still room for improvement, especially when we consider that it contributes so much to the comforts of the table, and those milder gratifications, affording no less pleasure to the senses of smell and sight. The vegetable gardens are well arranged and supplied with every article common to this section, and in a fine state of cultivation, though they do not present as fresh and growing an appearance as they would have otherwise done, owing to the long drouth. And the committee may be permitted to specify some articles that are comparatively rare in this section.

They found at Mr. Thos. Flournoy's the rhubarb growing finely—this article is used for making tarts, pies, &c., and much prized by those having fine tastes; they also saw strawberries of several kinds in a state of great perfection.

Col. McDonald's garden presents the freshest and most luxuriant appearance of any that the Committee have seen. He has a very great variety of vegetables, as well as rare fruits and flowers, some of which he imported; and the Committee must say that he deserves great credit for his energy in this interesting department of culture.

Mr. Young excels in the fruitery; he has blue and green gages so much prized at the North. Pears, peaches and apricots all growing on one stem; cherrys, apples, China oranges, and last, though not least, the alpine strawberry larger than a partridge egg.

Mr. Calhoun has the finest raspberries, some new kinds of squash, and all the varieties of the alium; also, an asparagus bed in preparation. He sows the seed broadcast in common earth, the next spring they are to be taken up, and the bed to be thrown out to the depth of a foot and a half, then laid at the bottom with brick, then filled with common earth, well mixed with manure, and the root set very deep; they are then allowed to grow for cutting. Mr. Paulim informs us of another plan which he regards as being better, which is simply to sow the seed in rows one foot and a half in width—the next spring, excavate about a foot in width and a foot and a half in depth between the rows, fill it up with manure, and let the earth thrown up be for a top covering—this is easier and more simple, and regarded as preferable. Mr. P. has the old field plum in a state of cultivation, and much improved by it, as the Committee can testify by having consulted freely their sense of taste.

Gen. Welborn has the Cuba strawberry, and a very pretty ornamental garden; saw there four live oaks, transplanted from the coast of Florida by Col. Cochran.

Dr. Battle's garden is good, but he is more skilled in the useful than the ornamental. The same may be said of Col. Hunter. General Shorter's garden does not present so fresh and growing an appearance as some others, but more forward. He has squashes, cucumbers, Irish potatoes in great numbers, and what is rare at this season, the summer turnip; also, the rannier, which is not common; the fruitery is well supplied, and the ornamental not excelled by any. Here may be seen oleanders, Cuba lillies, several kinds of the geranium, and the wax plant, now in bloom, and possessing rare beauty. The senior editor of the Shield has some skill in other departments than that of typography; judging from appearances, we should say that he was a *gardener* by *nature* as well as by *name*.

The Committee would have been pleased to have pursued the examination further, but for want of time our report must here close.

All of which is respectfully submitted.

W. H. THORNTON,
JNO. GILL SHORTER,
W. S. PAULLIN,
} Committee.

Col. A McDonald, who had been selected to deliver an address before the Society upon agriculture, performed the duty in an able and interesting manner. The question selected at the last meeting, for discussion, viz: What benefit arises from agricultural societies? was discussed by H. Hemphill, Col. John G. Shorter and the Rev. Charles Evans.

Col. McDonald offered the following resolution:

Resolved, That in the death of William Beauchamp, Esq., the Barbour County Agricultural Society, has lost one of its earliest, most active and useful members, and the community at large one of its most worthy citizens.

On motion of Mr. Thos. Flournoy, a Committee of three were appointed by the Chair, consisting of Messrs. Tho's. Flournoy, Abney and J. G. Shorter, to make arrangements for a public dinner, to be given by the society on the fourth of July next, and to select a suitable individual to deliver an address on that day.

On motion of Benj. Gardner, Esq., the proceedings, with the address of Col. McDonald, were ordered to be published in the Southern Shield.

Reports of Committees appointed to ascertain and report the increase, diminution, &c., of the various crops of the farmers of Barbour county, report that they have examined twenty-two farms, which have in cultivation 2460 acres of cotton, 2976 acres of corn, 384 acres of potatoes, 270 acres of small grain, 53 acres of rice; and they find upon the farms above alluded to, an increase of the provision crop of 962 acres, about that of last year, and that there is a reduction of 400 acres in the cotton crop; they report that more attention is paid to the raising of stock, &c.

On motion, the Society adjourned to 4th July next.

H. HEMPHILL, Sec'y.

Agricultural Meeting in Warren County.

At a meeting of the citizens of Warren county, held at Warrenton on the 3d June, pursuant to a previous adjournment, John Harris, Esq., was called to the chair, and Joseph W. Thomas, Esq., requested to act as Secretary. On motion, the proceedings of a previous meeting were read, when the report of the committee appointed at a previous meeting to draft a constitution was called for and submitted through their chairman, G. V. Neal, Esq.

On motion of G. V. Neal, Esq,

Resolved, That the constitution, as reported by the Committe, be taken up for adoption by sections.

Which was unanimously consented to and adopted.

On motion, the Society went into an election of officers for the ensuing year, when it appeared that the following gentlemen were elected, viz:—JOHN HARRIS, President; G. W. Hardeway, Samuel Hall, sen., Sterling Evans, Vice-Presidents; John H. Roberts, jr., Secretary and Treasurer.

On motion of S. W. Smith, Esq.,

Resolved, That the Chair appoint a commit-

tee of three to draft by-laws, (for the further government of the Society,) to be reported at next meeting.

A door for members being opened, something like 50 immediately signed the constitution.

Adjourned to meet first Tuesday in July next.

JOHN HARRIS, President.

JOSEPH W. THOMAS, Secretary, *pro tem.*

Cotton Seed Oil.

From Ellsworth's Report for 1844.

[The following account of cotton-seed oil, &c., from J. Hamilton Cooper, esq., of Georgia, will be read with interest, as it shows the use which may yet be made of an article produced in large quantities, and before comparatively useless. A gentleman at the North is already making inquiries on this subject, which may lead to his embarking in this enterprise. It is not improbable, therefore, that cotton-planters may rejoice to find an article of so little value hitherto may be converted into an important article of domestic and foreign use. It was received too late for reference in the report.]

The seed of the *Sea-island* or *long-staple* cotton weighs about 40 lbs. to the bushel. As it is less coated with fibre, the yield of oil to the bushel will be considerably greater than that of the upland; but I am unable to say what it is. As the two kinds are only varieties of the same plant, it is presumed that there is no difference in the oil from the two.

Practically considered, the Sea-island cotton seed may be put out of the quesiion, from its limited production, and the value set on it by planters as a manure.

From the experiments made on a large scale at Natchez, the oil from upland cotton seed was found, when well refined, to burn as well as spermaceti; it made also an excellent paint oil. There was, however, much difficulty in refining it, and so much waste in accomplishing it as to render the manufacture unprofitable. The process employed were such as were then used in the Netherlands, France, and in America; but none of them was satisfactory. There is every reason to expect that the great improvements and discoveries now making in organic chemistry will soon supply a satisfactory process of refinement.

As there are 30 bushels of seed to every bale of cotton, each bale will yield at least 15 gallons of crude oil, and 360 lbs. of oil cake. If the oil can be made to be worth 50 cents per gallon, and the cake be sold only for 1 cent, an increase of $10 at least per bale will be given, which in 2,000,000 of bales will be $20,000,000.

Through the greater part of the western country, the seed is absolutely thrown away, as the lands are too rich to be manured. The oil-cake from cotton seed has been extensively used by me as feed for horses, cattle, and sheep, and was found to be excellent. It may be used with equal advantage with *rape-cake* for food or manure.

Upland or Sea-Island cotton seed may be obtained from any of the factors in Charleston or Savannah.

No difficulty exists in hulling, tempering or expressing the oil. The huller of *Follet & Smith* of Petersburg, Virginia, accomplishes the first very effectually, at the rate of a bushel of kernels in four or five minutes; and the machinery employed in French Flanders for rape-seed, &c., answers perfectly for cotton seed.

The present low prices of cotton will present a sufficient inducement to planters to save and sell the seed at reasonable priees; and it is believed that, if a cheap and effective mode of refining the oil can be discovered, this branch of manufacture will become one of very high value to the country.

J. HAMILTON COOPER, *near Darien, Ga.*

Memoranda of experiments made in January, 1836, at Natchez, to ascertain the relative quantities of crude oil, cake, &c., from the seed of the short staple or upland cotton.

A.—200 grains (by weight) of seed of good quality, well dried in the sun, opened by hand, and the kernels carefully separated from the hulls and fibre, gave of

Kernels	115½ grains,	being 57¾	per cent.
Hulls and fibre	84½ "	" 42¼	"
	200	100	

B.—The same seed, after being well sun-dried, were heated on a shovel over the fire, until they became crisp. They lost 2½ per cent. in weight.

C.—One bushel (even measure) of seed, heated during eight minutes in a drying kiln, was hulled by Follet's huller, and gave

Kernels	14½ lbs., or	54½	per cent.
Hulls and fibre	12¼ "	45¾	"
	26¾ lbs. weigbt of 1 bushel of seed, *even* or *struck* measure.		

D.—One bushel (heaped measure) kiln dried gave

Kernels	16½ lbs., or	54.17	per cent.
Hulls and fibre	13¾ "	45.83	"
	30 lbs. weight of 1 bushel of seed heaped measure.		

E.—Ten bushels of kiln dried seed slightly heaped weighed.....301 lbs.
When hulled, tbey yielded 9½ busheis of hulls, &c., weighing.....117 lbs.
And 5 bushels of kernels, weighing.....184 lbs.
Which 5 bushels of kernels when kneaded into a paste under the stones, with 2 quarts of water, gave 3 bushels 18 quarts of tempered *meal*, which weighed.....198 lbs.
or 58⅜ lbs. per bushel.

F.—The average weight of a bushel of tempered meal is..... 61 lbs.
Deduct for water..... 3 lbs.
Leaves the weight of the kernel..... 58 lbs.

G.—One gallon of crude oil from the press weighed 7 lbs. 6 oz.

H.—One bushel of well-tempered meal weighing 61 lbs. was pressed, and the cake retempered and repressed: it gave

1st pressing	6½	quarts of crude oil.
2d pressing	2¾ "	"
	9 1-10	

Weight of the bushel of meal.....61 lbs.
Weight of 9 1-10 quarts, at 7 lbs. 6 oz. per gallon, (G).....16¾ lbs.
Leaves weight of the *cake*.....44¼

Results.

One bushel of seed weighing 30 lbs gives 16 lbs. of kernel, which, when tempered and twice pressed, yields from 2¼ quarts to 2 7-10 quarts of crude oil, and 12¼ lbs. of cake.

How to Raise Turkeys.

The attention of our readers has been repeatedly called to the subject of raising poultry—in the vicinity of our large cities, perhaps no stock is so profitable. Some good practical hints may be taken from the following, which the editor of the New Jersey Journal gives as the result of considerable experience of his own. The young turkey is proverbially a tender chick, and it is a nice matter to know how to manage him properly.

We believe it is common among farmers to say that a turkey's head costs twice as much as its body is worth when fattened. This we do not believe to be true, if he is properly managed; but on the contrary, we believe that nothing can be raised and turned to so great a profit. But turkeys must have care, especially when young; but this care will not entrench on the business of the farmer, as it may be done by females or the younger branches of the family—and besides, the little damage they may do to grass or other things, must not be magnified tenfold, as is usually the case. But by proper attention they will do no damage at all.

Before giving our rules to be observed in raising turkeys, let us draw a comparison. There are few farmers but can raise 100 turkeys—these 100 turkeys will weigh, when fattened, in December, upon an average, seven and a half pounds each, full dressed. We say *full dressed*, for it is the practice in some places to divest the turkey of nothing but its head and feathers, and then take it to market. A practice as uncivilized as it is disgusting. These hundred turkeys then will weigh 750 lbs., which in market are equal to 1,500 lbs. of pork. But if the male turkeys are kept until February or March, they will not only increase in weight, twice the amount of their feed, but the price in market will be much higher.

We will now give the rules to be observed in raising and fattening them, founded wholly on our experience. Turkeys intended for breeders, must be kept well during the winter. If put in good condition, however, in December, it takes but little feed to keep them so. Their nests for laying must be made with hay or oat straw, under cover, and be well protected from the weather, and from vermin. When incubation commences, the turkey must not be disturbed, and if she does not come from her nest for food and water, she must have both placed by her on her nest. When the young turkeys are hatched, they may be allowed to remain one day on the nest, or if removed, let them be sheltered in a warm place, and plenty of straw for them to set upon, for they are now extremely liable to take cold. The second day feed them with curds, or warm clabbered milk mixed with a little Indian or barley meal. They must be kept up and fed in this way for two or three days, and longer if the weather should be cold or rainy, but as soon as a warm and pleasant day comes, let them out at nine or ten o'clock, and shut them up at four; and this practice of letting them out and shutting up *must* be followed for five or six weeks, and on no account let them get wet. When a young turkey begins to droop, there is but little hope for it. There is no danger of keeping them too warm. When they are five or six weeks old, put a little grease on their heads to preserve them from lice.

At the age of six or eight weeks the turkey is more hardy, but still should not be exposed to rains or the damp nights, for a few weeks longer. If the farmer has a plot of grass let him enclose a yard with a high fence, and crop the wings of the old turkeys, and continue to feed them with clabbered milk, and whatever else he pleases that comes from the kitchen, such as broken bread, potatoes, and the like. If he has a clover field, as soon as it is mown, let them run on it, and they will live on young clover. And as soon as the crops are off the ground, say in August or September, let them range on the farm; but see to it, that they come to their roosting place at night, and have water.

In December the turkeys will be large enough to fatten, and for this purpose select as many as you please, and shut them up—next take to the mill, a few bushels of *ears* of Indian corn, and have it ground—then boil potatoes, and mix the meal with the scalding water and potatoes in a tub, say in the proportion of one bushel of potatoes to one peck or more of meal, and stir them well together, then let it cool, but give it to the turkeys as warm as they will bear it, and as much as they will eat, and in two weeks and a half, they will be fat enough for market, and for an alderman's dinner.

We do not take this from books, but from several years' experience. We kept an exact account of the expense of raising and fattening a flock, and at the rate of ten cents a pound full dressed, we received $72, while our cost exclusive of sour milk, was less than $10. If any farmer does not wish to be at the *special* trouble of raising them, but should have a small flock to fatten, that have lived "in spite of wind and weather," let him adopt our rules of fattening, and he will "save much corn." On a large farm, and with a large yard and a butter dairy with proper attention we believe it may be mad, a leading business to great profit.—*Far. Cab.*

GATES FOR BARS.—There are few farmers so destitute of mechanical skill, as to be unable to make a substantial gate. This is a convenient, secure, time-saving, labor-saving, and we may add, *temper*-saving fixture. We know of no merit which bars have to recommend them in preference to the gate, and the substitution of the latter for the former, is always considered an improvement on a farm, as a good firm wall is in place of a flimsy fence.

Do not, if possible, depend on your neighbors for the *tools* required for such work as the making of a gate. Purchase them—and then you will not be liable to be interrupted in your work by a summons to return them at the moment, as you are in case of borrowed tools, and have to wait till the owner has done with them, before you can go on again—and then, perhaps, resume your work only to be again interrupted

by another call for the tools. This is vexatious both to borrower and lender, and not unfrequently engenders ill feeling on the part of one or both. Be as independent of borrowing as you can—but we do *not* add, *refuse to lend.*

Progress of English Agriculture.

Farmers are finding out that it is necessary for them, with a view to their own interests, to take a very different course from that which was followed by their grandfathers. In these days, no man is allowed to stand still. Improvement must go on. And I see throughout the country, in every part of it, gratifying proofs that improvement is going on, as actively in the agricultural as in the manufacturing districts and operations of the country. Even within the last four or five years, I see strides which, small as they may be compared with what might be done, are gigantic when compared with what was done before. I think it is not more than four or five years ago that, at a meeting of the Royal Agricultural Society of England, I first noticed, as a novelty of a singular character, a new manure, known as guano, and recommended to the agriculturists of England. If I am not misinformed, from the port of Liverpool alone there have gone out, within this single year, no less than 150 vessels, chartered expressly for the purpose of importing this then unknown manure for the improvement of the agriculture of the country. Everywhere I see old and useless fences disappearing, fields enlarging, improved modes of cultivation adopted; and I see going on with immense rapidity that which, I must again and again impress upon you who are connected with the land, is the basis of all improvement—deep thorough drainage of the land; and not here alone, but throughout all England, I see most remarkably, as indeed any one may do, even though whirled through the country at the railway speed with which we are now carried, what an extent of improvement has been effected in this respect. Every one is struck with the appearance of preparation for the future exertions, which are, at the same time, the token of well-deserved success.—*Lord Stanley at the Liverpool Agricultural Association.*

The Rat-Tail Geranium.—Speaking of plants, let us ask our friend if he ever heard of the celebrated "Rat-tail Geranium," which was first brought to public notice by a famous beau and courtier at Washington, some years since? It seems that he had a passion for Geraniums; and on one occasion he was informed by a friend ("beshrew him for a mad wag!") that if he desired to enrich his collection of plants with one not to be had elsewhere, and which had just been imported from the Niger, to lose not a moment in securing it. This was sufficient. Away he posted, and for a pretty penny became proprietor of the only Rat-tail Geranium in America. Placing it under his arm, he repaired to the residence of the lady of one of the high dignitaries of the Federal city. Placing it carefully upon the window-sill of the drawing-room, and as carefully adjusting the stem, which, he said, in consequence of a long voyage had become a little dry and lost its foliage; and giving especial directions to have it exposed to the sun, kept well watered, and taken in at night he made his congee and departed. On the third day it began to send forth its fragrance; each succeeding day it increased, but showed no signs of budding. On the sixth day, curiosity was on tip-toe to ascertain, by actual examination, the structure of a plant so redolent of a very remarkable perfume, and yet so withered and stiff, as was the stem of the "Rat-tail Niger Geranium." On removing the earth, and following the stem downward, lo! there lay the remains of an enormous rat, with his tail tied neatly up to a stick!—*Western Farmer and Gardener.*

☞Quite a stir has been created at Lowell by the introduction of a new cotton spinning frame which has just been put into operation there. It is said to require but *one half the power*, and will make *more yarn* and of more *even twist* at about *two-thirds the expense* of other kinds of frames in use.

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LECTURE OF PROF. JOHNSTON.

We extract, says the Tennessee Agriculturist, the following Lecture delivered by Professor Johnston, before the Parish Schoolmasters of Scotland, from the Edinburgh (Scotland) Witness, of September 25th, detailing many valuable improvements that ought to be of the first moment in the old country. We hope to see the day speedily arrive when Agriculture in Schools, will be taught in every quarter of our land, and the generations that are to follow, benefitted and improved.

AGRICULTURAL INSTRUCTION IN SCHOOLS.

At the request of a number of parochial schoolmasters, Professor Johnston gave a lecture on Friday afternoon, in the High School Hall, on the introduction of agricultural instruction into elementary schools in Scotland. There was a very full attendance of schoolmasters and others interested in the matter. Mr. Gunn of the High School having been called to the chair,

Professor Johnston rose and said, that he should not have presumed to have appeared before them (the parish schoolmasters,) in reference to so important a subject as agricultural education had he not been requested to do so by various parties---by members of their own body and others. He had communications from various quarters on the subject, and had also had transmitted to him a memorial addressed to the Lord Justice-General from a parish schoolmaster, expressing a desire on the part of himself and others of the body, to introduce, among the various branches of education taught in their schools, some instruction in the principles and [illegible] agriculture. Besides, he had been encouraged [illegible] bring the matter before them, because of the result of a meeting lately held in Glasgow for the purpose of considering whether it was possible to introduce into elementary schools instruction in the elements of chemistry as applied to agriculture, and that without interfering with the ordinary course of study in these schools. He had previously had some doubts on the subject; but after hearing some boys, from the Irish National Schools, who were brought to Glasgow for the purpose, examined, all his scruples had been removed; and being himself satisfied, he now appeared before the present meeting for the purpose of stating his views of the matter. He was encouraged also, from what he had since observed in various parts of the country; for he found that there was a general desire on the part of the agriculturists that their children should receive that sort of education of which they themselves were deficient, in order that they might improve their condition in life by cultivating the land to more advantage than had hitherto been done. In what he should take the liberty of saying, he begged to be distinctly understood, that he spoke only his own views---he committed no other parties to any points in which they might think proper to differ from him. He did not appear before them as representing the Agricultural Chemistry Association, but simply as an individual, and in compliance with their own request—a request he had been most willing to meet. It was important that such instruction as he alluded to should be given, because the population of the country was ahead of the present productive powers of the land—because the land did not now produce enough of corn for the people--and because the land of the country could easily be made to maintain a much larger population, and, in doing so, give more profit to the farmer. Scotland was as much advanced in the science of agriculture as any other country; but in every other country it had been demonstrated that the best cultivated districts might be improved by the application of chemistry to the land. The general persuasion of its importance was such, that Agricultural Chemistry Colleges had been established at Petersburg, at Moscow, in the West Indies, in England, and also in Ireland. In fact, agricultural schools were springing up everywhere, in a way adapted to the circumstances of each country. He was clearly of opinion, that it was of especial importance to introduce agricultural instruction into our parish and other elementary schools. Some farmers who were possessed of wealth were enabled to send their sons to other than the parish schools to receive their education; but it was otherwise with the small farmers in many districts, especially in Ayrshire, whose sons had no other education than they received at these schools. He need not tell them how difficult it was for the farmer to acquire new and additional information when engaged in the cultivation of his farm; therefore it was of great importance, if the land was to be made more productive, that that kind of knowledge which would conduce to accomplish so desirable an end, should be acquired while at school, by those who were to succeed their fathers in the cultivation of the soil. Besides the farmers' sons, there were the sons of the laboring class, from whence the grieves all rose; and when they considered how much the prosperity of the country depended on the knowledge of the laborers, the meeting would see how important it was that the sons of the laboring classes should acquire that knowledge before they left school, thereby giving them the means of raising and bettering their future condition in life. His audience were probably aware, that an idea prevailed, that by giving to the laboring class a portion of land to cultivate, their moral condition as well as their animal comforts would be greatly increased; therefore they would see how important it was that those classes should be properly educated, not only to promote the improvement of the country generally, but that they might be prepared for the cultivation of allotments, should they obtain them, and be fitted to become more useful members of society than they had hitherto been. He came now to the consideration of what should be taught. Agriculture divided itself strictly into three branches,---1st, the culture and improvement of the soil; 2d, the rearing and improvement of stock; and 3d, the use and improvement of agricultural implements. The force of agricultural societies had been mainly directed to the second branch, consequently the improvement of stock had gone ahead of the improvement of the land; and this in face of the fact, that the land was the more important of the two, as being the feeder not only of the stock, but of the people also. Indeed, he held in his hand a letter from a most intelligent farmer, who stated that the stock was too good for the land. And as the cultivation of the land was of the greatest importance, the other two branches being subsidiary to it, the force of the schoolmasters would be most usefully, as it would be most easily, directed to teaching in regard to the culture and improvement of the soil. Now, their teaching might be of two kinds—theoretical, or practical, or both. He would come to the consideration of both. He thought that in elementary schools they might easily inculcate and impress on the minds of the youth under their care, the principles upon which the culture of the soil ought to be based. Of the sciences on which these principles depend, chemistry was the most important; and it was necessary, therefore, before they could teach the young mind, that they should give a knowledge of so much elementary chemistry as to make him understand the words used by the chemists. It was not enough that he should know such names as soda and potash,—he should also know the difference between them. They must not teach any one science for its own sake, but as an important branch of national industry.—They must not be led away by their attachment to one branch, such as chemistry, so as to give too much of it, but only so much as was necessary to explain the principles upon which that branch of industry was based, in order that the pupil might understand and comprehend the new words which they were obliged to make use of. They were to make their pupils, not chemists, not botanists, but scientific farmers; for in that the public were interested and would support them. [Here Professor Johnston referred his audience to a catechism which he had drawn up at the request of the schoolmasters of Ayrshire.] As to the experiments they would find it necessary to make, they were few and very simple. For instance, here was the carbonate of soda in one glass vessel, and the carbonate of lime in another. Take and pour spirits of salt on them, and they would observe carbonic acid gas arise, which extinguished a lighted taper when put into the vessel. They would also perceive that the smoke of the extinguished taper floated on the top of the gas, thereby showing how much was in the vessel. This gas, they were aware, performed most important functions; but it was not necessary to give the boy more information than was requisite to fix in his mind the name and property of the gas. Then as to phosphoric acid—here was a piece of phosphorus, which they would observe, when he burned it under a glass, sent up white flames; all they had to do, therefore, was to tell the boy that those white flames were phosphoric acid; that the same was in his bones and in the food which he eats—and he would then easily remember what phosphoric acid was. If they did not happen to have phosphorus by them, they might use lucifer matches, which are easily procured, which on friction being applied to them send up the same sort of white vapor as did the phosphorus which they had just seen burned. They could also connect carbonic acid with the daily life of the pupil, by telling him that what was produced when charcoal was burned was what he breathed. He would then go and tell his father that this same substance which he throws off from his lungs was what the leaves of plants sucked in; that plants took it from starch, and that animals eat the starch to form it. After making an experiment to show that liquid manure was an important substance if applied to plants, as it greatly promoted their growth, the Professor then went on to say that the more simple the teacher could make his experiments the better—they should teach no more

philosophy than was absolutely necessary; but at the same time it must be strictly correct. He would advise them to confine themselves to facts—not to announce the principles. He would also press upon them, in endeavoring to fix facts on the boy's mind, to call to aid all his senses—his sense of sight, for instance. Then as to smell, ammonia might be used; and for taste, common salt, alum, and soda, which were perfectly harmless. As to touch, sal-ammoniac would be of use. They would observe that the little piece which he had just broken off, bent; and he knew of no other substance which a boy was likely to meet with that would bend in like manner. The Professor then directed attention to a set of tables which he recommended for the use of elementary schools—one of them, to which he specially called the observation of the meeting, was an exposition of the ash of the different kinds of grain, namely, potash, soda, lime, magnesia, oxide of iron, oxide of magnese, phosphoric acid, sulphuric acid, silicia, and chlorine. He remarked that such a table as this would tend much to fix the words used by chemists in the memory of the pupils; and also to impress principles upon their mind: as, for instance, that in the ash of all the different kinds of grain, there was more phosphoric acid than any other substance. As to the means of information for themselves, it was a great convenience to him, in bringing the subject forward, both here and elsewhere, that he could offer them his own books; a few months ago, and he could not have told them where the knowledge they required could be obtained. As to the expense of making the experiments, it would not amount to more than five shillings a-year, as the materials could be procured at a very cheap rate. With regard to the apparatus, all that was necessary could be got for thirty shillings from Messrs. Griffin of Glasgow, who had, at his request, prepared a set of apparatus. Then, as to the time it would occupy to teach the science, why, that was a point on which some misapprehension might readily arise. The boys who attended school generally did so for three or four years. Now all that he asked was one hour a week—that was enough to learn all that was necessary to be taught on the subject; but if they could give him two hours he should like it better, as then there would be time to spare. The children also would learn much without teaching, from seeing the tables he had alluded to, and also from experiments. He did not wish that this one hour a-week should interfere with the usual course of instruction, although it might not necessarily be new or additional to what was now given to teaching. In fact, he did not wish any of them to teach in one particular way or another; he left that to themselves, merely taking the liberty of giving his opinion in the matter. As to the practical teaching of the science, that could be done in various ways. For instance, they might on a Saturday afternoon go with the boys to a farm in the neighborhood, and describe the operations of the farmer. After telling them all about the rotation of crops—that a green crop followed after grain, and so forth, the teacher might then say, let us go now and see how the farmer works. This, he thought, might be of great benefit to the scholars. As to school farms, the system of attaching pieces of land to schools had been adopted in reference to the Irish National Schools; it was also done in the schools which had been established in England; and it had been proposed to adopt a similar practice here. But this he did not hold to be indispensable. If he were asked the question, should the schoolmasters have a five acre glebe, he would say that in no case of a parish school did he contemplate that the master should work so many hours a day in his farm, and superintend the labor of the boys. But he had no crotchet in his head on this point—his mind was not made up on the subject; and although he might afterwards recommend it, at present his opinion, if asked, was, "as a general rule no, at least at first." But if they differed from him, he left them to do as they liked—making only these two conditions, viz., that they did not lower themselves in station—that they neglected none of the other important branches of education. There were two objections to the proposal. In the first place, there was a jealousy on the part of the schoolmasters themselves that it would lower them in public estimation to cultivate land, at the same time that they were engaged in the cultivation of the youthful mind. Then there was a jealousy on the part of those interested in the proper teaching of the scholars, lest the master, finding it profitable to cultivate, should take more than he could properly cultivate, and thus neglect other and more important matters. But no general rule could be laid down in this respect, as all the schools were differently circumstanced. The same mode would not suit for all, as the same necessity did not exist in every case for having pieces of land attached to the parish schools. As an inducement to them to pursue a course of agricultural education, he might remark, that they would have the satisfaction of contributing towards a great national good, and they would also maintain the parish schools in that position and pre eminence which it was desirable they should ever be in, and thus neutralise rivalry. The Government of the country took an interest in the subject—they had shown that they did so, by declaring themselves in favor of a course of agricultural education, and establishing schools for that purpose. Now, the parochial schoolmasters, many of whom he now addressed, were at present, through their friends, making an application to parliament for an increase to their allowance, which was allowed on all hands to be too small; and he held in his hand a letter from a gentleman who took a great interest in the matter, which stated that if the schoolmasters showed an interest to promote the fundamental welfare of the country, as, for instance, the improvement of agriculture, it would have great weight with Parliament. Another point was, that as individuals they would have an opportunity of bringing themselves into notice, and new means of rising presented to them. It would increase their consideration in the locality where they resided. For instance, a schoolmaster might go to a farmer and talk to him about Latin, which he would not care about, as he did not understand it; but if he could hold the plow, then he would think him a better man. As an illustration of this feeling, he might mention what the schoolmaster of Eyemouth had said, "If I could teach fishing, the parents would take more interest in the school." (Laughter.) They would, he repeated, render themselves of more importance in the district where they resided, and be thought more of by the farmers and others with whom they came in contact. They might find indifference, and might meet with opposition; but their hands might be strengthened by the establishment of clubs; and he would therefore recommend them to meet occasionally and consult with one another regarding the mode of teaching; and by doing so, he had no doubt they would overcome many local difficulties. The way to gain over the old farmers to their views—to remove their prejudices—was not by opposing and railing at them, but by becoming in appearance their pupils; not by propounding hastily formed and positive opinions, but by calmly and dispassionately conversing with them on the subject. The subject, he might add, was interesting to all parties in Parliament. The Field Gardens Bill, was an evidence of that on the part of one section of the House, and was not unfavored by Government. Another section proposed to join with it an Agricultural School Bill. In conclusion, the Professor said that if twenty of the gentlemen present would like to hear an address on the science itself, in order that they might have an opportunity of understanding some of its beauties, he would be happy to meet them next forenoon in the same place.

The offer of Prof. Johnston was at once accepted, and a Committee named to make the necessary arrangements.

The meeting then separated.

GOV. HAMMOND'S REPORT.

From the South Western Farmer.

We give at the conclusion of this notice, the Report of a Committee of which our friend, J. H. Hammond, was chairman. We congratulate him on the knowledge of farming that he displays. We see how readily the educated and intelligent can learn the business of farming. But a short time since, our old school-mate was up to his eyes in politics—he now retires to the field—there to live a quiet, peaceable life. We rejoice at it, and can but repeat the remark we made to him, before he was elected Governor—"You are wrong—you have no business in that sphere—seek your ease and peace—it suits you better and will give you satisfaction." His answer was then, as his works answer now: "I will do so as early as the force of circumstances will permit"—or to this purport were both.

We again congratulate him, and also our country, in the success of our friend—we also press on all agriculturists any articles from the pen of Hammond; he will, we feel assured, give all matters that he writes on, his minute and particular attention. We have known him from both of our boyhoods, and know him to be talented and observing, and more than all, when he does apply himself, it is an application deserving and insuring success.

As we are his senior in planting the cotton, especially in personal attention to it, we beg to give him a hint or two. We may err in our notions; and why we say so, is, that we differ materially from so large a number of farmers. We think that very early planting is disadvantageous; and to define early planting, we think the last week in March is early enough at any time, even for this year, when, it will be borne in mind, the fruit trees were quite green at that time; to plant as early as the 15th or 20th of March is "very early." We generally judge it to be time to plant corn when the "leaf of the oak is as large as the squirrel's ear," many of our planters have planted cotton as early. We think cotton planted from the 1st to the 10th of April is early enough for old land, and have known by several crops that the later planting, say 10th, was considerably better than the early—we know this not only by our own weights and measures, but also by others.

We would make an exception to early planting. New ground and rich fresh land, from such a tendency to make weed, that it is necessary to plant as early as a stand can be had—so all think; we would not object, but think that judicious culture would make a different result. We would act precisely as with the tree that produced wood instead of fruit—amputate the roots. We think that if the land has been broken up very early, and left to be consolidated by rains, then plant about the 5th to the 10th of April, thinned out as early as it was up, cultivated deep and late, that the stalks would set the fruit and ripen in time. Do we not thus with fruit trees, Irish potatoe and sweet potatoe—the latter too, by either cutting off tops, or feeding with calves? And why not a similar practice with the cotton plant?

The cotton plant is a very tender plant if treated as it was some ten or fifteen years since—some three to six bushel of seed sown per acre, and not thinned out until the third leaf had appeared—it has been raised in a hot bed, and no wonder it is tender; but if sown thinly, and then thinned out to single stalks, we think it a hardy plant. There is no use in trying the hardihood of the plant. It is unlike corn—it has a tap root, grows in dry weather, and unless the land has not been properly prepared, or remarkably dry, it will improve by hot or dry weather—but corn having superficial roots, should be planted early as possible, that it may ripen before drought sets in. If cotton will make 1000 lbs. per acre when planted late in May there can be no fears to plant 10th April. The farmer can place his land in excellent order—have his corn cleaned handsomely, and when cotton is up, he can push it to the utmost. We request our friend H. to

plant one acre of cotton, even now, after his seeing this, on a piece of well plowed land, in he same field that he has now even scraped over; just open out furrows where the cotton now stands, which will destroy the cotton that has been scraped. Our impression is, that the difference will be very slight, and if adopted generally would give considerable time to manure, plow and improve, instead of giving cotton the additional working necessary. The land that we have known planted late, would not in average seasons make anything like one-third more, by early planting, and if the extra labor was applied to improving it, we doubt, if it would yield as much. Understand, we do not advocate either late or early planting—that is, after the 25th of April or before 1st—and only wish to show there is not so vast a difference between planting 1st April and 1st May. What would be the gain to any farm by the extra month's work? P.

REPORT OF THE COMMITTEE OF THE BARNWELL AGRICULTURAL SOCIETY ON THE CULTURE OF COTTON.

The ground cannot be too well prepared for Cotton.—If it had rested one year it should be broken flush, as early in the previous fall as possible, and headed just before planting. If it has rested two years or been planted the preceding year, let it be listed as early as it can be done, and two furrows thrown upon the list. Immediately upon planting let two more furrows be thrown up, and balk broken out completely. The common method of running three furrows, and planting on it, throws the winter's portion of the crop-work upon the laborer, during crop time, and is inexcusable, unless heavy clearings are absolutely required. The reason for not listing after one year's rest, is, that the vegetable matter will be too abundant and too coarse to form a substratum to receive the tap-root.

Cotton should be planted early—It may increase the difficulty of getting a stand, and give the plant, for a long time, a puny appearance, but every stalk of Cotton planted in March, or first week in April, that survives, may be readily distinguished, in any field that has been replanted later. It bears more, and earlier, and stands all the vicissitudes of June, July and August, better. There are several methods of planting. Your committee recommend planting in spots, regularly measured by the dibble. It is somewhat tedious, though less so than is generally supposed, and certainly does not take as much time as both to drill and chop out; nor is time so valuable at that period, as when the latter operation is required, while a better and more regular stand may be secured. There is no land, or but little, in our district, in which cotton rows should be over three feet apart, or the cotton further than fourteen inches in the drill, one plant in a place. To make a large crop there must be an abundant supply of stalks. When the weather is too wet to plant, time may be often saved by dropping the seed, but not covering until the ground is dryer. If, however, it cannot be covered in three or four days, it is time lost, for it must be re-planted. Always cover lightly, under any circumstances. And always plant on something of a bed, in any land. It keeps cotton dryer, and affords more air when it is young. It enables you to get at it in working. By increasing the surface, it absorbs more moisture, if it is too dry; and gives out more if it is too wet, and in both cases gives you the advantage of a vertical sun on the tap-root, which hastens the maturity of the bolls—a vast desideratum in our climate. On this account the bed can hardly be drawn too high at the last hoeing, in any season.

In cultivating Cotton, whether with the plow or hoe, the chief object is to keep down the grass, which is its greatest antagonist, bringing all, or almost all other evils in its train. It is not so essential, in the opinion of your committee, to keep the ground stirred, as is generally supposed, and by no means requisite to stir it deep; at all events not to our light soil. If it be well prepared, deep plowing is not only unnecessary for any of our crops, but often highly injurious to them, while it rapidly exhausts the land, by turning it up fresh, under a burning sun. Much unnecessary pains is usually taken, and time lost, to work the plant in a particular way, under the supposition that it is a peculiarly delicate one. If it survives its infancy, few plants are hardier. It is often found to reach maturity in the alleys, where the mules walk with the plows following and the laborer tramps backwards and forwards. Sometimes it will bear fruit in turnrows used frequently for wagons, while it really seems to derive benefit from being bitten down almost to the ground by the animals, it will bear almost any usage better than it will that mortal enemy—grass.

The most critical operation in working cotton *is thinning*. It should be done with great care, and if early, with the hand. In a dry year, it cannot be done too early after the plant is up. In a wet one, it may be profitably delayed, until it has begun to form or later even. On the experience, observation and judgment of the planter, in this matter, everything depends, as each year brings its own rules with it. Where circumstances are favorable early thinning is of course the best. Some planters always top their cotton. Others never do. Your committee are of spinion, that it seldom or never does harm to do so. But whether it is worth the trouble, is a doubtful question. Those who have no clearing, or other important employ for their hands, would lose nothing by devoting three or four days to this operation early in August. Those pressed for time might gain by omitting it.

Too much pains cannot be taken in preparing Cotton for market, for they are well remunerated by the additional price. The first thing to be attended to, is to have it gathered free of trash. With a little care wonders can be effected in this way; and hands with a short training, will pick almost, if not quite, as much without trash as with it. It should never be gathered when wet. And here it may not be out of place to remark, that one of the very best sanitory rules of a plantation is never to send out your hands to pick until the dew has nearly or quite disappeared. It saves time in the long run, as well as health and life. Cotton should never be ginned, until the seed are so dry as to crack between the teeth. If damp, it is preferable to dry it in the shade, as the sun extracts the oil and injures the staple. If, by accident, however, it gets wet, there is no alternative but to put it on the scaffold. It is of great importance to sort the cotton carefully, into several qualities, in ginning and packing, for by mixing all qualities together, the average of the price is certainly lowered. A few old hands or very young ones, breeding women, sucklers, and invalids, will earn excellent wages in a ginhouse at this occupation. Neat packing is of no small importance, in the sale of cotton, and no little taste may be displayed in making the packages. The advantage of square bags is universally known and the committee are astonished that any other should ever be made now.

Every kind of manure is valuable for cotton.—Every kind of compost, green crops turned in, cotton seed and even naked leaves listed and left to rot, improves this crop. When planted on cotton seed, and sometimes on strong stable manure, it is more difficult to retain a stand, owing probably to the over stimulus of these strong manures. So, on leaves, unless well rotted, the cotton will long continue to die, in consequence of the leaves decaying away and exposing the root too much to sun and rain. These difficulties may be avoided, by a little pains, and by no means justify the opinion entertained by some, that cotton should never be planted on freshly manured land. The only question is the cost of the manure. A great deal may be made on every plantation, without much trouble or expense, by keeping the stables and stable yard, hog and cow pens, well supplied with leaves and straw. And also from pens of corncobs; sweepings from negro and fowl house yards and rank weeds that spring up about them collected together and left to rot. Whenever the business is carried further, and a regular force is detached to make manure at all seasons, and entirely left out from the crop, it becomes the owner to enter into a close calculation of the cost and profits. In many agricultural operations, such a course, the experience of all countries has proved to be profitable, but these operations partake rather more of the farming and gardening, than planting character, and whether the same method will do for the extensive planting of short staple cotton remains, in the opinion of your committee, yet to be tested. If anything like an average of past prices can be maintained, it is certain that more can be made by planting largely than by making manure as a crop. If, however, prices continue to fall, and the growing of cotton be confined to a few rich spots—those susceptible of high manuring—then our whole system must be changed, our crops must be curtailed, and staple-labor losing its past value, the comparative profit of a cotton and manure crop, will preponderate in favor of the latter. As a substitute for manuring on a large scale, resting and rotation of crops is resorted to. In our right level land, the practice of resting cannot be too highly recommended, and, by a judicious course, such as resting two and planting two, or at most three years, our lands may not only be kept up for ever, but absolutely improved. From rotation of crops but little is gained for cotton. After small grain, whether from the exhausting nature of that crop, on light lands, or because the stubble keeps the ground always rough and porous, cotton will not do well. After corn it is difficult to tend, as from our usual manner of cultivating corn, grass is always left in full possession of the field. It does best after cotton, or after a year's rest. Rest is the grand restorer, and the rotation chiefly required in the cultivation of cotton.

J. H. Hammond, Chairman.

CULTIVATION OF CELERY.

From Ellsworth's Report for 1841

New York, December 12, 1844.

Dear Sir: The cultivation and growth of celery, that most excellent and wholesome winter vegetable, requires the close attention of the gardener to bring it to perfection.

A practical gardener will soon learn the art; and for the benefit of those who have yet to learn it, I beg to hand you the result of my own experience for the last 25 years.

In this country, it is not necessary to sow the seed before the month of May, and then in the open ground, well manured with stable dung thoroughly cured, and not less than a year old. The color, whether white or red, is a matter of taste. I generally mix my seed, and thus have both species. The seed is slow of vegetation, but, if good, never fails to germinate. Whether the seed be sown broadcast or in drills, is a matter of no consequence; as the seed being very small, the plants are sure to shoot up thick. So soon as the sprouts have attained the height of an inch, they should be pricked out in a bed of rich mould, at the distance of about three inches each way from each other. You cannot have good strong stocky plants without pursuing this method. If left standing in the seedling-bed, they will grow spindling, weak, and consumptive. No more attention is required, excepting that of keeping the plants perfectly free from weeds, until August, when you will find the plants strong, healthy and vigorous.

Any time in this month, dig your trenches 18 inches deep and as many wide. For this purpose, I generally occupy the ground that has been used for early peas.

The quality of the celery, and chiefly its growth, depend entirely upon the next step. The trenches should be half filled with thoroughly cured stable manure. I have found the manure used for early hot-beds the best. It never fails of success. The increased fermentation of the manure, by the repeated waterings of the beds, the escape of the ammonia and noxious qualities of the manure, renders it sweet, and capable of imparting the mildest and richest

flavor to the plant. If fresh manure from the yard, of whatever kind, is used, the celery will invariably grow strong and rank, with as little delicacy of flavor as there is in the manure. With a garden fork of four tines, strike through the manure in the trench into the earth beneath, and bring it up fresh, carefully mixing it with the manure as you proceed from one end of the trench to the other. Attention to this point is indispensable to the growth of good celery.

The plants taken up should be trimmed about the crown, just at the top of the root; all the young suckers taken off, leaving the plant trim and neat, with all its main stalks. With a dibble, which should be as large as the handle of a spade, as the roots will now be of considerable size, begin at one end of the trench with your face towards the other, and set in a single row of plants in the middle of the trench, and not less than 6 inches asunder; water them well. No tetotaler loves water better than celery. It cannot have too much. The roots of this plant require more room than is generally allowed them, as any one may see when they are taken up for the table.

Earthing up the plants should be delayed until they have attained a good size; and then it requires care, especially the first time. I always get into the trench myself, and, holding the plant with all its stalks firmly in my left hand, with a short handled small hoe draw the earth up round the plant, without allowing it to come in between the stalks. When this is done, and the plants thus protected, you may, with a spade, strike off the edges of the trench, and partially fill it. As the plant grows, (as it now will, if well watered in dry weather, with great vigor) continue to earth up, and by the 1st of November the plants will be two feet above the level of the earth, and with a main stalk the size of a man's arm.

Sometimes, particularly if the season is dry, celery is liable to be attacked by a fly. In that case, you will see the tops of the celery turn brown and wither. The moment that symptom appears, no time is to be lost in calling in the doctor, for the whole crop is at stake. The cause of the disease is the sting of a fly upon the leaves of the celery. The egg is deposited between the integuments of the leaf, and soon hatches into a small white worm—sometimes visible on opening the leaf to the naked eye, always by the aid of a microscope. If not attended to, the disease gradually descends to the root, and the whole plant falls a sacrifice. Amputate every defective and diseased leaf; and early in the morning, whilst the dew is on, sift on to the whole of the plants fresh slaked lime. One such powdering is generally sufficient; but if not, give them another dose, and the first rain that falls will wash the plants clean, and you will probably see them fresh, green and stretching away towards maturity.

With regard to the mode of securing the crop for winter use, gentlemen have their fancies. I prefer leaving the plants in their original trenches, earthing up to the top of the plants, and covering with straw litter and boards, so as to protect them sufficiently from the frost, to be able to take them up as wanted; and this always fresh and sweet. I do not fancy disturbing the roots, and transplanting into narrow quarters.

Finally, any one in this country who wishes to have "first rate" celery must cultivate it himself. Common laborers are sure to spoil it. Professional gardeners are seldom found, and generally too expensive when they are.

Your ob't servant, JUNIUS SMITH.

Extract from a letter from Henry Smith, Esq., dated Astoria, New York, January 13, 1845.

Dear Sir: Agreeably to your request, I have measured some of the celery, taking a fair run of that which was taken up from the back garden: 1st root measured 29 inches in length, and diameter proportionally large; 2d root measured 29 inches in length, diameter in proportion; 3d root 29 inches in length, diameter also in proportion.

The celery is as fine as I ever had in quality; and I do not know that I ever saw much better even in Lancashire, where you know they are proverbial for fine celery. The parcel which we removed from the garden to the cellar, under the wing of the house, is all decaying very much as we expected it would; whilst the lot left standing in the garden, is beautiful and fresh.

HORTICULTURAL OUTLINE.

AN OUTLINE OF THE FIRST PRINCIPLES OF HORTICULTURE: By JOHN LINDLEY, F.R.S., &c., &c., Professor of Botany in the University of London, and Assistant Secretary of the Horticultural Society.—[CONTINUED.]

X. SAP.

260. The fluid matter which is absorbed either from the earth or from the air is called sap.

261. When it first enters a plant it consists of water holding certain principles, especially carbonic acid, in solution.

262. These principles chiefly consist of animal or vegetable matter in a state of decomposition, and are energetic in proportion to their solubility, or tendency to form carbonic acid by combining with the oxygen of the air.

263. Sap soon afterwards acquires the nature of mucilage or sugar, and subsequently becomes still further altered by the admixture of such soluble matter as it receives in passing in its route through the alburnum or newly formed woody tissue. (65.)

264. When it reaches the vicinity of the leaves it is attracted into them, and there having been exposed to light and air, is converted into the secretions peculiar to the species.

265. It finally, in its altered state, sinks down the bark, whence it is given off literally by the medullary rays, and is distributed through the system.

266. No solid matter whatever can be taken up by the roots; for this reason, metals, which in the state of oxydes are poisonous, are perfectly harmless in their metallic state, as mercury; and this is, no doubt, the cause why liquid manure, which contains all the soluble parts of manure in a fluid state, acts with so much more energy than stimulating substances in a solid state.

267. The cause of the motion of the sap is the attraction of the leaf-bud and leaves.

268. The leaf-buds called into growth by the combined action of the increasing temperature and light of spring, decompose their carbonic acid (279,) and attract fluid from the tissue immediately below them; the space so caused is filled up by fluid again attracted from below, and thus a motion gradually takes place in the sap from one extremity to the other.

269. Consequently the motion of the sap takes place first in the branches and last in the roots.

270. For this reason a branch of a plant subjected to a high temperature in winter, will grow while its stem is exposed to a very low temperature.

271. But growth under such circumstances will not long be maintained, unless the roots are secured from the reach of frost; for, if frozen they cannot act, and will, consequently, be unable to replace the sap of which the stem is emptied by the attraction of the buds converted into branches, and by the perspiration of the leaves. (XII.)

272. Whatever tends to inspissate the sap, such as a dry and heated atmosphere, or an interruption of its rapid flow, or a great decomposition of carbonic acid by full exposure to light, has the property of causing excessive vigor to be diminished, and flower buds to be produced.

273. While, on the other hand, whatever tends to dilute the sap, such as a damp atmosphere, a free and uninterrupted circulation, or a great accumulation of oxygen in consequence of the imperfect decomposition of carbonic acid, has the property of causing excessively rapid growth, and an exclusive production of leaf-buds.

274. Inspissated or accumulated sap is, therefore, a great cause of fertility.

275. And thin fluid, not being elaborated, is a great cause of sterility.

276. The conversion of sap into different kinds of secretion is effected by the combined action of *Air* (XI.), *Light* (XI.), *and Temperature.*

XI. AIR AND LIGHT.

277. When an embryo plant (242,) is formed within its integuments, it is usually colorless, or nearly so; but, as soon as it begins to grow, that part which approaches the light (the stem,) becomes colored, while the opposite extremity (the root) remains colorless.

278. The parts exposed to the air absorb oxygen at night, absorb carbonic acid and part with oxygen again in day-light; and thus in the daytime purify the air, and render it fit for the respiration of man.

279. The intensity of this latter phenomenon is in proportion to the intensity of solar light to which leaves are directly exposed.

280. Its cause is the decomposition of carbonic acid, the extrication of oxygen, and the acquisition by the plant of carbon in a solid state; from which, modified by the peculiar vital actions of species, color and secretions are supposed to result.

281. For it is found that the intensity of color and the quantity of secretions are in proportion to the exposure to light and air, as is shown by the deeper color of the upper side of leaves, &c.

282. And by the fact that if plants be grown in air from which light is excluded, neither color nor secretions are formed, as is exemplified in blanched vegetables; which, if even naturally poisonous, may, from want of exposure to light, become wholesome, as celery.

283. When any color appears in parts developed in the dark, it is generally caused by the absorption of such coloring matter as pre-existed in the root or other body from which the blanched shoot proceeds, as in some kinds of rhubarb when forced.

284. Or by the deposition of coloring matter formed by parts developed in light, as in the subterranean roots of beets, carrots, &c.

285. What is true of color is also true of flavor, which equally depends upon light for its existence; because flavor is produced by chemical alterations in the sap caused by exposure to light. (229.)

286. The same thing occurs in regard to nutritive matter, which in like manner is formed by the exposure of leaves to light. Thus the potatoe when forced in dark houses contains no more amylaceous matter than previously existed in the original tuber; but acquires it in abundance when placed in the light, and deposits it in proportion as it is influenced by light and air. Thus, also, if peaches are grown in wooden houses, at a distance from the light, they will form so little nutritive matter as to be unable to support a crop of fruit, the greater part of which will fall off. And for a similar reason, it is only the outside shoots of standard fruit trees that bear fruit. Considerations of this kind form in part the basis of pruning and training.

287. Light is the most powerful stimulus that can be employed to excite the vital actions of plants, and its energy is in proportion to its intensity; so that the direct rays of the sun will produce much more powerful effects than the diffused light of day.

288. Hence, if buds, that are very excitable are placed in a diffused light, their excitability will be checked.

289. And if buds that are very torpid are exposed to direct light, they will be stimulated into action.

290. So that what parts of a tree shall first begin to grow in the spring may be determined at the will of the cultivator.

291. This is the key to some important practices in forcing.

292. This should also cause attention to be paid to shading buds from the direct rays of the sun in particular cases: as in that of cuttings, whose buds, if too rapidly excited, might exhaust their only reservoir of sap, the stem, before new roots were formed to repair such loss.

293. As plants derive an essential part of their food from the air (280) by the action of light, it follows that in glass-houses those which admit the greatest portion of light are the best adapted for purposes of cultivation.

294. The proportion of opaque matter in the roof of a glass-house constructed of wood varies from ⅛ to 1-7—that of an iron house does not exceed 1-23.

295. Therefore iron-roofed houses are in this respect better suited for cultivation than wooden-roofed houses.

296. And it has been found by experiment, that light passes more freely through a curvilinear than through a plain roof, and through glass forming an acute angle with the horizon than through perpendicular glass, it follows that a curvilinear roof is best, and a plain roof with glass perpendicular sides the worst adapted to the purposes of the cultivator.

297. For the same reason common green glass is less fitted for glazing forcing-houses than white crown glass.

298. Poisonous gasses in very minute quantities act upon vegetation with great energy. A ten-thousandth part of sulphurous acid gas is quickly fatal to the life of plants; and hence the danger of flues heated by coal fires, and the impossibility of making many species grow in the vicinity of houses heated by coal fires, or in large towns. (*To be continued.*)

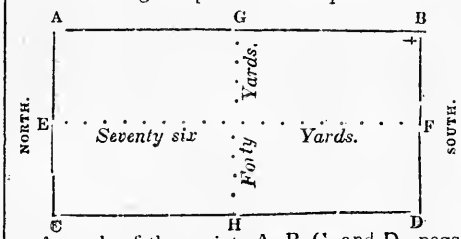
ELECTRICITY and AGRICULTURE.

The element which now promises to be turned to the increased uses of man in the most extraordinary way is electricity. Already we find communications made, and conversations sustained, between parties fifty miles apart, with nearly as much rapidity as could be performed by any system of symbols in the same room. By means of the electric telegraph London is brought into instantaneous proximity with Windsor, Southampton, and other places, and before long there is every reason to expect that communications may be made between all the important parts of the country in a few seconds. We have already seen some extraordinary examples of the effects of this rapid communication, not the least striking of which was the capture of the late unhappy man Tawell. On the other hand, we now hear of games of chess and whist being sustained and carried on at distances of fifty or sixty miles, as if the parties were all in the same room. Hitherto it has been thought that a man having the start for any object by railway was secure from pursuit, but now this new agent will arrest his progress or anticipate his arrival at any point with more ease than a man on the fleetest horse could overtake another on foot.

But of all the uses to which this new and marvellous agent has been applied, none promises such remarkable results as to agriculture. It is a principle when has been long admitted and understood, that electricity had a considerable effect on vegetation, but it has not been till now that any practical application of that aid has been attempted. Of late many experiments have been made, in a manner, too, which affords means of judging, not only the comparative result but comparative cost. And we are bound to say that they are such, that we look upon this new agent, as one likely, before long, to produce as great a revolution in agriculture as the inventions of the steam engine or the spinning jenny have done in manufactures.

We have before us the result of one experiment on a considerable scale, which, we think, cannot but prove highly interesting to our readers. It took place in the north of Scotland.

A portion of a field of barley, to which the electric application was made, produced last year at the rate of *thirteen quarters and a half* to the acre, while the surrounding land, similarly treated in other respects, produced the usual quantity of *five* to *six* quarters to the acre. The following is a detail of the very simple mode in which the electric fluid is collected and appl die o influence the land. A field is divided into oblong squares, 76 yards long and 40 yards wid', and containing, therefore, just one acre each. The following is a plan of such square:



At each of the points A, B, C, and D, pegs are driven into the ground; the external lines represent strong iron wires, extending from and fastened to each of the four pegs, and communicating with each other, so as to form a square of wire, sunk 3 inches below the surface; at the points E and F poles are fixed in the ground 15 feet high; a wire is connected with the cross wire beneath the surface, at the point E,—carried up the pole and along the centre of the square to the top of the pole at F, down which it is conducted and fixed to the cross wire beneath the surface at that point. We must here remark that the square must be so formed, to run from North to South, so that the wire passing from E to F shall be at right angles with the equator. It is well known that a considerable body of electricity is generated in the atmosphere, and constantly travelling from East to West with the motion of the earth. This electricity is attracted by the wire suspended from E to F, and communicated to the wires forming the square under the surface of the ground, from the points A, B, C, and D.

It has, however, been suggested to us, by a very competent authority, who has at this moment a number of experiments going forward to test this extraordinary new power in a variety of ways, that any quantity of electricity could be generated that might be required, by placing under the ground, at the point G, a bag of charcoal, and plates of zinc at the point H, and to connect the two by a wire passing over two poles similar to those at E and F, and crossing the longitudinal wire passing from those points.

The cost at which this application can be made is computed at *one pound* per acre, and it is reckoned to last ten to fifteen years, the wires being carefully taken up and replaced each year. We may mention the result of an experiment on a small scale of the effect of electricity on vegetation. Two small parcels of mustard seed were sown; to one electricity was applied, the other was left to its usual course: the result was, that while the former grew three inches and a half, the latter grew one inch. We should also state, that the barley produced at the rate of thirteen quarters and a half to the acre, weighed nearly two lbs. more to the bushel than any other in the neighborhood. This discovery is likely to present a very full compensation for the exhaustion of Ichaboe.—*Scotch paper.*

To Preserve Milk.—At this warm season, it may be interesting to some of our readers to know, that Johnston, in his Agricultural Chemistry, says: "An easy way of preserving milk or cream sweet for a longer time, or of removing the sourness when it has already come on, is to add to it a small quantity of the common soda, pearl ash, or magnesia of the shops.—Enough is added, when a little of the milk poured into boiling water no longer throws up any curd. If milk be introduced into bottles, be then well corked, put into a pan with cold water, and gradually raised to the boiling point, and after being allowed to cool, be taken out and set away in a cool place, the milk may be preserved perfectly sweet for upwards of half a year." He says, another mode is, to evaporate it to dryness by a gentle heat, under constant stirring. By this means a dry mass is obtained which may be preserved for a length of time, and which, when dissolved in water, is said to possess all the properties of the most excellent milk. It is known in Italy by the name of *latteina*.

SHEPARD'S ANALYSES

Of Cotton-Wool, Cotton-Seed, Indian Corn and the Yam Potato.

I.—COTTON WOOL.

One hundred parts weight of cotton wool on being heated in a platina crucible, so long as brightly burning gas continued to be emitted, lost 86.09 parts—the residuum being a perfectly charred cotton, which, on being ignited under a muffle until every particle of carbon was consumed, lost 12.985, and left almost a purely white ash, whose weight was rather under 1 per ct. or, 0.9247. Of this ash, about 44 per ct. was found to be soluble in water. It contained 12.88 per ct. of silicious sand, which must have been acquired adventitiously in the process of harvesting the fibre. Deducting the sand from the ash, the constitution of the latter is as follows:

Carbonate of Potassa (with possible traces of Soda)	44 19
Phosphate of Lime with traces of Magnesia	25 44
Carbonate of Lime	8.87
Carbonate of Magnesia	6 85
Silica	4.12
Alumina (probably accidental)	1 40
Sulphate of Potassa	2 70
Chloride of Potassium, Chloride of Magnesium, Sulphate of Lime, Phosphate Potassa, Oxide Iron in minute traces, and loss	6.43
	100.00

But since it is obvious that the carbonic acid in the above mentioned salts must have been derived during the incineration of the cotton, the following view will more certainly express the important mineral ingredients abstracted by the cotton from the soil for every 100 parts of its ash:

Potassa (with possible traces of Soda,)	31.09
Lime	17.05
Magnesia	3.26
Phosphoric Acid	12.30
Sulphuric Acid	1.22
	64.92

For every 10,000 lbs. of cotton wool, then, about 60 lbs. of the above mentioned ingredients are subtracted from the soil in the proportion indicated by the numbers appended, i. e. omitting fractions:

Potassa	31 pounds.
Lime	17 "
Magnesia	3 "
Phosphoric Acid	12 "
Sulphuric Acid	1 "

Several queries were submitted to me along with the sample to be analyzed, relative to the effect of soils on cotton. I regret to state that the almost total ignorance in which we are still left respecting the composition of the varieties of this fibre, and the soils producing them, prevents me from hazarding any explanations on the subject. This is the first destructive analysis ever made (at least so far as my knowledge extends) of the cotton wool. Nor am I acquainted with the properties of the soil which afforded it. Prior to any deductions, it is clear we must know the composition of each variety of cotton, as well as that of the soil it affects. At present I can only venture on connecting together two facts, which appear to occupy important relations to one another. The soil of St. Stephen's, which is said by F. A. Porcher, Esq., to be a stiff clayey loam, produces the strongest and finest fibre of the Santee varieties. The Sea Island qualities are supposed to owe their superiority to the use of marsh-mud, which I have ascertained to be a clayey admixture, rich in alkalies and alkaline earths. Whether the similarity between these two staples is influenced most (if it is affected at all) by the chemical or mechanical qualities of the soils producing them, it is impossible to decide. It is also conceivable that the two sets of qualities may conspire to one and the same end.

II.—COTTON SEED.

One hundred parts, heated as above, lost 77.475, and the thoroughly charred residuum burned under the muffle, left 3.856 parts of a perfectly white ash. The composition was found to be as follows:

Phosphate of Lime (with traces of Magnesia)....	61.64
Phosphate of Potassa (with traces of Soda).....	31.51
Sulphate of Potassa.....	2.55
Silica.....	1 74
Carbonate of Lime.....	0.41
Carbonate of Magnesia.....	26
Chloride of Potassium.....	25
Carbonate of Potassa, Sulphate of Lime, Sulphate of Magnesia, and loss.....	1.64
Alumina and oxides of iron and manganese in traces,	
	100.00

In comparing the above table with that afforded by the cotton wool, a marked dissimilarity presents itself. The ash of the cotton seed is fourfold that of the fibre: while the former has also treble the phosphoric acid possessed by the latter, as will the more clearly appear, when we present the analysis under another form, corresponding with the second table under cotton wool:

Phosphoric Acid.....	45.85
Lime.....	29.79
Potassa.....	19.40
Sulphuric Acid.....	1.16
	95.70

From the foregoing analysis it would appear difficult to imagine a vegetable compound, better adapted for fertilizing land, than the cotton seed; nor can we any longer be surprised at the well known fact, that soils long cropped with this staple without a return to them of the inorganic matters withdrawn in the seed, become completely exhausted and unproductive.

III—INDIAN CORN.

One hundren parts heated to redness in a crucible, so long as a brightly burning flame was emitted, lost 81.05 parts. The completely charred residuum on being ignited beneath a muffle upon a platina foil, until all the carbon was consumed, left 0.95 parts, or less than 1 per cent. of an easily flowing clear glass. This ash has the following composition:

Silica.....	38.45
Potassa, (with traces of Soda).....	19 51
Phosphate of Lime.....	17.17
Phosphate of Magnesia.....	13.83
Phosphate of Potassa.....	2.24
Carbonate of Lime.....	2.50
Carbonate of Magnesia.....	2 16
Sulphate of Lime, Sulphate of Magnesia, ...	79
Silica, mechanically present.....	1 70
Alumina traces.....	
Loss.....	1.65
	100.00

Omitting the silica as an unimportant loss to the soil, and the carbonic acid which is a product of the analysis, we have in every 100 parts of the ash of the Indian corn, the following important inorganic constituents:

Potassa,.....	20.87
Phosphoric Acid,.....	18 89
Lime,.....	9.72
Magnesia.....	5.76
	55.15

That is to say, for every 1000 pounds of Indian corn sold from an estate, the land is robbed of 9½ lbs. inorganic matter, whereof about 5½ lbs. consist of principles of prime value to all species of crops.*

IV.—SWEET POTATO, (YAM.)

The tubers analyzed, though fresh from the market, were obviously drier than when first harvested.

One hundred parts of the thinly sliced tubers, on being thoroughly dried at a temperature of 200°, lost 58.97 per cent. of water.

One hundred parts of the undried potato gave 1.09 parts, or rather over one per cent. of a whitish ash stained in points of a bluish green color.

Its composition was as follows:

Carbonate of Potassa, (with traces of soda).....	60.00
Phosphate of Lime,.....	14.57
Phosphate of Magnesia,.....	5.60
Carbonate of Lime,.....	5.39
Carbonate of Magnesia,.....	3.80
Chloride of Potassium.....	4.60
Sulphate of Potassa,.....	4.35
Silica,.....	70
Chloride of Calcium, Sulphate of Magnesia and Lime, Alumina, and loss,	99
Oxides of Iron and Manganese in traces,	
	100.00

One hundred parts of the ash from the sweet potato tuber, contains then the following inorganic principles, which must have been withdrawn from the soil:

Potassa.....	43 59
Phosphoric Acid.....	11.08
Lime.....	10.12
Magnesia.....	3.80
Potassium.....	2.42
Chlorine.....	2.18
Sulphuric Acid.....	1 90
[S. C. Temperance Advocate.]	85.09

From the Spirit of the Times.

THE HORSE.

"Think, while we talk of horses, that you see them
Printing their proud hoofs i' the receiving earth."
SHAKSPEARE.

All horses of a superior kind are said, and with evident probability, to have proceeded primarily from Candahar, Cabul, Mooltan (the ancient Bectria and Sogdiana,) and more particularly from Punje-Awb, a tract so denominated because it is situated between five streams, which, in Mooltan, join the great River Indus, or Scinde, that runs into the Persian Sea; just as Mesopotamia was styled by the Greeks "Inter amnas," from being in the midst of two rivers, and the same extent by the Persians Doo-Awb, two waters, from its position between the Tigris and Euphrates. Punje-Awb is celebrated for its luxuriant pastures, which have reared for many ages a considerable number of fine horses. Dealers from the Turcoman, Usbec, and Calmuc Tartars, as well as from every part of Persia and India, repair to Lahore and its confines for the purchase of colts, and also of young camels and dromedaries, which they carry off, lightly laden with fruits, shawls and furs, in numerous caravans. A toll being exacted for every horse on the frontier of every province through which they pass, the price of them before they reach their destined market is rendered proportionably dearer.

From the countries above mentioned, this paramount breed of horses spread, in process of time, eastward to India and China; northward to Tartary; westward to Persia, Syria, and Asia Minor; and southward to Arabia, Egypt, Abyssinia, Ethiopia, Lybia, Numidia and Mauritania. From the northern coasts of Africa the Moors transported them into Spain, and thence they were introduced into every part of Europe.

Climate, assortment of food, exuberance of herbage, daintiness or coarseness of fodder, and training or management, create the difference observable in the bulk, shape and quality of horses. From the rank grass upon which they feed in Holstein, Freisland, and the Netherlands, the Flemish, Dutch, and Jutland horses become of an extraordinary corpulence and stature. Such, under the designation of Flanders mares, were formerly fashionable in England for the equipages of courtly dames, but they are now solely and properly confined to the dray.

"A perfect horse," says Camerarius, "is an assemblage of the excellency of many animals. He should possess three parts like a woman—an expanded chest, protuberant hips, and a long mane. In three things he should resemble a lion—in ferocity of countenance, in fortitude, and irresistible impetuosity. He must have three things appertaining to a sheep—the nose, gentleness, and patience; three of a mule—strength, perseverance, and sureness of foot; three of a deer—head, legs, and skin; three of a wolf—throat, neck, and hearing; three of a fox—ears, tail, and rate of trot. Three of a serpent—memory, sight, and flexibility; and three of a hair—running, walking, and pertinacity." The walk of a partridge, which in its air and gait, is most stately and graceful, would have been a more apt similitude.

The horse is, in temperament, generous and proud; in frame vigorous and powerful. He is a gregarious and sociable animal. When they assemble in herds of five or six hundred, whilst grazing or sleeping, they have constantly a sentinel on the watch. When this vidette perceives a human figure, he approaches confidently both to examine and to intimidate him. If the man advances he snorts, as a signal of alarm, upon which the herd instantly escapes; the vigilant sentinel bringing up the rear and biting those which are hindmost. He calls by neighing, and fights by kicking and biting. The wild ass is his inveterate foe. He rolls when he sweats. He eats grass closer than the ox, and in evacuating, disseminates the seeds that remain undigested. He never vomits. He is more peculiarly hurt externally by a stroke upon the ear or on the stifle, by being caught by the nose in barnacles, and by rubbing his teeth with grease. He is injured internally by the herbs padus, phalandria, crucalio, and canops, but devours hemlock without annoyance.

The mare goes with foal three hundred and thirty-seven days. The longer animals are in gestation, and vegetables in their progress to maturity, the more noble is their kind. A rapid growth in animals or vegetables makes no provision for solidity or duration. "Non enim potest in eo esse succus diuturnus, quod nimis celeriter est maturitatem assecutum."—*Cicero de Oratore.*

"Round hoofed, short jointed, fetlocks shag and long,
Broad breast, full eyes, small head and nostrils wide,
High crest, short ears, straight legs, and passing strong,
Thin mane, thick tail, broad buttocks, tender hide."
Shakspeare's Horse of Adonis.

The stag-necked horse, says Lavater, has something in the make of his body much resembling the stag itself. The neck is large and scarcely bowed in the middle; he carries his head high. They are racers and hunters, being particularly adapted for swiftness by the make of their body.

The hog-necked has the neck above and below alike broad, the head hanging downwards, the middle of the nose is concave in profile, the ears are long, thick, and hanging, the eyes small and ugly, the nostrils small, the mouth large, the whole body round, and the coat long and rough.

These horses are intractable, slow and vicious, and will run their rider against a wall, stone, or tree. When held in, they rear and endeavor to throw the rider. Blows or coaxing are frequently alike ineffectual; they continue obstinate and restive.

If we examine, says the same author, the different heads of horses, we shall find that all cheerful, high-spirited, capricious, courageous horses, have the nose-bone of the profile convex, and that most of the vicious, restive, and idle, have the same bone flat or concave.

The grey is the tenderest of horses; and we may here add that people with light hair, if not effeminate, are yet, it is well known, of tender formation and constitution. The chesnut and iron-grey, the black and bay are hardy; the sorrel are the most hardy, and yet the most subject to disease. The sorrel, whether well or ill-formed, is treacherous; all treacherous horses lay their ears in the neck, they stare, and stop, and lay down their ears alternately.

When a horse has broad, long, widely separated hanging ears, we are well assured he is bad and sluggish. If he lays down his ears alternately, he is fretful and apt to start.

Thin pointed and projecting ears, on the contrary, denote a horse of good disposition.

We never find that the thick, long-necked horse, is sufficiently teachable for a riding horse; or that he is of a strong nature, when the tail shakes like the tail of a dog. We may be certain that a horse with large cheerful eyes, and a fine shining coat, if we have no other tokens, is of a good constitution and understanding.

*In a recent number of the Boston Journal of Natural History, I observe some observations by Dr. Charles T. Jackson, on the inorganic constitution of Indian corn, wherein Dr. J. supposes phosphoric acid to be present in the grain, in a free or uncombined state.—The experiment which led him to form this conjecture, did by no means succeed in my hands as described by him; for although the grain was repeatedly incinerated upon a bright platina foil under muffle, still the metal lost none of its polish or malleability. Neither can I agree with Dr. J. in his opinion of the presence of ammonia as a base in Indian corn, the volatile alkali obtained by him, being a product rather than an educt of the analysis.

Suggestions for Southern Planters.

From the Southern Agriculturist.

The present is the darkest day of our agriculture. We have all been reared up under a *cotton regime*. Suddenly its power and vitality are gone, and we are prostrate. The pivot of all our movements, the fulcrum on which rested all our hopes, is struck from us, and despair and ruin look us right in the face. In our confusion, darkness and hopelessness, a multitude of schemes for our salvation are proposed. A combination to reduce the cotton crop is loudly called for. This is plainly impracticable. All will not agree; and if all agreed, not one would feel safe in trusting his neighbor, much less his competitor a thousand miles off. Immigration is a remedy some propose; this is a doubtful one, or at least partial, since few can or will adopt it: and so far as it goes, destroys, instead of renovating our region. A prominent suggestion is to embark in manufactures. It is an American fallacy, that all men are born not only equal, but, like Minerva, full grown, armed and prepared for everything. We seem to think with Dogberry, that learning comes by nature. The truth is quite the reverse; and when it is proposed to regenerate a full grown cotton planter, and convert him into a manufacturer, for one, I feel like putting the question of Nicodemus, "How can a man enter into his mother's womb and be born again?" But we may employ agents. How? sell our negroes, give away our lands, and place our all (for all would be but little compared with the requisitions of factories on a profitable scale,) into the hands of strangers, to be invested in a business about which we know nothing, and cannot hope to learn much, before it may be too late? We have some experience in these matters—vide the early history of Vaucluse and Saluda Factories, and many others which might be named. Let speculators speculate in factories. "*Ne sutra ultra crepidam*," though a pagan maxim, is a wise one. If the cotton planter is to work out his own salvation and redeem his country, it must be in his own line of business. This may be taken for granted. He is a child of the sod, reared upon the sod, and he must live or perish on it. All shifts are vain. It is only making bad worse, to rush into radical changes, and "fly from present ills to others that we know not of." Having made up our minds to hold on to our native soil, to the occupation we have been trained to, and to baptize ourselves anew "in the sweat of the brow," let us look around and see what can be done.

The first thing that strikes us is, that we have been under a *cotton growing delusion*, and sacrificed everything to it. When our soil was fresh and cotton high, we abandoned all other culture, and purchased with our cotton a vast deal that we might have made or grown ourselves. It is, however, folly to quarrel with the past; nor do I think our quarrel just. Why might not the cotton planter buy everything, even to his corn and butter, as well as the cotton manufacturer, if he found it to his advantage to plant cotton exclusively? And for a time such was the case. Our errors were in carrying on this system too long, and in exhausting our soil too far. These we must retrieve: Not violently or suddenly, by radical revolutions, or slight-of-hand contrivances or combination; but gradually, and on the same base line that our past operations have been conducted. We all know something about making and applying manures; we can readily learn all that is known every where, the world over; the facts are few, the principles simple, and our experience and course of reflection have prepared us to comprehend and apply them to our own profit; while nature has been prodigal of the resources furnished us for the purpose. We have lime, marl, peat, muck, salt-marsh, pine-straw, oak leaves, and almost every variety of mineral and vegetable material for compost. All that is wanted is resolution to embark vigorously, and to the proper extent in the matter. Our farms will be our factories, our own slaves our operatives, ourselves must be the managers, no outlay or very little is requisite. If we are so foolish as to estimate the cost and profits of extensive manuring, by comparing it with past cotton planting, of course we will conclude that it would be ruinous; but compare it with present cotton planting, and it will be seen that every planter can profitably engage one fourth or more of his whole force in making manure at this time; and the prospective advantages are still greater. Though no one else should do it, and no diminution of cotton ensue, still it is certain, that cotton must sooner or later run up and command a speculative price, every now and then, for a year or two at a time. The planter whose land has been enriched by manure, may then, if so disposed, exhaust it again, and coin his deposit of compost, in "*mint drops*." He will have lent labor worth but little, and got back in due season golden usury; while the value of his lands has been vastly enhanced, his whole scheme of management expanded and improved in every direction, and his happiness inestimably increased in seeing every thing about him flourish luxuriantly—big stalks of cotton and big ears of corn, fat hogs and cattle, greasy faced, smiling negroes, strong sound fences and substantial barns, stables and negro houses.—All these things follow inevitably in the train of heavy manuring. Less actual money there may be for the moment, but more comfort, more satisfaction and brighter hopes. Here is the sure remedy for the error of exhausting our soil heretofore. It is also the only remedy. Slow, laborious, requiring infinite pains, but it is the one way, and happily the certain way.

The evil of over-buying has an equally sure and fruit-bearing remedy. To show that I am no enthusiast, I will say that I doubt very much whether we shall ever be able to make our own cloths, blankets, bagging, even our shoes, and most plantation implements, any more than we can make our salt and iron as cheap as we can buy them, even with cotton at five cents. It is true, that, according to locality, each one can do something at them; nearly all can furnish wool and hides to some extent, and make a great many little articles now foolishly purchased; while the whole may be made by persons who understand the business within the State. But our corn, meat, flour, rice, tobacco and butter, it is positively disgraceful for any cotton planter to continue to buy. There is no five miles square in the State that is settled, but has suitable soil for growing enough rice, tobacco and wheat for its own consumption at least, and on which machinery of some sort might not be erected to prepare them for use at a saving expense. As to that glorious grain, Indian corn, it grows every where, and is the best gift of Providence to man. The Athenians worshipped Pallas for bestowing the olive; but the olive, the vine, and the products of the bee combined, are not to be compared to our maize. It is bread, drink, and sweetening. From the tassel to the root, fruit, leaf, stem and husk, all are of inestimable value; and no where can it be cultivated to better advantage than with us. On sand or clay, swamp or mountain, it flourishes every where; and he is not a true man, who does not out of sheer gratitude, grow it till every granary overflows, and every maw about him is ready to burst with it. And can it be said, that with such a resource we cannot raise meat in abundance and to spare? From the first of June until frost, it may be soiled cheaper than clover, or than the best lands can be pastured. From thence to June again, it may be ground up alone, or corn-cob and shuck together, or fed without preparation at all, the stalks and leaves also—all equally grateful to every animal, and the cheapest as well as best food in the world. The cultivation and use of Indian corn is in its infancy. The time is fast approaching when those who can use it, will look with contempt upon every other grass in the world, and provide meat for most of those who are without the pale of its bounty. In the meantime, however, we can grow turnips, carrots, beets, artichokes and that other invaluable root, sweet potatoes. With the help of these, we can rear every species of animal at as little cost and to as great perfection as can be done any where on earth. It is a great and injurious mistake to suppose, that because our ranges are becoming exhausted, and our climate forbids, as I believe it does, the grasses cultivated elsewhere, that this is not a stock raising country. I am convinced it is equal to any other for that purpose. We are in a great measure exempt from the excessive heats, droughts, and wet spells further South and Southwest, as well as their pestiferous insects. Our State is well watered throughout, and this single advantage over the lime-stone regions of the West so famous for stock, is enough to turn the scale in our favor; while there and further North, every thing is pinched with cold for eight months in the year, and for many of them the ground is covered deep with snow. Let the fact speak for itself. Who has failed, that has attempted to raise animals here and taken the necessary pains? From the highest blooded cross of the Arabian and Barb, to the English Rabbit, every thing has been reared to perfection. It is only necessary to turn our attention seriously to it, and take the necessary trouble, to do it cheaper than it can be done elsewhere.

The evil of over-buying is confined chiefly to articles for provisions, and I have shown the remedy here. Like manuring, it is slow, laborious, and pains-taking; but as the two evils mentioned are intimately allied, so the two remedies suggested, mutually act and re-act on one another. Manure makes corn—corn-stalks, stock—stock, manure. Let them be therefore combined. It is idle (American humbug) reliance upon the magic of majorities, or the alchemy of transmuting, not metals only, but men, to talk of conventions to reduce the culture of cotton; or immigration to relieve the pressure of the times; or manufacturing to divert our labor. Let every man set about restoring his worn-out lands, and sacredly abstain from all bread and flesh not produced by himself, and a few short years will rejuvenate South Carolina, and make every one of her sons rich in money—and what money cannot purchase, contentment.

We should never doubt the providence of God. The greatest blessings often come to us in the appearance of the greatest evils. In our entire devotions to mere cotton growing we have neglected the rich resources bestowed upon us, and the culture of crops far more important to both our moral and physical well being. The time has arrived when to do so longer, might be a lasting injury to us. Let us be grateful to Him, who through only temporary suffering, recalls us from our errors, and holds out to us such lavish rewards for doing right. For our own good, and for the welfare of our species, the agricultural capabilities of our State must be developed. With cotton at five cents, this will be more fully done in ten years, than it would be in as many centuries, perhaps, with cotton at ten cents. A wiser forecast than our own has ordained our task, and if we would imitate that wisdom, we must address ourselves to its accomplishment. HOLKHAM.

HINTS TO HOUSEKEEPERS.—Woollens should be washed in very hot suds and not rinsed. Luke-warm water shrinks them.

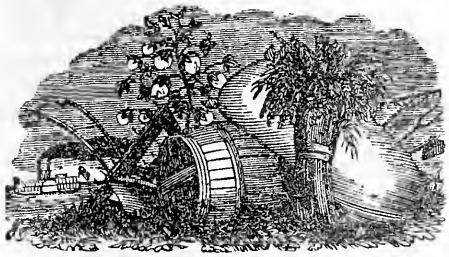
Suet keeps good all the year round, if chopped and packed in a stone jar, and covered with molasses.

When molasses is used in cooking, it is a prodigious improvement to boil and skim it before you use it. It takes out the unpleasant raw taste, and makes it almost as good as sugar.

Use hard soap to wash your clothes, and soft to wash your floors. Soft soap is so slippery that it wastes a good deal in washing clothes.

It is easy to have a supply of horse-radish all winter. Have a quantity grated while the root is in pertection, put it in bottles fill it with vinegar, and keep it corked tight.

Do not wrap knives and forks in woollens; wrap them in strong paper. Steel is injured by lying in woollens.—*American Traveller.*



The Southern Cultivator.

AUGUSTA, GA.

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Improvement of Soils.

Our correspondent, Mr. N. Ashley, propounds inqulries as to the effect of putting clay, swamp mud, and lime, on the light sandy soils of the piney woods.

So much depends on the character of the sand, clay and mud which it is proposed to mix together, and so much on the minuteness with which these ingredients have been divided, by the action of air and water, and the intimacy with which they shall be blended together, that the precise effect of such mixture can be determined only by careful experiment. If Mr. Ashley will take an acre of his light, sandy soil, and experiment upon it, carefully noting the result, and keeping an account of the expense, he will soon be able to determine for himself what his interest requires him to do. In the meantime, if any of our readers, situated as Mr. Ashley is, have turned their attention to this subject, and are able to throw any light upon it, we would be pleased to have the results of their experience laid before the public in the pages of the Cultivator.

As regards the use of swamp mud, we have a statement by the committee of the Pendleton Agricultural Society, who examined the farm of Mr. R. A. Maxwell, of an experiment at manuring a very exhausted piece of land with leaves spread upon the surface and plowed in, and *a spade full of swamp mud* to each hill. The result, the committee say, when compared with a portion of the same field not thus managed, was said to be *the difference between an ear and a nubbin*. Still, we do not mean to say that because the application of swamp mud made ears in place of nubbins in Pendleton District, South Carolina, the same result will certainly follow in Telfair county, Ga., until we know the chemical character of the mud in both cases. It remains for actual experiment to determine what the result will be in the latter case.

So far as our own experience and observation have gone, we are entirely satisfied that all light, sandy soils are wonderfully improved by the addition of clay and lime. As regards the addition of clay, our experiments have consisted in bringing a clay subsoil to the surface and mixing it with the light gravelly top soil. The good effects of such an operation on the soil have been very satisfactory indeed. And we imagine that most persons tilling the light, sandy soil of the piney woods will find it least expensive to bring up the clay that usually underlies the sand, and incorporating it with the sand, either by subsoil or trench plowing. As for lime it is so essential an ingredient in all good soils, both as a mechanical and chemical agent, that even the spoonful to the hill proposed by Mr. Ashley must be better than none. The analysis of soils quoted in the subsequent part of this article, must convince every one of the indispensable necessity of the presence of large quantities of lime in all soils that admit of very profitable cultivation for a long series of years. In Pennsylvania formerly one hundred bushels of lime to the acre every ten years was considered a moderate application of it. Mr. Patterson, of Springfield, Carrol county, Maryland, in reclaiming the poor, worn out land of his estate, commences by putting on two hundred bushels of unslaked lime per acre, which is equal to about four hundred bushels of lime, as usually applied. He lets it lie undisturbed for two or three years, and then incorporates it thoroughly with the soil, adding all the manure he can get. Even this very heavy dressing of lime is found not to be too much. In our piney woods, in very many places, lime may be applied with equal liberality; for this region, so much needing lime, has the singular advantage of having in many localities, convenient of access, deposits of shell marl of sufficient extent to answer all the demands of its Agriculture for lime, for hundreds of years to come. A careful geological survey is all that is wanting to bring these hidden treasures to light.

On this subject of mixing sand, clay and lime together to improve the soil, what do the books say? With the reader's leave we will look into them a little. The first thing that strikes us is the fact that, without exception, they all urge upon us the importance of correcting the excess of clay by the addition of sand, and of sand by the addition of clay, perfecting the whole by a plentiful supply of lime.

Davy, in his 4th lecture on Agricultural Chemistry, says:—If on washing a sterile soil it is found to contain the salt of iron, or any acid matter, it may be ameliorated by the application of quick lime. If there be an excess of calcareous matter, it may be improved by the application of sand or clay. Soils too abundant in sand are benefited by the use of clay, or marl or vegetable matter. A deficiency of vegetable or animal matter must be supplied by manure. The best natural soils are those of which the materials have been derived from different strata, which have been minutely divided by air and water, and are intimately blended together: and in improving soils artificially, the farmer cannot do better than imitate the processes of nature. The materials for the purpose are seldom far distant: coarse sand is often found immediately on chalk, and beds of sand and gravel are common below clay. The labor of improving the texture or constitution of the soil is repaid by a great permanent advantage: less manure is required, and its fertility is insured."

These instructions of Davy were delivered annually for ten years before the Board of Agriculture, viz. from 1802 to 1812; and the whole series of eight lectures was published in 1813. Ten years afterwards, to wit, in 1823, Chaptal published his work—"Chemistry applied to Agriculture." Davy's doctrines had, therefore, been subjected to the test of practical experiment for nearly twenty years, and were then confirmed by the scientific researches of Chaptal. In the 4th article of his 2d chapter Chaptal says: "The best basis for good lands is a mixture of lime, silica and alumina; but in order that they may possess all the desirable qualities, it is necessary that certain proportions, which an analysis of the best lands has made known, should be observed in the mixture." What these proportions are, he tried to establish by an analysis of the best soils of various climates, made by scientific men in whom the utmost confidence could be placed.

One of the most fertile soils in Sweden was found by Bergmann to consist of

Coarse Silex	30 parts.
Silica	26
Alumina	14
Carbonate of Lime	30
	100

A fertile soil from the neighborhood of Turin, analysed by Giobert, was composed of

Silica	77 to 79
Alumina	9 to 14
Carbonate of Lime	5 to 12

Tillet, at Paris, made a great number of experiments in making fertile mixtures, of which the most fertile contained:

Coarse Silex	25
Silica	21
Alumina	16.5
Carbonate of Lime	37.5

An excellent wheat soil from near Drayton, in Middlesex, England, gave, on analysis,

Carbonate of Lime	28
Silica	32
Alumina	39

These results are to be understood as excluding animal and vegetable matter, and water.

The reader, on referring to Chaptal's work, will find statements of the analysis of other fertile soils; all, however, showing the same general result, and going to establish his doctrine, that the fertility of soils diminishes in proportion as one or the other of the three principal earths, lime, sand, or clay predominates, and becomes almost nothing in those which possess the properties of but one:—and, therefore, that the mixture of these earths is necessary to the formation of a productive soil.

In 1832, nine years after the publication of Chaptal's work, Edmund Ruffin, of Virginia, published his "Essay on Calcareous Manures." In the 1st Chapter of Part I, he says: "The *earths* important to agriculture, and which form nearly the whole of the known globe, are only three—*silicious*, *aluminous* and *calcareous*. All the earths, when pure as they are ever furnished by nature, are entirely barren—nor would any addition of putrescent manures enable either of the earths to support healthy vegetable life. The mixture of the three earths in due proportions, will correct the defects of all, and with a sufficiency of animal or vegetable matter, putrescent, and soluble in water, a *soil* is formed in which plants can extend their roots freely, yet be firmly supported, and derive all their needful supplies of air, water and warmth, without being oppressed by too much of either."

In 1841, Johnston's Lectures on Agricultural Chemistry and Geology were published. In the lecture on the improvement of soils by mechanical means, he says: "There are some soils so obviously defective in constitution, that the most common observer can, at once, pronounce them likely to be improved by mechanical admixtures of various kinds. We naturally impart consistence to a sandy soil by an admixture of clay, and openness and porosity to stiff clays by the addition of sand. The good effects which almost invariably follow from the addition of clay to peaty or sandy soils, are due to the production, at on and the same time, of a physical and of a chemi-

cal change. They are not only rendered firmer, or more solid, by the admixture of clay, but they derive from this clay, at the same time, some of those mineral substances which they previously contained in less abundance. The addition of marl to the land acts often in a similar, two-fold capacity. It renders clay lands more open and friable, and to all soils brings an addition of carbonate and generally of phosphate of lime, both of which are proved by experience to be not only very influential but to be absolutely necessary to healthy vegetation."

Of the same general import are the conclusions of a still later authority—Boussingault. On page 206 of his "Rural Economy," it is asserted that "The quality of an arable soil depends essentially on the association of these two matters: —sand, whether it be silicious, calcareous or felspathic, always renders a soil friable, permeable, loose. * * * * Clay possesses properties entirely opposed to those of sand. —The proper character, or, if you will, the quality of a soil, depends essentially on the element which predominates in the mixture of sand and clay that composes it—and between the two extremes, which are alike unfriendly to vegetation, viz. the completely sandy soil, and the unmixed clay, all the other varieties, all the intermediate shades can be placed." And at page 214, after having minutely described the character of clay and sand, and certain alkaline and earthy salts, of which carbonate of lime is the principal and most important, he asserts that "the mineral substances which we have now studied, taken isolatedly, would form an almost barren soil; but by mixing them with discretion, a soil would be obtained presenting all the essential conditions of fertility, which depe id, as it would seem, much less on the chemical constitution of the elements of the soil than on their physical properties, such as their faculty of imbibition, their density, their power of conducting heat, &c., &c."

These results of scientific research merely confirm the conclusions that the common sense of mankind had arrived at, long before the attention of science was directed to the subject. But they have been very rarely applied to practice, except as to the application of lime, simply because of the great expense of digging up and transporting clay and sand from places where they are in excess to those where they are deficient. And this, after all, is the main consideration—the question of expense we mean. Prudent men must ever so regard it. Boussingault tried it on his own lands, and came to the conclusion that "it would be better policy to buy new lands with the capital which would be required to improve those he already possessed in the manner which has been indicated." And he adds that he "should have no difficulty in citing numerous instances where improvements by mingling the different kinds of soil were ruinous, in the end, to those who undertook them." So, also Johnston, with true practical wisdom, says, "the only question on the subject that ought to arise in the mind of a prudent man, is that which is connected with the economy of the case. Is this the most profitable way in which I can spend my money? Can I employ the spare labor of my men and horses, in any other way which will yield me a larger return?"

Plow deep to secure your crops from drought.

Improved Breed of Cattle.

We have been furnished with a description of an extraordinary calf, of the Durham stock, belonging to Dr. H. J. Bates, of Covington, Newton county, Ga. The dimensions were, on 2d June last, as follows:

4 feet 10 inches in height,
7 " 10½ " " length,
4 " 8½ " " girth behind the shoulders,
20½ " " round the arm near the body,
Supposed weight 480, or 500 pounds
Age, when measured, 1 year, 3 months and 6 days.

We believe we are safe in saying that almost every attempt to introduce the improved breeds of cattle into the southern States has ended in disappointment. They are liable to be attacked by a fatal disease, which is thought to be inflamation of the brain. The first symptom is a very languid appearance of the animal. Loss of appetite follows—then short, quick breathing, and fever, and sometimes cough—all ending in death. To avoid this result, as far as possible, it is recommended that none but young cattle be imported—to bring them into the country early in the fall—to feed well with good hay through the winter—to turn them out in spring to good pasture of tender, succulent grass, where there is easy access to pure water and abundance of shade. Through the latter part of summer and in the fall, they should be kept in a cool stable during the heat of the day, and during the night also—as it is thought the dews of September are as injurious as the heat of the midday sun in summer. If with such treatment they can be kept alive for two years, they may, perhaps, stand the climate, provided always they can get something besides shucks to eat in winter, and something better than sedge grass pastures to range in during summer.

Would it not be better to depend on our native stock? It appears to us that all we need in the southern States, to enable us to have beef, milk, butter, and cheese as good as man can desire, is, in the first place, judicious selections from our own stock—then good pasture in summer—plenty of hay and good shelter in winter—and gentle treatment at all times. With means of this sort in abundance, our native stock will be found, we think, to answer all our purposes; especially if our servants, and very many masters, too, can be induced to remember that there is some little difference between a cow and a mule, as to the manner in which they should be treated. What else than blue-john, in the very highest state of perfection, can be expected from cows fed on shucks and exposed to wind and rain all winter—turned out to sedge-grass pastures in spring, and brought up every evening in a trot or gallop, by the little negroes and dogs, or a big negro on horseback.

Sugar for Manure.

Did you ever hear the like of this before? A writer in an English paper, the Mark Lane Express, says: "Sugar will, now the price is reduced, I have no doubt, be extensively used. I speak from experience when I say that, of all extraneous manures (if one it may be called,) it has produced more visible effects, in the least space of time, than any other I ever used, and is strictly what the turnip requires in the first stage of its growth. I would strongly recommend it to be tried on a small scale mixed with ashes."

Prof. Shepard's Analyses.

We, at last, have an account of the inorganic elements of Cotton Wool, Cotton Seed, Indian Corn and Sweet Potatoes. See the account of Prof. Shepard's analyses of these articles in another part of this paper. Those who cultivate these crops now may know what their soil must contain to supply the inorganic constituents of such parts of these plants as have been examined. We wait anxiously for the further analyses promised of southern Agricultural productions.

Mr. Printice's Sale.

The sale of Mr. Printice's herd of improved Short Horned Cattle took place on the 25th ult, at Mount Hope, near Albany, New York. The prices at which the cattle were sold would indicate that they must have been very superior indeed. Sixteen cows, from 4 to 11 years old, went at prices varying from 80 to 215 dollars: fifteen heifers and heifer calves, from two weeks to three years old, at from 45 to 225 dollars; and ten bulls and bull calves, from three days to five years old, at from 25 to 205 dollars.

Total 41 animals.....$4,622 50
Average..... $112 75

There is some inducement for men to pay attention to the improvement of cattle when they can sell them for such prices.

An Independent Man.

It seems to us that, with a little self-denial, every man in the country might place himself in a situation like that described by the Farmer's Gazette. "We fell into conversation," says the Gazette, "a few days ago with a gentleman who resides but a short distance from Chesterfield Court House, S. C., on the subject of his farming prospects the present year. He informed us, that he expected his corn crop would prove an entire failure—but, he remarked, he had corn enough to last another year. We observed, that if the corn failed, there was but a slight prospect of *maste*, and bacon would be scarce. He assented, but said he never fattened his hogs on maste; it was his habit to plant a good pea crop, and give the hogs the run of the fields, after he had gathered his corn; but, said he, if my pea crop fails, I have bacon enough to last another year—*and, if I owe any man a cent, I don't know it!* Here, then, is a man who has an abundance of bread and meat, and has practically carried out the Scriptural injunction, 'owe no man anything.' May we not fairly set him down as *an independent man.*"

The Season.

Many persons are speaking of the past spring and present summer, up to the middle of July, as the dryest and hottest that we have ever had in the Southern States. It has been, in these particulars, very remarkable, indeed; but not without parallel by any means. A writer in a Charleston paper has been looking into the records of the past; and has furnished us with the following extracts from an account, by Dr. Chalmers, of the spring and summer of 1752.

The preceding spring having been unusually dry and not more than 5.41 inches of rain fall-

ing in May and June, we had not a shower from the 20th of the latter month till the 21st of July, the weather in the mean time being excessively hot. The consequence was that the vapors which floated in the air were so elevated by *rarefaction*, that *dews* soon failed; the great heat of the nights also contributing to their being detained aloft in the atmosphere, so that by the 13th of July a general drouth prevailed—the earth was so parched and dry that not the least perspiration appeared on plants, which shrunk and withered. All standing waters were dried up, as were many wells and springs, so that travellers could not find water, either for themselves or their beasts for a whole day together, for the soil being very light and transpirable, it was soon drained of its moisture. * * * *

In several settlements no water could be found by digging ever so deep, for which search the enclosures were laid open, and the cattle drove out to shift for themselves. But very many of them perished for want of both pasturage and water, as probably did great numbers of those birds that require drink, for none of them were to be seen amongst us. In short, the distresses of men and beast at this time are not to be described.

When the thermometer rose to the 97th and 98th degree in the shade, the atmosphere seemed to glow as if fires were kindled around us, the air being likewise so thick and smoky withall, that the sun appeared as a ball of red hot metal, and shined very faintly. * * * * Refreshing sleep was therefore a stranger to our eyes, insomuch that people were in a manner worn down with watching and the excessive heat together. Many people lay abroad on the pavements. During this season a candle was blown out and set in a chimney at ten o'clock at night, the wick of which continued to burn clearly till next morning, and was likely to do so for many hours together. * * * * The mercury rose above the 90th degree of the thermometer during the months of May, June, July and August, and for *twenty successive days*, excepting three in June and July, the temperature of the shaded air varied between the 90th and 101st division, and sometimes it must have been 30 degrees warmer in the open sunshine. *Neither was ever a more healthy season known than this*, so long as the weather continued steady, warm and fair.

Agricultural Education.

The Rev. Carlisle P. B. Martin, of Madison, Morgan county, advertising the commencement of the second term of his "Family Boarding School," informs the public, that "in connection with the usual studies, (as soon as practicable,) lectures on agricultural chemistry will be delivered before the students, and the principles of chemistry, as connected with the noble and important subject of agriculture, illustrated by experiment and analysis." Now we like this proposal. It is undertaking to do just what the country wants; and in a way too that is sure to be successful, so far as the explanation of the elements of the subject is concerned. More than this—that is, the explanation of first principles—individual effort cannot well accomplish. Indeed, beyond this it would not perhaps be well for individual effort to attempt to go. The full illustration of the subject in all its branches and details, must be the business of our State College. And the State must furnish it with the means of doing this effectually, by appropriating the money to sustain the necessary professorship. After the vast sums the State has expended for the benefit of those who are destined for the professions of divinity, law and medicine, the tillers of the ground must demand that something shall be done by the State for that profession without which none of the others could exist for a moment, and whose great business is the conversion of earth, air and water, into bread, meat and clothing. The necessity of some such provision being made by the State is becoming stronger every day, from the fact that every day the value of mere bone and muscle, as a mechanical agent, is becoming less—and must in the end become comparatively worthless in agricultural operations, unless guided by an enlightened intellect.

"I had occasion," says a writer in the London Agricultural Gazette, "to visit the son of a friend of mine, at a school of great respectability in a wealthy agricultural district. The master, a very intelligent person, showed me the details of his well-arranged establishment, which was certainly a pattern in every respect. On entering the well-filled school-room, he observed that most of his scholars were farmers' sons. Glancing at his library, I inquired what books on agricultural subjects it contained? The master seemed struck with surprise (as if the thought of such books had never occurred to him) and replied, 'With shame I acknowledge, not one; but send me a list of such as you recommend, and I will immediately procure them.' Now I apprehend this case might be multiplied by a thousand or more. Can we wonder, then, that a youth who never heard the word agriculture at school, and who is seldom or never sent into different districts to be taught agriculture as a science, should go home to his parent, and follow his plan of farming, be it good, bad or indifferent. In all other trades and professions an apprenticeship is considered essential to the acquirement of knowledge; but farming, the most necessary of all trades, is to be left to chance, or rather mischance. A system of uniformity is essential in making a hat, coat, or shoes; there are established educational rules for the church and the bar and the senate; but agriculture, the greatest interest of all, on which our very existence depends, economically and politically, is to be like a ship without a compass, tossed about by the ever-varying gale of individual opinion, without a hope of reaching the port of Perfection. Were a youth ever so much inclined to furnish his mind with comparisons and observations of the various systems of culture in our own different counties, as well as in foreign climes, there is under the present school system, no opportunity for his doing so; and no doubt he would be surprised if told that we are a century at least behind the Chinese in agricultural practice. I hope we shall soon see every school, and, in fact, every farmer's parlor, possessing a few sound practical works on agriculture. I presume no man will consider he knows every thing in agriculture—if he does, it is unfortunate for him. Little as I am acquainted with the subject, I am fully convinced that it is full of interest, and of such extent that a lifetime of study and practice would find us on the wrong side of perfection."

The Lazy Fever.

A correspondent of the American Agriculturist has furnished for that paper a recipe for the cure of that most pestilent disease known as the *lazy fever*, and sometimes the *slow fever*, copied from "The Breviary of Health, by Andrew Boorde, Physicke Doctoure—Anno 1557." We copy the recipe for the benefit of such of our readers as may happen to have about them persons afflicted with this horrible disease, that are worth curing:

"The 151 chapitre doth showe of an evyll fever, the which doth cumber yonge persons, and named the fever burden or lazy fever. *

* * Thys fever doth come naturally, or else by evyll and slouthful brynging upp. If it doth come by nature, then it is incurable; for it can never bee gotten out of the bone that is bred in the fleshe. If it be by slouthful brynging upp, it may be holpen by dylligent labour. There is nothing for the *fever burden* so good as *unguentum baculinum;* that is, take a sticke or wand, a yard of length and more, and let it be as great as a man's fynger; and wyth it anoynt the back and shoulders well, morning and evening, and doe thys 21 dayes—and if thys fever wyll not be holpen in that tyme, let them beware of waggynge on the gallowes. And whyles they do take thys medicine, put no lubberwort in theyre pottage."

Communicated for the Cultivator.

A Table of the Weather.

The following article is from the pen of the celebrated Dr. Adam Clarke, foretelling the weather through all the lunations of each year, for ever.

M'n	TIME OF CHANGES.	IN SUMMER.	IN WINTER.
If the New Moon, the First Quarter, the Full Moon, or Last Quarter, happens:	Between midnight and 2 o'clock in the morning.	Fair.....	Hard frost, unless wind be S. or W.
	Between 2 and 4 in the morning.	Cold with frequent show's	Snow and stormy.
	Between 4 and 6 A.M.	Rain	Rain.
	Between 6 and 8 "	Wind & rain.	Stormy.
	Between 8 and 10 "	Changeable..	Cold rain if wind West, snow if East
	Between 10 and 12 "	Frequent showers.	Cold and high wind.
	Between 12 o'cl'ck at noon & 2 P.M.	Very rainy...	Snow or rain.
	Between 2 and 4 P.M.	Changeable..	Fair and mild.
	Between 4 and 6 "	Fair.....	Fair.
	Between 6 and 8 "	Fair if wind NW.; rainy if S. or SW	Fair & frosty if wind N. or N.E.; rain or snow if S. or S.West.
	Between 8 and 10 "	Ditto.	
	Between 10 and 12 "	Fair.....	Fair & frosty.

Observations.—1st. The nearer the time of the Moon's change, first quarter, full and last quarter are to midnight the fairer will the weather be during the seven days following.

2. The space for this calculation occupies from 10 at night 'till 2 next morning.

3. The nearer to midday or noon the phases of the moon happen, the more wet weather may be expected during the next seven days.

4. The space of this calculation occupies from 10 in the forenoon to 2 in the afternoon. These observations refer principally to the Summer, though they affect Spring and Autumn.

5. The moon's change, first quarter, full and last quarter, happening during six of the afternoon hours, *i. e.* from 4 to 10, may be followed by fair weather, but this mostly dependent on the wind, as noted in Table.

6. Though the weather, from a variety of irregular causes, is more uncertain in the latter part of Autumn, the whole of Winter and the beginning of Spring, yet in the main, the above observations will apply to those periods also.

7. To prognosticate correctly, especially in those cases where the wind is concerned, the observer should be within sight of a good vane, where the Four Cardinal Points of the Heavens are correctly placed; with this precaution, he will scarcely ever be deceived in depending on the Table.

Useful Directions.

Britannia ware should be first rubbed gently with a woollen cloth and sweet oil, then washed in warm suds and rubbed with soft leather and whiting. Thus treated it will retain its beauty to the last.

New iron should be very gradually heated at first; after it has become inured to the heat, it is not as likely to crack.

It is a good plan to put new earthen ware into cold water, and let it heat gradually until it boils —then cool again. Brown earthen ware, particularly, may be toughened in this way. A handful of rye or wheat bran thrown in while it is boiling, will preserve the glazing, so that it will not be destroyed by acid or salt.

The oftener carpets are shaken the longer they will wear; the dirt that collects under them grinds out the threads.

If you wish to preserve fine teeth, always clean them thoroughly after you have eaten your last meal at night.

Original Communications.

Sheep and Wool.

Mr. Camak:—Feeling a deep interest in the cause of agriculture in Georgia, and an earnest hope for the success of the Southern Cultivator, I am tempted, by a solicitation from you to its patrons, to send a few communications for publication, should you deem them of sufficient importance for the attention of its readers.

I regarded the publication of the Cultivator, at the time I first noticed its prospectus, as the harbinger of a new era for the agriculture of our State; and I do assure you, sir, that my expectations have been fully realized. The influence produced by such a work upon the minds of our people is practically illustrated. Had I the means of dissemination, I would place it in the hands of every reading planter in Georgia; for it is working wonders upon the passions and prejudices of those who have already been aroused by the lessons it inculcates. The Cultivator, in truth, has given an impulse to agriculture, wherever it has been circulated, that is really astonishing, and in those sections of country, too, where once prejudice and gross ignorance of its first principles seemed to reign. But the mist is rapidly disappearing, and we may now safely hope, that the day is passed when men, for shame of their ignorance and prejudice, will deny to their neighbors, that there is any practical knowledge of agriculture to be gained by the study of books, or that book farming is all humbug. Poor simpleton he must be, who now contents himself to "follow in the footsteps of his predecessor," or to follow plans and customs because they were the practice perhaps of his father thirty or forty years since. I am often both delighted and amused to witness the salutary influence exerted by the Cultivator in many sections of the country. It puts men to speculating, thinking and acting, who five years since considered their neighbor a visionary planter, who would embrace any new plan because it was derived from some book. These men now are not only subscribers to the Cultivator, but are active and zealous members, many of them, of agricultural associations, and are among the first to avail themselves of any new theory by which they can "grow two blades where they could only one before."

Such is the onward march of mind in every section of our State, through which I have traveled within the last two months. Then, under an awakened sense of what constitutes our dearest interest as a people, striving to add to our happiness and comfort in this life, may we not cherish the hope that greater ends may yet be effected to accomplish what we so earnestly and so devoutly seek? As the system of reform, so honorable, has begun in Georgia, is the present not an auspicious time to do something for our agriculture by legislative provision? Permit me, sir, through the columns of the Cultivator, to invoke your aid and the editorial corps of our State, in the achievement of a measure, the success of which will enhance one of the dearest interests of Georgia. It is a measure, I believe, that has been overlooked by most of the States of the Union; but why should Georgia hesitate to consummate a measure fraught with such manifold blessings to her citizens? Will our next Legislature not grant us a law for the encouragement of the raising of sheep and the production of wool? Just reflect for a moment on the tribute we pay annually for our domestic cloth, while we have a climate and soil that cannot be surpassed by any other on this globe for sheep and wool.—Yes, it is a fact that there is not such a country on the earth embracing such advantages as Georgia for the raising of sheep. I write, sir, from an experience of twenty year's trial and observation of this animal in different sections of the country. And why shall we not live and profit by advantages such as we have? We can! And if you will only bring the subject home to the people of Georgia, and impress it upon the good sense of our next Legislature, that we claim at their hands, as a people, the benefit of such a measure, it would be hailed from ocean to mountain as the richest blessing under Heaven. Then cannot some of our benevolent and enlightened legislators be induced to advocate a measure so important? My life for the issue, he who accomplishes the task, will confer as great a bounty upon his people, and build for himself a monument as high in the gratitude of his State, as Sir Walter Raleigh did by the introduction of the potato into Ireland.

The successful result of such a measure would open a new field of industry and enterprize in Georgia, and give employment to thousands of our people, who now live out a wretched and miserable existence; for men who now produce not a pound of wool, nor afford it for their families, would, in less than five years, rear sheep "upon a thousand hills."

If this branch of industry can be rendered so lucrative, as I shall, at another time, attempt to show, by an enlightened system of legislative action, then why not begin the work? There is certainly no agricultural pursuit that promises a greater return upon the outlay to the planter than the raising of sheep. I presume that there is not an intelligent man in Georgia, identified with the soil, or claiming an interest therein, who would not cordially unite in promoting this branch of industry by legislative encouragement. Then, for the purpose of accomplishing a measure of such general and vital interest to the people of the State, I suggest that the next legislature grant an act for the benefit of sheep-raisers, embracing a premium upon the quality and production of wool; a price for the head of every wolf killed within the limits of the State; and lastly, include all dogs within the State under the head of "Domestic Relations," by making your neighbor as responsible for the transgression of his dog as his slave, to be determined in courts of magistrate's jurisdiction as in common cases of "debt."

In subsequent communications under this head, I shall contrast the comparative merits of the different sections of Georgia for the raising of sheep, and the breeds best suited for those sections. Very respectfully, Jethro.

Reclusa, July, 1845.

Evaporation of Manures—Bermuda Grass.

Mr. Camak:—I noticed in the last No. of the Cultivator, a communication on the subject of "Manures—do they sink or evaporate?" Now I am fond of theory which leads to practical demonstrations; but when the latter confute the former, I am compelled to yield. In regard to manures, you may take a plat of ground in the form of a basin, (which certainly would be the best location,) to test the point. Place a sufficiency of stuff on it, that, if converted into manure by the quickest process possible, would form a coat one foot thick over the whole surface.—Now I will venture to assert, that if you let it remain in the basin until fully decomposed, it will not be two inches thick. Dig now in the soil and you will find it the same depth as before, with the addition of the manure. Now will Mr. 'Salamander' tell me what has become of the balance, if it does not evaporate? My experience as a practical farmer for about thirty years, has taught me that manure always rises and never sinks. In my early days I cultivated poor pine land, and made considerable manure, plowed shallow and manured in the hill. My reasons:—In the first place, the land was shaded by the trees, and the fall of the leaves (or straw) and grass created a sort of soil which, until it was exhausted by being exposed and cultivated, produced tolerably well. As soon as we passed through that soil, it became a continuation of coarse sand. After manuring in the hill, let there come a heavy rain and you would find a large portion of your manure in the middle furrow.—This every piney woods farmer knows. Try the experiment of digging where you have manured heavily; get below where you have plowed, and you never find your manure, nor any of the effects. The land being porous and heavy, the manure light, all the valuable properties are lost by the action of the sun.

My next experiment was on an old farm in the county of Wilkes. Here I had lands that once were very fertile, but were almost destroyed by skinning. In fact, I inquired of several farmers how they could tell how much they had in cultivation, as there appeared to be as many acres in sedge as were cultivated in the same field. My first object was to procure some of Freeborn & Hitchcock's cast iron two horse plows; the next was to get a large shovel with a wing on each side, similar to the turning scooter, the only difference being, mine was large with two wings, cleaning the furrow out well, drawn by two horses, as deep as they could pull it. Then I placed all the rough manure I could get in my stables, and corn talks trod to pieces in my lot, in those furrows, bedding on it deep with the two horse plow, (the cast iron plow.) My neighbors objected to my manure as not being sufficiently rotted. If dry, my corn would burn up they said; yet I made corn to sell. This was in 1818. I have used this kind of plow ever since, and though I may not have succeeded as well as some persons at a distance, I have generally made good crops and raised fine hogs. I have lived in this county for the last twenty-two years, and have not one foot of sedge land on any that I opened myself. I have purchased several farms that have some sedge on them.

But, sir, in stating my own experience in farming, I have necessarily left a part of the first question behind—does manure sink or evaporate? When I got on the clay lands I plowed deep. Was it because it had a foundation that would not let the manure sink? No. It had a soil, which, although exhausted, was fine and susceptible of improvement, on account of its firmness, and not so likely to suffer by evaporation. I used manure in its rough or new state, because it had not lost two-thirds of its value by evaporation, (which is the kind we farmers call well rotted.) I used that sort because it will go three times as far, and do about the same good. I plowed deep to prevent evaporation and to retain moisture, and enable me to plow my crop well. Now, in concluding the subject, I will ask any candid man, for his own satisfaction, to dig a hole (or pit) on any kind of soil, (where it has been manured the best,) and see if he can find any appearance of manure below where it has been plowed. I would go farther, and invite the chemist to test it, and then try the same quality of soil at the same depth, and I am well assured that they will agree with me that manure never sinks but evaporates.

Perhaps I ought now to quit; but there is another subject I must speak of; and that is Bermuda grass. I see it recommended by a number of intelligent gentlemen, (I cannot say farmers.) I have been acquainted with it for twenty-seven years, and have had a good deal to do with it, and think I ought to be somewhat acquainted with it. I look upon it as the worst curse a father could pronounce upon his son, to leave him a farm stocked with Bermuda grass. To old men I have nothing to say on the subject. Let them try it if they see proper. But to young farmers, let me exhort them not to be led away by the favorable opinions of others, who, I would hope, recommended it after a very partial acquaintance, but to examine some of the many fine fields in Georgia which have been and will remain cursed with it to the end of time.

Newton Co., July, 1845. A Corn Maker.

On the Application of Manure.

Mr. Camak:—What is the most proper manner of applying manure so as to derive the greatest benefit from it? I ask the question because, from the heading of an article in your May No., page 70, I conclude that you are in favor of burying in preference to top-dressing.

The writer of the article alluded to says, "There is a popular opinion that manure sinks, &c." And farther on, "But is the popular opinion true, that manure is wasted by sinking." He then goes on to prove that it is not true, by the clarifying effects of a barrel of sand, the "operations of nature" in purifying rain water, and finally adds, "I have shown that *manure does not sink, but evaporates.*"

Now, sir, I happen to be one of those persons that have imbibed that "popular opinion," and, until "Coatswood," from analysing the "nearly pure water" that runs from the barrel, can prove that it contains nothing derived from the "impure liquid manure" that would be beneficial to the growth of plants, I shall not be satisfied that none of the manure sinks even as *low* as the spiggot hole at the bottom of the barrel. But, on the contrary, I must believe, that all that is soluble of the manure, except perhaps a part of such salts as might chemically combine with the sand, comes out with the apparently pure water below. We but rarely find spring water, that has percolated through strata of many feet in thickness, entirely deprived of its impurities.

I believe that something in a gaseous form is

lost from manure in bulk, or in a situation that would cause it to heat and undergo rapid decomposition; and that the most favorable situation for a small quantity (so much, for instance, as we would place in, or on, a hill of corn) is that in which it is usually placed—*in* the hill, where it derives both *heat* and *moisture* from the surrounding soil. This being the case, is it probable that the shallow porous covering of earth will confine the gasses thus *rapidly* evolved, until taken up by the spongioles of the plants? I think not.

I furthermore believe, that in top dressing or spreading the manure on the hill, there is also something lost by evaporation—though not as much as when placed under more favorable circumstances for rapid decomposition, but, that *much more* is gained or saved by the solvent properties of rain water, which, after taking up all that has become soluble and in a suitable state for food to the plant, conveys it directly down to the roots, to be by them taken up and appropriated to its proper use. And in this way, as the manure, from its situation, becomes more slowly decomposed, its soluble parts will unite with, and be taken down by each successive shower. It seems most reasonable that, as decomposition would progress much more slowly in the latter, than in the former situation, there would be *less* loss by evaporation from a surface application, and that *more* would be saved by solution from manure placed *above*, than from that placed *below* the roots of the growing crop.

If manure is placed *under* the hill, and so low that the air cannot have access to it, then I admit there would be no loss by evaporation. Neither would there be any decomposition, and hence, not much benefit to the plant. But, by placing the manure on top, it would (even after being by tillage mixed with the surface soil) be within the influence of the atmosphere—the oxygen of which would, in combining with the woody fibre of the manure, form *carbonic acid*, "the first and most important food for young plants." Liebeg says: "Humus acts in the same manner in a soil permeable to air as in air itself; it is a continued source of carbonic acid, which it emits very slowly. An atmosphere of carbonic acid, formed at the expense of the oxygen of the air, surrounds every particle of decaying humus. The cultivation of land, by tilling and loosening the soil, causes a free and unobstructed access of air. An atmosphere of carbonic acid is therefore contained in every fertile soil, and is the first and most important food for the young plants which grow on it." Again: "By loosening the soil which surrounds young plants, we favor the access of air, and the formation of carbonic acid; and, on the other hand, the quantity of their food is diminished by every difficulty which opposes the renewal of air."

Upon the whole, I cannot agree with "Coatswood," that manure "does not sink but evaporates;" although, as above stated, I believe something may be lost. I doubt much, whether the atmosphere steals so great a portion of our manure as is suspected by many. What does it take? Carbonic acid? This gas, notwithstanding it is said to be heavier than the atmosphere, has been detected in every part of it, where its presence has been looked for; yet its specific gravity, being greater than that of the atmosphere, it may, I think, be doubted whether it *ever does*, in its uncombined state, rise from the earth into the air, unless driven off from a heated body, and in a greatly expanded form. The ammonia of manures may combine with carbonic acid and form a volatile salt (spirits of hartshorn,) and in this way sometning may be lost; but ammonia in all its forms, is extremely soluble in water, and in this way, as is the case with carbonic gas when gradually formed, may be saved by rain and even dew. Liebig says, "Liquid animal excrements, such as the urine with which the solid excrements are impregnated, contain the greatest part of their ammonia in the state of salts, in a form, therefore, in which it has completely lost its volatility; when present in this condition, not the smallest portion of the ammonia is lost to the plants; it is all dissolved by water, and imbibed by their roots." Thus we may conclude, that such salts of manures as are only soluble in water, are not likely to take wings and fly out of our fields.

I have been a constant reader of Agricultural papers since 1829, when I commenced with Mr. Skinner's eleventh volume of the "American Farmer," and have, as "Book Farmers" are apt to do, experimented much with manures. I have applied manure in almost all the different ways I have seen recommended since the above mentioned time; and I am confident that I have derived more lasting benefit from surface applications, to the corn crop especially, than in any other mode of applying it, be the *modus operandi* what it may. But, sir, the science of agriculture is onward, and we shall, I trust, learn all about the matter in dispute before long. We have new lights springing up almost daily to point out the way to that heretofore benighted and contemned class—the *most* useful and *only* indispensable of creation—the Agriculturist.

One of the first Agricultural lecturers of the day (Prof. Johnston of Scotland) is of the opinion that manure (its soluble salts) both sinks and rises in the soil; and that, although the water, which holds it in solution, does, in a dry time, evaporate from the surface, none of the salts *do*, but are there deposited, to be, by the next rain, again taken down. In this I have no doubt he is correct, and if so, for obvious reasons, the surface application is the preferable one; because, after a rain, the water, with its treasure, would necessarily have to pass the roots in its descent before it could ascend. Whereas, if the manure was placed below the plant, the salts taken from it by the descending water, would not come in contact with the roots until brought there by the ascent of the water. And this time, in which the plant would be deprived of the benefit of the manure, might be, under certain circumstances, greatly protracted, viz: in a season of continued rains, sufficient to prevent evaporation by keeping the surface moist, as the water from below will not ascend until the surface becomes dry.

But at the risk of being tedious—for the benefit of those of your readers that may not have the work, (all ought to have it)—I beg leave to make an extract from Prof. Johnston's Lectures, part 2d, p. 428: "Hence, from the proportion of soluble matter present at any one time in the surface soil, we cannot safely pronounce as to the quantity which the whole soil is capable of yielding to the crop that may grow upon it. For when warm weather comes and the surface soil dries rapidly, then by capillary action the water rises from beneath, bringing with it the soluble substances that exist in the subsoil through which it ascends. Successive portions of this water evaporate from the surface, leaving their saline matter behind them. And as this ascent and evaporation goes on as long as the dry weather continues, the saline matter accumulates about the roots of the plants so as to put within their reach an ample supply of every soluble substance which is not really defective in the soil. * * * They (sandy and porous soils) absorb the falling rains with great rapidity, and these carry down the soluble matters as they descend—so that when the soil becomes soaked, and the water begins to flow over its surface, the saline matter, being already buried deep, is in little danger of being washed away.* On the return of dry weather, the water re-ascends from beneath and again diffuses the soluble ingredients through the upper soil."

In conclusion, sir, if any of your respectable class of readers wish to hear any thing more on the subject of "Surface Applications," I refer them to an article in the "Farmer's Register," vol. 9, p. 628, over the signature of S., and to p. 645, where the article is noticed by Mr. Ruffin, also to p. 677 for Mr. Garnett's answer to the same article. I might refer them to other writers that have handled the subject much more ably than has been done by the bungling hand of

Pendleton, S. C., June, 1845. G. S.

*This should encourage us to subsoil our land before planting.

Berkshire Hogs.

MR. CAMAK:—Sir—I promised you a while back that I would give you my method of managing Berkshire hogs to profit. In compliance with my promise, I herewith forward you my prescription, without any other preliminaries than simply to say, I got in possession of some Berkshire hogs about five years ago, and to be sure that I was not humbugged, I procured them of different stocks; which, from their recommendations and appearances, I supposed were all of the choicest breeds. From that time until now I have experimented with them in all sorts of fashions. I have fed them bountifully on all sorts of grains, grasses, peas, potatoes, fruits, vegetables, meal and slops, and I have fed them scantily; I have enclosed them in lots, and I have let them run at large; I have fed them by themselves, and I have fed them with other hogs; but in spite of my best personal efforts, I have lost at least thirty of them to one of my common stock, notwithstanding I have had, all the while, five times as many of the common stock as I have had of the Berkshire. They would die poor, and they would die fat; they were subject to all sorts of diseases, old and complicated, new and simple; they would take the mange, and they would become lousy; they would die suddenly, and they would linger to death.

What to do under the circumstances was of course a subject of much deliberation and inquiry. Had these things happened to the common stock, it would have been a matter of no great surprise; but it was the Berkshire hogs that were thus affected! To suppose them to be a humbug, as the signs seemed to indicate, would be to stake my judgment against the generally received opinion of the people, and the positive declaration of many good men. That wouldn't do: I appealed to the sense of the enlightened to learn the cause. None could tell. I waited on the ignorant to know the reason; but they were ever strangers to the case. Whilst oscillating between the various conjectures of a bewildered mind, and conjuring up schemes to reconcile experience with the opinions and sayings of others wiser and better than myself, I was cheered by the reflection that there was one experiment more to be tried; and that I would try it. I did so; and it acted like a charm. I noticed the precise day on which the sows had pigs; if it was before or after the change or full of the moon, I noted it carefully in my memory; and as soon as the circumstances and age of the pigs would allow of it, I altered all the boars, spayed all of the sows, killed the hermaphrodites and knocked the old hogs in the head.

Judging from the time since this method was adopted, and the effects produced by it upon the stock, I am fully persuaded that this breed will soon pass away, and the sooner the better. Seeing the excellent results produced by this practice upon my hogs, I concluded to extend the benefits of my genius and discovery to my neighbors' stock. To this end, I gave orders to my folks, whenever they saw a stray Berkshire hog on any part of my land, they must hallow 'Berkshire!' as loud as they could squall. On hearing this word, as a signal, they must drop their business of whatsoever kind it might be, hasten to the place whence the signal proceeded, and never stop, hands nor dogs, until they altered or spayed the hog, as the case might be.

Newborn, June, 1845. JOHN W. PITTS.

Wheat Straw, a Substitute for Fodder.

THIS is the season wheat is got out, and I regret to see the straw is thrown out to make manure. I once had a meadow of thirty acres, producing good grass, (feather clover, and a broad leafed blue grass,) all of which made a very fine quality of hay.

To save the trouble of feeding, and to furnish shelter for my cattle, I put forks in the ground, and on them placed poles of such size and at such a distance apart that the cattle could draw

the hay down from between these poles, which were placed, by the height of the forks, so as to admit the cattle freely to walk under the frame, as I will call it. On this frame I stacked my hay.

I stacked wheat straw in the same way, generally on the poorest spots in the field. My cattle were turned in and permitted to feed themselves, and at pleasure, to use the stacks as shelter, of which they soon learned the advantages. I found my cattle would use the stacks of hay as shelter, but would not eat any of the hay, so long as the straw lasted, which proved to me, if they had proper taste, that the straw was more valuable than the hay.

My horses and mules were furnished with hay alone, in the stable, on which they showed health, and usual thrift. This experiment for some years was observed, and regularly this preference was shown for the straw by the cattle; and they improved and looked better while enjoying the feed on straw, than when they were confined to hay alone, which was as soon as the straw was consumed.

I have never tried to feed the straw alone to horses, but I would not hesitate to say, it is worth more than fodder. Try it; save your own straw; it will feed and sustain cattle, horses and mules, and ultimately make manure more valuable than by the slovenly process of throwing out to rot. D. REINHARDT.

Greenville, S. C., June, 1845.

Hints to Advertisers.

MR. CAMAK:—It has occurred to me that a few hints to your advertising friends, Hazard, Denslow & Webster, might not be amiss. The propriety of a purchase frequently depends upon the price of the article desired. I wish to procure a light subsoil plow, and I have heard one of my neighbors also express such a desire. Now if the furrow slice, the depth, and the price of each plow were stated I could easily determine which I should prefer. All this might be added without materially enlarging their advertisement. I would further remark, that a knowledge of the cost of transportation for such articles might facilitate their introduction into the country.

I doubt not that the above named gentlemen would profit by sending a few samples of their plows into the up country. A few such deposited at some suitable place in your town, during the week of your approaching Commencement, would be formidable competitors for a place among the *lions* of the town. A friend could not be *wanting* in your flourishing place, who would cheerfully take the trouble to act as "historian to the" *lions*, and sell them when curiosity was satisfied. If authority was given to make a public trial of them it would be still better.

Your friend, Mr. B. H. Warren, of Augusta, might also have sold several *Leicester bucks*, if he had stated his price for them.

GREENE B. HAYGOOD.

Casulon, Clark county, June, 1845.

Mixing Soils—Inquiries.

MR. CAMAK:—I live in the piny woods and the soil is light and sandy.

Would clay taken from the ponds or river swamp, and put broadcast over a soil of that sort, and plowed in, have any effect to fertilize it or to make it produce good crops?

How would swamp mud do? That, however, is difficult to obtain in large quantities; for directly you get through the mud and come to the clay.

And also, what effect would lime have—say Thomaston lime, such as we can get in Savannah—by putting a spoonful or two in the hill every year at the time of planting?

Respectfully yours, N. ASHLEY.

Ocmulgeeville, Telfair county, June, 1845.

The Fairs—A Suggestion.

MR. EDITOR:—I see by the advertisement in your paper, that the fair of the "Planters' Club of Hancock County," and of the "Agricultural Society of Bowling Green," will take place on the same day. This certainly is in bad taste, as it will render it impossible for one man to exhibit stock at both places. One I know, and there may be others, who would like to exhibit at both fairs. Can you not recommend the Bowling Green Society to make some alteration in the time of holding their fair so as to avoid this clashing? They are the youngest club and ought to yield if either should. Respectfully,

A FRIEND TO THE CAUSE.

Woodville, Greene county, July, 1845.

ESSAY

READ TO THE BURKE COUNTY AGRICULTURAL SOCIETY, *at its first meeting, according to appointment.*

BY PAUL DAVIDSON.

On the importance of our pursuit I shall not dwell for a moment. We all feel it. All acknowledge its use, for not only the welfare, but the very existence of a civilized community depends upon it. Of the necessity of our improving in this our vocation, we ourselves must be the judges. That this necessity exists, you have all acknowledged by subscribing to our constitution.

If there is any one thing more than another, which is cheering to the heart of the true patriot and philanthropist, the real lover of his country and her interest, it is the spirit of inquiry, and improvement in agricultural pursuits, which now seems to pervade almost the whole land. This is truly encouraging, and, in my opinion, is a presage of better things and happier times. If indeed there is any one who does not acknowledge the necessity of improvement in our system of agriculture, he certainly cannot be aware of the position he holds in comparison with agriculturists of a different section of our own country, much less with the more advanced state of the art in certain other countries.

Even if we should admit that we have arrived at the greatest degree of perfection in the cultivation of cotton, it would be but an unprofitable admission, and would prove at once the necessity of our diversifying our pursuits in other branches of agricultural industry, whereby, if we derive no greater profits, we shall become more independent than is possible while we depend upon a single staple for our income, and a foreign market for our necessaries and conveniencies, many of which we can make much cheaper than those can who supply us.

But before we attempt to strike out a new course of pursuit, it will be necessary, to insure success, that we should obtain all the information in our power in regard to the different branches intended to be pursued. Then, with all the lights and guides which ancient experience and modern research have thrown in our way, we may "go ahead" with a good assurance of success. But without this we shall as certainly fail; for we are, many of us, in the condition of a mariner who has been all his life navigating a single sea, and sailing back and forth upon a single track, until want of trade compelled him to navigate other seas, and seek other ports to supply his cargoes. Now, in order to insure safety and success, he must get all the information extant, and procure all the maps and charts which relate to the course of his new route.—Without these precautions he will be in constant danger of being wrecked upon hidden reefs and quicksands. Now the planter who does not take all these precautions, upon commencing a new pursuit, will be in danger of meeting the most disastrous consequences, until the loss of several crops, and the expense of a vast deal of labor shall have taught him, by experience, what he could have learned for a few dollars, or perhaps shillings.

Heretofore, experience has been the only mode of obtaining information upon agricultural subjects. But this, though a sure, is a slow and often expensive mode of arriving at the same results, which the application of analysis will often lead to at once with equal certainty. Modern science and research have taught us that, by means of chemical analysis, we can at once ascertain not only the elements entering into the composition of the plant, but their quantity, and the kind of soil best adapted to its growth and the perfect development of its fruit; and also the kind of manure best adapted to the plant and soil.

Now the facts developed by chemical research always accord with those ascertained by experience—for facts never controvert each other; and to prove this, it is only necessary to cite a case or two which are familiar to all. We all know that wood ashes form the very best manure for a crop of cotton. Now chemical analysis shows us that the cotton plant and its fruit contain potash and lime, the former to a large amount. We further know that the soils best adapted to the raising of cotton, are those which have originally produced a growth of timber indicating that there was a large amount of potash and lime present in the soil, as oak, hickory, dogwood, &c. And on the contrary, pine lands are far less suitable for the perfect development of that plant, and that though upon pine lands can be grown a stem of sufficient size, the fruit is always wanting in a greater or less degree.

We know, from every day's observation, that hard wood timber produces a much greater amount of ashes than the softer woods:—for example, the beech and post oak, than the pine; and also, that their ashes are much richer in the alkalies. Now there are certain other circumstances necessary for a proper soil, yet the presence of a sufficient quantity of the above named materials is absolutely essential. Nor does the fact that some rare spots of pine land are found that produce very good crops of cotton, controvert, in the least, the general rule that cotton grows best on oak and hickory land. For although oak and hickory require a particular soil for their development, yet there is nothing in a soil adapted to their growth, which would prevent the long leafed pine from growing, as it sometimes does on such soils, very luxuriantly, until it is gradually displaced by the oak. Yet the contrary is not true, for oaks can never be produced in perfection upon soils which may be capable of producing a fair growth of pines. In following out this train of observation, we find that when a soil has become exhausted of the proper materials for producing cotton, it will not produce the original growth of oak and hickory; for when an exhausted field is turned out, it shoots up a growth of old field pines, which, you all know, are very deficient in alkalies and earthy matters, and therefore best suited to a soil exhausted of these principles. In fact the old field pine requires so little of potash and lime for its growth, that an old field, after having sustained a crop of that growth for a series of years, accumulates sufficient of these principles, partly by absorption, but mainly, I think, from the liberation of these salts from their insoluble combinations, through the action of the atmosphere and other causes, to render it again comparatively fertile for a few years, when it is again exhausted and again renewed in the same manner.

This theory also explains why soils producing originally different varieties of the same plant, oak for example, does not produce cotton and other crops equally; for every experienced cotton planter in selecting his lands for that staple, will prefer the soil which has originally produced a growth of post oak rather than any other. Now the post oak contains the alkalies and alkaline earth before mentioned in larger proportions than any other species, and therefore indicates a soil rich in these elements of fertility; while lands producing the Spanish red oak are seldom fertile any great length of time. Now any old lady in the country, accustomed to making soap, can tell the difference in these two varieties of oak, as regards the quantity of ashes produced upon burning them. The latter yields a much smaller quantity than the former, and therefore indicates a soil much poorer in these elements. Now what is true in relation to one plant, is true also with all, according to their varieties, and the elements entering into their composition. Wheat and most grains contain, among their component parts, various salts, as the phosphates of lime, (which is the solid part of all bones,) magnesia and soda, or potash. Now it matters not how rich a soil is in vegetable matter and every other substance, if it is deficient in any of these salts it will not produce a perfect development. Nor is the quantity of an element contained in the grain or plant a criterion of its necessity, for although it may enter into the mass as but a very small part of the whole substance, yet it is not the less necessary that it should be present. When we survey the work of the mason and observe the small quantity of lime which he uses in proportion to the mass of the whole fabric, it would almost seem that it could be dispensed with; yet the building would be far from perfect without it. It is just so with plants, and though the inorganic constitutents enter into their composition

in but very minute quantities, they are just as essential to its perfection as the vegetable matter which builds up the mass of the plant.

And it is undoubtedly the lack of some of these elements that causes the rust and blight in wheat in certain localities, although the soil appears rich in all the constituents necessary to build up the frame work of the plant, and produces the stalk in great luxuriance, but not grain, or but very little.

The same is true of the cotton plant; some soils producing a fine plant, as far as size is concerned, and but very little fruit. This is strikingly the case with most pine lands. Here there is evidently sufficient vegetable matter to produce the frame, but a lack of some inorganic constituent to produce a full crop of fruit; whereas the contrary is the case in some of our soils which originally contained the inorganic materials in great abundance, so that there are sufficient of them remaining to produce an abundant crop of fruit, but the material (vegetable matter or humus) to build up the stalk is exhausted, so that although the soil produces much fruit in proportion to the size of the plant, yet the stalk being deficient in size the product is necessarily deficient.

Now the deficiencies in both these cases are to be supplied; and, according to the old method of culture, are to be supplied by an application of the same materials, to wit: the gleanings of the horse lot and the cow pen. These are very good in their place, but the attempt to supply two very different wants by the same material, is, at best, but a quackish application of means.—Would it not be far better to ascertain by analysis the deficiencies to be supplied, and the materials necessary to supply those wants, so that we may be able to apply our labor and capital more properly, by suiting our means to the ends designed, than to continue blundering along, after the old empyrical mode of applying the same means to all ends, whereby we have so often been disappointed in the results.

This is not only the teaching of reason, but also of economy; for by adopting the above plan, we should be able to apply every thing just where it would be most wanted; and as nothing would be misapplied, nothing would be wasted.

Now, my friends, unless we arouse ourselves and shake off the lethargy which binds us to old customs, and cease to be content to carry a rock in one end of the bag to balance the pumpkin in the other end, because our fathers did so, and look into this matter deeply and thoroughly, and take some steps, aye! some long strides, in the improvement of our avocation, we shall be soon left out of sight, in the rear of our more enterprising neighbors, and be reduced to even a greater degree of dependence for our necessities and comforts, than at present. But under the old system we shall soon be reduced to a point that will not enable us to purchase all the little conveniencies which our northern friends are always so ready to furnish us with *while our money lasts*, but when that is gone, credit soon follows. Then, if not before, shall we see the error of our ways, and set about making those improvements which have already placed our neighbors so far before us.

Improve your Lands.

We take the following sensible article (says the Mobile Register,) from an old number of the Alabama State Intelligencer. It was copied very generally by the Southern Press some eight or ten years ago, but it has lost none of its interest, or its applicability to modes of cultivation among our Planters. We think we recognise in it the pen of one of our most intelligent and practical cultivators; one who has done more by precept and example to advance the interests of agricultural and horticultural industry than any man in the State.

If to produce the greatest quantity possible of any article or articles, from a given quantity of land, and in the process of production to increase the fertility of the soil in a great degree, is the acme of agricultural pursuits, it may be fairly advanced that to cultivate a large surface of land, and by the mode of cultivation, for a small production, and with a great destruction of the productive properties of the soil, must be the acme of absurdity.

If there is any available process, that by the additional expense of one half of the additional production, will add one hundred per cent. to the product of labor bestowed on land, the process ought to be adopted for interest's sake; but if the one-fourth left is added to the increase of the productive quality given to the land, it then claims from every rational being who cultivates the soil, an immediate attention. It is astonishing, that the land wearing out so rapidly, as we often see it, does not startle every cultivator, who is but one degree removed from an idiot. If the people of the northern part of the United States, were to go as honestly to work in the destruction of their land, in their mode of cultivation as we do, we should soon hear melancholy news of their situation, in lieu of that agricultural prosperity which their land and labor secures them.

When a farmer in that section of the Union sits down on a tract of land previously worn out by some squatter, (for the breed is not worn out there, nor will it be, as long they hear of a Texas,) with not a foot to "clear" he feels no great uneasiness. He can tell by his mode of proceeding almost precisely the increase of crops he will get and the time it will require to get his land "into heart," for the production of seventy or eighty bushels of corn to the acre; and although he live in the midst of a thick settled country, with not one of the available means of fertilizing his land, which we Southerners have around us, he is easy, while we should think of no other resource than Arab like to move to a "new range." But the Northern farmer who cannot worship cotton, for it is not found amongst his household gods, if he is a judicious cultivator, he goes with all his energies into provision crops—to the production of every article; in this way his situation will admit him to expect rationally a remuneration for his labor, for in this course he secures the thing called manure, of the best kind, and in securing that, he finds the key to agricultural success. This fact allows him to "settle," and he finds he is not compelled to run away from his land every ten years, which has been running away during that period from him, he giving it the start.

But if there is any process of cultivation in the pursuit of which the improvement of the soil will pay for the extra labor, and give to the laboring man the whole extra crop, I must repeat that there must be idiotism in not availing ourselves of it.

Now, in cultivating land, we know that there is a positive expenditure of capital, animals and gear, carriages, provisions and labor. If one half of most of these can be made to produce the same result that the whole usually produce, there is then a positive saving of capital, wear, tear, provisions and labor, of one half.

For instance, say twenty-five acres is made to produce the same amount that fifty usually does, and that one man and one horse is employed in the cultivation; the capital expended on one man and one horse, a set of gears, seed for twenty-five acres, saving of the production, cleaning, clearing, fencing, and keeping up the enclosure, &c. &c., is actually saved.

And if the planter's resources enable him to work the fifty acres, as it ought to be, and to obtain the production for his labor that he ought to obtain, the conclusion is doubly conclusive in favor of the better or more productive system. For in spite of ignorance, intentional or real, it remains a truth strong as holy writ, that twenty-five acres of manured or enriched land are as easily tended as the same number of acres of a *caput mortuum* or impoverished soil.

That a judicious manuring system would bring about the result contended for, is as certain as that there are a Northern and Southern section of the Union.

If these views are correct, then it follows that to insure a successful agricultural pursuit, manure is almost every thing, and the mode of making it, to the greatest advantage, is to the planter of incalculable importance. In the whole circle of common sense, no fact is better established than that if you will take an acre of land, that will produce ten bushels of corn to the acre in its natural state, and manure it, the product will as readily become thirty. Yet if you will look at it, the quantity of "stuff," and actual manure, wasting around the plantations, and especially in the lanes on almost every plantation in the country, you would be obliged to conclude that idiots were quite common, or that this fact is not believed, or that it was not known.

But the fact still remains that land can be made to yield three, nay four times the quantity of many agricultural productions, by a judicious application of manure, combining the materials judiciously that compose it. From land that would not give more than ten bushels of corn per acre, I have grown fifty, with the aid of cotton seed alone. PLANTER.

The Dairy.

From the Salem Gazette.

We extract from the report and statements, presented by the committee of the Essex Agricultural Society, on the dairy, such portions as will be most interesting to our readers:

The committee on the dairy, in presenting their report, would remark that the first prerequisite in making good butter, is to have good cows. And to be sure in this respect, every farmer should test the value of each cow by milking and preserving her milk separately, and noting carefully the quantity required to make a pound of butter. By a very little attention in this way, it may be readily ascertained whether a cow is worth keeping for dairy purposes. Cases have occurred where a cow has been kept for years with several others and their milk put together; on using it separately, it was found that butter could not be made from it. Thus, for the want of attention in this respect, much loss may be sustained. There are undoubtedly many cows kept which add little or nothing to the value of the dairy.

The kind and quantity of salt used, is of much consequence. The Liverpool bag salt should be rejected; it contains impurities, and will not preserve butter. Rocksalt perfectly pulverized, and three-fourths of an ounce used to a pound of butter, will preserve it well.

Process of making butter by those who gained the Society's Premiums.

By Geo. W. Dodge.—The milk is strained into tin pans, where it stands from thirty-six to forty-eight hours, when it is skimmed and the cream put into tin pails, standing on the bottom of a cool cellar. A little salt is added to the cream which is frequently stirred. We churn twice a week. When the butter comes, the buttermilk is thoroughly worked out, and the butter salted with an ounce to the pound. After twenty-four hours it is again worked and weighed.

By Mrs. Abi Worcester.—The cream was churned twice a week, then the butter was washed in cold water. One ounce of fine butter salt was used to one pound of butter, well-worked in. After it had remained twenty-four hours, it was worked over and packed down solid in a stone pot and covered with strong brine.

By Paul Pillsbury.—The milk is strained into tin pans and stands thirty-six hours. The cream is then taken off and put into a tin firkin, and kept until it is ready to be churned, which is twice a week. The butter is well rinsed in cold water and then salted with one ounce of salt to a pound of butter. In about twenty-four hours it is worked again and packed down and kept on the bottom of the cellar, covered with fine salt. The feed of the cows was a common pasture.

By Allen W. Dodge.—Treatment of milk and cream before churning: Strain the milk in tin pans, place them in a cool cellar for the cream to rise; when sufficiently risen, which will be according to the weather, separate the cream from the milk, and the day previous to churning lower the cream, in tin pails or cans, into a well, in order to become cool. By this means, the butter will come of a hard consistency, and no

difficulty experienced in working it thoroughly.

Mode of churning: Rinse the churn with cold water over night. The churn used is Galt's —various other kinds have been tried, such as the barrel-churn and rocking-churn, but with less favorable results. The time occupied in churning, when the cream is cold, is greater than if it was not subjected to the process of cooling, but the quality and condition of the butter amply repay for the time and labor expended upon it. Churn once a week.

The method of freeing the butter from the milk is by thoroughly working the butter with the hands. Rinsing it with cool water in the churn, we have seldom practised, from the conviction that the butter is injured by this process. The day after being worked over, it is put into lumps of one pound each, for market.

Salting of the butter: Use the ground rock salt, and salt to suit the taste. Add no saltpetre, sugar, or other substances.

By Nathaniel Felton.—The milk is strained into tin pans; it stands from thirty-six to forty-eight hours in a cool cellar, when the cream is taken off, put into tin pails, and stirred every day. We churn once a week; during the warmest weather the cream is placed in the well about twelve hours before churning. After it is churned the buttermilk is thoroughly worked out, and the butter is salted with three-quarters of an ounce to the pound. After standing about an hour it is again worked and weighed, each pound separately.

By Benjamin Boynton.—The milk is strained into tin pans. It stands forty-eight hours in a cool cellar, when the cream is taken off, put into a pot, and stirred once a day. We churn once a week. After the butter is churned the buttermilk is turned from it, and water is added twice, and churned to separate the buttermilk from it. One ounce of salt is used to a pound of butter, which is worked twice after.

From the Mobile Daily Advertiser.

Raising Stock.

In the present depressed condition of the planting interest in Alabama, it is astonishing that the farmers do not direct more of their attention to the raising of stock. There is no portion of the United States better calculated for various kinds of stock than Alabama. Horses, mules, cattle, sheep, all thrive well, and our mild climate is more congenial to the *hog*, particularly, than the cold west or north. We have more facilities for raising hogs than Kentucky. They can be raised in South Alabama with less labor and less expenditure. Will this be doubted by our farmers, or denied by the people of the northwest? If so, I trust that some of our wealthy farmers will make the experiment, and it will be found that fifty hogs can be raised in Alabama with as little labor and expenditure as thirty in Kentucky. Let us see what are the facilities of the two sections of country:—Kentucky has her corn, artichokes, oats, rye and grass pastures—while Alabama has her corn, peas, artichokes, oats and rye for pastures, equalling the advantages of Kentucky. Alabama produces in addition, the ground-pea and sweet potatoe, which gives an advantage over all the products of Kentucky as food for hogs. Let us now estimate the value and profits of a farm in the two sections of country employing ten hands—the farm stocked for operation.

In *Kentucky* it would require a landed property of 326 acres, which would cost at $15 per acre, 4,875 dollars. The ten hands would cost five thousand dollars. Capital invested, nine thousand eight hundred and seventy five dollars. In this farm there would be three hundred acres of open land, twenty-five remaining wood for convenience. The three hundred acres of improved land would be cultivated in the following proportions: fifty acres in corn, one hundred and twenty-five in oats and rye, one hundred and twenty-five in clover and blue grass, and twenty in artichokes. This would be the labor of ten hands, which would only provide food sufficient to raise three hundred hogs of one year old. The three hundred acres of blue glass, clover, oats and rye would receive 300 pigs and pasture them from the 1st of May until the 1st of October. It would then take all the artichokes and the corn that would be made to feed the three hundred hogs from the 1st October to the 1st May—seven months, (part of the corn having to be fed to the pigs while on pasture.) The hogs now one year old would weigh one hundred and fifty pounds each, and would make 4,500 pounds of pork, which at $2 50 cents per hundred pounds, would bring to the owner $1,122, sold in Kentucky.

In *Alabama* it would require a landed property of the same number of acres as that of Kentucky. Let us now see if there is any difference in the profits of the capital invested. The 325 acres of land calculated for a farm of this description can be purchased in Alabama at $8 dollars per acre, which would make a cost of twenty-six hundred dollars. The ten negroes cost the same as in Kentucky—five thousand dollars. The cost of the land and negroes in Alabama would be seven thousand six hundred dollars—2,750 dollars less than the outfit in Kentucky. Of the three hundred and twenty-five acres, there would be three hundred acres in culture—forty acres in corn and cow peas, one hundred and twenty-five acres in sweet potatoes, twenty-five acres in ground peas, and one hundred in rye and oats. This would furnish food sufficient for seven hundred head of hogs. The twenty-five acres in ground peas would receive seven hundred pigs the 1st of September, and furnish them with food for two months, ending on the first of November. The one hundred and twenty-five acres in sweet potatoes would yield, at two hundred and fifty bushels per acre, thirty one thousand two hundred and fifty bushels, which would alone feed the seven hundred head of hogs one year, allowing four quarts per day for each hog, which would be more than sufficient food for them one year. The corn, rye and oats would be a reserve, and the Alabama farm of three hundred acres in cultivation, would yield seven hundred head of hogs of one year old, weighing one hundred and fifty pounds each—making one hundred and five thousand pounds of pork, which at three dollars per hundred, would bring to the owner three thousand one hundred and fifty dollars. Showing a proceed of two thousand and twenty-eight dollars more than the farm in Kentucky, with a capital of two thousand seven hundred and fifty dollars less than was employed in Kentucky!

The above is made upon the supposition that the hogs are to be kept in an enclosure, and not suffered to run at large, to be dependent entirely on the product of the farm for sustenance. I have made the above statements upon my own experience and information. The subject will be continued. ALABAMA.

Horticulture.

BY MRS. LYDIA H. SIGOURNEY.

If the admiration of the beautiful things of nature has a tendency to soften and refine the character, the culture of them has a still more powerful and abiding influence. It takes the form of an affection; the seed which we have nursed, the tree of our planting, under whose shade we sit with delight, are to us as living, loving friends. In proportion to the care we have bestowed on them, is the warmth of our regard. They are also gentle and persuasive teachers of His goodness, who causeth the sun to shine, and the dew to distil; who forgets not the tender buried vine amid the snows and ice of winter, but bringeth forth the root long hidden from the eye of man, into vernal splendor, or autumnal fruitage.

The lessons learned among the works of nature are of peculiar value in the present age. The restlessness and din of the railroad principle which pervades its operations, and the spirit of accumulation which threatens to corrode every generous sensibility, are modified by the sweet friendship of the quiet plants. The toil, the hurry, the speculation, the sudden reverses which mark our own times, beyond any which have preceded them, render it particularly salutary for us to heed the admonition of our Saviour, and take instruction from the lilies of the field, those peaceful denizens of the bounty of heaven.

Horticulture has been pronounced by medical men, as salutary to health, and to cheerfulness of spirits; and it would seem that this theory might be sustained, by the happy countenances of those who use it as a relaxation from the excitement of business, or the exhaustion of study. And if he, who devotes his leisure to the culture of the works of nature, benefits himself—he who beautifies a garden for the eye of the community, is surely a public benefactor. He instils into the bosom of the man of the world, panting with the gold fever—gentle thoughts, which do good like a medicine He cheers the desponding invalid, and makes the eye of a child brighten with a more intense happiness. He furnishes pure aliment for that taste which refines character and multplies simple pleasures. To those who earn their substance by laboring on his grounds, he stands in the light of a benefactor. The kind of industry which he promotes, is favorable to simplicity and virtue. With one of the sweetest poets of our native land, we may say,

> "——Praise to the sturdy spade,
> And patient plow, and the shepherd's simple crook,
> And let the light mechanic's tool be hailed
> With honor, which increasing by the power
> Of long companionship, the laborer's hand,
> Cuts off that hand, with all its world of nerves,
> From a too busy commerce with the heart."

Cribbing, or Crib-Biting.

As we have had a number of communications on this subject, we give our readers an extract from the celebrated Youatt, whose book on "the horse," edited by J. S Skinner of Baltimore, is a valuable production. Youatt does not seem to consider this cribbing a disease, but a habit rather, though he says, "the cribbing horse is more subject to the colic than other horses, and to a species difficult of treatment and frequently dangerous."

He says, "It is one of those tricks which are exceedingly contagious. Every companion of the crib-biter, in the same stables, is likely to acquire the habit, and it is the most inveterate of all habits. The edge of the manger will in vain be lined with iron, or with sheepskin covered with tar or aloes, or any other unpleasant substance.

"In defiance of the annoyance which these may occasion, the horse will persist in his attack on the manger. A strap buckled tightly round the neck by compressing the windpipe is the best means of preventing the possibility of this trick, but the strap must be constantly worn, and its pressure is too apt to produce a worse affliction, viz., an irritation in the windpipe, which terminates in roaring.

"Some have recommended turning out for five or six months, but this has never succeeded except with a young horse, and then rarely.—The old crib-biter will employ the gate for the same purpose as the edge of his manger, and we have often seen him galloping across a field for the mere object of having a gripe at a rail—Medicine will be altogether thrown away in this case.

"The only remedy is a muzzle with bars across the bottom sufficiently wide to enable the animal to pick up his corn and to pull his hay, but not to grasp the end of the manger. If this is worn for a considerable period, the horse may be tired of attempting that which he cannot accomplish, and for a while forget the habit, but in a majority of cases the desire of crib-biting will return with the power of gratifying it.

"The causes of crib-biting are various, and some of them beyond the control of the proprietor of the horse. It is often the result of imitation, but it is more frequently the consequence of idleness. The high fed and spirited horse must be in mischief if he is not usefully employed. Sometimes, but we believe not often,

it is produced by partial starvation whether in a bad straw-yard or from unpalatable food. An occasional cause of crib-biting is the frequent custom of grooms, even when the weather is not severe, of dressing them in the stable. The horse either catches at the edge of the manger, or at that of the partition on either side, if he has been turned, and thus he forms the habit of laying hold of these substances on every occasion."

Agriculture.

It has been well said that he who has dominion over an acre of land, and rescues it from barrenness, and covers it with a smiling harvest, has more of virtuous self-applause than the conqueror of large territories, laid waste and desolate. The honorable occupation of cultivating the soil, however, appears to have but few charms for some of the present wise generation, even among those who, from early habits and education, should be well fitted for the employment.

There is too great a desire to become merchants, traders, or speculators; and hence our large cities are at times overrun with persons in the "mercantile line," forsooth—who are every way unqualified for such pursuits; and even if they are qualified for such undertakings, the trade of the country is inadequate to the support of such numbers, as would willingly turn their back upon the farm, and embark on the sea of wild speculation, or flee from a life of *manual labor*.

This is an evil which requires a remedy, and the remedy must be found in the farmers themselves. They should appreciate the blessing of an Agricultural life, and teach their sons and daughters to revere it—to love it as the occupation which is best calculated to develope the excellence of human nature, and secure the happiness of human beings.

There is no error so pernicious, as that of sending young men, fresh from the country, pure in principles and inexperienced, to reside in a populous city, and become familiar with its pleasures, its vices, and its extravagances. What inducement can an honest farmer *have*, thus to banish his children from independence, industry and comfort! I have already said, that of all the characters of which our country can boast, there is none more elevated than a well-informed and sensible farmer—one who has looked into books—who knows the world, his country, and its laws.

It is pleasant to see such a man holding the plow, or manfully swinging the scythe, or plying the flail, in order to cull the rich treasures of Ceres. And when his labors require rest—see him, reclining beneath a shady tree, or seated on a bundle of grain—talk of the ancient Republics of Greece and Rome—detail historical incidents—and expatiate on the government and institutions of his own country. Such a man is useful to himself and a treasure to the nation to which he belongs. If we change the scene, we shall perhaps find him in the halls of legislation, exercising his practical good sense, to allay the fury of heated politicians—aiding to give laws to the State—and firmly sustaining the principles of public policy, which are suggested by a well-disciplined mind, and a keen sense of duty.

I can hardly conceive how a parent can be willing that his son should forego such a life of usefulness, and send him to a large city, to pass a life of indolence—exposed on every hand to temptation—without a hope of profit or advancement. And yet we shall find that many of the shops and retail stores in our cities, are filled by young men—the sons of farmers, who cherish a contempt for the occupation of their fathers—and who, eager to escape from a life of salutary labor, abandon a certain road to character and independence—and shuffle along through the world without any prospect of being useful to society, or beneficial to themselves.—[*Mr. Sleeper's Address at Worcester.*

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SELECTIONS, EXTRACTS, &c.

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HORTICULTURAL OUTLINE.

AN OUTLINE OF THE FIRST PRINCIPLES OF HORTICULTURE: By JOHN LINDLEY, F.R.S., &c., &c., Professor of Botany in the University of London, and Assistant Secretary of the Horticultural Society.—[CONCLUDED.]

XII. PERSPIRATION.

299. It is not, however, exclusively by the action of light and air that the nature of sap is altered. Evaporation is constantly going on during the growth of a plant, and sometimes is so copious, that an individual will perspire its own weight of water in the course of 24 hours.

300. The loss thus occasioned by the leaves is supplied by crude fluid, absorbed by the roots, and conveyed up the stem with great rapidity.

301. The consequence of such copious perspiration is the separation and solidification of the carbonized matter that is produced for the peculiar secretions of a species.

302. For the maintenance of a plant in health, it is indispensable that the supply of fluid by the roots should be continual and uninterrupted.

303. If any thing causes perspiration to take place faster than it can be counteracted by the absorption of fluid from the earth, plants will be dried up and perish.

304. Such causes are, destruction of spongioles, an insufficient quantity of fluid in the soil, an exposure of the spongioles to occasional dryness, and a dry atmosphere.

305. The most ready means of counteracting the evil consequences of an imperfect action of the roots is by preventing or diminishing evaporation.

306. This is to be effected by rendering the atmosphere extremely humid.

307. Thus, in curvilinear iron hot-houses, in which the atmosphere becomes so dry in consequence of the heat, that plants perish, it is necessary that the air should be rendered extremely humid, by throwing water upon the pavement, or by introducing steam.

308. And in transplantation in dry weather, evergreens, or plants in leaf, often die, because the spongioles are destroyed, or so far injured in the operation as to be unable to act, while the leaves never cease to perspire.

309. The greater certainty of transplanting plants that have been growing in pots is from this latter circumstance intelligible;

310. While the utility of putting cuttings or newly transplanted seedlings into a shady, damp atmosphere, is explained by the necessity of hindering evaporation.

XIII. CUTTINGS.

311. When a separate portion of a plant is caused to produce new roots and branches, and to increase an individual, it is a cutting.

312. Cuttings are of two sorts—cuttings properly so called, and *eyes*. (319.)

313. A cutting consists of an internodium, or a part of one, with its nodus and leaf-bud.

314. When the internodium is plunged in the earth it attracts fluid from the soil, and nourishes the bud until it can feed itself.

315. The bud, feeding at first upon the matter in the internodium, gradually elongates upwards into a branch, and sends organized matter downwards, which becomes roots.

316. As soon as it has established a communication with the soil, it becomes a new individual, exactly like that from which it was taken.

317. As it is the action of the leaf-buds that causes growth in a cutting, it follows that no cutting without a leaf-bud will grow;

318. Unless the cutting has great vitality and power of forming adventitious leaf-buds (119,) which sometimes happens.

319. An eye is a leaf-bud without an internodium

320. It only differs from a cutting in having no reservoir of food on which to exist, and in emitting its roots immediately from the base of the leaf-bud into the soil.

321. As cuttings will very often, if not always, develope leaves before any powerful connection is formed between them and the soil, they are peculiarly liable to suffer from perspiration.

322. Hence the importance of maintaining their atmosphere in an uniform state of humidity, as is effected by putting bell or other glasses over them.

323. In this case, however, it is necessary that if air-tight covers are employed, such as bell glasses, they should be from time to time removed and replaced, for the sake of getting rid of excessive humidity.

324. Layers differ from cuttings in nothing except that they strike root into the soil while yet adhering to the parent plant.

325. Whatever is true of cuttings is true of layers, except that the latter are not liable to suffer by evaporation, because of their communication with the parent plant.

326. As cuttings strike roots into the earth by the action of leaves or leaf-buds, it might be supposed that they will strike most readily when the leaves or leaf-buds are in their greatest vigor.

327. Nevertheless, this power is controlled so much by the peculiar vital powers of different species, and by secondary considerations, that it is impossible to say that this is an absolute rule

328. Thus Dahlias and other herbaceous plants will strike roots freely when cuttings are very young; and Heaths, Azaleas, and other hard wooded plants, only when the wood has just begun to harden.

329. The former is, probably, owing to some specific vital excitability, the force of which we cannot appreciate; the latter either to a kind of torpor, which seems to seize such plants when their tissue is once emptied of fluid, or to a natural slowness to send downwards woody matter, whether for wood or not, which is the real cause of their wood being harder.

330. If ripened cuttings are upon the whole the most fitted for multiplication, it is because their tissue is less absorbent than when younger, and that they are less likely to suffer either from repletion or evaporation.

331. For, to gorge tissue with food, before leaves are in action to decompose and assimilate it, is as prejudicial as to empty tissue by the action of leaves, before spongioles are prepared to replenish it.

332. For this reason pure silex, in which no stimulating substances are contained (silver sand,) is the best adapted for promoting the rooting of cuttings that strike with difficulty.

333. And for the same reason, cuttings with what gardeners call a *heel* to them, or a piece of the older wood, strike root more readily than such as are not so protected. The greater age of the tissue of the heel renders it less absorbent than tissue that is altogether newly formed

334. It is to avoid the bad effect of evaporation that leaves are usually for the most part removed from a cutting, when it is first prepared.

XIV. SCIONS.

335. A scion is a cutting (311,) which is caused to grow upon another plant, and not in earth.

336. Scions are of two sorts, scions properly so called, and *buds* (354.)

337. Whatever is true of cuttings is true also of scions, all circumstances being equal.

338. When a scion is adapted to another plant, it attracts fluid from it for the nourishment of its leaf-buds until they can feed themselves.

339. Its buds thus fed gradually grow upwards into branches, and send woody matter downwards, which is analogous to roots.

340. At the same time the cellular substance of the scion and its *stock* adheres (19,) so as to form a complete organic union.

341. The woody matter descending from the bud passes through the cellular substance into the stock, where it occupies the same situation as would have been occupied by woody matter supplied by buds belonging to the stock itself.

342. Once united, the scion covers the wood of the stock with new wood, and causes the production of new roots.

343. But the character of the woody matter sent down by the scion over the wood of the stock being determined by the cellular substance, which has exclusively a horizontal developement, (73,) it follows that the wood of the stock will always remain apparently the same, although it is furnished by the scion.

344. Some scions will grow upon a stock without being able to transmit any woody matter into it; as some Cacti.

345. When this happens, the adhesion of the two takes place by the cellular substance only, and the union is so imperfect that a slight degree of violence suffices to dissever them.

346. And in such cases the buds are fed by their woody matter, which absorbs the ascending sap from the stock at the point where the adhesion has occurred; and the latter, never augmenting in diameter, is finally overgrown by the scion.

347. When, in such instances, the communication between the stock and the scion is so much interrupted that the sap can no longer ascend with sufficient rapidity into the branches, the latter die; as in many peaches.

348. This incomplete union between the scion and its stock is owing to some constitutional or organic difference in the two.

349. Therefore care should be taken that when plants are grafted on one another, their constitution should be as nearly as possible identical.

350. As adhesion of only an imperfect nature takes place when the scion and stock are, to a certain degree, dissimilar in constitution, so will no adhesion whatever occur when their constitutional differences are very decided.

351. Hence it is only species very nearly allied in nature that can be grafted on each other.

352. As only similar tissues will unite (19,) it is necessary in applying a scion to the stock, that similar parts should be carefully adapted to each other; as bark to bark, cambium to cambium, and alburnum to alburnum.

353. The second is more especially requisite,

because it is through the cambium that the woody matter sent downwards by the buds must pass; and also because cambium itself, being organizing matter in an incipient state, will more readily form an adhesion than any other part.

354. The same principles apply to *buds*, which are to scions precisely what eyes (319,) are to cuttings.

355. Inarching is the same with reference to grafting that laying (324,) is with reference to striking by cuttings.

356. It serves to maintain the vitality of a scion until it can form an adhesion with its stock; and must be considered the most certain mode of grafting.

357. It is probable that every species of flowering plant, without exception, may be multiplied by grafting.

358. Nevertheless, there are many species and even tribes that never have been grafted.

359. It has been found that in the vine and the walnut this difficulty can be overcome by attention to their peculiar constitutions; and it is probable that the same attention will remove supposed difficulties in the case of other species.

XV. TRANSPLANTATION.

360. Transplantation consists in removing a plant from the soil in which it is growing to some other soil.

361. If, in the operation, the plant is torpid, and its spongioles uninjured, the removal will not be productive of any interruption to the previous rate of growth.

362. And if it is growing, or evergreen, and the spongioles are uninjured, the removal will produce no further injury than may arise from the temporary suspension of the action of the spongioles, and the noncessation of perspiration during the operation.

363. So that the transplantation may take place at all seasons of the year, and under all circumstances, provided the spongioles are uninjured.

364. This applies to the largest trees as well as to the smallest herbs.

365. But as it is impossible to take plants out of the earth without destroying or injuring the spongioles, the evil consequences of such accidents must be remedied by the hindrance of evaporation.

366. Transplantation should, therefore, take place only when plants are torpid, and when their respiratory organs (leaves) are absent; or, if they never lose those organs, as evergreens, only at seasons when the atmosphere is periodically charged with humidity for some considerable time.

367. Old trees in which the roots are much injured, form new ones so slowly, that they are very liable to be exhausted of sap by the absorption of their very numerous young buds before new spongioles can be formed.

368. The amputation of all their upper extremities is the most probable prevention of death; but in most cases injury of their roots is without a remedy.

369. Plants in pots being so circumstanced that the spongioles are protected from injury, can, however, be transplanted at all seasons, without any dangerous consequences.

Good and Bad Farming.

From the Western Cultivator.

MR. HATCH:---On presenting myself as a candidate for admission into the society of your numerous and able correspondents, I have concluded to conform to the fashion of the age, and give a bit of my "experience," as a sample of my qualifications for the place desired. It runs as follows:

In one of my excursions in the central part of this State during the past summer, I met with a little incident, that has since had a very beneficial effect on my mind, and I will tell it to your readers, hoping that it may have the like effect on them.

'Twas a hot sultry day in the mouth of August. I had travelled long and hard, through an open country, that was here and there interspersed with large, ragged looking farms, with broken down fences, slovenly cultivation, roofless hovels, old hats, coats, frocks and all sorts of rags protruding from the broken windows, with dirty, ignorant-looking little urchins, in almost every state, approaching to entire nudity, playing along the road. All betokened shiftlessness and improvidence in the extreme, which formed a sad contrast to some in the land that gave me birth, and caused me to look forward with some anxiety for a place where I might have a reasonable prospect of procuring a respectable meal, and enjoying an hour's agreeable discourse with some of my fellows.

About 1 o'clock P. M. I espied at a short distance to the right of the road, a small cottage looking building, standing in an improvement of some thirty or forty acres, surrounded, divided and subdivided, with neat, substantial picket fences, with a gate in front of the house, opening into an ample door-yard, the first gate and door-yard I had seen that day. Along the entire line of fence stood, some ten feet apart, a row of locust, balm of gilead and other trees, of four or five years thrifty growth. A strip of the same kind, about twenty rods long and ten wide, was planted on the west side of the house and garden, forming a thrifty little grove, that would soon shield the owners alike from the chilly blasts and summer's sun; with a small orchard of different kinds of fruit trees large enough to bear, on the next side of the house. All of which I discovered in half the time that it takes me to write it, and it formed such a noble contrast to the cheerless abodes that I had just passed, I could not resist the temptation to dismount, and apply for refreshment. I walked up to the passage in front of the house, in the cool shade of which sat a man about thirty years of age, reading a periodical of some kind, by whom I was received with a frankness and urbanity of manners, that plainly bespoke intelligence and good breeding.

Old grey was soon deposited in a small frame horse barn, the cool shade of which, with the sweet smelling new made hay must have made him think of "the days of Auld Langsyne." Returning to the house, I was soon engaged in agreeable conversation with my host and his accomplished lady, (that the hearty meal scarce interrupted,) in the course of which I learned the following facts.

About six years previous (being just married) and without much experience in agricultural matters, he emigrated to that place, purchased eighty acres of land, and commenced making a farm, amid the evil prophesyings of nearly all his neighbors. Some thought him too inexperienced in such matters; some thought his farm too small---for, said they, "there's no use of trying to gain a living off of less than two hundred acres, for with all our labor and experience we can scarce make both ends meet, so he will starve to death on that little patch, that's certain." Others thought he spent too much time in reading, for, said they, "although he is up in tolerable season in the morning, yet he spends all the middle of the day with his books, he is a complete book worm." Others thought he spent too much time in setting out trees, working in the garden, making flower beds, &c. For, said they, "its no use planting an orchard, it won't be large enough to bear much in our day, and if it would I don't believe this country is very good for fruit; but at all events, them are locust, cotton wood, balm of gilead, &c., will be of no use, for they wont never bear nothing no how." In short, they looked upon his maiden attempt at Horticulture as supremely ridiculous.

But notwithstanding all this, he had succeeded beyond his most sanguine anticipations, and now enjoyed comfort and competence. For, said he, "although I have under cultivation but about forty acres, that is as much as I can tend well, and I really think that I get more profit from that than my neighbors do from four times as much, cultivated in their careless way. And as to the orchard, by keeping it clean and well loosened around the trees, it is now beginning to bear, though only four years old; I have also plenty of cherries, plums, peaches, currants, gooseberries, raspberries, &c.; and my neighbors begin to *relish* a visit with us once in a while, to partake of such varieties in these parts. They begin to suspect too, that this country is tolerable good for fruit, *if it was only planted;* and some of the more enterprising ones are thinking seriously of planting orchards of their own, after having now lost some ten years, since the settlement of their farms.

"Then there are the ornamental trees, that I was to get no profit from. By loosening the earth around the roots twice each season, they now take care of themselves and afford a tolerable shade to my calves and sheep in the middle of the day, while the animals generally hereabouts are puffing and blowing the little flesh away, that they have been able to accumulate in feeding time. Then they cost so little, I have planted by odd spells, when I should have been doing little else, and I would not now take a silver dollar apiece for them, though they never cost over five cents. In fact I cannot believe there is another improvement on my farm, that pays so well for so small an investment, as these same trees."

Thus he probably would have gone on for half an hour at least, about his hen-roosts, piggeries, sheds, stables, gates, gardens, &c., &c. Each of which occupied its appropriate place, had not my impatience to know how he came to have all this knowledge, interrupted him. He at once stepped to a small book shelf, and laid his hand on a large pile of agricultural papers, among which the Western Cultivator and Prairie Farmer occupied a conspicuous place.

"These," said he, "are the direct source of my success. I came here as ignorant as any 'sucker' in all this Egyptian part of our State, and probably should have remained so, had not a judicious friend advised me to take two or three well conducted agricultural papers. I took them, read them, and practised from their suggestions; by which I have stored my mind with much valuable information. During rainy days, long winter evenings and the middle of hot days in summer, (while my neighbors have spent their time in idleness and jesting of my folly,) I have been taking lessons from the best agriculturists of the age, which, aside from the pleasure, has proved a valuable investment in dollars and cents, and while they have been delving with an old-fashioned hoe or axe, or scratching their ground with a plow ill adapted to the soil, the information thus acquired has enabled me to procure better articles, that have saved much time, patience and profit.

In short, for all that I have around me that is not common in these parts, I am indebted to these papers, for they not only give the needed practical information, but what is worth full as much, they are a great incentive to action."

Well, well, thought I, if this is the book farming against which I have heard so much said, would to God all were book farmers in the land; and I resolved forthwith to become one myself.

B. SMITH.

MAD ITCH.—The effect of cattle following hogs that are fed on green corn, cut up and thrown to them when in the roasting-ear state, is very fatal. The hogs will chew the corn-stalk and extract all the sap, and then throw it out. These fibres, thus thrown out, with the sap extracted, will be eaten voraciously by the cattle. It contains no nutriment to give fermentation to enable the animal to ruminate; and it thus lays dormant and inactive in the manifolds or stomach; becomes perfectly compact and undigestable—creates a fever, and in the end destroys the animal. "I have lost many fine cattle in this way," says Gov. Vance of Ohio, "and have never been able to save one thus afflicted. The entire symptoms are similar to what is called the 'mad itch,' which I have no doubt is created by the same cause, by taking in indigestible matter, incapable of fermentation, and rumination."

Crops require to be Fed as well as Animals.

From the Ohio Cultivator.

In the first settlement of this country, the domestic animals found food growing spontaneously in the prairies and forests, and they lived almost entirely without the aid of their owners. As the country became more populous, and the animals had greatly increased, this spontaneous food became exhausted, and they had to be fed by the hand of man.

When the soil was first reclaimed from the forest, the *crops* obtained *their* food for a number of years from the abundance of *vegetable* matter which had been accumulating in the soil, as well as from the inorganic substances which had been brought there by natural causes. But in a few years, by a constant drain upon the soil, without making any recompense, this spontaneous food which nature had provided, has become principally exhausted; and it is now as much the interest of the farmer to feed his crops as it is to feed his animals.

"I do feed my crops," says the *Practical Farmer*—"I haul out stable manure and straw, and I sometimes plow in clover, and put my land in first rate order before I sow my crops."

"Very well," says *Science*, "this is all right, so far as it goes, and I grant one in a hundred may do this; but I should like to be able to make this statement in 'inverse proportion,' that there shall be but one in a hundred who does *not* do it."

"But, Mr. *Practical Farmer*, there is another matter connected with feeding your crops that I wish to press upon your attention, which is this—It is as important to feed your *crops* with the kind of food *most suitable* to their 'digestive organs,' as it is that of animals. Did you ever think of this? We do not feed hogs on hay; neither do we give pork to our horses; but we are, nevertheless, careful to give *enough* to keep them alive, and to cause the animals to thrive and increase, and, at the same time, we avoid giving them so *much* as to surfeit or founder them."

"After all the pains I take," says the *Practical Farmer*, "I cannot raise good wheat; when I sow it on my land without manure, it is struck with rust; the berry shrivels, and I do not get half a crop. And then I go to carting on manure, and my wheat all goes to straw, falls down flat on the ground, and has no grain worth the labor of saving; and so I turn my hogs into the field to get what few grains they can find. It is useless for me to try to raise wheat on my farm; it is either too rich or too poor. If I put on manure the straw grows too rank, and it is too weak to stand up; if I sow without manure, the *heat* and *moisture* strike it with rust. I must go to raising some other crop."

"Stop, neighbor," says *Science*, "here I have a book that will tell you something about raising wheat. I think it is probable that you have been feeding your hogs on hay, or else you have been giving pork to your horses."

Prac. Far. Och! go away with your *book*. Do you think I want any of your *book farming* about me? I have been a *practical farmer* all my life, and in early times I used to raise the best wheat in the country, without *manure* or *books* either. Do you think that I dont know how to raise wheat?

Science. Will you read it?

Prac. Far. No. It is so seldom I read that it is quite a task for me to read a book.

Science. Well, will you listen while I read?

Prac. Far. I have not time to stay long, but I have no objection to hearing you read a little; it won't *cost anything*, will it?

Science. If you will listen attentively, I will read you a few lines with pleasure:—From each acre yielding 25 bushels of wheat, there is extracted from the soil, in the grain, 3.3 pounds of *potash*, and in the straw 0.6 of a lb.*

Prac. Far. What! does wheat contain potash?

Science. Yes And the 25 bushels of wheat will also take from the soil in the grain, 3.5 pounds of *soda*, and the straw 0.9 of a pound.

Prac. Far. Ah! does wheat contain soda too?

Science. Such an acre of wheat will also take from the soil in the grain, 1.5 pounds of *lime*, and in the straw 7.2 pounds.

Prac Far. Oh, yes! I have heard of people putting lime on their land, but I never thought enough of it to try it myself.

Science. The 25 bushels of wheat also take from the soil, in the grain, 1.5 pounds of *magnesia*, and in the straw 1 pound.

Prac. Far. Why, I have heard it said that magnesia is injurious to crops, and that when farmers apply lime to their land, they should be careful to use that which does not contain magnesia! But go on; is there anything else in wheat? I can't stay much longer.

Science. In an acre of wheat yielding 25 bushels, there is in the grain 6 pounds of *Silica*, and in the straw 86 (eighty-six) pounds.

Prac. Far. Now I'm stumped! What on earth is *Silica?*

Science. The book says it is the substance of *flint* or pure *sand*.

Prac. Far. What! the substance of flint or sand in wheat! Pray, Mr. Science, how does it get there?

Science. You know that sand can be melted, as is done in the manufacture of glass, by the application of heat with soda and other chemical substances; and this book tells us that it becomes soluble in water by the aid of the potash and soda before mentioned; and when thus dissolved, it is taken up by the roots of plants. But I have not yet got through with the component elements of wheat.

One acre of wheat yielding 25 bushels, also contains in the grain, ¾ pound of *sulphuric acid*, and in the straw 1 pound.

Prac. Far. Why, that is oil of vitriol, is'nt it?

Science. There is also taken from the soil, by 25 bushels of wheat in the grain, 0.6 of a pound of *phosphoric acid*, and in the straw 5 pounds: also in the grain, 0.15 of a pound of *chlorine*, and in the straw 0.9 of a pound. This is all, and you must remember these are inorganic substances, such as do not grow like vegetables, and therefore they must be extracted from the soil. The total amount of these inorganic substances taken from one acre of ground yielding 25 bushels of wheat, and including the straw, as it is usually cut by the cradle, is 120 pounds. Three-fourths of this is silica, which is rendered soluble by the alkalies, potash, soda and lime, thus showing the great importance of these substances in soils producing wheat.

Prac. Far. Well, I declare I did not know that wheat had so many things in it. I always *thought* that wheat grew out of the ground, and got its food from the vegetable manure that was contained in it, or was put there by the farmer.

Science. Well, friend, you knew before by sad experience, that vegetable manure *alone*, would not raise wheat; for you say that when you put manure on your land, your wheat all went to straw, which was so weak that it fell down flat on the ground, and had no berry in the heads; and when you sowed your wheat without manure, it was struck with the rust, and the grain shrivelled so that you got no more than half a crop. Now you see that this book has told you some things that you did not know before, and which perhaps you never would have found out by your own efforts, without calling in the aid of science.

Prac. Far. Well, if the wheat plant contains all these substances, and they are all extracted from the soil, how are we *practical farmers* to know when they are not present in the soil? and above all, how are we obtain all this potash, and soda, and lime, and flint, and sulphuric acid, and phosphoric acid?

Science. The failure of your wheat crop for a series of years is pretty good evidence that *some* of these substances are wanting in the soil, but it will not decide which. The only way to determine which one of the foregoing substances may be wanting, is to call in the aid of *science*, and have a correct analysis of the soil made. But, nevertheless, by the nature of the disease that affects the crops, we may be able to judge more correctly of the substance that may be wanting. When the straw is weak and not able to stand erect, it may be certain that the alkalies are wanting to produce the silicates which are deposited in the stem, to give it strength and firmness. This book, however, will tell what substances you must procure and apply to the land, which will supply the ingredients contained in the wheat plant.

Prac. Far. I should like to hear something more about these matters.

Science. This book gives an account of the component ingredients of wood ashes. It says that "ashes always consists of a mixture in variable proportions of carbonates, silicates, sulphates and phosphorates of *potash*, *soda*, *lime* and *magnesia*, with certain other substances present in smaller quantity, yet more or less necessary, it may be presumed, to vegetable growth." "But they contain also, a greater or less quantity of imperfectly burned carbonaceous matter," or charcoal. Here you will perceive that you have nearly all the substances at once, of which the wheat plant consists. It would seem then, that if ashes be mixed with the soil it will supply the greater part of the substance of wheat. Did you ever think of this before?

Prac. Far. I have heard it casually remarked that ashes were useful, sowed upon wheat; but I never gave the subject much reflection, and therefore it did not strike me very forcibly. But does your book tell anything about the action of lime? I feel somewhat anxious to know this, for I have limestone on my farm and I have a mind to try it.

Science. Yes, this book gives an interesting account of the beneficial action of lime upon soils, and sums up its conclusions as follows:

"Lime improves the quality of almost every cultivated crop."

"It supplies a kind of inorganic food, which appears to be necessary to the healthy growth of all cultivated plants.

"It neutralizes acid substances which are naturally found in the soil, and decomposes or renders harmless other noxious compounds, which are not unfrequently within the reach of plants.

"It changes the inert vegetable matter in the soil, so as gradually to render it useful to vegetation."

Prac. Far. It appears then, that lime is useful to vegetation in *other* respects than in furnishing this ingredient to the plant.

Science. There are a *variety* of other substances described in this book which are usefully applied to vegetation, both in ameliorating the soil and in furnishing specific substances to the growing crops. But it will detain you too long, I am afraid, to read all of these to you now.

Prac. Far. That must be a good book for farmers, I should think. What is the price of it? Where did you get it? I will certainly have to get me one.

Science. It may be had at most of the book stores in the State for a few shillings, and the title of it is, Lectures on Agricultural Chemistry and Geology, by James F. W. Johnston.

Mt. Talbot, Champ. Co., 1845. D. L.

*NOTE.—The weights here given are in pounds and decimal fractions, thus: 3.3 is three pounds and three-tenths of a pound, and 0 15 is fifteen-hundredths of a pound It may also be remarked, that the language here used is not taken from the book alluded to by the writer; only the substance is obtained therefrom.

Symphytum or Comfrey.

From the Genesee Farmer.

In searching for aids in a new self-supporting system of general and liberal education, especially in the physical and dietetic departments, I was led, some ten years ago, to commence a series of experiments upon this vegetable; the interesting results of which I began, in September, 1842, to communicate publicly in my native eastern region. This, for the public benefit, I wish still to do, as opportunity shall be offered.

I have found this article truly of rare value; the *herb* made into hay for cattle, and the *root* dried and ground to flour for man.

It is a native of this and many other countries—found both in a wild state, and also cultivated in many gardens for its healthful qualities. It is perennial, very hardy, the crop sure, the growth luxuriant, the produce abundant, while the labor it requires is very small. In 1841, I obtained of two years' growth of roots, on soil of moderately good tilth, after the caps of the roots were taken off to replant, when thoroughly dried and ground, at the rate of 24,200 pounds of flour to the acre. In 1842, I obtained on the same soil, from the herb of the second years' growth, at two cuttings, at the rate of 11,616 pounds of well-made good hay to the acre. It requires no other tilling or attention than digging the crop of roots in April, once in two or three years, and planting as you dig, about 7 or 8 inches apart both ways; and cutting and haying the herbs, once the first year, and twice a year afterwards.

When ground in a coffee or corn mill, the root flour may then be used like other articles of food, according to the requisitions of health, convenience or fancy, in various breads, gruels, puddings, griddles, soups, pastry and custards, and in such proportions as may be found agreeable. It is (like arrowroot, sage and oatmeal,) very mucilaginous, nutritious, and easy of digestion. It operates well for the lungs. It has restored a lost voice, and is one of the best remedies for habitual coughs and incipient consumptions. It nourishes the feeble and suits well a dyspeptic stomach, when no other food can be kept down; and it sets all right in the bowels. I think it one of the best articles for sustenance and health ever made for man, and that on almost every account. But let others cultivate and try it for themselves, and it will probably, with them as with me, be constantly growing in their estimation.

EZEKIEL RICH.

From the South Carolinian.

Talking vs. Doing--Remarks on the Past--Hints for the Future.

No argument like matter of fact is,
And we are best of all men led to
Men's principles, by what they do.—*Hudibras.*

Assem Hacchem, in his celebrated letters to Mustapha Rub-a-dub Keli-Khan, was right when he said we were a nation of talkers—a body politic of slang-whangers. And we of the South, good men and true as we may be, and right sore upon this subject as we are, must confess the fact, that we are a wondrous people, for raising a tempest in a tea-pot. A few years ago when cotton fell from $18 to $8, what a sensation was produced by it. The country was ruined, all cried aloud. Nobody could stand it—to grow cotton at 8 cents was ruinous to the planters. It was sheer nonsense to talk of competing with the West on our worn out lands. Emigration was all the rage, and thousands moved westward and buried their fortunes. Others staid at home and talked of Reform, Economy and Patriotism.

Agricultural Societies sprang up everywhere. Newspapers teemed with Agricultural essays. Speeches were made—committees appointed, and premiums offered; and now it was as plain as the nose on a man's face, that cotton could not be grown on our exhausted lands at 8 cents. We must reform—we must improve our soil—we must sow grains and grasses, and raise our own stock. This immense drain of our capital by the West must be stopped. And, like Aladdin's lamp, all these things were to be done like magic. It was to be done in a moment. We could never wait for each reform to be effected gradually—it must be "Presto—change," or not at all.

Short horns and Ayrshires, Berkshires, Woburns and Graziers were in great demand—you could hear of nothing else. And our Yankee and Western brethren, who are always on the watch, to pick up suckers—threw out their bait, and we were "cotcht." The Northern papers were filled with the wonderful properties of different breeds of animals, the Southern papers echoed the story—the people ran mad—bit, and were bitten. It would be a sore subject now to many of us to speak of the prices which we paid in those days for the "improved breeds."

It seems inevitable that we are to be taxed for our experience as well as for our wares and merchandize. It is our own fault.

Then we began to make manure lots upon the poorest, bleakest places we could find, wherein our cattle, poor things, were to be penned up during winter, resting upon piles of wet litter without a shelter to shut out wind or rain. Manure, such as it was, was made, carted out, and the work seemed fairly begun, so far as talk and the newspapers could go, the problem was solved—we were made a people, every body was surprised, that everybody did'nt see it long ago. A few years have passed away, and it is all over. You hear people saying now, manure won't do. We can't make enough of it, and it won't give the results of the newspaper writers. We must have fresh land. Durhams don't suit our country—they are not adapted to our system of grazing—bless me, what is? That Berkshires and Woburns and Graziers are all humbugs! That if every man makes corn, nobody can sell it, and when one does sell it, the money comes in "dribbles" and does a man no good. He spends it as fast as he gets it—pray, whose fault is that?

Thus they talk, and everybody has gone back to cotton at 4 and 5 cents per pound, and puts in just as much as he can tend, making quantity answer his purpose. The receipts in our markets go plainly to show that there is no falling off in the quantity produced on our exhausted lands, and but for the extremely unfavorable spring, we have no doubt as much would have been put in on an average as ever. It is a strange thing, really, that at a time when the country was comparatively out of debt, our staple at a low price, and our lands exhausted, that the planters should steadily refuse to carry out a reform, which would work out incalculable advantages to the country.

The truth of the matter is, we all want to be big folks. We want to roll our cotton down to market and get the money all in one big lump. We have got into that way of doing things and we can't bear the idea of this piddling business in dollars and cents. We know nothing of the old adage, "a brisk penny is better that a slow shilling." We are in too great a hurry to wait for the end. In truth, we are always in too great a hurry—it must come at once or never. We are the creatures of impulse, which may do very well for sentiment, but belongs not to farming, stock raising and manure heaps—everything therein must go its regular course.

We have reformed but indifferently—we must reform altogether. No half way point is there in this matter—there must be a regular system to be adopted and worked out to the end without any shrinking from the purpose.

Manure lots should not be built anywhere on the side of a hill, or in the depth of a valley. They should be constructed as if they were to be there for one's posterity. It is the fatal error with us, that we do everything in a hurry, and as it were "*pro tempore.*" And when manure is applied to the earth it should be in such a manner as to tell its own story. It is far better to manure a small field well, than a large one badly.

Cattle and hogs of improved breeds should not be introduced before we are ready for them. Recollect that we have none of the conveniences for raising such things; treatment that might answer very well for our brindled cattle and razor backed hogs would soon kill an "improved" animal. We must not expect to produce like from like, unless it be by like treatment, that's certain.

We must begin by degrees and not jump in *medias res* at the first bounce—nonsense all this.

With the same pen of shucks we expect to keep up the same old stock, and the improved breed into the bargain. Better had it been for us if we had kept our old stock and improved by judicious selection and feeding until we learned from experience the benefits of such a system—then we would be prepared to introduce your Durhams, Devons, et ceteras. We do verily believe that it would be an absolute saving to most of our planters, and a manifest improvement upon their stock, if they would knock in the head and skin one-half their live stock at the beginning of every winter.

To succeed, we must be fixed for such things. Meadows cannot be made in a day, nor will old sedge fields answer all the purposes of grazing. Old habits like ours cannot be changed in a moment—all these things must be the work of time, labor, perseverance, energy and economy. It will be a long time before you can teach a cotton growing people such a doctrine--yea, we fear it will never be done, till every stick of timber is destroyed, and every corner filled with an inhabitant. NONDESCRIPT.

The Grape and Wine Making.

From the Alabama Planter.

We had placed in our hands a private letter, not intended for the use we are permitted to make of it, which contains some valuable hints on the cultivation of the native grape and wine making. The writer has for many years taken a lively interest in the agricultural improvements of our State, and bestowed no little pains by close and patient experiments, in developing her resources. He has done more perhaps than any other man in ascertaining what products will succeed and amply reward the cultivator for his labor. Therefore, we have entire confidence in what he says in regard to the native grape. If, however, other evidence were wanting of his knowledge and skill--of the superior quality of his grapes, and his ability to extract from them a nectar that the gods might sip with delight, we have it in a sample of wine of his own vintage.

Whether or not this worthy gentleman's admirable system of farming and domestic economy is ever adopted generally by our people, he will enjoy the satisfaction of having done all in his power, both by precept and example, in pointing out the true road to prosperity and happiness.

Ten or twelve years ago the same gentleman published through the Alabama State Intelligencer, conducted at Tuscaloosa by the writer of this article, a series of interesting papers, designed to impress upon planters the policy of a more varied system of culture. As a proof of their merit, they were very generally copied by the Southern press, although put forth at a time when cotton was more exclusively cultivated than at the present. Recently he has written for the Register of this city a number of communications of a highly practical character; and, devoted as that paper is, mainly to commercial affairs, they have been promptly published and received with approbation by a large number of its readers. This certainly may be taken as gratifying evidence that already a deep interest is awakened on the subject of Agriculture. We trust the future numbers of the Alabama Planter will be graced by contributions from the same source.

But to the letter:

"I make annually for my own use and to scatter amongst friends, from 75 to 100 gallons of wine. I prefer it for a summer drink, using no spirits. The red wine was made from our native uncultivated grape, which abounds through this section of country, some of the finest varieties of which I am cultivating, previously having determined their qualities as regards producing a good wine.

There is an astonishing variety in the product of our native grape, all of which are cultivated with great ease, and exhibit on cultivating an improvement hardly credible.

Among other properties possessed by our native grape, the quantity of vinous matter they possess is most remarkable. A bushel of bunches as pulled from the vine will give three gallons of the wine I sent you; and after undergoing a second operation, about one gallon more of a lighter but most agreeable wine. It would take a third pressure to produce the mea-

ger drink with which they in part feed the peasantry in France, &c., who tend the vintage. I anticipate most agreeable results from the cultivation of our native fruits, based on the trials I have already made.

The white wine I sent you, is from an American grape acclimated to this section of the country many years ago. It is a redish colored grape, resembling the Catawba, exquisite for the table, a great bearer and hardy.

As regards the cultivation of the grape and wine making, I have effected one most desirable object, viz: doing away altogether with that great expense of which so much has been wrote and said. The ground in which my vines stand and bear, produce me annually two other crops; say a crop of Irish potatoes, and after they are matured and taken from the ground, another crop, the same year, of a variety of the red sweet potatoe, a most valuable variety for stock and most productive. My mode of supporting the vine is simple, efficient and economical. The manure given to the Irish potatoe crop is ample for the vines, and applied in the best possible way. The superiority of the grapes I produce, as regards quantity and quality, has been often loudly remarked by our own citizens and foreigners.

I have a splendid collection of the apple, all acclimated. The cider apple is perhaps the most beautiful tree of the kind you have seen, a most free grower and prolific, bearing annual full crops. It is the best apple to hang on the tree and the freest from rot I have ever seen. It cannot be surpassed in the Union. It is a native of Alabama, produced from repeated planting of seed and grafting and regrafting for the last twenty-five years.

A vineyard at maturity, say the fourth year, would be good for from 500 to 750 gallons—the seventh for 1,000 gallons—the Scuppernong much more to the acre.

My mode of planting and cultivating the grape, half the quantity per acre and the annual crop mentioned, please me better. Ground with us is plenty, and potatoes are as essential to our comfort as wine. In fact, in every species of cultivation I am every day more convinced, that mixed cropping is the true mode of employing soil and labor. In this way the expense and labor is singularly decreased in proportion to the product.

By giving the vines room I insure heavy crops of grapes and rich fruit. I tend, prune, etc., with satisfaction; the first with the plow and a little with the hoe while making the potatoe crops. The room enables me to gather the fruit with ease and readily.

I employ the trellis in cultivating the grape. In all respects it is the best. Our native and such other grapes as I cultivate prefer it. This appendage to the vineyard costs me about $5 annually, per acre, including pruning. I cut down sassafras or cedar trees, say 9 to 10 inches diameter, into posts 8 feet, point the but end, put the small end in the ground, 10 feet distance, nail on the sides lathes about two inches square, just as split from the cypress log, and my trellis is done. My tying, the best I have ever found, is the bear grass, found readily in the woods profusely scattered in spots—shrunk over the fire, when green, it becomes a sott, pliable tying. Thus you see, I am all economy, and no part of the "Indian's gun," cost more than it eame to."

NUTRITIVE QUALITIES OF PEAS.—Peas contain a larger quantity of nutritive substance than almost any other vegetable. Liebig says they abound in vegetable caseine, the third constituent of the vegetable food of animals, which is, in fact, vegetable cheese. Caseine is chiefly found in peas, beans, lentils and similar leguminous seeds. The following comparison of the ingredients of vegetable (caseine) and animal (milk) cheese, is taken from Liebig's tables:

100 *parts Vegetable Cheese.*		100 *parts Animal Cheese.*	
Carbon	54.133	Carbon	54.825
Hydrogen	7.156	Hydrogen	7.153
Nitrogen	15.672	Nitrogen	15.628
Oxygen, &c.	23.034	Oxygen, &c.	22.394

On the Cultivation of the Raspberry.

From the Magazine of Horticulture.

In our last number, we gave an article on the cultivation of the currant. It was the first of a series of papers we intend to offer upon the cultivation of all the fruits of the garden, which have not been previously written upon by ourselves. We now proceed to treat upon the growth of the raspberry.

The raspberry, like the strawberry and currant, and other small fruits, the gooseberry excepted, has been greatly neglected in its cultivation. Though common in every garden, and everywhere esteemed, next to the strawberry, for its rich and handsome fruit, yet few individuals have attempted improved methods of growth, by which the size, beauty, excellence and productiveness of the berries may be increased to a much greater degree than they are generally seen in our gardens.

The raspberry is as susceptible of improvement as the strawberry: yet, while in the latter we have the beautiful Keen's seedling and our own variety, contrasting with such marked superiority over the small and inferior berries of the older sorts, the same varieties of the raspberry are now cultivated that were common twenty or thirty years ago, and they are still deemed the most desirable sorts. The same attention bestowed on this fruit, that has been devoted to the gooseberry, would undoubtedly have resulted in the production of varieties much superior to those at present grown.

The raspberry, like the strawberry, is a native of low and partially shady situations, growing in boggy or soft black soils, which allow its roots to strike deep, and throw up a free growth of its vigorous suckers. It is only in such situations, in their wild state, that the plants are found productive; on light and thin soils, and in high and exposed situations, the growth of the suckers is limited, and the fruit scarcely ever attains any size. Nature thus teaches the proper mode which the cultivator should adopt in the growth of the plants; and it should be his object to follow her, rather than to divert and thwart her in the course she has pointed out for us to pursue.

But how different is the cultivation of the raspberry from what we should infer from nature to be most conducive to its healthy growth. The plants are frequently set out in light and poor soils, crowded together, left untrimmed, choked up with a profuse growth of weak stems, and what little fruit they produce nearly dried up, from the arid situation in which they are placed. On the contrary, in cool, deep, and moist soils, in a sheltered and partially shaded place, the plants throw up suckers to the height of six or eight feet, and produce a profusion of large, handsome, and well flavored berries. So well assured are the most eminent English cultivators of the raspberry, of its love of a cool and moist soil, that some writers have strenuously recommended the use of bog earth and rotten leaves, in the place of the richest loam. We are well assured that the many complaints which are made of the meagre produce of many raspberry plantations, may be attributed wholly to the light and droughty soils in which they are often planted.

We would not here omit to mention the production of seedlings for the purpose of securing new sorts. By hybridization of the kinds, and by selecting the finest and largest fruit, from which to save the seeds, we are certain new and superior varieties can be raised.

To induce cultivators to give more attention to the raspberry, is the object of this article; and to render our information the more useful, we shall treat of its growth under the following heads: Situation—Soil—Procuring Plants—Planting Out—Winter Treatment—Summer Treatment—Autumnal Dressings—Pruning—General Remarks—and Descriptions of the different varieties.

Situation.—A cool aspect is of material consequence; and to secure this, the north side of a fence or trellis, which will form a screen from the sun, is the most favorable: on the north side of a shubbery, or row of fruit trees, is also a suitable place. If neither of these situations are to be had, an open spot in the garden may be chosen, always being careful to avoid the south or east side of a fence. A temporary shade may be effected in the open garden, by planting a row of running beans on the south side. Having selected a proper place, proceed to prepare the soil.

Soil.—A good soil is the most important requisite. Having marked out the size of the bed, if the earth is not naturally very rich and deep, preparations should be made to trench it. First cover the surface with three or four inches of bog earth if to be procured, or, in its place, leaf soil, and if these are not conveniently to be had, good old rotten hot-bed manure, which has laid at least six or eight months: that from hot-beds made in April will do for use in the following October, and if a portion of the bed was leaves, it is so much the more to be preferred. Having spread the manure upon the surface, it should then be trenched in two spades deep, or about eighteen inches, placing the manure at the bottom of the trench. Level the surface, and spade in an inch or two more of the same kind of manure, and after allowing a week for the bed to settle, it will be ready for planting.

Procuring Plants.—The success of planting out depends considerably upon a judicious selection of plants. Suckers of all sizes are generally thrown up, and many cultivators would naturally select the largest: such, however, are not the best; those of medium size, neither too large nor too small, have the finest roots, and spread more rapidly than the others. In selecting, reference should be had to the roots rather than the tops.

Planting out.—Having prepared the beds, and secured a sufficient number of plants, preparations may be made for setting out. A spade, a rake, and a garden hoe will be the proper implements to accomplish this. The bed being marked out, stretch the line across the bed, from east to west, at the distance of two feet from the walk: commence on either side of the line at one end, by taking out the earth the width and depth of the spade; place in the plant against the line, and throw the soil out of the second hole to fill up the first: in this way proceed until the whole bed is planted, treading the soil lightly around each plant; with the rake smooth and level the whole, and the work is finished. The rows should be three feet apart, and the plant three feet apart in the rows.

Winter Treatment.—On the approach of cold weather it will be necessary to protect the plants for the winter. The best method of doing this is simply to bend the branches down to the ground, and cover them with four or five inches of the soil. Some cultivators use leaves, and others coarse manure, but we believe nothing answers better than the common soil in which they grow.*

Summer Treatment.—As soon as danger of cold weather is over, which is generally the first of April, the plants should be uncovered, and a stake placed to each, to which the stems should be securely tied: the first summer very little must be expected from the plantation, and only a few suckers will be thrown up from each plant; but by the second year they will be more numerous, and produce considerable fruit. As soon as the plants are tied up, proceed to level the ground, and give it a neat finish with the rake: the only after culture is to keep down the weeds, and the surface loose, by occasional hoeings.

Autumnal Dressings.—Enriching the bed at time of planting is not sufficient to keep the plants in good condition. The beds should have a dressing of two or three inches of compost every autumn. This should be laid on in October and lightly forked in, bearing in mind that a mixture of bog earth, or leaf soil and manure, is better for the plants than all manure. This will encourage the growth of the roots, and in

* Not necessary in the Southern States—ED. CULT.

the spring, the suckers which are thrown up to form the bearing plants of the next season, will be much stronger.

Pruning.—The raspberry can hardly be said to need pruning in the common acceptation of that term. All that is required is to shorten the most vigorous bearing stems, and to cut away the old wood after it has produced its fruit. The second summer after planting, the plants will throw up a quantity of suckers; if numerous and small, four or five of the best should be left their entire length; if large and strong, they should be shortened to four or five feet, and the superfluous ones rooted up, unless wanted to form new plantations.

General Remarks.—As the raspberry is a rapid grower, after it once takes hold of the soil, quantities of suckers will spring up, which, in the course of four or five years, will weaken the plants. On this account new plantations should be made every fifth or sixth year, and the soil trenched and renewed by the application of the compost already mentioned.

The raspberry is rarely attacked by insects. We are not aware that we have ever been troubled with any during our cultivation of this fruit, for upwards of fifteen years. On this account, it requires very little care at the hands of the cultivator. As a market fruit it is particularly worthy of attention, requiring less care than the strawberry, easier picked, and the finer sorts commanding a good price.

The following is a list of the best kinds now cultivated. A few of them are new, and, as yet, not very extensively known. The kinds we would recommend are the white and red Antwerp, and the Franconia; for larger gardens, all the others may be added, which will afford a great variety, and a succession of fruit. The names, with the exception of the three last, are according to the London Horticultural Society's *Catalogue.*

Description of the Different Varieties.

Red Antwerp.—Of fine size, excellent flavor, and productive; one of the best.

Yellow Antwerp.—*Syn.* White Antwerp. Similar to the last, except in the color of the berries; a delicious fruit, but does not bear carriage well.

Barnet.—*Syn.* Cornwall's Prolific. A fine, large, red fruit, productive and excellent, but does not bear carriage well.

Common Red—*Syn.* Old red. The old kind of the garden. An indifferent bearer, and of inferior quality.

Double Bearing.—*Syn.* Perpetual bearing. Said to be a good and productive kind, having the merit of producing one crop in July, and another in September.

Franconia.—*Syn.* Seedling Grape. One of the most productive and finest kinds cultivated around Boston. Fruit red, large, and handsome. The origin of this sort is unknown. It was originally received from Vilmorin, of Paris, by S. G. Perkins, Esq., of Brookline.

New Red Antwerp.—It promises to be, so far as we have tried it, a very fine variety.

Cretan Red.—A fine variety, the fruit large and handsome, rather more tart than the Antwerp, and continues in bearing a long time, which renders it highly valuable.

Besides the above eight sorts, the *new Turkish Turban, Victoria, Brentford, Spring Grove*, and the *Ohio Ever-bearing*, are recommended as very fine kinds. To those who have room, we would advise a trial of them.

[Since the above was written, a new variety of the Raspberry called the *Fastolff* has been introduced. It is highly extolled in England, but has not been tested in this country to any extent, but roots are in much demand this spring.]

WASH FOR THE HAIR.—The American Farmer says a ½oz. oil of burgamot put in a quart of uncolored N. E. rum, well shaken together in a glass vessel, and applied twice a day, is one of the best washes ever applied to the human hair, and prevents its falling out.

Cheeseology.

During the hot part of the summer the farmer's wife will use the milk of her cows in the manufacture of cheese. Now, although anybody can put a quantity of rennet into milk and change it to curd, and then, after separating this curd from the whey, give it a good squeezing, every one cannot do this in the right way to form first rate cheese. A friend who has charge of a small dairy, asked us the other day to publish some of the "ways and means" of making good cheese. We therefore, out of pure good will to the ladies, re-publish our article on Cheshire cheese, and also throw the following hints in to boot, which we obtained from an old cheese maker in New York, and which have been published several times in different forms and places.

He observes that the first step is to prepare the rennet properly, which is done by steeping it in water or sweet whey, which is preferable, and adding salt enough to keep it sweet. The quantity of rennet used in a given quantity of milk, must be regulated by its strength. Some rennets are better than others, and therefore the strength of the liquor which a given quantity will make is uncertain.

Put in enough to perfectly curdle the milk. If you should put in too much the cheese will puff up full of holes and have an unpleasant taste.

In hot weather, when milk will be likely to sour in the evening, it should be cooled down to from 45 to 55° of the common thermometer (Farenheit's) which may be done by setting the pans in a cold place, or setting them in cold water. Or, if you have milk enough for large tubs, put in coolers or tin vessels full of cold water, so as to bring down the temperature of the milk. In the morning many skim off the cream which has risen, and put it by itself in a pan. You then prepare to set the milk, as it is called. Take some of the milk and heat it to blood heat, i. e. as warm as milk is when it comes from the cow, and pour the cream into it. There should be enough of this milk to liquify the cream. Then raise the whole of your last night's milk, together with that of the morning's milk as it comes from the cow, and pour all together, that which has the cream with the rest.

Then add the rennet and let it curdle, which it will do in about an hour. It may be considered to be all curdled when it will admit of a slight pressure without breaking.

While this is going on, some cream may rise to the top. Be careful and not let this escape with the whey, but skim it to one side of the tub, and put some curd on to it with a skimmer. And you must be very careful in breaking up, not to let too much, or, indeed, any of the cream or buttery particles become mixed and escape with the whey. Spread a coarse cloth or strainer over the whole, and let the whey rise up through it, and dip off as much as you can easily. Then remove the cloth and break the curd again as fine as you can with a skimmer, and dip off the whey again carefully.

Some of the first whey should be heated immediately after it is dipped off, and by the time the second whey is dipped off, the heated whey should be ready to scald the curd. Our informant says that it should be heated to about 130°, a little more than half as hot as boiling water, and that two pailsful were enough to scald the curd of forty pailsful of milk.

As soon as you have dipped off the whey the second time, break up the curd again, and pour on the hot whey and thoroughly mix it, and break the curd up with the hand as fine as you can.

Then cool it by pouring on cold whey. Then move it into a cheese basket, over which a cloth is spread, in which all the whey is worked out by squeezing the curd as clean as possible.

Then put the curd into the cheese tub and salt it. Some add a teacupful to every 15 lbs. of curd, but a better way is to salt it to suit the taste. The salt should be thoroughly mixed, for if this is not done some parts of the cheese will puff up and have a different taste.

It is now ready for pressing, which should be faithfully done. Although there may be danger of pressing too much, there is more danger of not pressing enough; and cheese not sufficiently pressed, will not keep well.—*Maine Farmer.*

Economy.

From the Southern Planter.

Perhaps the most marked trait in the character of the Southern farmer is the want of economy. Many reasons have been assigned for the depressed state of agriculture in the South. That our country enjoys the most unrivalled advantages for the prosecution of agricultural pursuits, is undenied and undeniable: that the improvements in this art have not kept even pace with other departments of science, is universally admitted. The inquiring mind, which seeks for reasons for every fact, has been engaged in the explanation of this phenomenon. Some have declared that the light of science was wanting to the pursuit of agriculture; some have attributed the stationary character of this pursuit to the existence of a slave population, &c.

That the science of agriculture is in its nature one of the most complex and intricate, a little consideration must satisfy the most careless observer; and the fact that a *season* is required to test an experiment, proves, that experience, which is the foundation of true knowledge, is more difficult of attainment in this than in any other art. But this is true of agriculture everywhere, and only accounts for the retarded progress of the art when considered in relation to the world generally. It has been asserted, however, that in the Southern part of the United States, the portion of the whole globe perhaps best adapted to the pursuit of agriculture, improvement languishes most. Whilst we are not prepared to admit this charge to its fullest extent, we will confess that agricultural improvements encounter peculiar difficulties in their progress through the Southern States; not, as some imagine, for want of knowledge of the scientific discoveries in agriculture, for they, we believe, in truth, are very few, and are as well known to the enlightened farmers of the South as to any portion of the Union. But the fact is, that amongst the highly favored, wealthy farmers of the South, a state of financial embarrassment prevails, that offers an insuperable bar to agricultural improvement. It is not uncommon to find a Southern farmer with real estate and negroes worth fifty thousand dollars, sadly embarrassed with a debt of twenty thousand. Our Northern friends will wonder how a man with fifty thousand dollars' worth of property can be seriously embarrassed with a debt of twenty thousand, but a Southern man will readily understand the feelings and sentiments which make it so distasteful to part with that peculiar kind of property in which a large portion of his funds is vested. But unless he sell his slaves, the farmer cannot part with an acre of ground, which is, in his opinion, hardly sufficient to keep them employed. Thus it is, that the debt is not only retained, but perhaps from the same cause from which it originated, it is increased, and to provide for the interest alone, absorbs all the funds and much of the time of the improvident farmer. It were bootless to look to the origin of this state of things; it could perhaps be traced to the fact of expensive habits derived from a wealthy ancestry, whilst the enormous profits that justified them in former years, have altogether ceased in later times; for whilst there is no difficulty in expanding your expenses in prosperity, the contraction in adversity is not quite so easy. Be that as it may, the fact of a very general pecuniary embarrassment amongst even the wealthy portion of the agricultural community in the South, is not to be denied; and this circumstance alone, when fully considered, will be found sufficient to account for the retarded state of agricultural improvement in the South. Money is the great lever with which the world is both raised and lowered. Suggest to a farmer a system of cultivation by which his exhausted fields may be rested and restored; he is fully aware of it, but he tells you that the corn from that field is devo-

ted to the liquidation of a debt already incurred; prove to him that if he is deprived of this resource for a year or two, it will only be to double the product in after time; he knows it; but even with the yield of that field, he fears that his income for the year will fall short of his expenses. He hopes that it will be better after a while, but *this* year, he must "make every thing tell." Show him a valuable labor-saving machine, an investment in which would be equivalent to an interest of fifty per cent., his answer is, "My dear sir, I am a borrower, not an invester of money;" and so he is, poor fellow. It is not the want of scientific knowledge that keeps that man's fields poor, and induces the most skinning system of cultivation, but it is the want of pecuniary means.

What is the remedy for this state of things? We answer emphatically, *retrenchment and economy*. Begin with yourself; curtail your individual expenses, go through every member of your household, cut down and pare off everywhere; teach your children that the conveniences and elegancies purchased of the milliner and the mercer, may be substituted, in a great measure, by their own handicraft. Your own part is nothing, but to deprive those you love of that to which they have been accustomed, is, we know, a bitter pill; but it must be taken. In the great fall of agricultural products, there is no help for it.

Do not tell us that you already practise economy to its fullest extent. My dear sir, you don't begin to know the meaning of the word. What is your income? About $1500—well, go to the North and see how a farmer with an income of $2000 lives, compare your expenditures with his, and then see if you know anything about economy. And whilst you are there, observe the difference between his case and yours—he probably has at the end of the year eight hundred or a thousand dollars to devote to the improvement of his land, which improvement probably secures him a surplus of twelve or fifteen hundred dollars at the end of the next year, and so he goes on, getting richer and richer, whilst you are getting poorer and poorer. Suppose your situations to be nearly the same in 1845, work this thing out, and see where you will both be in 1855.

There is one point upon which we will take the liberty of giving you the glentlest hint in the world. Be not afraid in this proposed system of reform of any opposition from your wife. Come out like a man and explain to her the necessity for it; women are always more frugal and self-denying than men; we'll answer for *her*.

It is astonishing how not only the *price* but the *real value* of land, is affected by the economical habits of a neighborhood. We were sensibly struck with this fact in a conversation last summer with an intelligent gentleman from Rockingham. We were both at the time in the county of Albemarle, and something was said about the high price for which land was sold in that county. The Rockingham gentleman remarked, that similar land in his own county, not at all more productive, farther from market, would sell for one-third more money. He was then asked, why he did not sell in Rockingham and purchase in Albemarle. He replied, because he found, upon a fair calculation, that the land was cheaper in Rockingham than in Albemarle; that is, that owing to the different habits and customs of the people, he could lay up more money from an investment in the one than in the other. This is sound reasoning, and it is the reasoning upon which men are induced to give a hundred dollars an acre for lands in New York or Pennsylvania, whilst lands equally productive can be purchased in Virginia for half the money.

YEAST.—To show the nature of yeast, philosophically considered, we give an extract from a lecture delivered at Bristol, England:

The first point brought by Mr. Carpenter under the notice of his auditors, was the *vegetable nature* of yeast. He states that the phenomena of fermentation had long been a source of perplexity to chemists; a change being produced by the action of this substance in the fluid with which it is mixed whilst it does not itself enter into any new combination, but on the other hand is greatly increased in amount. This mystery is now explained. On looking at yeast with a good microscope, the mass is found to consist of a number of minute disconnected vesicles, which greatly resemble those of the red snow (Protococcus nivalis.) These, like seeds, retain their vitality for almost any length of time; and their power of growing, when placed in proper circumstances, not being destroyed by exposure to such extremes of temperature as 76° and 112°, or being dried in a cake. When these are placed in a saccharine solution, they commence vegetating actively, provided the temperature be sufficiently high. If a fluid thus excited to fermentation be examined at short intervals, it is observed that each vesicle puts forth one or more little prolongations or buds, which in time become new vesicles like their parents; these again perform the same process, so that within a few hours the single vesicles have developed themselves into groups of four, five, or six. By the time that five or six vesicles are formed in each group, the fermentation is sufficiently advanced for the purposes of the manufacturer, and he then takes measures to check it. The vegetation of yeast is then suspended, and the groups of vesicles separate into individuals, the mass of which constitutes the yeast thus largely increased in amount. The vesicles multiply also by a process analogous to the formation of seed in the higher plants. Some of them are observed to burst, and to emit a number of minute granules, each of which developed itself into a new cell, as in the case of the red snow.

Very few farmers fully appreciate the advantages of the improved agricultural implements

METEOROLOGICAL JOURNAL

FOR THE YEAR 1845, KEPT AT ATHENS, GA., BY PROFESSOR McCAY, OF THE UNIVERSITY OF GEORGIA.

JANUARY.

Days Mo.	Barometer. Sunrise.	Barometer. 3 o'clk P M	Thermometer. Sunrise	Thermometer. 3 o'k P. M	Clearness of sky F'm 10 to 0. Sunrise.	Clearness of sky F'm 10 to 0. 3 o'clk P M	Course & strength of wind.* Sunrise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·40	29·42	54	65	5	7	W. 1	W. 2	
2	·44	·46	37	61	10	10	0	W. 1	
3	·46	·44	44	62	9	5	0	N. 2	
4	·53	·22	45	59	10	6	W. 1	SW 2	
5	·24	·22	38	65	0	0	SW 2	SW 4	
6	·01	28·83	58	64	0	0	SW 5	SW 7	1·
7	·08	29·25	45	53	0	10	W. 7	W. 3	
8	·40	·41	31	48	10	10	W. 2	W. 1	
9	·43	·40	26	54	10	10	W. 2	NW 1	
10	·39	·30	32	58	6	0	W. 1	SW 3	
11	·25	·35	39	50	10	5	W. 2	W. 3	0·12
12	·35	·39	38	48	10	10	0	W. 2	
13	·20	·10	32	59	5	7	W. 4	W. 7	
14	·39	·45	33	57	8	10	0	W. 1	
15	·58	·58	41	58	0	0	E. 1	E. 1	
16	·54	·50	48	62	3	6	0	SW 1	
17	·30	·17	58	61	0	0	SE. 2	SW 1	1·60
18	·28	·39	47	51	1	3	SW 5	NW 4	0·20
19	·50	·48	33	38	0	0	NE 7	NE 5	0·44
20	·39	·33	34	42	0	0	NE 2	W. 1	
21	·35	·44	39	48	2	10	W 4	W. 5	
22	·58	·62	25	45	10	1	N. 2	NE. 1	
23	·60	·41	44	46	0	0	E. 1	E. 1	0·86
24	·23	·16	44	52	0	6	SE. 1	NW 7	0·20
25	·20	·19	34	46	8	10	W. 2	W. 2	
26	·36	·41	29	54	10	10	W. 1	0	
27	·43	·45	23	56	6	10	W. 1	W. 2	
28	·43	·34	32	63	8	5	0	SW 2	0·06
29	·66	·64	31	48	10	0	N. 1	W. 2	
30	·57	·71	36	44	10	10	N. 2	N. 2	
31	·65	·56	27	51	9	9	N. 1	NW 3	
	29·39	29·37	38	53	average.		Tot'l rain		4·48

FEBRUARY.

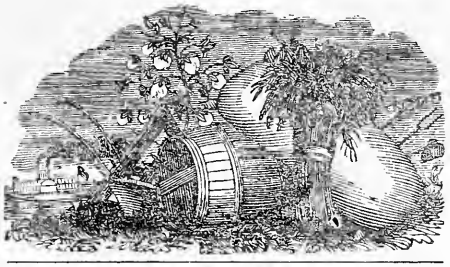
Days Mo.	Barometer. Sunrise.	Barometer. 3 o'clk P M	Thermometer. Sunrise	Thermometer. 3 o'k P. M	Clearness of sky F'm 10 to 0. Sunrise.	Clearness of sky F'm 10 to 0. 3 o'clk P. M.	Course & strength of wind.* Sunrise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·50	29·51	31	48	2	5	0	W. 1	
2	·59	·63	23	47	10	10	N. 1	0	
3	·59	·49	29	37	0	0	N. 1	E. 1	0·60
4	·01	·00	38	40	5	5	NW 3	NW 7	0·03
5	·11	·25	25	25	7	10	NW 4	NW 6	
6	·37	·40	25	43	10	10	NW 4	N. 4	
7	·52	·58	31	49	1	2	0	0	
8	·59	·58	33	56	10	10	SW 1	W. 1	
9	·50	·47	33	57	10	10	W. 1	W. 1	
10	·53	·51	34	61	5	6	NW 1	NW 2	
11	·34	·30	47	70	0	6	0	SW 3	
12	·29	·30	53	74	10	9	0	0	
13	·35	·33	56	75	8	7	0	SW 2	
14	·42	·41	44	49	0	0	NE 2	E. 3	
15	·26	·21	53	61	0	4	SW 2	W. 3	0·20
16	·40	·41	33	57	10	8	NW 2	N. 2	
17	·42	·39	41	66	1	0	W. 2	W. 2	
18	·36	·35	42	65	1	9	0	0	
19	·38	·40	39	65	8	5	0	0	
20	·40	·36	49	67	1	1	N. 1	SW 2	
21	·37	·37	58	68	1	5	S. 1	S. 1	0·03
22	·33	·35	55	69	1	0	S. 1	SW 3	0·04
23	·21	·42	62	64	0	3	SW 2	W. 4	0·04
24	·27	·29	40	64	5	10	W. 2	W. 1	
25	·33	·25	33	65	9	10	NW 1	SW 1	
26	·25	·25	35	62	9	10	W. 2	W. 2	
27	·36	·19	30	51	8	2	0	NW 6	
28	·44	·39	29	53	10	10	NW 1	NW 4	
	29·37	29·37	39	57	average.		Tot'l rain		0·94

* Course and strength of wind, from 10 to 0—0 being the least and 10 the strongest.

MARCH.

Days Mo.	Barometer. Sunrise.	Barometer. 3 o'clk P. M.	Thermometer. Sunrise.	Thermometer. 3 o'k P. M.	Clearness of sky F'm 10 to 0. Sunrise	Clearness of sky F'm 10 to 0. 3 o'clk P. M.	Course & strength of wind.* Sunrise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·39	29·40	28	60	8	6	0	0	
2	·48	·32	45	58	0	0	NE 1	0	0·04
3	·35	·43	63	71	0	6	W. 2	W. 2	
4	·42	·20	58	61	0	3	NE 2	SE 2	
5	·16	·33	56	62	7	10	SW 4	SW 2	0·04
6	·60	·58	44	61	10	10	W. 1	W. 1	
7	·55	·50	52	70	2	5	0	SW 1	
8	·46	·40	57	74	0	6	0	W. 2	
9	·38	·26	65	77	5	5	W. 2	W. 4	
10	·16	·16	67	62	0	0	NW 5	NW 1	0·25
11	·36	·43	36	57	10	7	N. 2	W. 2	
12	·51	·50	44	56	0	2	NE 2	E. 2	
13	·41	·33	49	55	0	0	NE 2	E. 1	
14	·25	·25	51	61	0	6	NW 2	NW 4	0·20
15	·33	·30	41	53	3	10	NW 1	W. 4	
16	·21	·09	37	54	8	8	0	W. 4	
17	·06	·00	49	72	10	5	W. 2	W. 8	
18	·13	·20	45	57	10	8	W. 1	W. 6	
19	·33	·35	32	46	9	6	N. 1	W. 6	
20	·54	·56	30	51	10	10	W. 1	NW 4	
21	·60	·59	31	56	9	8	NW 1	W. 6	
22	·56	·55	28	56	10	7	NW 1	W. 1	
23	·50	·45	41	56	6	0	0	SW 2	
24	·36	·34	49	61	0	10	0	NW 2	0·03
25	·60	·65	33	69	10	10	N. 2	W. 1	
26	·67	·70	32	63	10	10	W. 1	W. 1	
27	·71	·66	35	65	10	10	W. 1	W. 2	
28	·66	·64	50	68	1	2	0	SW 1	0·02
29	·64	·60	52	67	0	5	SW 1	W. 1	0·12
30	·53	·60	56	67	1	7	0	W. 1	
31	·40	·34	57	67	1	5	NE 1	0	
	29·42	29·41	45	61	average.		Tot'l rain		0·70

AVERAGE FOR THE YEAR.—*Barometer*, at sunrise, 29·40; 3 o'clock, P. M. 29·38—*Thermometer*, sunrise, 41; 3 P. M. 57—*Total Rain*, inches, 6·12.



The Southern Cultivator.

AUGUSTA, GA.

VOL. III., NO. 9...SEPTEMBER, 1845.

The Maine Farmer.

Our friend and co-laborer, Mr. Holmes, of the *Maine Farmer*, copies two articles from our paper of July, and speaks of them and of the South as in the articles hereunto annexed. We copy his remarks, because we are pleased to have our efforts to serve the South commended in a quarter where we might suppose the prevailing interest to be that we should continue to indulge ourselves in the old folly of depending on others for the thousand and one things Yankee thrift and ingenuity have contrived to sell to us in times past: for instance, that we should continue to get Thomaston lime for building, when there is in Georgia alone better limestone, and more of it, than in all New England put together. But a more especial purpose of copying the article of the Maine Farmer, is, that we may protest, as we now do, against the imputation of referring to the action of the Tariff alone by the words "pillage according to law." Not by any means did we intend to be so understood. Yet, even if we had so intended, we do not see how offence could be properly taken thereat, after a New England Senator had made the declaration, in the U. S. Senate, that the repeal of the Tariff would make New England a howling wilderness:—a pretty plain admission, we think, that New England does live by the pillage of somebody, either according to law or somehow else. But this, most unfortunately for the South, has been made a topic of party politics, and has, therefore, been steadily avoided by us in the conduct of the Cultivator. We have a higher aim—we take more extended views of the subject, and our purpose was to be understood as referring to the whole system of national finance, revenue and expenditure both, but chiefly the latter. To show how the public money is spent so as to impoverish the South and enrich other parts of the Union—to make Maine prosper, for instance, and Georgia retrograde in everything—must be very deeply interesting to the whole cotton planting interest, who suffer so severely by the operation of the system. But to do this in detail would take up too much room. We can but refer to a few particulars as specimens of the whole. Where are all the large and expensive establishments of the United States government—fortifications, armories and navy yards—all requiring, to keep them up, the disbursement annually of millions of money? Who ever heard of a public ship being paid off at Savannah or Charleston? Oh no!—the millions that go that way must be paid out in Boston, New York and Philadelphia. What became of the millions squandered in the Florida war? The government, we believe, took good care that its favorites in that business should be chiefly Northern men. Look at the custom-houses and compare the miserable buzzard roosts in Savannah and Charleston with the palaces in Boston, New York and Philadelphia, costing, each of them, millions of dollars. Why has the Post Office Department recently gone to New England and got printed fifteen tons of blanks to supply eight thousand post offices under the new law? Gov. Hill is our authority for this. Why does the Navy Department go to New England for granite for building a dock at the Navy Yard at Pensacola? Answer us that, friend Holmes. The Government some years ago issued Treasury notes, bearing interest, some at six per cent. and some at one mill per cent. Somebody in Augusta asked another if he knew the reason of this difference. O yes, was the reply, the six per cent. notes are for the North—the one mill per cent. for the South. Now we don't, by any means, assert this to be a true account of the matter; but that it furnishes a very apt illustration of the working of the system there can be no doubt. What say you, Mr. Holmes?

These instances have been thrown together just as they occurred to us, without any attempt at arrangement for effect. They are but items in a very long account that might be written out. They are, however, fair specimens of the whole. Is it at all surprising that the cotton growing interest of the South should, with the late prices of our staple, be rapidly sinking under the operation of such a system. When cotton could be sold for 15 cents per pound, the planter made money so fast and so easily that he either did not feel, or disregarded the load that was put upon him by his government. But now, with an impoverished soil, and a price for cotton that for some years past has hardly paid the expense of culture, he cannot bear up under it with patience,

And now let us ask the editor of the Maine Farmer, if he were to leave his frozen regions, come to the sunny South, and were in the habit of seeing all these things as we daily see them, and as they really are, whether in speaking of the working of such a system, and its disastrous effects upon the condition of the people among whom his lot was cast, he would not be most likely to use language, to which the term "petulant" would be altogether inappropriate, as being too mild.

From the Maine Farmer.

"Good Lecturing for Home Consumption.—The editor of the Southern Cultivator, Mr. James Camak, of Athens, Ga., occasionally gives his brethren of the "sunny South," some wholesome advice in his paper, occasionally mingled with a hit at us Northrons for meddling sometimes with *some* of their institutions, and for being as greedy of *golden pelf*, as they are improvident of it. He is right in trying to rouse up a different spirit in his section of country. With every advantage which nature could bestow, what hinders them from outstripping us in the race of industry and prosperity? Nothing but their own supineness, backed up by incorrect and futile notions of the *servility* of labor and the nobility of idleness. The following, quoted from the Cultivator, shows the amount of their productions, and yet, with all their profusion, they cannot exhibit that evidence of thrift, comfort and independence that the North can. Why? Not from "the pillage according to law," which he, rather unjustly, not to say petulantly, refers to—by which, if we understand him, he means the action of the tariff, but from the other cause which he mentions."

[Here follows our article from the July number of the Cultivator, beginning with "Products of Southern Industry."]

"Now we should rejoice, (continues Mr. Holmes,) to see the South rise up as one man and practice on the advice which he has so faithfully given them. We should rejoice to see them carrying their surplus produce to Europe, in their own ships, manned by their own sailors. We should rejoice to see them starting up manufactures throughout their territory, operated by their own citizens. Why may not the spindle and the shuttle be heard by the side of the cotton field? It would perhaps curtail the profits of the North somewhat, but it would be productive of a great and singular blessing. It would create a unity of feeling between us—it would strengthen the bonds of the Union, in a common interest—it would do away with many false and ridiculous notions in regard to the respectability, or rather *disrespectability* of labor—and it would destroy much *splendid misery* that the world little knows about, and carry comfort and strength into many a family, that are now, perhaps, dependent on their fellow-beings for support.

Here is another lecture which he reads them, under the title of "Southern Folly"—he might have added, "Northern Folly too," for it is hard telling which ought to be rewarded with the greatest fool's cap, the South or the North. Any community who will play the fool so emphatically as have the Southerners and Northerners, about two *old mares*, deserve to be reproved every day in the year."

[Then follows our article on 'Southern Folly.']

The Agricultural Press.

The increase of Agricultural papers, in the Southern States especially, is very gratifying.

Since our last notice we have received the first number of the *North Carolina Farmer*, a very neat and well filled monthly, published at Raleigh, at $1 per annum.

The *Alabama Planter*, published weekly at Mobile, by W. W. McGuire, at $5 per annum, the first number of which we have received, is an exceedingly interesting paper, and, if supported, according to its merit, by the planters of that wealthy State, it must have a very happy influence on their interests and character.

On the 1st of October next will be commenced the publication of the "*New Orleans Commercial Times*—devoted to Commerce, Agriculture, Literature and the Arts." The Agricultural department is to be conducted by our correspondent, Mr. Thomas Affleck. We need not say with how much ability the task will be performed. The public have evidence enough of that in the essays of Mr. A., heretofore published in the principal Agricultural papers of the United States.

The *American Farmer*, the oldest Agricultural paper in the Union, has been changed from a weekly at $3 per annum, to a monthly at $1. In its new form it shows a decided improvement in every respect. We wish its intelligent editor, Mr. Sands, all the success his spirit and enterprise entitle him to. Judging from the two numbers which we have received, the farmers of Maryland are fortunate in having among them so able an advocate of their interests.

The first number of "*The Farmer's Library*," by J. S. Skinner, has come to hand. So far as the publishers, Messrs. Greeley & McElrath, are concerned, the work is very creditable to them. It is gotten up in very handsome style. This number contains three plates, two of which, the portrait of S. Van Rensselaer, and the picture of Southdown Prize Weathers, are admirable productions of art. Then, as to the Editorial department, it is only necessary to say, that J. S. Skinner has charge of it, to satisfy every one, that though the subscription is $5 per annum, the work will be really worth many times that sum. The first part of the number before us, 48

pages, contains part of Petzholdt's Lectures to Farmers on Agricultural Chemistry. The second part, 64 pages, is made up of seventeen very interesting articles, all closely connected with the every day business of the tillers of the soil.

Agricultural Statistics.

The reports from the Patent Office on the Agriculture of the United States, have, for two or three years past, been by far the most interesting document emanating from the Government. Mr. Ellsworth will long be remembered for the industry and the ability with which this part of his duty was performed. It is the intention of Mr. Burke to continue these reports—giving them, it possible, increased interest and accuracy. He can do this only by the aid of members of Congress, and their constituents. Mr. Cobb is taking the right course to get in his district the information wanted. Let his constituents, now, do their part. See Mr. Burke's letter in another part of our paper.

South Carolina State Agricultural Society.

The editor of the *South Carolinian* attended the meeting of this society, which was held at Newberry Court House, on 30th and 31st July last. From his account of the meeting we learn that the attendance of the members was not so numerous as could have been desired, but Newberry and the adjoining districts turned out in large numbers. On Wednesday, a Palmetto Banner was presented by the young ladies of the village to the McDuffie Artillery Company, commanded by Capt. J. F. Williams. Mr. Bailey at the same time presented to the company a Silver Medal, made by himself, emblematic of the Artillery service.

The Newberry and State Agricultural Societies were then convened, Judge O'Neal presiding, in the absence of A. R. Seabrook. At 12 o'clock the annual address of the Newberry Society was delivered by Maj. Henry Summer. The afternoon was occupied in reading reports. The Editor of the Carolinian says these reports are more substantial in their details than any he had before read, and then adds:

"Thursday was the great day of the Meeting, and the village and grounds appropriated to the stock show contained crowds of spectators. The young ladies presented fancy work, which would not have been out of place in the *boudoir* of a houri, and the mats and wreaths of artificial flowers were peculiarly charming, and seemed to supply the place of nature's rosy children, which the drought had banished from the gardens. The more matronly dames, "*the mothers of young Carolina*," exhibited their offerings of useful domestic silk, woolen, and cotton fabrics, and patchwork quilts and coverlets, which tempted the most staid and incorrigible subjects of *Bachelordom* into the untried ways of *Caudle-ism*. We fancy these same "*comforters*" had a warming influence on many stony hearts, and look forward to the fruits of their good examples, and their influence upon the rising populace of the country with great hopes.

"The cattle show was superb. Horses of all ages champed impatiently their restraining bits—from the fiery steed, who would have acknowledged the dominion of no one, save an Alexander, or a "*big nigger*," and who would have borne the Knight Templar, or hurried the chariot of the victor at the Olympic games in furious haste across the dusty plains, to the mild suckling colt of the last spring—asses that would have astonished the donkey boys at Cairo—mules of better quality and higher form than the sacred beast which bore the Andalusian Monk and the fair daughter of Boabdil across the hills of Estramadura—bulls that out-bellowed the most noisy of Bashan's bovine thunderers—cows with distended udders and glossy sides glittering in the sunshine—calves, as bread and graceful as a fashionable belle fresh from Madame Weaver's *magazine des modes*—sheep with richer spoils upon their backs than the "golden fleece" of Colchis, and swine which grunted in the luxurious superiority of hog aristocracy, generated by the consciousness of the *purity* of Berkshire blood, which coursed lazily through their stearine obstructed veins, pinguid in their sleek obesity—all these were there contributing their prosperous looks to sustain the drooping spirits of agriculture. Visions of sweet rides, butter and cheese, warm jackets, hams, and fat-gourds, swam before our eyes in gay and giddy trains.

"But all these sights vanished from the numerous audience, when the ermine was laid aside—Themis forgotten—and our friend Judge Butler gave his charge in the Court of Ceres to a sensible and intelligent jury of farmers. We have often listened to agricultural addresses, but have never received more good advice, at the same time being highly edified, than on that occasion. He was very happy in his delineation of the popular agricultural and educational fallacies which prevail amongst us, and as we were leaving the Church, we heard a venerable hard-handed father of the plowshare say, "That speech will do more good than any sermon ever preached in that pulpit." Our readers may look out for a treat when we publish it. The village of Newberry exhibited all the characteristic hospitalities for which it has long been famed, to the delegates and visitors, and we trust everybody went home from the Fair delighted, instructed, and highly pleased."

Distinguished Farmers.

In the July number of the Cultivator, we had the pleasure of directing the reader's attention to an account published in that paper, of the farm and the extraordinary management of Mr. Calhoun. We beg leave now to remind the reader of that account, and to request him to read, in connection with it, the accounts which we hereunto subjoin, of the farms of Mr. Van Buren, and Mr. Clay.

"We copy (says the *New York Farmer*,) the following 'Personal Sketches' from the *Burlington Gazette*, presuming that our agricultural readers are always interested with what evidently tends to elevate the scale and heighten the pursuits of the agriculturist; and we take great pleasure in holding up as model farmers, those who, after having presided in the halls of legislation, and occupied some of the highest places in their country's trust, have retired from the bustle and excitement of 'political life,' and as farmers and agriculturists, doubtless enjoy more happiness than their elevated offices ever afforded them:"—

There is nothing more instructive and salutary than the spectacle afforded to our young men, of those who have been eminent at the Bar and in the Cabinet, who have passed years in the midst of the fierce contests and engrossing excitements of political life, taking an active and prominent part in the improvement of agriculture and the useful arts, and exhibiting the spectacle of dignified retirement and profound enjoyment of the simple pleasures of rural and domestic life. Our country now enjoys many such examples. Mr. Clay's farm is one of the best managed in Kentucky, and he has done very much for the general advancement of agriculture in the West, by introducing improved breeds of cattle, modes of cultivation, &c. Mr. Webster's farm is smaller and less fertile, but is worth seeing. Jesse Buel, a printer by trade, after being for many years a leading political editor at Albany, became the model farmer and teacher of agriculture for an extensive region around him. And we are happy to learn, from the following article, that Mr. Van Buren is now pursuing the same path prosperously and happily. The following is from the Albany Cultivator:

Visit to Lindenwald.—We lately passed a beautiful summer's day in the vicinity of Kinderhook. Among other places of interest, we visited Lindenwald, the seat of ex-President Van Buren.

We found Mr. Van Buren at home, and accompanied him in a walk over the farm. When he entered on the occupancy of his place, on his retirement from the Presidency, it was much out of order; the land having been rented for twenty years, and been under cultivation for the period of 160 years. Several of the buildings had become poor, the fences were old and were rotting down, and bushes and grass of wild growth had taken possession of the farm. During the short time it has been under Mr. Van Buren's management, the place has been greatly improved, and a course is now fairly begun by which a handsome income may be derived from it. The garden and pleasure grounds have been enlarged and newly laid out—hot houses have been erected—and a large number of fruit and ornamental trees, shrubbery, &c. have been planted. The greenhouse contains a collection of exotic fruits and plants, among which were some fine grapes, just ripening. In the garden we noticed some fine samples of all the fruits of the season, and some of the finest melons we have ever seen (so early in the year) in this latitude.

Among the objects which give beauty and interest to the grounds, are two artificial ponds in the garden. They were easily made by constructing dams across a little brook originating from springs on the premises. Soon after they were made (three years ago) some fish were put into them, and they are now so well stocked with trout, pickerel and perch, that Mr. Van Buren assures us they will afford an abundant supply for his table. This is a matter well worthy of consideration. There are many situations where such ponds may be made; and with trifling expense, the luxury of catching and eating a fine trout or pickerel, may be had at any time.

Several of the fields have been enclosed with new fences, and several buildings erected, among which is a very tasty farm-house, and a barn calculated for storing 150 tons of hay after being pressed.

But perhaps the most important improvements which have taken place on the farm, have been made on a tract of bog land, thirteen acres of which have been thoroughly reclaimed, and are covered with luxuriant crops of grass or oats. Three years ago this land was worthless. It was first drained by ditches; the stumps and bushes were then cut out and burned, and the ashes spread on the land. It was afterwards sown to grass—using a mixture of timothy and red-top seed—3 pecks to the acre. The whole cost of reclaiming was $33 per acre, and the land will now pay the interest of a hundred to a hundred and fifty dollars per acre. In this Mr. Van Buren has set a good example, which we hope will be followed by the other farmers in the neighborhood who have lands similarly situated.

The potato crop is one of considerable consequence on his farm, as well as on others in the vicinity. Mr. Van Buren raises the variety called Carters, produced from the ball a few years ago by the Shakers. He considers these by far the most profitable kind known. They yield well, and their quality is thought equal to any. Mr. Van Buren assured us that all which could be raised would readily command fifty cents per bushel by the quantity in New York. All the crops appear to be well managed, and are promising. Leached ashes were tried here last season with excellent success. Great benefit has also been found from plowing in clover.

Mr. Van Buren keeps but little stock, a considerable object being the sale of hay. The management of the farm is under the immediate supervision of Mr. Van Buren, who finds in it a salutary exercise for the faculties of the mind and body—such a state as to be highly enjoyed. In his rural retreat, removed from the care of state, and turmoil of political wars, he

Now drinks the pure pleasure of a rural life.

Henry Clay and Ashland.—Mr. Clay's farm contains about eight hundred acres; and in all my wanderings, including even old New England, I have never seen the same number of acres in a body, as handsome, as productive, as well fenced, and as well cultivated. His wood land is cleared of all underbrush and dead wood—his fields are enclosed with good fences, with the top rails all on, and not a weed or a brier in the corners—his hemp fields, &c. prepared with the skill and care

of a thrifty farmer—and he has a ten acre lot of corn, upon which he has bestowed extra labor and attention, with the view of obtaining the premium. Then there are his fine blooded cattle, sheep and horses, apportioned off into lots, according to age, and the use and purposes for which they are designed. Indeed, there is no spot in or about his residence or farm, that will not furnish evidence of his being a thrifty, profitable, and practical farmer. True it is, that I had read and heard much of Mr. Clay as the "Farmer of Ashland," but I regarded him as what is termed a "gentleman farmer"—as one who had a farm, but knew little and cared less how it was cultivated. But let any one walk with Mr. Clay over his broad acres—notice his intimate knowledge of everything pertaining to farming—hear him relate how he prepares and improves his lands, changes his crops, improves his stock, and yearly renders more and more productive and profitable his extensive plantation—and he will then see with his own eyes, that one of the best practical and most useful farmers in this or any other country, is Henry Clay, the Farmer of Ashland; and he will also see and learn that the best butter and cheese in the Lexington market are made by Mrs. Clay, the wife of the Farmer of Ashland.

Mr. Clay grows large quantities of hemp, and is connected with a son in a hemp manufactory.

Such is a brief descriptive outline of Ashland, as it was last April.

Mr. Clay's house is a handsome and substantial edifice, the main body about 40 feet by 50, with wings of proportionate dimensions. It stands in the midst of a profusion of venerable forest trees, evergreens, and shrubbery, upon a gentle elevation in the center of a lot containing about 50 acres, and is some 40 rods from the road. A serpentine carriage way leads through the grove to the house, and numerous pathways, tastefully arranged, studiously preserved and improved, beautify his extensive grounds. His house is plainly but well furnished, containing many choice and valuable evidences of the respect and affection of his countrymen. Then there is a stone cheese-house and stone butter-house, Ashland being celebrated for the quantity of the butter and cheese made thereat. His chicken-house, dove-house, stables, barn and sheds, are all in perfect repair, spacious, neat, and in order. His fruit and vegetable garden contains about four acres, and in its arrangement and cultivation I saw Mrs. Clay giving personal directions. There is also a large green-house filled with choice plants and beautiful flowers.—*Cleveland Herald.*

Horticulture.—The accomplished Editress of the Boston Transcript, recently confined to a sick room, in relating some incidents connected with a visit to the Horticultural Hall opened in Boston on Saturday, says:

"It was a day of delight to us, although *pain* would have kept us rivetted as in iron. The floral chain however was the conqueror, and the aroma of 'nature's jewels,' was like the 'infallible pain extractor' advertised as a wonder in all the newspapers. One of our New York contemporaries the other day found a business friend *in Wall-street (!)* happy in contemplation of some fresh flowers he was placing in a tumbler, and on expressing his astonishment, the merchant calmly looked up to his visiter, with this salutation: "Ah, how d'ye do? I am trying to forget for a moment the turmoil around me, and enjoy these beautiful creations of an Almighty hand. Have you ever observed that the pleasure derived from perfumes and music is of all our physical enjoyments the most perfect? If enjoyment is heightened in proportion as we approach the spiritual, what must be the blessedness of the good, when the physical is shaken off entirely, and this mortal puts on immortality!'"

A glorious thought amidst the trials of business! The merchant was *right*, and we would rather enjoy the after-blessings of such thoughts, than to inherit all the gold of Ophir, which is too apt to *buy the soul* and keep it wedded to mortality.

Insects have great powers of smell, and most of the essential oils of plants are offensive to them, and may thus be used to exterminate them.

Original Communications.

Bermuda Grass.

Mr. Editor:—Is it not astonishing how doctors *will* differ? There is not much danger, however, of their killing the patient, in this instance, if we may judge from the experience of one of your correspondents. One would think that a covering of green pine brush waist deep, a growth of briars so dense he could not stick a butcher's knife into it, or a closely jointed plank floor over it, would destroy anything, even bitter coco!

But there must be some mistake here. On reading the article in question, the first time, and finding the writer speaking of Bermuda grass growing luxuriantly in a dense thicket, standing "from knee to waist high, and as thick as grass gets to be," I felt really pleased at the thought, that here was a grass that would prove of greater value to the South than even the Bermuda; but when I found him speak of stock eating broom sedge in preference to it! that was a damper. The gentleman can never have seen what we here call *Bermuda grass.* It covers the commons of this town and Natchez, both of considerable extent; of course, there are parts of the common set in other grasses—broom sedge and Natchez grass, which is almost as rough and coarse, being the most common. The Bermuda sod is *always, and under all circumstances*, unless, perhaps, where it has had a rank growth, encouraged by the wash from a sewer, stable yard or such place, *closely grazed*, whilst the other growth is comparatively untouched. And it is a notorious fact, that wherever there are moderately good ranges of Bermuda pasture, *the stock is uniformly fat.* As a hay-producing grass, it cannot be equalled. My little meadow here, though from situation and other circumstances, in a rather rough state, is at this time a sight that would gratify any intelligent farmer. It cannot yield me less, rough though it be, than an average cut of three tons per acre of dry hay at this second cutting, and much of it will give me at the rate *of over five tons*, and I will get yet a third cutting.

That it is a nuisance in a cotton field in which cotton has been grown for seventeen years in succession, as is not at all uncommon, no one can deny; but that it can be kept under perfect check by "sowing the ground in small grain for several years in succession, (this, alone, I never recommended,) or by cultivating the ground *in any other way*" is *not* a "notion founded on inexperience," notwithstanding your correspondent's courteous assertion!

How opposite is the experience of Mr. Felton given in the next article headed "Bermuda Grass." The grass he speaks of must be what we call Bermuda here. I look with interest for answers to P.'s inquiries. Had I leisure at present, which I have not, I could give him some information in answer, but must, for the present, defer it.

Let every man try this grass on a small scale and test the matter for himself; three or four years will do it thoroughly, and an eighth of an acre be scope enough, and that might be in some nook or corner whence it could not readily spread. As to its "ruining the country," there is but little danger of that. *At the very worst* it is not as troublesome as crab grass and tie vines combined! For my part, I would gladly run the risk of having it spread even to *an uncontrollable extent* if I were the owner of a worn, washed, hill plantation, with a comfortable house and improvements on it. That it improves the land is certain—that stock give it a preference and thrive and fatten on it is equally certain; it preserves the land from washing and makes it give a return in mutton, wool, butter, beef, pork, young mules, &c., such as it never gave in cotton or corn. Your readers may rely upon it, that I would be very unwilling to recommend the introduction of anything likely to prove injurious. And I would here repeat the caution I have often given, not to trust to any man's say so, but try every new thing in a moderate way. Take a piece of poor hill land and get a good covering of Bermuda grass upon it and try it there. Most of the planters of the South let all of their hill lands that will, and that too the cream of them, find its way to the ocean without making an effort to prevent it. They might surely risk a few acres of such in trying a grass that others have found so valuable. One of the very best farmers in Mississippi, a farmer and cotton grower of thirty years' experience, told me that when Bermuda grass first got on one of his plantations, he found it so troublesome that he thought his place ruined, but that he quickly found he could keep it under *sufficient* check by the use of oats, peas and pumpkins, to grow full crops of cotton without extra labor, and now he considers it invaluable, and has beautiful pastures of it.

Do not cease urging upon your readers the necessity of horizontal or *side hill ditches*. Procure and publish all the information you can, for and against, for I have no doubt you will find a difference of opinion and even of experience there too. If imperfectly and improperly done, they are *much worse* than useless, and had better be undone. Yours, &c.

Thomas Affleck.

Ingleside, Miss., July 15, 1845.

Bermuda Grass.

Mr. Camak:—I see in your valuable Cultivator a great many inquiries on the subject of Bermuda Grass, and well there may be. Some wish to know whether it is a profitable grass or not; others wish to find out the cheapest plan to get clear of it. Mr. Cunningham says in the May number, "I consider information on this subject of more importance to the agricultural interest of our State than any other, and if it can be given satisfactorily, the man who does it will deserve not only the silver cup, but the thanks and gratitude of our whole community." He says again, "I would as soon try to drown a fish by throwing him in the water, as to kill Bermuda Grass by never so much working in the sun."

I must beg leave, Mr. Editor, to differ with him entirely, and say that in my humble opinion planting hoed crops is the surest and the *only* way to destroy it.

I had a field of about twenty acres spotted over with it, and I determined to destroy it. I planted it in cotton six years in succession, and worked it so frequently that the land was injured, but the Bermuda was killed. I have a field of fifty acres or more that was matted over with it, and thrown out in consequence of it. I cleared a field by the side of this Bermuda field, and to have a straight fence, I took in three or four acres of the Bermuda with the new clearing. Some of my friends told me that I would scatter the Bermuda over the new ground and ruin it. I took the precaution, however, to cultivate it by itself. This was in the winter of '41 and '42. I planted it in cotton three years, and now I cannot find a sprig of the grass in it. In the winter of '43 and '44, I took in twelve acres of the old field, a solid turf except about half an acre. Last year I planted cotton on it and made a good crop. I have it in cotton this year, and I will venture to say there is not a handful of Bermuda on the twelve acres. What remains may be found around the small stumps, which I expect to exterminate by the time I am done working it.

I took in thirty acres more this year which were entirely covered with Bermuda except two or three small spots, about an acre and a half in all. I planted it in cotton, and as I have had such a favorable spring for killing it, I think I shall succeed in destroying it almost entirely this year.

I will now detail my plan for destroying Bermuda Grass. I commence about the first of December, for that is as soon as we can get the top killed by the frost in this part of the country—set fire to it and burn off clear so as to have as little stubble to contend with as possible. I then break it up broadcast with a turning plow,

being careful to take no more land than the plow can turn *well*, not more than half the width of the plow, and no deeper than just to get beneath the roots. I let it remain until there comes a freeze. About the first of January I lay it off three and a half feet with a scooter plow, and ridge it up with an Allen plow, running four furrows around each scooter furrow, then I re-bed it once a month until planting time, throwing the ridge back in the middle each time, and exposing a fresh quantity of roots each time to the action of the cold and wind, being careful each time to plow no deeper than at first. The last time I re-bed it is at the time I intend to plant. Three furrows to the row will make the bed, the last furrow with a good size shovel plow; then I sow the cotton seed down in the middle and cover with a board. My reason for this is to get the cotton in the clearest place of Bermuda. I plow it the first time with an Allen plow, running with the bar next the cotton; then the hoe comes and takes away all the Bermuda roots from the cotton. The second time I run a short scooter as near the cotton as I can, very shallow; let it stand a few days, then plow out the middles with a shovel. After this, I hoe before plowing, so that the hoe hands can see and get out every sprig that is up. If I can get a dry month in May or June, I work it once a week. Whoever bestows this quantity of labor on a Bermuda field is sure to conquer the monster, and as I said before, I believe this is the *only* sure way to do it. He that undertakes it must wage a war of extermination. Anything short of that will only allow it an opportunity to take deeper root. I am convinced that shading will not destroy it. Mr. Pitts, in his essay on Bermuda, has thrown light enough on that subject to convince the readers of your valuable work that shading will not do. I concur with him in opinion.

One of your correspondents wishes to know if it will not be a good plan to plant Bermuda in order to improve land. My opinion is, that if the roots could be turned under and decomposed without so much work and exposure to the sun and atmosphere, it might improve the soil; but being so much exposed evaporates the strength of it, and working the land so frequently injures it. I have thus given you some of my essays in Bermuda killing, and if you think them worth a place in the CULTIVATOR you may hear from me again. In the meantime, if you wish certificates for my statements, they can be furnished at any time. JOHN W. RHENEY.

Burke County, Ga., July 31st, 1845.

Bermuda Grass--Raising Sheep.

MR. CAMAK:—I had intended to answer, inquiries, in the July number, by "P." of Monroe, Walton county, which he proposes to you or me, or any others, relative to Bermuda Grass; but my engagements have been so great, that I could not then do so. He asks, first, what would be the expense of enriching land by planting this grass, and turning under, compared with the outlay required when leaves and other like substances are used? His several other inquiries are of kindred character, all wishing to know the cost and labor of enriching lands by this grass, &c. Now, in reply to all these, in one sweeping sentence, I advise "P." if he has not this grass on his farm, to be sure and not introduce it. I have said, in giving you some of my experience with this grass, in your May number, that if we could kill it, I would consider it a great improver to our poor, old, worn-out lands, and that it would be to us, what red clover is to the North; yet I did not intend to encourage any planter to get it, who had it not already on his premises. Let then, "P." resort to any other mode of manuring or plowing in green crops, to improve his lands, rather than by the Bermuda, till we, who have it in such profusion, can give him some less expensive way of getting clear of it, when we want to put the ground in cultivation with other crops. If he has it, we invite his co-operation, in finding out the secret, of how we shall give the death-blow to this vegetable, which, I must think, has one life more than the cat, which it is said, has nine; for I must think, I have killed some of mine, nine times, and I find it alive yet, which at least gives it ten lives. But, without jesting, the subject of Bermuda Grass is becoming a grave question, and it is what we have yet to come up and meet as tillers of the soil, and learn to conquer, or it will conquer us.

I am glad to see so many pieces on the subject of this grass, as in less than ten years, it will be spread over this whole country; and the sooner we learn to manage it, the better. It is to be to us, no common friend, or the most deadly enemy, and it surely behooves us to know in which of these characters to view it.

And now, while I have pen in hand, let me make amends for having done so little for the "SOUTHERN CULTIVATOR," by calling the attention of every member of the community, who has a piece of land as large as a garden, (and if indeed he has none, he can be re-paid by other matter of general interest) to what "Jethro, of Reclusa" (see August No. page 123) says, of the utility of this periodical. And why should it not have its hundred subscribers, where it now has one? I subscribe to all he says, besides paying my dollar, which is, in all conscience, cheap enough; and it shall have my thanks to boot, if its able conductors or its numerous contributors, will only aid me in managing my Bermuda Grass.

But again; this same "Jethro" calls upon you, Mr. Camak, for your aid, (as well as the Editorial corps of the State,) to a subject, "the success of which, will enhance one of the dearest interests of Georgia." "Will our next Legislature not grant us a law for the encouragement of the raising of sheep, and the production of wool?" I call upon all whom it may concern, (and who is there that is not concerned) to aid and strive to get the Legislature, in addition to the wolf law, which I believe now exists, to at least pass a *Dog Law*. Here lies the root of all the mischief, and the preventive to our having, "in less than five years, sheep upon a thousand hills." But for this, I would add, we would have our thousands of sheep, upon our tens of thousands of hills, and as many valleys. I have tried it, and thousands of others have tried it: but who can raise sheep, while every man, boy, and negro, has his dog running at large, that will kill as fast as you raise. Then let the Legislature say, no one shall have a dog, unless it be confined in his yard nights, as well as day; for night is the time the damage is done. Or require a tax of ten dollars, on all over one a man has or permits to be on his plantation, with a fine of five dollars for every sheep such dog kills, on the owner of the plantation or premises to which said dog belongs.

Yours, truly, J. CUNNINGHAM.

Greensboro', Ga., August, 1845.

Agricultural Tour--The Growing Crops.

MR. CAMAK:—I promised you in my last, before setting out from Alabama, that I would give you such information on the subject of agriculture as we might be able to get on our tour to the West, East, and North. In compliance with that promise I now attempt to say something of what we have seen and heard of the growing crop. We left Eufaula on the 4th June. The Spring had been cold and dry. The crop of corn was suffering for rain and warm weather, as well as cotton. On reaching Montgomery county, we were pleased to find the corn crop promising a large harvest, so far as we examined. We spent several days with my friend Dr. S. C. Oliver, who is quite a large cotton planter. He has upwards of one thousand acres in cotton; near half that number of acres in corn, and a fine oat crop. His entire crop looked well. To have been, for the last sixteen years, engaged in politics, he has certainly accomplished much as an agriculturist. Circle-Wood, the residence of Dr. Oliver, of Montgomery, Ala., is a most beautiful place. The lands being rich, if this gentleman would devote his talents to the improvement of his fine farm, he would have one of the best plantations in the State. We visited the farm of Mr. Abner McGehee. This enterprising gentleman, who has done so much for the country in building up the rail road from Montgomery to West Point, owns a large and well cultivated farm. We found Mr. McGehee planting a mixed crop; that is, corn and cotton planted together, the rows running in the same direction. Both corn and cotton looked well when I saw it, on the 7th June. The cotton crop on the rich prairie lands of Montgomery, is said to be a very uncertain crop. This is the reason given for mixing it with corn. I rode over the crop of Judge Bibb and found his farm in a high state of cultivation. This industrious gentleman pays great attention personally to his Agricultural operations. Judge Bibb has done much in the way of ditching. He has a number of ditches running in every direction so as to save his land from washing and secure a good crop the wettest season.

In passing down the Alabama river, I conversed with several planters residing on the river, who informed me that the crop of cotton of the present year was equal to the crop of 1844 in point of quantity of land planted, but that owing to the cold dry spring it was by no means promising, having been much injured by the lice.

In passing up the Mississippi river after leaving New Orleans you are delighted with the beautiful farms in the State of Louisiana. These sugar plantations present a most splendid appearance. The entire land is in a high state of cultivation, and beautiful residences, surrounded by negro cabins, all painted white, gives the appearance of handsome villages. The first hundred miles after leaving New Orleans we were so fortunate as to pass up in the day time. I say fortunate, as it is so common for the boats to leave New Orleans so late as to prevent one's seeing this beautiful sight.

I have no space to speak of towns and cities; I will, however, say that St. Louis is the most growing city I have ever seen. The immense trade from that place is in tobacco, hemp, lead, cattle, coal, flour, pork, lumber, &c. We were informed by the farmers on board the steamboat that there was a considerable falling off in the cotton crop in Louisiana and Mississippi; that many of the farmers were turning their attention to the growing of Sugar, instead of Cotton. One of the large steamboats, I learned, had gone down loaded with machinery from Cincinnati for the preparation of sugar.

We left the Ohio at Evansville, Indiana. Here we took stages, and had an opportunity of looking out upon the growing crop; and this being my first visit to the far West, I was, as you may suppose, much interested with the manner of cultivation. We travelled the first day fifty miles, through the State of Indiana, to Vincennes. We found the corn and wheat crop, which is the principal crop of this country, much injured by the late heavy rains. Indeed, the entire country, lying on the upper Mississippi and Wabash, has been flooded with rain for the last month. We found the richest lands, as we passed on, in the hands of the most slovenly and careless farmers. The Wheat crop being generally cut, was said to be much injured by the vast quantity of rain. We reached Vincennes at night, and found it a beautiful town on the bank of the Wabash. We crossed the Wabash at this place, and travelled some eighty miles, in the valley of this river, over the richest country of land I have ever seen. You travel from morning until night over a perfectly level country; scarcely a hill in the distance; the timber generally black walnut, beech, poplar, &c. You occasionally come to a large prairie of ten or twelve thousand acres. Here you find a number of families settled together, there being nothing to do on these prairies but break up the land, fence it in, and the first year you get from forty to fifty bushels of corn, and from twenty to thirty bushels of wheat to the acre. They plant the corn here four feet each way, and leave generally four stalks in a hill.

It appeared to me to be sowed rather than planted. In this State the wheat is somewhat later, and the farmers will be able to save it much better than those in Indiana, as the weather is pleasant at this time and dry. And notwithstanding the lands are so rich, you see but little appearance of prosperity; so true is it that where the Almigh y does much for man, he is inclined to do but little for himself.

I visited, a few days past, the extensive nursery of Mr. Curtis of this neighborhood. This gentleman employs ten hands in his nursery, sells yearly sixty thousand apple trees, all grafts of the finest kind of apples, and other fruits. He is making arrangements for raising shrubbery and flowers.

I visited a Col. Blackburn, of this neighborhood, and was highly pleased with his farm. He employs some 8 or 10 hands. His meadow land presented a beautiful appearance. He raises 2½ tons of hay per acre. He has 80 acres of this meadow set in timothy and clover mixed. It requires but one sowing in ten years. The stock of this gentleman is of the finest kind, all his cattle being the short horned Durham. They are fully equal to the cattle of Tennessee.

I have found two Agricultural works here. The Indiana Cultivator is a work lately started at Evansville. From what I have seen of Indiana, there is the greatest want of Agricultural works. The Prairie Farmer, published at Chicago, has entered its fifth volume and appears to be an excellent work, well adapted to this latitude, from what I have seen of it. There is such a diversity of soil and climate between this country and the south that a volume might be written. From what I have seen of Indiana and Illinois, although they have such immense bodies of rich lands, that can be bought at low prices, I would prefer the sunny South as a home, by far.

Thus, my dear sir, I have attempted to throw together a few scattered thoughts that you are at liberty to throw under your table or publish, as in your judgment may be most proper.

Your friend, ALEXANDER McDONALD.

Paris, Edgar County, Illinois, July, 1845.

Mr. Burke's Letter.

MR. CAMAK:—I hand you enclosed, the letter to which I referred, when in Athens. By calling the attention of your subscribers in this district to the subject, and requesting them to furnish me with the information sought for, by Mr. BURKE, we shall render important aid to him in the preparation of his report. I am very respectfully, your obedient servant,

Monroe, August 19, 1845. HOWELL COBB.

Hon. HOWELL COBB, Athens, Ga.:

SIR:—Will you have the kindness to furnish me with the estimate of the crops for the present season in your district, either personally or by the aid of others, with the causes of increase or diminution, and such other remarks as you may judge proper for the Agricultural Report for 1845.

	More.	*Less.*
Wheat, as compared with the crop of 1844,	per ct.	per ct.
Barley, " " "	"	"
Oats, " " "	"	"
Rye, " " "	"	"
Buckwheat, " " "	"	"
Indian Corn, " " "	"	"
Potatoes, " " "	"	"
Hay, " " "	"	"
Hemp, " " "	"	"
Tobacco, " " "	"	"
Cotton, " " "	"	"
Rice, " " "	"	"
Silk, " " "	"	"
Sugar, " " "	"	"

The per centage on the crop of the preceding year with as much accuracy as your information will admit.

Also, please state the average daily and monthly wages of labor (exclusive of board,) of husbandmen, and persons employed in the different mechanic trades, in your neighborhood,

N. B. Please return this by the 1st of December next. Specimens of rare seeds will be most acceptable for distribution, I have the honor to be, respectfully, yours,

Patent Office, May 12, 1845. EDMUND BURKE.

EGGS are exported from Cincinnati in great quantities. It is estimated that an aggregate of 2,176,333 dozens, or 26,115,996 eggs have been exported from or consumed there the past year.

ADDRESS OF DR. PHILLIPS,

Delivered before the Agricultural Society of Habersham.

DR. GEO. D. PHILLIPS:—*Dear Sir*—In obedience to a resolution of the Agricultural Society of Habersham, we request of you a copy of your Address delivered before the Society on this day, for publication, hoping that others may enjoy the same pleasure in reading it that we did in listening to it. Yours, &c.,

WM. B. WOFFORD,
J. W. H. UNDERWOOD, } Committee.
JAMES R. WYLY,

Clarkesville, Ga., August 5th, 1845.

GENTLEMEN:—Your note, as the organ of the Agricultural Society, requesting a copy of the remarks I offered to the Society at its last meeting, would have been replied to sooner if it had been in my power. From an injury of the wrist, I have not been able to write, and but for its unreasonable length, should have sent you the original manuscript some days ago, but I could not think Mr. CAMAK would give it a place in the CULTIVATOR. In attempting to curtail its dimensions, I am sensible of having lopped off some of its most valuable limbs, and have some misgivings about sending it into the world in its mutilated form. Do with it, however, as you think proper, and accept my best wishes. GEO. D. PHILLIPS.

To Maj. J. W. H. Underwood, Gen. J. R. Wyly, and Gen. Wofford.

ADDRESS.

MR. PRESIDENT:—As I flatter myself our Society is destined to a long life, and as I may from time to time desire to say something on the various subjects connected with agriculture, I will, on the present occasion, commence at what I consider the true starting point, and begin at the beginning.

I lay it down as a proposition, sir, that cannot be successfully controverted, that any and every system of farming is defective, unless it is founded on a correct appreciation of the nature, the character, and the constituents of the soil. I use the term soil, as synonymous with earth, and not in its common meaning as applied to one or two inches of the earth's surface.

The soil or earth of the United States, indeed of the whole globe, might with propriety be divided into classes, corresponding to the primitive, transition, and tertiary divisions of our globe, and would be found to contain more or less of those salts and alkalies peculiar to each. We are here, sir, located in a primitive region, and our soil or earth is made up of the debris or disintegration of granite, gneiss, mica slate, sienite, argilite, and the numerous combinations of these. Our soil contains only a trace of calcareous matter, and so small a proportion of vegetable extract that it must be regarded as a poor soil. I am aware that we have it from high authority, recently sanctioned by two of our eminent citizens before this community, that the upper part of Georgia, embracing Habersham county, is, all things considered, one of the most desirable portions of the United States. Sir, I have travelled from the Niagara to the Trinity, and from the Atlantic to the Mississippi. I have noted the character of the soil and its minerals wherever I have travelled. I have made comparative estimates of the advantages and disadvantages of districts, sections and States, and I do candidly think the upper portion of Georgia deserves to rank as one of the poorest. If man, sir, could have all his animal wants supplied by a salubrious air and pure water, then indeed would the region in which we live be a most enviable one; but, as we require food to recruit the waste of strength, and covering to protect and adorn our bodies, we could not, even if we desired to do so, disregard the injunction of Heaven, that man shall live by the sweat of his face.

In pronouncing our soil poor, Mr. President, I desire to be understood as saying, it is deficient in what some writers call humus, some geine, and others vegetable extract; and likewise deficient in lime, and every other calcareous matter. Let these be supplied in sufficient quantity, and I believe the rolling lands of Habersham county would be equal to any, at least of granite formation, in the world. Now, the indispensable requisites of a good soil, sir, are, clay, sand and silica. The two first in about equal proportions, with from ten to twenty per cent. of the last. Such a combination makes a light, friable soil, sufficiently retentive of moisture, not liable to bake, and easily penetrated by the roots of plants; and it is in the power of every man, even those who know nothing of chemistry, to examine, and so far analyze his soil as to be able to decide correctly, if it possesses the requisite proportions of clay, sand and silica. This he can do by simply washing, boiling and weighing. The vegetable mould of our uplands is not more than from one to two inches deep. Let that be removed, and by means of a hoe or spade take from beneath any given quantity, say one pound of earth, put it into a pan and carefully wash it as we pan out gold. After all the clay (which is soluble in water,) and the fine silica is removed, the coarse sand will be left, carefully weigh this and note the quantity; then boil the water in which you washed out the clay, until it leaves in the vessel a mush-like paste, add more water, and after stirring up well pan out again more carefully than at first, and you will find in the pan perhaps neither gold nor coarse sand, but a fine brownish white powder or sand called silica, without which neither straw nor cornstalks can be raised; now carefully weigh the silica, and if you find you have 40 parts of clay, 40 of sand, and 20 of silica in the 100, you have a good soil, perhaps the best that nature or art has ever made, and every deviation from those proportions, showing either an increase of clay or sand, will make your soil less valuable and productive. It is, therefore, a matter of the first importance, that every farmer should examine his soil and ascertain its actual proportions of these indispensable materials. If he finds an excess of clay let him add sand, if of sand, let him add clay; either, alone, is unproductive, but blend them together in proper proportions, and by the aid of manure you have the finest soil in the world. I will now, Mr. President, offer a few views in support of this broad assertion.

Clay is necessary to the fertility of all land, by its attraction for water and the adhesion with which it holds it. This is so great that during the most intense drought, such as we now have, clay preserves that humidity which is indispensable to the nourishment and life of plants; and although the earth may be scorched with heat, and apparently dry as powder, yet the clay is still capable of transferring to plants some moisture, without which they could not live. Clay affords to the roots of plants a substantial support, and by its resistance prevents those roots from extending too far, thereby obliging them to throw out tufts of short fibrous roots, by which means each plant seeks its nourishment in a more circumscribed boundary, and consequently does not encroach upon the feeding grounds of its neighbor. Clay has a powerful attraction for oxygen, a material indispensable to the formation of carbonic acid; and lastly, it attracts nitrogen, one of the great nourishers of plants. These, sir, are some of the most valuable properties of clay, without which there could be no productive soil. But valuable as it is, it must not be in excess, as that would be highly injurious, from what I have said in detailing its good qualities. For instance, in periods of wet weather it becomes saturated with water which it retains too long, neither suffering it to percolate nor evaporate. In dry weather it becomes too hard and offers too great a resistance to the roots of plants. In frosty weather, owing to the quantity of water it holds, and which becomes converted into ice, it heaves, or, to use a common expression, it spews up so as to throw out or expose the roots of plants; and lastly, from its inherent qualities, it incorporates itself with the active qualities of manures and cannot be made to part with them so readily as the lighter soils do; and hence the fact well known to most farmers, that it takes a great quantity of manure to make clay land rich, but when rich, it holds it a long time. Nor should I omit here to say a few words relative to the difficulty and labor of cultivating a stiff clay soil. In wet weather you can neither plow, hoe, nor harrow it, whilst in dry weather it contracts and becomes so hard that it is with difficulty plowed, and is then broken up in clots so as to require a roller or a long exposure to rains and other atmospherical influences before it becomes pulverized, which often does not happen until the season is far advanced.

Sand is injurious too, when it enters too largely into the composition of soil, because it is not sufficiently retentive of water, but allows it to evaporate and drain away, carrying off with it the fertilizing qualities of the manure. Nor will sand, to any extent, combine with the humus or vegetable extracts, or absorb carbonic acid or nitrogen from the atmospheric air. Neither will sandy soils bear frequent cultivation, as it destroys all coherence and thereby impoverishes. And lastly, by being a good conductor of heat,

sand transmits the influence of severe cold or intense heat to the roots of plants, thereby subjecting them to hazard and injury. From these well known, but imperfectly considered facts, enforced by different writers of distinction, it is plain that a good and productive soil should neither contain an excess of clay or sand, and consequently our estimation of most lands should principally be based upon the proportions in which clay and sand are united in them. What those proportions are, I have already stated: 40 of clay, 40 of sand, and 20 of silica. These proportions, it is true, may be considerably varied and yet have a fine soil, provided the sand and silica predominates; but these should never exceed 70 parts in the 100, and even then, large quantities of vegetable matter become necessary and the manures are soon dissipated.

Now, sir, if nature has not given us such a soil as I have indicated, can we not make it? To do so may require much labor. It may take a great deal of carting and hauling, but when the work is done it is done forever. Most of the future labor, apart from the enclosure, will be making and applying manure, and as that may be applied in sufficient quantity, may we not calculate upon 60, 70 and 80 bushels per acre? If any one doubts it, let them make the experiment upon one acre or one half acre, and if the result should falsify my prediction, I hold myself bound to pay him for the full amount of his work. Our uplands, Mr. President, approximate a good soil, much nearer than do our valley lands; for, with the exception of a few fields, I know of no bottom or valley lands in the county which do not contain either a great excess of argillaceous clay or of coarse granite sand. There are only two fields within my knowledge in the beautiful valley of Naucoochee, two on Tugalo, and General Wofford's plantation on Broad River, that contain anything like the proper proportions of clay, sand and silica. If you were to examine them, you would find about one-half of our valley lands, provided they have been drained, to have a rich looking, black, vegetable mould, from three to five inches deep, and underneath a stiff, hard-pan, or argillaceous clay. This kind of soil, when fresh, will give, even under the most imperfect cultivation, 40 or 45 bushels per acre, but in a few years the soluble matter of the vegetable mould becomes exhausted, leaving nothing but a mass of inert, carbonized matter, which will not yield you, under the most perfect cultivation, aided by good seasons, ten bushels of nubbins to the acre. The land is, in common parlance, sour, dead land. Now, why is it dead? Why should it not produce your corn, rye, oats or other grain? Examine it with your pan, and you will find only 4 or 5 per cent. of clay, about the same quantity of sand, and still less of silica. All else, the great mass, is inert, carbon zed vegetable matter. There is nothing to fix and support the roots—nothing to attract moisture, carbonic acid or nitrogen—no soluble, rich juices to nourish a plant, and no silicate of potash, without which, neither wheat, straw nor cornstalks can be raised. But I may be asked how these lands for a few years produced such enormous crops without those proportions of clay, sand and silica, for which I have contended. I will tell you why. For a few years, the mass of vegetable mould possessed cohesion enough to fix the roots and retain and transfer moisture. This supplied the place of clay. The porous nature of the soil, permeable to atmospherical influences, and easily penetrated by the roots, supplied the place of sand. It possessed silica enough to glaze the stalk and blades for a few years, and it was vastly rich in humus or soluble geine, as nearly the whole mass was made up of decayed and decaying vegetable matter, and hence the enormous crops until the soluble geine or humus was exhausted. That these are truths, and not visionary speculations, I will now prove. Take a given quantity of this (so called) dead land, and spread over its surface fifty bushels of lime or double that quantity of unleached ashes, early in the spring. Harrow it in; and at the proper time sow down in oats, barley or wheat, Siberian or Italian, plow shallow to avoid sinking the lime or ashes too deep, and you will find this dead land resuscitated. It was not actually dead, but in a state of torpor only. The lime or alkali has waked it up, and you will find your labor and nursing rewarded by a heavy crop. I am sure I need not tell you how this has happened. It was the chemical action of lime upon inert vegetable matter, and the formation of rich soluble matter to nourish the plants. It likewise converted the remaining silica into silicate of potash to glaze the stalks and blades.

But I may be asked again, if the occasional application of a few bushels of lime or ashes will keep these lands thus productive? I answer, no. They are radically deficient in clay, sand, and silica, and a new soil has to be formed or you must abandon them. And the only question is, which will you do? Can any farmer hesitate? The whole substratum or subsoil is adhesive clay, or alumina. You have that at least in superabundance, and by the plow you can bring up to the surface what you want and no more. You have somewhere, not far off, beds of sand or sandy clay that can be hauled on and spread over the field in quantity nearly equal to what you have brought up by the plow. This, together with the small quantity of sand and silica contained in the alumina or argillaceous clay, will make about the right proportions. Let this be done in the fall, and by spring, from the action of frost and other atmospherical influences, you will find the whole in a fine, well pulverized state. You will now have all the elements of a good and durable soil, and one, by the aid of manure, vastly productive. We have, sir, in this and the adjacent counties, a considerable quantity of such land as I have been describing. It comprises, perhaps, one-half of the flat land on Soque, much in Naucoochee and Duke's Creek valleys, some on Beaver Dam, and a portion of your farm at Currahee, and I cite you to all that part on which you have grown such heavy crops of oats and such light crops of corn. There is, however, considerable variety in these lands, even in the same valley, dependant upon variations in the quantity of sand and silica they may contain. Those belonging to you to which I have alluded, contain a fair proportion of silica, and hence the good crops of oats grown on them. Of this I will satisfy the Society when I close, by exhibiting specimens from my own farm.

Accident, rather than science, led me some years since, to investigate the character of these lands. For a few years, after reclaiming my bottoms, they yielded me heavy crops, as much as 56 bushels of corn to the acre. But they soon began to fail, and, at the expiration of seven years, would not pay for cultivation. About that time, having brought the adjacent high land, which was poor, into cultivation, a small quantity of the clay and sand was washed down on the valley, and I noticed an obvious superiority in the crop, as far as the clay and sand had been carried. The next year, the land was in corn, and I was still more forcibly struck with the improvement. No manure had been applied to the hill-side; it was naturally poor and gravelly, and it was plain that the luxuriant corn was not nourished by geine or humus. On what then did it depend? Clearly, sir, upon the accidental combination of clay, sand and silica. Many gentlemen present, must have witnessed similar results; and if they have, can more conclusive proof be necessary, as to what should be done? If it is, I have it at hand. When a portion of my valley land refused to grow a blade of oats, or a stalk of corn, as large as my thumb, I measured off three sections, or lots, of five roods square. On the first, I spread six bushels of lime; on the second, twelve bushels of unleached ashes; and on the third, ten heavy cart loads of poor sandy clay; and sowed all down in oats. The sections receiving the lime and ashes, turned off a pretty fair crop; whilst the clayed and sanded section was not worth cutting. The succeeding spring, I applied one cart load of cow-yard manure to each of the sections, and planted them in corn. The difference now in favor of the clayed and sanded lots, was marked from the time the corn came up, and made at least one-fourth more than either of the others. Now, sir, is not the reason as plain, as was the difference in the crop? The first year, the lime and ashes acted on the inert vegetable matter of the soil, and evolved nutritive juices to nourish the crop, whilst the clayed and sanded parts had no such aids. But the second year, when it had those aids, and a better soil, one made up of clay, sand, and silica, it far outstripped the others. After my valley lands had so rapidly and unexpectedly failed, I was on the eve of converting them into pasture. The soil still looked rich and black as ever, and why it should not produce, I could not conjecture. In this dilemma, I opened a correspondence with Judge Buel on the subject. He attributed the defect to an excess of humic acid, and advised the free application of lime. But that scientific farmer, and learned man, was mistaken. These lands, however, may contain some acid, but there is unquestionably a defect of clay, sand, and silica. The application of lime would have neutralised the acid, and as we have seen, elaborate some geine for a single crop. But sand and silica alone could give a soil to produce crops, by the aid of manure, forever.

I have already stated, sir, that the remaining half of our valley lands are sandy, and I might have said, contain a great excess of sand: for I do not know one plantation on Soque or Tugalo where there is not a great demand for clay, to increase the fertility of some parts of the farm; and I am convinced the owners of farms could not expend money and labor so advantageously in any other way to increase the productiveness of their land, as the transposition of clay to sand, and sand to clay. Let the experiment be tried on five acres, and I shall then feel satisfied it will be on five thousand. Is there a man present who cultivates a garden, and who exercises his judgment in its culture, but knows that the addition of clay gives cohesion to sandy soil, and that sand and gravel, when mixed with a clay soil, diminishes its tenacious property; and that these changes, thus effected, permanently increase the productive powers of both. If the opinion advanced by most of the writers on agriculture be correct, (and I think they are sustained by experience,) that the productiveness of a soil mainly depends upon its natural or artificial capability of retaining and transmitting moisture, by the agency of which nourishment is conveyed to plants, the necessity of adding clay to sand, and sand to clay, whenever there is a deficiency of either, cannot be controverted. And hence the necessity, in all our efforts to improve a poor soil, to examine it in connection with one that is rich. If the cause of sterility be owing to some defect in its constituent parts, such defect could be remedied.

We are here, sir, surrounded by beds of iron ore in every direction, and many of our soils may contain such quantities of sulphate of iron, as to be highly injurious; and wherever that is the case, the use of lime is indispensable; but on the subjects of lime, tillage, manuring, and hill-side ditching, I may say something hereafter. From what I have said, in attempting to point out the natural defects of some of our soils, and the method of permanently improving them, I hope it will not be inferred that I consider barn-yard and stable manure as superfluous. No one appreciates their advantages more highly than I do; but as I have now detained you too long, they must be reserved for a future occasion.

Speech on Agriculture.

Mr. Camak:—The following original speech was delivered by Mr. Alphonzo Rogers, Student of the Academy at Warrenton, Ga., on the night of the exhibition, 16th inst., which, by request of several citizens, I forward to you for publication in the Cultivator, should it meet your approbation. Respectfully, H. E. Morrow.

Warrenton, Ga., July, 1845.

Fellow-Citizens: In traveling over our State, we may be struck with many instances of prosperity and happiness, and many of decay and desolation. If the Indian of another century were to come from the land of the Great Spirit, and revisit these scenes of his former sports, he would be surprised at the changes which have taken place among his former hunting grounds. He would not merely behold the snow-white cotton fields, the rice plantations, and waving corn—he would not merely behold the flourishing towns and villages and splendid mansions, the rail-roads and improved navigation; but in the older counties, he would be surprised at old fields worn out and overgrown with pine, and the gullies formed by the rains of half a century. He might say, the pale face has cut down the groves, cultivated and impoverished the lands, and now nothing is heard but the sighing of the winds among the pines—nothing is seen but the tracks made by the rains among the fields. The observation of every reasoning and reflecting mind would respond to the sentument of the Indian. Now, what has caused this sad reverse? Why have many splendid habitations been deserted, and why do the owl and the bat revel in those

halls once vocal with the sound of mirth and prosperity? No more are heard the woodman's axe and plowman's song among the hills, once presenting the appearance of abundant vegetation, but now of red clay. The true cause, I think, may be attributed to the over-anxiety of the farmer to become rich, and to ignorance of the principles of agriculture as they may be applied to the soil of Georgia.

Almost every farmer uses powerful exertions to acquire wealth. No sooner is the return in money received for one crop than he makes his calculations for another. He is always straining and always in want of more. And as cotton has hitherto commanded a high price, he has cleared his land and made a continued succession of crops until it was impoverished and useless. Again the axe and the grubbing hoe have been heard in the woods, and the darkness of night been chased away by the burning of brush heaps—again the fields have become white with cotton, and the proceeds of it invested in the purchase of more hands or more rich land. Thus he goes on from year to year, without regard to the future condition of his farm, buying his hogs and horses from Kentucky, and his flour from the North, often using inferior implements of husbandry, until he disposes of that plantation, for which he paid thousands, for a few hundred dollars, and drags his family away from an abode always comfortable, often elegant, and endeared by all the associations of home and early days, and hastens to a western wild in order to plant more cotton. Many evils grow out of this practice; hence you find an unstable, fluctuating population, and the State in a few years loses its identity. The early habits of our youth may be corrupted in a strange and irregular state of society; that stability of character which all ought to possess may be lost, and the principal element of patriotism, the love of home, may be destroyed. Of what use are internal improvements—of the construction of railroads and canals, and the building of manufactories, if the soil, which is the foundation of all prosperity, is impoverished and rendered valueless.

We are ignorant, too, of the principles that lie at the foundation of agriculture. We are apt to imagine that it requires but little scientific skill to make a farmer. We follow in the footsteps of our fathers in farming, when we do not follow them in anything else. We traverse the land and navigate the ocean by steam. Did they do it? Improvements are daily being made in every department of science which they never dreamed of. But we have adopted the same routine in the practice of farming which they pursued.

It is a fact that corn, cotton and wheat are composed of substances essentially different from each other, and each of these should be planted in that soil which contains substances most favorable to their growth. And every practical farmer knows that it is improper to plant the same crop always in the same field. Air, sun and rain will not make good produce unless there be good ground. Whenever, therefore, the soil becomes defective towards the production of a certain crop, manures ought to be employed to supply the deficiency. As well might we expect cows to give milk and horses to be in good condition for work, without the food necessary for them, as the land to produce well without manure. This is the point to which the farmer's attention should be directed; and hence the necessity of a knowledge of the properties of the different soils—in short, of chemistry as applied to agriculture. I believe the farmer ought to be educated for his profession as well as the doctor or lawyer for theirs. Our teacher has proposed to introduce into his school the study of agricultural chemistry, and we ought to embrace the opportunity afforded.—There is an agricultural paper, edited by one of the most scientific and practical farmers in Georgia, which ought to be in the house of every farmer, and from which we may acquire much knowledge. Our county has honored the cause of agriculture by the establishment of an Agricultural Society, whose benefits I hope will be felt far and wide; and it is to be hoped that ere long the farmer will take that elevated position in society for intelligence, industry and skill in his profession, to which he is justly entitled.

ELECTRICITY.—A lemon tree has been made to produce several crops of perfect fruit in quick succession by the use of the galvanic battery.

Census of Hancock.

MR. EDITOR:—The Legislature of Georgia, at its last session, in making provisions for the taking of the census, *neglected* to require those to whom that duty might be assigned, to take also, at the same time, the Agricultural statistics of the country. Believing that such information would be valuable to our people generally, and desirous that it should be furnished, at least for Hancock, I sought and obtained from the Inferior Court the appointment, that the citizens of my own and native county might be informed, not only what they grew for consumption and for market, but also what they bought which they could have raised, and what they paid for it.

It has been the custom in Georgia to make cotton to purchase horses, mules, pork and flour, and from a people too that did not barter for any of our products. Nothing but our money would pay for their articles. That money never returned to us through any other channel, and of course such a trade has kept up a continual drain upon the country. The opinion has been prevalent among us that it was cheaper for cotton growers to purchase their supplies than to raise them. A single view of the case would satisfy any one that the policy is bad, even when cotton bears a fair price. When cotton is bringing a fair price everything else brings a corresponding fair price, or when cotton suddenly rises to a good price the rise of other articles is simultaneous with it. But when cotton falls, it takes a year or more, and sometimes two, for other articles to fall in the same ratio, and the farmer who has neglected to raise his own supplies, not only suffers by the reduced price of his cotton, but in having to pay the former or the same price for his supplies as when his cotton bore a high price. The result of my observation is, that the farmers who made a little corn, wheat, oats, pork or bacon, wool, potatoes, and occasionally a horse to sell, and not more than three bags of cotton to the hand, was usually the money loaner, while he who raised eight bales to the hand and bought his pork, horses, mules and flour complained most of the hard times, and not unfrequently was the money borrower to the tune of sixteen per cent.

The conclusion then is just, that if the farmers of Georgia had raised their own pork, horses, mules and flour, tanned their own leather, made their negroes' shoes, clothes and blankets, they would be vastly better off than they are, and many would have been saved the mortification they have felt at seeing their property brought to the block, under the sheriff's hammer.

My object in laying the Agricultural statistics of Hancock before the public, is to arrest their attention on this subject; for what is true of Hancock, is true of the balance of the State, and the cotton growing region generally. The extent of this rule varies in the different sections of the cotton growing region, but everywhere its bad consequences are to be strictly measured by the extent, great or limited, to which the system is carried of raising cotton to purchase supplies. I am happy to believe that Hancock, in this particular, has materially changed her course. Her expenditures are scarcely the fourth of what they were a few years ago. Now, the principle part of the pork bought is by the inhabitants of Sparta, Mt. Zion and Powelton, and a portion of that supply is furnished by the farmers of the county, the source from which the towns should be entirely furnished; for thus the money which must necessarily be paid out by those whose occupations will not permit them to raise it, would be kept in the country.

I am happy also to find that our farmers are supplying our town with an excellent article of flour, and many of them are raising their own horses and mules. This I attribute to two causes: first, the very low price of cotton, and secondly, the influence of our *Planters' Club*, which has done much to improve the Agriculture of our county, and caused our citizens to think more correctly upon the subject of wearing out their lands to make cotton to purchase that which they could more easily make. I proceed to lay before you the census of Hancock, the quantity of crops and the amount of money laid out for supplies:

Number of free white persons 3,642.
Slaves and free persons of color, 6,407.
Free white males between 6 and 16 years, 605.
Free white females between 6 and 15, 504.
Slaves, 6,348. Free persons of color, 59.
Deaf and dumb, 8. Lunatics, 5.
No. of bushels Corn raised in 1844, 362,856.
Bushels of Wheat do., 17,683.
Bushels of Oats do., 31,880.
Pounds of Ginned Cotton do., 3,826,892.
Pounds of Pork raised do., 1,491,460.
Pounds of Pork bought, not raised in the State do., 228,749.
Pounds of Flour bought, not raised in the State, 13,750.
Horses and mules bought, not raised in the State, from the 1st of April, 1844, to the 1st of April, 1845, 82.
Amount paid out for horses and mules, pork and flour, not raised in the State, for the year 1844, $13,205.

This statement approximates as near the truth as it is possible, unless every man had kept a strict account of what he had made.

From the foregoing statements it appears that Hancock raised by the last crop 3,826,892 pounds of cotton, which at five cents, about the average price received for it, brought into the hands of the farmers, $191,344.50. Deduct the expense of freight, storage, care, &c., at $4.25 per bale on 9,567 bags, the number it would take to pack the crop, and we have the total necessary expense amounting to $40,657, which deducted from the amount received would leave in the hands of the farmers $150,685 of net profits. From this take $13,205, the amount expended last year for necessaries, and you have the amount of money left in the hands of the farmers in the county $137,480. It will be seen by this calculation that the amount expended for supplies is a little over 8 per cent. upon the net profits received on the crop. By applying this to the State, and taking only sixty-five out of the seventy-five counties in the State that grow cotton for market, and taking Hancock as the average, it will be seen that the net receipts of the State is $9,794,525, and the expenditure of the State for necessaries that she could make herself would be $858.325. What an amount for such an injury, as I think I can prove it to be!

Is there any one who will doubt for one moment that Georgia could raise $858,228 in pork, horses, mules and flour cheaper than to raise the money, by growing cotton to pay for it, to say nothing of the advantage accruing to our lands in the raising of those necessary supplies, and the actual independence of the people. But again, let us apply this calculation to the whole cotton growing region, and as the per cent. paid out by Hancock is perhaps below the average paid out by the whole, I will assume twenty per cent. as the average, and 2,400,000 bales as the number of the last crop; from which deduct twenty per cent., and you have left 1,920,000 bales. The question is, what increase of price would decrease of quantity give? There is no rule by which this question could be correctly answered, but supposing that 2,400,000 bales to be only a full and plentiful supply, and knowing that there is a daily increase in Manufactories, and a continually increasing demand for the manufactured articles, it is safe to say that the price would increase, at least in the same proportion as the reduction in quantity, and thus we would have the same amount of money in the country for 1,920,000 bags as we now have for 2,400,000. And it is probable that the increased price would in a year or two go to fifty if not one hundred per cent. It is easy to presume that a country would be more prosperous and happy to raise her supplies within herself than to purchase them from another, especially when it is remembered that the former course will keep an equal, if not a greater, amount of money among them at home, and at the same time

protect them from the disastrous vicissitudes of a foreign trade.

It may be asked, after all my positions are admitted to be true, how this is to affect the individual where there is no hope of arresting the selfish and heedless course of the cotton grower in his single undivided aim for quantity. The diminution of my crop, or of many crops, will have no effect on the market, but on the contrary will put the less amount of money in the pockets of those of us who attempt such a policy. Although I may be no worse off for raising my necessaries, and may have the same amount of money that I would have on my old plan of purchasing them, I cannot conceive that I am any better off?

To this it may be answered, that cotton is a very unstable article in its price, and governs the prices of everything else. When it rises, every thing rises simultaneously with it; but when it falls it takes two years for other articles to fall in the same ratio; for the very plain reason, that when cotton is high every energy is bent on the production. This creates deficiency in necessary supplies, for which, the demand being too great for the quantity on hand, the price necessarily keeps up. Now if you had raised your own supplies you would only suffer the diminution in the price of cotton, and if you have not, you will have to bear also the same price for these necessaries which you had to pay when yourcotton brought a good price. Again: by curtailing the cotton crop we would be enabled to improve our farms, so that in a few years we would be able not only to raise a full supply for our own consumption, but some to spare to neighboring towns, and our usual quantity of cotton also. And this is not all; for the increased value given to our laboring capital, in enabling it to yield a better interest, and the marketable value we may, from year to year, add to our lands, will be no small consideration if we should want to sell them.

Is it not better, yes, far better, for the farmer to make his own supplies and a little to spare, and then what cotton he can?

In conclusion, I call upon the farmers of my native county, and, if it would not be considered presumption, of my native state, to examine this subject with an eye single to their own interest, as well as the interest of the whole community at large, and that of posterity, and, as one man, to rally to the rescue of our long abused calling. It is time we had claimed for ourselves a more elevated position. It is time we had learned that this government is mainly dependant on and sustained by us; that all trades and professions are dependant on our success for bread—that posterity has claims on us which we should not disregard. Let us meet the State Agricultural Society by delegates from every county in the State, from county societies, and there unite our efforts in devising the ways and means for improving the Agriculture of our beloved Georgia. Let us petition the Legislature in mass, as one man, to give us aid in the accomplishment of so worthy an enterprise, an enterprise which aims to carry the lights of Agricultural science to its remotest and humblest votaries, and thus bless the world for ever.

Sparta, July, 1845. R. S. HARDWICK.

Inquiries.

1. When manure, especially animal ordure, and heavy compost are hauled out to the field, is it better, after covering it directly with the turning plow, to let the land lie fallow for one year before planting, turning in the weeds during the fall over the same field?

2. If manure thus once covered in be turned up to the surface, by the action of plowing in the weeds which afterwards sprang up, (on land one year to lie fallow,) would the fertile properties of the same evaporate? Or does manure in six months so *incorporate* with the soil as to escape all liability, or to any injurious degree, of evaporation, from a vertical sun or the air, of its strength?

3. Must not all deep plowing on hilly land be ever horizontal, from the great drain on the soil in heavy rains?

4. The act of putting sand on hilly clay land—is there any utility in this, if the sand then renders the land too susceptible of washing away—I mean in the fertile ingredients, and the sand itself—particles of silica being so apt to float on violent torrents or pass along the course of washings? J. J. FLOURNOY.

Wellington, August, 1845.

Sheep Raising—Information Wanted.

MR. CAMAK:—A communication in the last number of the CULTIVATOR, over the signature "Jethro," who promises to contrast the comparative merits of the different sections of Georgia for the raising of sheep, and the breeds best suited for those sections, has attracted my notice. As I wish to engage in the business of sheep raising, I feel a deep interest in hearing from "Jethro" at his earliest convenience, and ascertaining his opinions as to the breeds that would best suit the different sections of Georgia, and where they can be procured; and further, to have his views as to the best management of sheep. I make these inquiries in order to get correct information on the subject, hoping you will excuse me for them.

Respectfully, RAYTOWN.

Agricultural Meetings.

Georgia State Agricultural Society.

In accordance with a resolution passed at the organization of the Association in March, the following gentlemen have been appointed by the President on the several Committees, viz:

On the Agriculture of Georgia.—Wm. Turner, of Putnam; B. S. Jordan, of Baldwin; Joseph Willingham, of Oglethorpe.

On Grains.—R. S. Hardwick, of Hancock; Richard Rowell, of Baldwin; James Grubbs, of Burke.

On Stock.—Miles G. Harris, of Hancock; S. Grantland, of Baldwin; J. M. Adams, of Putnam.

On such plants as may be profitably introduced, and which are not now cultivated.—Iverson L. Harris, of Baldwin; Eli H. Baxter, of Hancock; Allen Inman, of Burke.

On Manures.—Wm. Farrar, of Putnam; John W. Moody, of Oglethorpe; Isaac P. Whitehead, of Hancock.

The annual meeting will be held in Milledgeville on the 2d Monday of November, when reports from the several Committees will be expected. J. R. COTTING, Cor. Sec. A. A. G.

Milledgeville, August 5th, 1845.

Agricultural Meeting in Clark.

At a meeting of a portion of the citizens of Clark county, held in Watkinsville, on the 5th of July, for the purpose of organizing an Agricultural Society, the Rev. JOSHUA N. GLENN was called to the Chair, and JOHN H. CHRISTY requested to act as Secretary.

The following resolution was offered by G. B. Haygood, Esq:

Resolved, That in our own opinion the interest of the country calls for the formation of Agricultural Societies in the various counties of the State, auxiliary to the State Society at Milledgeville.

Which, after a few forcible remarks, setting forth the advantages arising from such organizations, was unanimously adopted.

On motion, it was

Resolved, That the Chair appoint a committee of three to prepare for the consideration of the meeting a plan of organization for the Society.

Whereupon, the following individuals were appointed, viz: G. B. Haygood, Esq., Maj. Thomas Mitchell, and Richard Richardson, who having retired a short time, reported the following

CONSTITUTION.

ART. 1. This Society shall be called the Clark County Agricultural Society.

ART. 2. Its object shall be, to collect and diffuse information concerning Agriculture and its kindred arts; and to encourage and improve the same amongst ourselves.

ART. 3. Its officers shall be a President, five Vice-Presidents, a Secretary, and a Treasurer, who shall be elected annually by the Society.

ART. 4. The President shall have power to appoint all such committees as the Society shall, from time to time, deem necessary, for the promotion of the objects of its organization, and to fill the vacancies in all the offices below him till a regular meeting.

ART. 5. There shall be an annual and quarterly meetings of the Society, at such times and places within the county, as may be determined on by a vote of the Society, or established by its by-laws.

ART. 6. The President, or in his absence either one of the Vice-Presidents, may call an extra meeting upon the request of five members.

ART. 7. The Society shall hold an annual fair for the exhibition of such products as it may think fit to encourage.

ART. 8. The Society shall pass such by-laws as it may deem necessary for carrying out the objects of its organization.

ART. 9. Five members, including two officers, shall constitute a quorum to transact business.

ART. 10. This Constitution may be amended by a vote of two-thirds of the members present at any regular meeting, notice thereof having been given at a previous meeting.

ART. 11. Any person may become a member of this Society by paying the admission fee, not less than one dollar per annum, and by subscribing this Constitution.

Which, after having been read, and slightly amended, was unanimously adopted.

After the adoption of the Constitution, the meeting, on motion of G. B. Haygood, Esq., proceeded to the election of officers—whereupon, the following were duly elected for the next twelve months.

President—James Camak, Esq.

Vice-Presidents—Rev. J. N. Glenn, Maj. Thos. Mitchell, Col. Samuel Baylie, Jno. Gordon, Wm. L. Mitchell, Esq.

Secretary—Sidney B. Payne.

Treasurer—G. B. Haygood.

After which, the following resolution was adopted:

Resolved, That the President, with two or more of the Vice-Presidents, be authorised to procure some suitable person or persons to address the Society during the week of our next Superior Court—and at all regular meetings of the Society.

On motion of G. B. Haygood, Esq.

Resolved, That the proceedings of this meeting be published in the "Southern Whig" and "Southern Banner."

The Society then adjourned to meet on Thursday of our Superior Court.

JOSHUA N. GLENN, *Chairman*.

JOHN H. CHRISTY, *Sec'y*.

Burke Co. Central Agricultural Society.

In compliance with a resolution passed at the last meeting of this Society, the following Standing Committees have been appointed, and will report to the annual meeting in January next:

On Corn.—Messrs. B. B. Miller, J. B. Jones, B. E. Gilstrap, Charles Whitehead, Ezekiel Williams.

On Cotton.—Messrs. James Whitehead, J. C. Poythress, John Carswell, Samuel Dowse, Wm. Sapp.

On Small Grain.—Messrs. John Whitehead, Mathew Carswell, M. P. Green, John Dowse, Edmund Gresham.

On Stock.—Messrs. A. J. Lawson, Alexander Carswell, H. V. Mulkey, A. H. Anderson, Gideon Dowse.

On Manures.—Messrs. M. C. M. Hammond, Wm. Byne, C. W. West, G. Skrine, Wm. Owens. GEO. W. EVANS, President.

COMPOST FOR WHEAT.—For every acre of clayey ground which you intend to put in wheat, prepare enough compost, as follows, to allow a dressing of ten double horse cart loads, say of 40 bushels each.

Take 10 loads of loam from the woods, or the same quantity of rich mould, or well rotted manure, 1 bushel of salt, 10 bushels of charcoal, 1 bushel of plaster, 10 bushels of ground bones, 10 bushels of lime, add 10 bushels of ashes. Let these be well incorporated together; after letting the whole remain a few days, turn over the mass, and, as mixed together, add twenty gallons of urine to each ten loads; taking care to sprinkle plaster over it as the operation is being performed. A compost thus formed, will comprise all the constituent elements which the wheat needs, either for the formation of the straw or *berry*, and will prove to be the means of greatly increasing the *quantity* and *quality* of the product of the latter, while it will also tend to maintain fertility in the soil for several years, and thus augment the yield of subsequent crops, whether they be grass or grain. The above would be an admirable mixture also for a corn crop.—*American Farmer.*

BEES generally eat more honey than they collect after the 1st of August.

"SHE'S NOTHING BUT A COUNTRY GIRL."

A young lady, daughter of an agriculturist, after having been introduced to a company of *professed ladies* in a neighboring city, heard one of them remark to the others in a low tone, accompanied with a scornful smile, "She's nothing but a country girl." Upon her return home, she sent the scornful Miss a note, which contained something like the following lines:

I know that I'm a country girl,
And more than this, I know
That such far rather I would be,
Than her I'm writing to—
For pride of heart, and scornful mien,
Detested are, wherever seen.

A country girl! and what is there,
So dreadful in the name?
Though "verdant," yet I've too much sense
For that to blush for shame;
For it will ever sound as well
To me, as that of city belle.

I would not change my country home,
Where nature's scenes o'erspread,
For one where earth can scarce be seen,
Or blue sky overhead,
For all the wealth and splendid din,
Your "languid beauties" revel in.

What think you of our mother Eve,
Who dwelt in Eden fair?
No luxuries which gold procures,
Or dainties nice were there—
And as there were no cities then,
A country girl she must have been!

I hope for this you'll not deny
Your ancient parentage;
Unless yourself from all our race,
You wish to disengage—
If so, I pray let old and young
Be now informed from whence you sprung!

But if, as still I apprehend,
You are a girl of sense,
And that it is from pride of heart,
You make such vain pretence;
Please know, humility of heart
Does to our sex new charms impart.

When next in some disdainful mood,
To say you are inclined,
"*She's nothing but a country girl!*"
This couplet bear in mind—
That scornful lips and haughty air
Ne'er made a homely face more fair. M. B.

Spring Valley, O., April, 1845.

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The Southern Cultivator

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AGRICULTURAL INSTRUCTION IN COMMON SCHOOLS.

PROF. JOHNSON'S SECOND LECTURE.

On Saturday, according to promise, Mr. Johnston delivered a second lecture in the same place, Mr. Taylor, of Duddingston School, occupying the Chair.

Mr. Johnston said—Gentlemen, at the close of my address to you yesterday, I told you that I thought that what I said would not possess the same weight, or appear to have the same importance to you as to the practical agriculturist, and that you could not by any means feel the like interest that I feel, because in all probability most of you are unacquainted with the way in which agricultural chemistry bears upon, and is advantageous to, the practical agriculturist of the country. It was for that reason that I offered to give you an exposition of most of the important points in the science—to give you a short sketch, a sort of bird's-eye view, of that interesting branch of knowledge, to induce you to teach which, I presented to you so many considerations yesterday; and I am confident that when you have formed an idea of the subject, you will find it most interesting, and one which will yield you great satisfaction and pleasure to become acquainted with. Gentlemen, there was a time when this hill upon which we now stand was nothing but a naked rock of lava. That old lava gradually decayed as modern lavas do, and crumbled down and formed loose matter on the surface, in which seeds of plants grew, died, and left their remains. Thus by degrees the soil accumulated to such as you now see on the surface of this rock, on which plants now grow. Such is the history of nearly all the soils on the surface of the globe.

Suppose you take a portion of any one soil and put it upon the end of a piece of metal, such as I am doing just now, and in any way expose it to the action of the fire, you will see that part of the soil will grow blacker at the edges; bye and bye that blackness will disappear, and the soil will assume a color more or less dark, according to the nature of the substances of which that which remains consists. If you take this portion of the soil before it is heated and weigh it, you will find that after it is exposed to the fire it is not so heavy as before. That portion of the soil which has burned away consists of the remains of those vegetables of which I have spoken; of those animals who have died and been deposited in the soil; and of the manures which have been applied by the farmer. Thus vegetable matter forms what is called the organic, and the other portion of the soil the inorganic matter. The quantity of organic matter varies very much—in some soils it exists to the extent of two per cent., in others 15 and 20 per cent., and in peaty soils sometimes as high as 70 per cent. If you take a piece of vegetable matter and burn it, such as this wood, you will find here, also, that a large portion will not burn away, but remains, forming wood-ash. It is the same, then, with regard to the plant as to soil—a part burns away and a part remains. If you look at the tables you will see that different plants have different proportions of inorganic matter—thus, meadow hay leaves nine or ten per cent. of incombustible matter.

Again, as to the animal substances, take a piece of muscle, dry and burn it, and you shall find that the greater part of it will burn away, which is the organic matter, the remainder being, as in the soil, and in the plant, the inorganic and incombustible matter. Now, one hundred pounds of fresh muscles contain phosphate of lime and other saline substances to the extent of one per cent. of incombustible matter. Thus, the three different substances, soil, vegetable and animal matter, consist of organic and inorganic matter; but there is this difference, that in the soil there is a larger portion of inorganic matter than in plants and animals—in the latter, the greater portion burns away.

I call your attention now to the inorganic portion of soil. By looking at the table you will observe that the inorganic matter consists of different substances, such as silica, which forms a very large proportion of flint; alumina, a substance which forms a large proportion of pipe-clay; oxide of iron, which is the rust of iron; potash, of which the potash you get from the shops may serve to give you an idea; chlorine, which is a kind of air; and then there is manganese, phosphoric acid, and carbonic acid. These substances are found in all soils, but not in equal proportions. You will see in the table before you the details of the constitution of a soil which would yield good crops for perhaps a hundred years. Were you to possess such a rich soil as that, and such soils are to be got in the virgin land at the Cape of Good Hope, on the banks of the Ganges and the Mississippi, you would always find that it would contain a notable quantity of all these different elements. In the second column of the table you have a list of the quantities of the different substances of a soil capable of yielding good crops, but which would require to be regularly manured. You will observe that opposite three of the substances the word "trace" is put, which means, that though the substance was not absent altogether, yet it existed in so small a quantity that it could not be weighed. In the rich virgin soil stated first, you observe that there is of lime 59 per cent., while in the second column there is only 19. Of phosphoric acid there is four in the one, and only two in the other. In the third column of the table is the constitution of a soil so barren, that though manured, it could not produce a good crop. You see that there is a great many gaps in the list; in short, there is only five substances which exist in anything like quantity.

So much for the substances which exist in all good soils; and you may be sure that if any soil does not produce a good crop, some one or other of these substances are wanting. The question then arises, how do soils come to have such different compositions as these? I stated to you how the crumbling down of rocks formed the soil along with the accumulation of organic matter in it; and if I had had time, I would have directed you to a geological map, and shown that in every country the rock on which the soil rests is different; and if it be true that the crumbling down of rocks forms the soil, you learn at once how soils must differ very much in their composition. In feldspar soils, of which rocks principally consist, you will observe only silica, alumina and a few others. A soil formed from this must therefore contain a large quantity of these substances which are on all soils, while it would be deficient in many others. As soils differ in this way, we are led to this practical question—how can we make this soil to be like that soil, or how can a bad soil be made equal to a good one? The answer is simply, that you must supply those substances which are wanting in the soil—you must supply as much potash or lime as are wanting in the third or poor soil, and as much lime and phosphoric acid as is wanting in the second, to make up all the constituent elements which exist in the first or rich virgin soil, and which are necessary to enable the soil to produce a good and profitable crop. This shows you the benefit of an analysis of the soil, by which a farmer is enabled to decide what the soil requires, and proceed accordingly.

I shall next speak of vegetable substances; and first, as to the inorganic part of them. If you take the ash which remains behind, when a plant has been exposed to the fire, and analyze it in the same way as with the soil, you will come to this result, that the inorganic part of the plant contains precisely the same substances as the inorganic portion of the soil. In the table on my right hand, you see the composition of a 1000 pounds of hay. The different kinds of hay have different quantities of the same substance, which substance is the same as in the soil. In reference to the ash of vegetables, 100 lbs. of wood would leave behind not more than a half a pound of ash. Perhaps you may be inclined to ask why, seeing that out of 100 lbs. one half pound only is ash, can that half pound be necessary for the existence of the plant, or is it rather merely accidental, and in no respect making any difference to the plant? No such thing, gentlemen. That half pound of ash is just as much an essential part of the plant as the 99½ lbs. which burned away. The same is the case with wheat, which leaves 2 lbs. of ash. I state these facts in order to bring you along with me in my exposition of the principles of the science, that you may see how I come to the conclusion, and which must be true, that the plant could not live—that it could not fulfil the purposes of nature, unless it contained this small quantity of inorganic matter. If you look to the table on the ash of hay, you will find there is an analogy between it and the soil. Red clover contains in one thousand pounds thirty-one pounds of potash; rye grass as little as nine pounds. Of phosphoric acid, rye grass contains one-third of a pound, red clover less than 7 lbs., white contains five, and lucerne 13 lbs. We learn, then, that these substances are present in different proportions in the ash of different kinds of hay, and from that we draw several important practical deductions. Let us inquire whence do the plants derive the organic and inorganic parts of which they consist. They derive the organic partly from the soil and partly from the air; the inorganic solely from the soil. In the air float certain proportions of all those substances which enter into the organic part, but none of those which enter into the inorganic part of the plant. Now, the different kinds of plants in the soil will materially affect its constitution, and have a remarkable influence upon that constitution. Suppose I grow lucerne upon the very fertile soil detailed in the table: as the lucerne takes out a large quantity of lime and of phosphoric acid, you will see that the crop would rob the soil of a large proportion of lime and of phosphoric acid, and that therefore it would not grow the same crop with that luxuriance which characterised it at first, because it could not supply with the same ease and abundance those peculiar substances upon

which lucerne lives more than upon any other. Take the ash of the different kinds of grain, and you will find that each in its own way affects the soil. Wheat, oats and rye, require a large quantity of phosphoric acid, and so if you grow wheat a long time in the same soil, it will draw out this phosphoric acid among other things, and thereby reduce its quantity. This is what is meant by exhausting the soil. If rye grass is the plant used, it will exhaust the soil generally, because it does not take away a great portion of any one of the substances. In the same way different crops make the soil poor; but if I take the same crop, say fifteen or twenty times, a practice which, as is well known to the most of you, existed not many years ago, it would by that time produce no crop at all.

The land then may be exhausted in two ways —generally of all the substances, and specially, of particular substances; and from this circumstance we are enabled again to make two or three practical deductions. In the first place, inasmuch as the soil contains a limited quantity of these substances, and inasmuch as different crops carry off different portions, you at once see why it is judicious to have a rotation of crops—that the longer the time is which elapses before you take a similar crop, the longer will the soil last and continue productive. A soil may produce one crop, when it cannot produce another. Let us inquire next why land is manured. The composition of the soil would tell you in the first instance, for it is obvious that manure is applied to restore those things which are wholly or comparatively wanting. Chemistry tells practical men how to renew their exhausted soil. Suppose that fifteen crops of oats have been taken off a piece of land, it will lose a large quantity of lime, phosphoric acid and potash, and in order to restore it you must supply the soil with those ingredients of which it has been robbed. Manure being composed of the remains of vegetables taken off the land, and containing all those things of which the plant consists, the farmer, generally speaking, is enabled by its application to retain the fertility of the soil. But then, observe you, he adds all those things which are required for a fertile soil, which may be a great deal too much, and may not supply an adequate abundance of that particular substance which the land actually requires, and thus a great expense is entailed which he may not be able to undertake, and thus the land falls short of that richnesss which he wishes, and which, at a less expense, he might be able by other means, under the guidance of chemical knowledge, to provide for his land. If the farmer knows chemistry, he will, at far less cost, and far more effectually, secure good crops.

I come next to the organic part of the plant. You observe, when I take this wheat flour dough and wash it in water, it diminishes in bulk, and the water becomes milky. The portion that remains, for it will not all wash away, is a sticky substance, and this is called gluten. If the water is allowed to stand a short time, the white will fall to the bottom and form starch. The flour is thus easily separated into two parts, the starch and the gluten. If lint or hemp seed is put into a press and squeezed, a large quantity of oil will come out, but not the whole that the plant contains, and this is the case with all seeds, more or less, though the fatty matter may not be so abundant perhaps as to produce oil by pressure merely. Wheat contains gluten to the extent of from 10 to 13 per cent.; meadow hay 40 per cent. of starch. Of fat, wheat contains from 2 to 4 per cent.; straw, sometimes 3 per cent.; oats, 6 per cent.; Indian corn, 9 per cent., and meadow hay, from 2 to 5 per cent. Thus the organic part of vegetable matter contains gluten, starch and fat.

I shall now make a few observations on the composition of the animal. Of what does the ash of animals consist? The body, you know, is composed of various parts—of muscles, fat, bone and other elements which I need not detail. Let us examine the composition of the muscle, and we shall find that it contains two and a half per cent. of phosphate of lime, and a third per cent of other saline matters. In bones you do not have all the substances which exist in wheat, but you have some of them, such as lime, magnesia, &c. In ten gallons of milk there is three-fourths of a pound of saline matter; so that if you take the composition of the muscle, of the bone, and of the milk together, you will find that animals contain the different substances which are to be found in the soil. Thus it is we learn the intimate connection between the composition of the inorganic matter of the plant, of the animal and of the soil. But where does the animal get this inorganic matter? They obtain it from the plants. In bone, six-tenths of the whole consists of phosphate of lime and magnesia. Now an animal could not support itself or walk about without some bone or firm substance to uphold it. It feeds upon herbage, which it must have, in order to obtain those different substances of which it is made up. But if the plant had no soda or magnesia, the bone could not be built up no more than the walls of this house could be erected without lime, stone and other substances. It is necessary, then, that the plant should have all these substances, in order to supply them to the animal creation—a purpose which it could not fulfill unless it contained all that is necessary to build up their bodies. And where does the plant get these substances? It gets them from the soil; nor can a plant live without them. And here we have a beautiful example of the provisions of nature, for a plant cannot grow, it cannot appear at all, unless it can acquire those elements, and that, too, just because, if it did live, it might indeed deck the surface of the earth, but it would not be able to feed animals, which is its great purpose in the creation. (Loud applause.) Thus a beautiful thread of philosophy pervades and connects all those different substances. Of what does the organic matter consist in animals? It consists of two parts, the muscle and the fat, and you will remember we have three things in the plant, fat, gluten and starch. If I take a piece of muscle and wash it, I shall wash out the blood and make it like the color of fat, and upon tearing it out it will be seen to be fibrous. When the fibre is analysed, it is found to be the same thing as the gluten in wheat. If you take the fat of animals and compare it with the fat in plants, you will find a remarkable analogy to each other, though they are not absolutely identical, and I believe they could very easily be converted into each other. The organic matter of vegetables contains the same substances of the muscle of animals. Vegetables contain a large proportion of that which will very readily form the fat of animals, the only difference being that animal matter contains no starch. Let us now see what is the purpose for which the animal eats its food. Unquestionably for the support of the different parts of which it consists. You see again what a beautiful connection exists between the organic part of the plant and that of the animal. The animal eats gluten in order to form the fibre. When I eat rolls at breakfast, I eat a quantity of gluten and starch, and that gluten saves the digestive organs the trouble of manufacturing gluten for the frame. Out of those rude elements which constitute the soil, and which float in the air, it is the duty of the plant to prepare those substances—those bricks as it were, to be carried away by the builder to fill up different gaps which are continually made in the body. There is a great difference between starch and gluten. That substance called nitrogen exists in the latter but not in the former; in the fibre, and not in the fat of animals. Thus nitrogen is obtained wholly from the soil, therefore it is necessary it should be in the soil. In beans gluten exists to the extent of 28 per cent. If, therefore, you or I eat beans we eat that which is capable of building up a much larger proportion of muscle in the body.

Again, if the soil contains a large proportion of gluten, beans will grow when no other plant would. Some animals lay on the fat very abundantly, and some, like myself, lay it on very sparingly. (Laughter.) If you can have an animal inclined to lay on fat feed him with Indian corn. There is an important difference between the composition of the vegetable and that of the animal; in the former there is gluten, starch and fat; in the latter, muscle and fat only. The lungs are a sort of carbonic acid manufacturers. The starch we throw off to the air, the plants suck in, and thus it is the leaves are continually in motion, beating against the air, forming a thousand little mouths which perpetually suck in the carbonic air which forms starch. A man throws off about seven ounces per day of carbonic acid. Thus it would not be enough to eat merely of fibre and fat, but we require to eat the vegetable substances which contain starch, gluten and fat, because the general purpose of nature is to save the stomach the trouble of manufacturing these substances for itself. The lungs might suck in the same as plants do, but such is not the order of nature, and it falls to plants to supply the deficiency. The stomach can build more easily from carbonic acid than it could from muscle. In feeding young stock the farmer must give as much as will not only supply the daily deficiency, but also supply an increase of muscle and bone. You all know that every part of our body is continually undergoing a change, and that a certain quantity of gluten must be eaten every day to supply it, and it is the same with young animals, and therefore they require an extra supply of the elements of muscle and bone, in order that they may increase in size. You may, by attending to the different qualities of the kind of food, make your animal either very fleshy, very bony, or very fat. Animals reject in dung and other excrements a great many substances, and as the plants contain substances which are soluble with water, it is of great consequence to take care of the liquid excrescences, and to mix it with the solid, so that the whole the animal ate may be preserved, which, being taken back to the soil, it is provided with the same substances almost forever. If you allow the liquid to run into the rivers, you bare the land of what the plant gets from the soil, and which the animal gets from the plant. When the animal dies, all those things which it got is returned to the soil, and thus the same revolution goes on from the soil to the plant, and from the plant to the animal. (Applause.)

These are some of the points, gentlemen, by relating which I wish to interest you; which demonstrate the overruling presence of One mind, directing practical operations to the same end. If there was not the same spirit and intellect pervading in the nature of the soil, the plants and the animals, there would be some confusion; but as they do exist, there is manifested the presence of One mind and of one principle, directing the whole cycle of animal and vegetable life, as there is to be seen in all the cycles and motions of the planetary bodies. (Loud applause.) In wishing to teach those under you the elementary principle of agricultural chemistry, I don't wish you to leave out of view the beautiful and powerful evidence which it affords of the existence of a deity who is present at all times, and regulates in his infinite wisdom all our affairs and intercourse. I therefore concur entirely in the remarks of Mr. Pyper, that moral training is above all things necessary for the young. Moral training comes first, intellectual next, and practical last of all; but yet all are here combined, for by this practical knowledge you can give the young mind a new view of natural theology. It is not merely chemistry or physiology, but this science seems to be one of the most beautiful pictures of natural theology. (Applause.) I might tell you there is a great deal of poetry in the sketch I have presented to you. The whole planetary system in dead masses float in space, and the dead earth forms the subject which geologists contemplate; but on the surface of this dead earth you have a soil, a vegetable and an animal life, subject to changes which must interest and concern every inquirer. Suppose the

soil contained no seed—that no vegetables grew, and no animals existed, still no doubt the other parts of the creation would go on; and this subject of ours is just one idea, an episode, as it were, in connection with the planetary system. And this little episode in the mighty poem of nature, presents to us the Divine bounty, goodness, wisdom, forethought, benevolence and the exalted intelligence of divine mind. How beautiful it is indeed! What an incontestible manifestation of the existence of the Deity is to be found in this episode, planted on our own globe! I have no doubt, gentlemen, that in imparting this branch of knowledge to those under you, you will enjoy an agreeable and entertaining study yourselves. I came among you an entire stranger, and therefore I have not been able to speak with the freedom and ease which, perhaps, I otherwise would have done; but I hope the kindness you have shown to me, and the attention you have paid to my explanations, will, in some measure at least, have made up for my deficiency. If you do me the honor to ask me again before you, I trust I shall be able to address you in a better manner than I have been enabled on this occasion to do.

The learned Professor resumed his seat amidst great applause.

Mr. Knox, of St. Ninians, expressed his great delight at the lucid manner in which Mr. Johnston had treated the subject, and the high gratification which he, in common with the other schoolmasters, felt at being honored with an address from one so eminently fitted for the task. He moved that the thanks of the meeting be voted to the Professor, which was unanimously agreed to.

The Chairman having shortly conveyed the thanks of the meeting, the learned Professor withdrew.

A Maryland Farm.

From the Albany Cultivator.

Yesterday I returned from a visit to GEORGE PATTERSON, Esq., who resides at "Springfield," twenty-two miles west of this, in Carrol county. He is a wealthy gentleman, and is extensively known for his fine stock and enterprising character. His farm contains 1,735 acres, about 1,200 under cultivation, and 500 in woodland. It is rolling land, and well watered—a branch of the Petapsco running through it, supplies water for a grist mill, on the farm, where all the grain raised on the farm is ground for the family and stock. The woodland is admirably located to shelter the many fields from the northwest winds, and presented a beautiful and diversified landscape. The timber was formerly oak, but as it is removed is supplanted by a spontaneous growth of hickory and chestnut, principally the latter. Mr. Patterson has cut out much of the old timber to burn lime, and also with a view to get rid of it to admit the young growth of chestnut.

When Mr. P. took possession of this farm, twenty years since, the land was poor, much of it *very* poor, and barren of vegetation, except *briars*, with scarcely any buildings. Since then he has put upwards of one hundred and sixty thousand bushels of lime on the land, and erected fifty buildings of various kinds, all permanently and neatly built, and now all yellow washed, presenting in contrast with the green fields and woods, a picturesque appearance. His plan is, whenever a field is brought into cultivation, and made to produce clover for mowing, to erect as many barracks as will hold the hay. These barracks or barns, are made of frame, some 20 by 30 feet square, 12 or 14 high, weather-boarded, and covered with cypress shingles.

Mr. Patterson commences on the poor worn-out land by spreading two hundred bushels of lime per acre (measured at the kiln unslaked,) on the surface, and lets it remain two or three years, then breaks it up and puts whatever dung he can muster, and plants it in corn. The following is his system of rotation:—First year, corn; second year, oats, rye or wheat, and clover sowed in the spring; third year, clover, first year mowed, second crop left on the ground; fourth year, clover either left on the ground or moderately grazed; fifth year, wheat, timothy sowed with the wheat; sixth year, timothy mowed; seventh year, timothy mowed; eighth year, grazed; ninth year, grazed and top-dressed the last four years. Top-dressing he prefers to plowing in the manure of any kind. Lime, he thinks, acts slowly, and does not show much the first year or two, and should be always applied to *grass*, and not on fallow. Much of this land is now in a high state of cultivation, producing 20 to 30 bushels wheat, 60 to 80 bushels corn, and two to three tons hay per acre. The contrast between this farm and some of the adjoining land is wonderful! The one green and luxuriant in crops, the other barren and devoid of vegetation, having no green thing except a few low running briars.

This land was also very stony. With the stones Mr. P. has turnpiked several roads across his farm, which enables him to haul wood, lime, and manure in wet weather. He has also applied a portion of these stones to making drains. He makes drains by cutting a ditch four feet deep, and filling two feet with fine broken stones. Swamps and swails heretofore useless, are now made dry, and are among the most productive parts of his land. The fences are in prime order—the few worm fences that he has are eleven rails high, staked and ridered, and six feet worm. The greater part are post and post and rails—upwards of ten thousand pannel—posts of mountain locust. A few chestnut posts he has been compelled to use, and these he protects from decay by filling round with stones, which drain the water rapidly off.

His barns, where the greater part of the cattle and hogs are fed in the winter, are situated on two opposite knolls, and drains are so arranged as to convey the wash from both to permanent meadows adjoining.

His stock is all of the most approved kind, and pure in blood. Of horses, there are several full blood mares of high pedigree and beauty. "Mary Randolph," a superb mare of rare good points, a gray, has a filly one year old, the handsomest creature I ever saw. He has in all some twenty-five or thirty fine horses of various ages. At present he is about crossing these mares with a large, well-formed horse, a cross of the Canadian—similar to the Morgan horse—with the view of increasing the size more suitable for carriage or draft horses. His herd of Devon cattle, about sixty in number, are a rare lot. I had heard of the Devon cattle and seen the prints representing them, but I had *no idea* of their beauty. The prints, or some of them, are *caricatures*, at least of Mr. Patterson's best cattle. His bull, "Eclipse," imported two or three years since, now five years old, is a perfect gem, the best bull of *any* stock, not excepting my old favorites, the Durham, that I have ever seen. The cows have fine shaped and well developed udders, and must be good milkers. Mr. Patterson says they give rich milk, and a good deal of it. He has bred his stock with that object, and selected the best milking families. They have size enough—the bull would weigh 1000 lbs. net beef—the cows are also large enough. They have fine shaped yellow noses, with a ring of the same round the eye—all uniform as so many peas. What will you think if I tell you that this will become the favorite stock before many years? The beef, you know, is celebrated for its fine quality, being so evenly mixed, fat and lean, instead of laying the fat on the surface.

Here I also saw upwards of seventy Berkshire store hogs—*hog fat*, in the clover field—and as many sucking pigs intended for next year. The sows are allowed but one litter each year, and they all have pigs in May. Mr. P. has a fine flock of sheep, some full blood Downs from the flocks of Mr. Rotch, N. Y., and Cope, of Pennsylvania.

Everything is done here in the best manner, and all the stock is of the *best*, without regard to price. The whole establishment is well worth one hundred thousand dollars. I have not done credit in the description. Mr. Patterson manages the farm himself—has no white man on the place but himself, and is a pattern in industry and frugality, even to Pennsylvania farmers. His neighbors are beginning to follow his example in the use of lime. A few years hence will have completed Mr. Patterson's plans of improvement, and then he will have the best farm in Maryland. ISAAC DILLON.

Eutaw House, Baltimore, May 20, 1845.

A Virginia Farm.

An agreeable correspondent of the Easton (Pa.) Whig, in the course of a recent tour to the valley of the Shenandoah, gives the following account of the fine residence and farm of a Virginia planter:

VIRGINIA FARMING.—Col. Tulley, who is admitted to be one of the best farmers in northern Virginia, has about 1200 acres in his plantation, of which about 900 are under cultivation, and which is wholly surrounded by a solid limestone fence six miles in length, and varying from 4 to 6 feet in height. He harvests this season 500 acres of wheat, which, notwithstanding the severe drought, he expects will yield him about 12,000 bushels. One is struck in looking over his fields to see how free all are from other grain and weeds. I asked him how it was that in a field of 100 acres of most excellent wheat not a spear of rye was visible. He said it was owing to the great care he took in cleaning his seed wheat. That if twice cleaning did not suffice he had it cleaned again and again until it was free from improper seeds. The editor of "The Valley Farmer" thus describes in a late editorial, the process of cultivation pursued by Col. Tulley:

"In the cultivation of his farm, Col. T. pursues what is call the 'five years' shift system,' and is as follows: he takes a field two years in clover, and turns over the sod in the month of August or early in September. From the 5th to the 15th of October, he sows a bushel and a half to the acre, and harrows it in. After the wheat is cut the field lies and becomes covered with a thick and strong growth of ragweed. In the following spring he turns up with a plow, and plants to corn before the middle of April. The corn is planted four feet apart each way, and eight or ten kernels to the hill. The cultivation is principally done with a plow, beginning as soon as the corn is fairly up, and plowing it both ways about four times in a season. At the second plowing the hoe follows, and the corn is thinned to two stocks in the hill. The hoe is seldom used but once, and the corn is hilled no more than the plow will do it. When the corn is so ripe that it will mature in the stock it is cut, and the land put into wheat. Sometimes he sows on the seed and plows it in; sometimes he first plows and then sows and harrows in the seed, being governed by the ground. After the wheat is sown the field is seeded in clover. After the wheat is harvested nothing is permitted to go upon the ground to disturb the young clover. The field then lies two years in clover, when wheat again follows. In the spring of each year, half a bushel to an acre of plaster is sown on the clover, and heavy crops of grass are in this way secured. In this course of farming he once raised from two acres of land 80 bushels of wheat; from a field of sixty acres, he averaged more than 30½ bushels to the acre, and from a field of thirty acres, 65 bushels shelt corn to the acre. He considers the clover and the plaster as the principal means of improving the soil; yet he is very careful to allow no manure to be wasted. On the contrary, he makes large quantities of it annually, which he applies to the highest parts of his fields, turning it under with the plow, which he prefers to using it as a top-dressing."

The harvest had commenced the day before we arrived, and it was a pleasant sight to look upon. Six or eight cradlers went ahead. They were followed by as many rakers, they by as many binders, while another group finished all

up. Besides this crop the Colonel has about 200 acres in corn and other summer crops in proportion. His sheep and cattle are of the best breeds, and in his herd are several buffalo cows.

THE PARK.—Over 20 fallow deer and a number of elk sport in his park. The early dawn is ushered in by the sweet carrolling of feathered songsters that here have no dread of man, for no gun is allowed to be shot upon the premises. The consequence is, that the birds make their home within the reach of the very windows, and thus sweet dreams are made still sweeter by the delightful music that accompanies them, and which, mingling with the bright visions of fancy as you be half sleeping, half waking, make you almost wonder as you open your eyes, whether you are not in the region so glowingly described by the Eastern fabulists. In the woods too, the squirrel chirps in the tree above you and gambols from bough to bough to attract attention, not knowing man to be his foe. Another great advantage of this benificent rule is, that the trees and plants in the neighborhood are preserved uninjured by those destructive insects that are doing so much evil to flowers, fruit and grain throughout our land.

THE GARDEN.—Adjacent to the pleasure grounds the Colonel has his fruit and kitchen garden, containing about three acres, surrounded by a high brick and stone wall, and filled with the finest kind of fruit and vegetables. In it are found over a dozen varieties of the strawberry, the choicest raspberry and other bearing bushes. A spacious garden-house gives great convenience in the cultivation of the ground and gathering in and preservation of its products. The basement is fitted to store away the winter vegetables. The first floor holds and keeps from injury from weather the garden tools and implements, while above is a capacious and well arranged pigeon-house. But although much attention, as is seen, has been given to the useful, the ornamental which tends to soften and minister to the kindlier feelings receives also the care of the Colonel and his fascinating lady.

THE GREEN-HOUSE.—Besides the beautiful flowers that line the many walks of the pleasure grounds and are interspersed throughout them, a fine green-house evinces the great taste for the beautiful that pervades the owner. In relation to it the editor of the Valley Farmer thus writes:

"In the green-house we noticed a large collection of exotics, the fragrance of which, when the folding doors were thrown open, emitted an odor through the rooms that reminded us of those strange romantic tales which lovers descant so much about, and which nine-tenths of them never realize even in their dreamy imaginations, Col. Tulley showed us many rare specimens of the rose, honey suckle, the magnolia, the Rose of Sharon and the Lilly of the Valley, so beautifully mentioned in Scripture, and the Bullrush of the Nile, such as formed the ark of the infant Moses. There we also found the Lemon and the Orange tree blossoming and bending 'neath the weight of their luxuriant fruit. There are many more rare plants which we should like to take notice of, but as we must bring our remarks to a close on this subject we would merely mention in this place, that the most beautiful flower blooming in this vast collection, is the smiling, laughter-loving native called '*mine hostess.*' "

We observed in the finest specimen of the wax plant we have ever seen, a perfect curiosity covering half of one of the sides of the green-house, filled with clusters of those delicate flowers.

An Alabama Plantation.

By GOV. HILL, *Editor of the Farmer's Monthly Visitor.*

The county of Montgomery, of which the busy town of the same name is the capital, is said to be the most wealthy agricultural district of the State: at this place several citizens of New Hampshire have located and resided within the last twenty years. In a somewhat hurried journey home from New Orleans, the editor of the Visitor was induced to stay over at Montgomery one day, by old friends who solicited a longer tarry.

Mr. Seth Robinson, an old trade acquaintance of this town, who has resided through all the vicissitudes of prosperity and depression for several years at Montgomery, and is now settled down in a prosperous business, desiring to show us the specimen of an Alabama farmer, took us an afternoon ride seven miles out of the city. Passing on the great road from Montgomery eastward toward Georgia, by several beautiful plantations, and many extensive enclosures devoted alternately to a forest growth and cultivated fields for cotton, corn and the other cereal grains, he brought us to the premises of Col. Green Wood, a planter who emigrated here several years ago from the State of Georgia. This was the 4th of April, and vegetation was then in the condition of what we might expect to be in New England on the 4th of July.

For nearly two miles before we reached his house, on both sides of the road, did we pass successive enclosures of his plantation, in which cotton or corn had been planted or grain had been sowed—all of it with as clean cultivation as a New England garden: the rows of cotton in a direct line to the distance of one hundred rods and half a mile, straight as an arrow, were traceable by the naked eye. The fences of this country, for which there has been abundant materials ready at hand, are of a kind which we in New England call the "Virginia fence." They are made of split rails of hard wood, and to that careful height of seven or eight feet, which would seem to be sufficient for shutting out the fleetest deer. The habit of careful farming is shown in Alabama by the safe fences surrounding each cultivated field. That part of the fence nearest the ground soonest decays; and we observed, as the older rails were crushed down at the bottom, their places were supplied by newly split rails at the top.

The mildness of the climate renders it unnecessary to pay that particular attention to the construction of houses, barns and sheds that we of the north must do from necessity. Little more is necessary there than to make a roof for the protection of cattle and crops; the negro residences are sometimes without floor of boards: a single outside boarding or clapboarding is deemed for them sufficient. Indeed, the rich owners themselves often occupy houses which would not be regarded as comfortable by the poorest tenant of the north. The habitation of Col. Wood, decorated with all the artificial embellishments of a flower garden and beautiful parterre on either front, was surrounded at no great distance with the numerous dwellings of the families, which do all the work upon his extensive plantation. The first noise that arrested our attention was the busy hum of the spinning wheel and the song of its operatives from the dwellings of the colored people. The enterprising owner of the premises was not at home himself; but meeting us at the door and inviting our entrance was his wife, a lady of plain dress and great sociability of manners, who at once made us at home in a warm day by the invitation to glasses of sweet ice-cooled buttermilk, and a walk into an extensive garden, clothed in all the rich beauties of early vegetation. Here we found—and the reader will mark the day to the 4th of April—rich head lettuce fully grown and growing in the open air, ripe strawberries and full grown peas: as an evidence of the early season, Mrs. Wood plucked from the tree a full sized fig which then only remained to be ripened. Fronting this garden of several acres, was another larger enclosure of flourishing peach, apple and other fruit trees which had then gone out of blossom.

The family residence of Col. Wood was a well-finished and elegant wooden house of a single story. There were wide halls with entrances on the four sides, so that in whatever direction might be the wind, the house had the advantage of airing: these halls embraced nearly half of the whole area. Separate on each corner were large and ample parlors or sitting rooms, and one or more suits of bed rooms. The height of the story and the rooms was ten to twelve feet. This house was constructed for comfort in warm rather than cold weather: the weather in that part of Alabama is never cold, and seldom only cool.

The extent of farming in Alabama may be conjectured from the fact that Col. Wood has one thousand acres annually under the plow. Good calculations make the work there comparatively easy, because the milder climate admits of work in the preparation for crops nearly the whole year round. All the heavy manual labor in the fields is the work of horses and mules. The virgin soil in that State is so rich that the planters hitherto have paid little attention to manures. The facilities for making barn and stable manure are not in the cotton region as great as at the North. Col. Wood found means in various ways to make a large amount of manure in the last season; he disposed upon a portion of his plow land one thousand mule or horse cart loads, for which purpose he employed four carts with the drivers during the last winter. His manure was taken from the stables and from the cattle, sheep and hog yards.

Of his cultivated lands five hundred acres are devoted to cotton, and an equal amount to corn, wheat, rye, oats, &c. The one-half of the farm furnishes more than the whole amount of meat and bread for the laborers, by whom also the clothing is manufactured from the cotton and wool grown upon the premises. The principal part, if not the whole of the cotton crop, must be regarded as clear profits. A force of thirty to forty mules or horses with their drivers, kept up during the greater part of the year, is sufficient for the cultivation of these many acres.

A more happy set of laborers can hardly be conceived than the slaves upon the plantation of Col. Wood. The daily task of those engaged in the out-door work is easy; and they have much time every week which they call their own, with opportunities to cultivate their little garden plot, to raise and feed poultry, with other extra privileges. They are all well fed and clothed in the abundance which the plantation produces, with little of the concern which poor people of other countries experience. Upon the faces of the colored people which we saw about the premises health and contentment were depicted: the women chanted with their voices of song and music correspondent to the movements of carding and the buzz of the spinning wheel.

Col. Wood had two overseers, white men, to superintend the plantation concerns. One of these in the short time of our tarry, showed us about his premises, which would do credit to the best New England farmer. As the better method of furnishing abundant meat at all times, he has five hundred hogs of the different sizes. Better than the hogs which abound in the forests of the West and the South, appeared the animals of Col. Wood: he had not only been at the pains to introduce an improved and mainly of the Berkshire breed, but his hogs were decidedly more fat than we had seen elsewhere. They ranged in an open forest ground and pasture of many acres; and in addition to this only usual method of keeping and feeding hogs in that country, they were daily fed with corn in the ear scattered over the ground in which they rooted and made manure.

No hay is cut in Alabama: a general substitute in feeding horses, mules and cattle is the corn shucks or husks, being the leafy part which is stripped from the principal blade and done up in bundles. The straw of wheat with other kinds of grain and the grain itself is also fed out to the horses and cattle. The cows, in most instances, range the woods in search of food, and through the forests of Alabama and Georgia where we passed, seemed to be but skeletons, like the lean kine of Pharaoh. Col. W. had a fine drove of the milch kine, large, fat and sleek, and a notable bull which the overseer

informed us was obtained from Col. Jaques, of Charlestown, Mass. A flock of over a hundred first rate sheep, a mixture of the Leicester with the native breed, were kept mainly for the wool necessary for the family clothing.

On the whole, the view of such a splendid plantation as that of Col. Wood's, a thousand acres under the plow, yielding, on the lowest calculation, a clear profit of ten dollars to the acre—the business under overseers who make the different gangs of cheerful workers operate like the machinery of a clock; a portion of the grounds every year improved by the generous use of manures; the crops all gathered and saved in due season, as they are grown, almost without the apparent care of the owner; the surplus annually sold to furnish any desirable amount of funds for any desirable purpose:—who would not think the evil of slavery such as exists upon this plantation even tolerable, and who would not envy the condition of an independent Alabama farmer like Colonel Green Wood?

Barn Yards.

The following "*Remarks on the Construction and Management of Cattle Yards,*" are from the pen of the late Judge Buel, of Albany:

Vegetables, like animals, cannot thrive or subsist without food; and upon the quantity and quality of this depends the health and vigor of the vegetable as well as of the animal. Both subsist upon animal and vegetable matter, both may be surfeited with excess—both may be injured by food not adapted to their habits, their appetite or their digestive powers. A hog will receive no injury, but great benefit from free access to a heap of corn or wheat, where a horse or cow will be apt to destroy themselves by excess. The goat will thrive upon the boughs and bark of trees, while the hog would starve. The powerful, robust maize will repay, in the increase of its grain, for a heavy dressing of strong dung, for which the more delicate wheat will requite you with very little but straw. The potatoe feeds ravenously, and grows luxuriantly upon the coarsest litter, while many of the more tender exotics will thrive only on food upon which fermentation has exhausted its powers. But here the analogy stops: for while the food of the one is consumed in a sound, healthy, and generally solid state, the food of the other before it becomes aliment, must undergo the process of putrefaction or decomposition, and be reduced to a liquid or æriform state.

I have gone into the analogy between animals and vegetables thus far, to impress upon the minds of our farmers the importance of saving and of applying the food of their vegetables with the same care and economy that they do the food of their animals. How scrupulously careful is the good husbandman of the produce of his farm destined to nourish and fatten his animals; and yet how often careless of the food which can alone nourish and mature his plants: while his fields are gleaned and his grain, hay and roots carefully housed, and economically dispensed to his animals, the food of his vegetables is suffered to waste on every part of his farm. Stercoraries we have none. The urine of the stock, which constitutes a moiety of the manure of animals, is all lost. The slovenly and wasteful practice of feeding at stacks in the fields where the sole of the grass is broken, the fodder wasted, and the dung of little effect, is still pursued. And finally, the little manure which does accumulate in the yards, is suffered to lie till it has lost full half of its fertilizing properties, or rotted the sills of the barn; when it is injudiciously applied, or the barn moved to get clear of the nuisance. Again: none but a slothful farmer will permit the flocks of his neighbors to rob his own of their food; yet he often sees, but with feeble efforts to prevent it, his plants smothered by pestiferous weeds and plundered of the food which is essential to their health and vigor. *A weed consumes as much food as a useful plant.* This, to be sure, is the dark side of the picture, yet the original may be found in every town, and in almost every neighborhood.

Is it surprising that under such management our arable grounds should grow poor, and refuse to labor its accustomed reward? Can it be considered strange that those who thus neglect to feed their plants should feel the evil of light purses as well as of light crops? Constant draining or evaporation, without returning anything would in time exhaust the ocean of its waters. A constant cropping of the soil without returning anything to it, will in like manner exhaust it of its vegetable food and gradually induce sterility. Neither sand, clay, lime or magnesia, which are the elements of all soils, nor any combination of part or all of them, is alone capable of producing healthy plants. It is the animal and vegetable matter accumulated upon its bosom or which art deposits there, with the auxiliary aid of these materials diffused in the atmosphere, that enables the earth to teem with vegetable life and yield its tribute to man and beast.

I will now suggest a cheap and practicable mode of *providing food for vegetables*, commensurate to the means of every farmer of ordinary enterprize; and that my suggestions may not be deemed theoretical, I will add, that I "practice what I preach."

The cattle yard should be located on the south side of and adjoining the barn. Sheds, substantial stone walls, or close board fences should be erected at least on the east and west sides, to shelter the cattle from cold winds and storms; the size proportioned to the stock to be kept in it. Excavate the centre in a concave form, placing the earth removed upon the edges or lowest sides, leaving the borders ten or twelve feet broad, of a horizontal level, to feed the stock upon, and from two to five feet higher than the centre. This may be done with a plow and scraper, or shovel and hand-barrow, after the ground is broken up with the plow. I used the former and was employed a day and a half, with two hands and a team, in fitting two to my mind. When the soil is not sufficiently compact to hold water the bottom should be bedded with six or eight inches of clay well beat down and covered with gravel or sand. This last labor is seldom required except where the ground is very porous. My yards are constructed on a small loam, resting on a clay subsoil. Here should be annually deposited as they can be conveniently collected, the weeds, coarse grass and brakes of the farm; and also the pumpkin vines and potatoe tops. The quantity of these upon a farm is very great, and are collected and brought to the yard with little trouble by the teams returning from the fields. And here also should be fed out or strewed as litter, the hay, stalks and husks of Indian corn, pea and bean haulm, and the straw of grain not wanted in stables. To still farther augment the mass, leached ashes and swamp earth may be added to advantage. These materials will absorb the liquid of the yard, and, becoming incorporated with the excrementitious matter, double or treble the ordinary quantity of manure. During the continuance of frost the excavation gives no inconvenience, and when the weather is soft the borders afford ample room for the cattle. In this way the urine is saved and the waste incident to rains, &c., prevented. The cattle should be kept constantly yarded in winter, except when let out to water, and the yard frequently replenished with dry litter. Upon this plan from ten to twelve loads of unfermented manure may be obtained every spring for each animal; and if the stable manure is spread over the yard, the quality of the dung will be improved and the quantity proportionably increased. Any excess of liquid that may remain after the dung is removed in the spring can be profitably applied to grass, grain or garden crops. It is used extensively in Flanders and in other parts of Europe.

Having explained my method of procuring and preserving the food of vegetables, I will proceed to state my practice in feeding or applying it. It is given every spring to such hoed crops as will do well upon coarse food, (my vegetable hogs and goats.) These are corn, potatoes, ruta baga, beans and cabbages. These consume the coarser particles of the manure, which would have been lost during the summer in the yard, while the plow, harrow and hoe eradicate the weeds which spring from the seeds it scatters. The finer parts of the food are preserved in the soil to nourish the small grains which follow. The dung is spread upon the land as evenly as possible, and immediately turned under with the plow. It is thereby better distributed for the next crop, and becomes intimately mixed and incorporated with the soil by subsequent tillage. Thus, upon the data which I feel warranted in assuming, a farmer who keeps twenty horses and neat cattle will obtain from his yards and stables, every spring, two hundred loads of manure, besides what is made in summer, and the product of his hogsty. With this he may manure annually ten or twelve acres of corn, potatoes, &c., and manure it well. And if a proper rotation of crops is adopted he will be able to keep in good heart, and progressively to improve, sixty acres of tillage land, so that each field shall be manured once every four or five years on the return of the corn and potatoe crop.

Grasses for the South.

From the Albany Cultivator.

Your correspondents frequently inquire respecting the grasses suitable for the South. If each would communicate what he had observed it would be a sufficient answer to such inquiries, and might prove the most important benefit to the agriculture of the South. During this winter I have seen bundles of *Northern hay* brought to the stables of my neighbor, which had paid for carriage many hundred miles round the capes of Florida, through the Gulf of Mexico, and five hundred miles (by the course of the river) into the interior. This is a *standing reproach* to the agriculture of the South.

Lucerne.—This is found to grow well here. Sow it in drills in the early part of the fall, 24 to 27 inches apart; it flourishes, yields four to five cuttings in the course of the year; and on soil which would bring 20 bushels of corn to the acre, grows a foot and a half high. This season, some was cut on the 12th of March for soiling, and was then from a foot to knee high. The most of it has been cut twice over since the first cutting, to this day, May 13. Cattle and horses eat it greedily; a cow fed on it chiefly is yielding at this time between five and six gallons of milk daily; when as yet there is no grass in the woods or on the common sufficient to change the poverty-stricken appearance of the cattle in "the range." I have made no hay from it, but have no doubt it will make good hay.

Guinea Grass.—The root is similar to that of the cane or reed, and is perennial. The stem and blade are like those of the Egyptian Millet. On rich soil it is very luxuriant, yielding many cuttings in the course of the year. It is good for soiling—horses and cattle eat it readily, and if cut when in flower, it makes a hay most abundantly which cattle eat greedily in winter. Horses do not seem to like the hay. It is most readily propagated by the root. A small root two inches long, with one or more joints to it, will vegetate, and, if the ground is made loose by plowing once or twice during the season after planting, roots placed in checks of four feet will take *complete possession of the soil the first season*; so that the next spring it will start up evenly over the soil anywhere. Hogs root after them with great eagerness, and as the tendency of this plant is to fill the grouud with roots in so thick a mat that the grass does not grow tall in consequence, the idea suggests itself of pasturing cattle on this grass in the spring and summer, and giving the hogs the benefit of the roots in the winter. They cannot destroy it; the smallest fibre left in the ground will grow. It might be a great pest in a garden; but if

land is to be used for stock it will take and maintain entire possession to the exclusion of any competitor which we have in middle Alabama.

Clover and Herd's Grass — I have now a beautiful lot of these grasses in conjunction on high land, the whole about knee high, and the clover in flower. Mr. Kirby, one of my neighbors, cut the wood from a piece of low, pipe clay, crawfish land last winter, and when the brush, &c., lying on the ground, had become sufficiently dry, he set fire to it and burnt it all off, thus giving it a top dressing of ashes. He then sowed Herd's Grass on the top of the ground, without plow, harrow or anything of the kind. He now has a most rich and beautiful crop of this grass growing. If desired, your readers may obtain further particulars of this crop.

Leersia Orizoides, (rice grass.)—This plant so much resembles *rice* that only a practised eye can distinguish them. The negroes on the rice plantations in Carolina call it "*the rice's cousin.*" It will grow wherever rice will—*in the water* or in any damp situation. It is found wild in all the Southern country; grows tall, seeds in a panacle not unlike a head of oats, and will yield two crops a year of *choice hay.* Roots perennial. B. M.

Tuskaloosa, Ala., May 13, 1845.

Foolish Planters.

From the Augusta Constitutionalist.

Permit me, Mr. Editor, through the medium of your columns, to notice what I consider a very silly and most pernicious proceeding on the part of our planting friends, to which my attention has again been drawn, from noticing the usual annual articles:

"The first new cotton in market from the plantation of Mr. ——, —— county, sold for — cents!!!"

It is not my intention of enlightening the world as to the "*modus operandi*" at times resorted to, of achieving this most astonishing feat; whether the bolls were well sunned to cause them to open, whether old cotton was slightly mixed to make up quantity, what amount of labor was bestowed upon the laudable and useful undertaking, how long it remained packed before being opened to prevent its rotting, nor the extent of gratification enjoyed by the enterprising planter. These are but trifling and local matters.

I wish to deal with the practical effect of this folly. It certainly cannot escape the notice of any man of intelligence, that the cotton trade has a host of people engaged in it, whose every thought and aim is to depress prices. The banker, holding the available and active wealth of the country—for he gets the better bill the lower the price is—and the manufacturing interests, for the cheaper the cotton the greater the profit—and the agent purchasing, for the lower the price the more the orders can be executed—and a host of dependants are alive to everything relating to this trade, sparing no cost or labor in procuring every possible information, as to the amount planted, state of the seasons, &c. &c.

One of the reliable modes of calculation by them, is from the time the first blossom is observed, to the first killing frost—again, from the first new cotton being in market, to the first killing frost—this is relied upon for length of season—if an average period the crop is considered an average one—if an *unusual* period, a large one.

Now, instead of permitting nature to take its course, gathering with care the harvest when it is ripe, we (for a vain boast) must anticipate this event, and arm our enemies with an irresistible argument to rob us of our labor.

The fact of the early receipt, is at once heralded in Augusta, or the market it is brought to. A full price must be given the industrious owner of the one or two bales hauled to market, perhaps 75 miles, over a sandy road, by a hard-worked and poor team, with the thermometer at 95 to 100 degrees in the shade: some merchant must have the first new cotton in New York, for he may then see his name and his friend's in the newspapers of that city! Off it goes, and so on till it finds its way to Liverpool, a month earlier than the represented state of the growing crop led parties to anticipate. Calculations from this *fact* are at once made, the talk of late spring and dry season—is put down "a usual humbug," and the market of Liverpool, governing all other markets, becomes at once languid and depressed.

That this has been, and is likely to be the case, I will only state what took place a few years ago: A planter in South Carolina sent in July, two bales of cotton to the Augusta market; they were at once sold, sent per rail road to Charleston, and by steam packet to New York, there they were purchased by the agent of a merchant spinner, shipped per "Great Western," and on the 16th day of August landed in Liverpool.

The anticipated effect of this shrewd agent was at once realized. The cotton market, (there in a good state,) paused, reeled and tumbled—in three weeks prices went down 2 cents a pound, and continued at that depression for four months, causing a loss to American holders of cotton estimated at one and a half millions of dollars, and perhaps as much more to planters upon their new crop. But what availed all this—the planter had his name in the papers—glory enough for one day.

Let us hope, Mr. Editor, for more intelligence in future; but if persisted in, I must call upon the trade of Augusta unanimously to vote a leather medal for next year.

A PLANTER'S FRIEND.

Getting Poor on rich Land, and Rich on poor Land.

A close observer of men and things told us the following little history, which we hope will plow very deeply into the attention of all who plow very shallow in their soils:

Two brothers settled together in —— county. One of them on a cold, ugly, clay soil, covered with black-jack oak, not one of which was large enough to make a half dozen rails. This man would never drive any but large, powerful, Conostoga horses, some seventeen hands high. He always put three horses to a large plow, and plunged it in some ten inches deep. This deep plowing he invariably practiced and cultivated thoroughly afterwards. He raised his seventy bushels of corn to the acre.

This man had a brother about six miles off, settled on a rich White river bottom-land farm—and while a black-jack clay soil yielded seventy bushels to the acre, this fine bottom land would not average fifty. One brother was steadily growing rich on poor land, and the other steadily growing poor on rich land.

One day the bottom-land brother came down to see the black-jack oak farmer, and they began to talk about their crops and farms as farmers are very apt to do.

"How is it," said the first, "that you manage on this poor soil to beat me in crops?"

The reply was, "*I* WORK *my land.*"

That was it, exactly. Some men have such rich land that they won't *work* it, and they never get a step beyond where they began. They rely on the *soil*, and not on labor or skill, or care. *Some men expect their* LANDS *to work, and some men expect to* WORK THEIR LAND—and that is just the difference between a good and a bad farmer.

When we had written thus far, and read it to our informant, he said, three years ago I travelled again through that section, and the only good farm I saw was this very one of which you have just written. All the others were desolate, fences down, cabins abandoned, the settlers discouraged and moving off. I thought I saw the same old stable door, hanging by one hinge, that used to disgust me ten years before; and I saw no change except for the worse in the whole county, with the single exception of this one farm.—*Ind. Farmer and Gardener.*

Blading and Topping Corn.

No one performs these operations for the benefit of the ear, but to obtain fodder; and it is then justified on the ground that the corn is not harmed by it. The sap drawn from the root does not flow strait up into the ear and kernel, but into the *leaves* or blades. The carbonic acid of the crude sap is decomposed, oxygen is given off and carbon remains in the form of starch, sugar, gum, &c. &c., according to the nature of the plant. When sap has by exposure to light undergone this change, it is said to be *elaborated.*

It is only now that the sap, passing from the upper side of the leaf to a set of vessels in the under side, is reconveyed to the stem, begins to descend, and is distributed to various parts of the plant, affording nourishment to all. But when the fruit of every plant is maturing it draws to itself a large part of the prepared sap, which, when it has entered the kerne, is still farther elaborated and made to produce the peculiar qualities of the fruit, whether corn or wheat, apple or pear. It is plain, from this explanation, that a plant stripped of its leaves is like a chemist robbed of his laboratory, or like a man without lungs.

If corn is needed for fodder, let it be cut close to the ground, when the corn has glazed. The grain will go on ripening, and be as heavy and as good as if left to stand, and the stalk will afford excellent food for cattle. Sheep are fond of corn thus cured, and will winter very well upon it. In husking out the corn, the husk should be left on the stalk for fodder.—*Indiana Farmer.*

Let Farmers Communicate—Improvement.

MR. EDITOR:—Farmers should be communicative of their agricultural knowledge. They should be as willing to give information to a brother, as they are particularly anxious to receive the like at the hands of others. They should inquire, search, experiment, and endeavor to advance the general agricultural interest by every possible means and measure. What should be thought of a farmer, who, having the necessary right kind of knowledge to double his own harvest—which very properly and prudently he does—yet, will not impart one iota of the secret to his neighbor, that he may do the same? Such there may be, but assuredly he is unworthy that appellation "brother farmer."

The real genuine farmer is wholly given to the work. Next to his duties due high Heaven, it is his all absorbing topic. He loves to *hear* about farming; he loves to *talk* about farming; the *study* of farming is to his taste. He thinks, reads, composes, reflects and stores his mind with treasures of knowledge applicable to the profession. All other knowledge is acquired only to subserve the interests of this. In this way, the farmer *must* and *will* rise. It is as necessary to the prosperity, the onward and upward march of the farmer, that he study and apply the stores of knowledge, to the work of his hands as in any profession or business whatever. Let him patiently and perseveringly do it then, and look up and live.

Farmers should take courage under a view of the immense change in his favor there has been wrought within the last thirty years. Thirty years ago! Where then was the flood of agricultural reading now sent forth to enlighten the land and make glad the hearts of the hearty yeomanry! And what was the state of agricultural science? Did the farmer then suppose science had any thing to do with the practice of husbandry! What too was then the state of agricultural implements? What for a plow did he turn the stubborn glebe with? and what for a cultivator and hoe did he essay to till the half broken field with? Indeed, farmers can tell, for they know.

Farmers, under a sense of what has been done and is now being done for them, should look up, respect themselves, and adore that Providence that has so kindly undertaken to advance their general weal. Respectfully,

Butler's Vale, Dec. 1845. B. F. WILBUR.

METEOROLOGICAL JOURNAL

FOR THE YEAR 1845, KEPT AT ATHENS, GA., BY PROFESSOR McCAY, OF THE UNIVERSITY OF GEORGIA.

APRIL.

Days Mo.	Barometer. Sunrise.	Barometer. 3 o'clk P M.	Thermometer. Sunrise	Thermometer. 3 o'k P. M	Clearness of sky F'm 10 to 0. Sunrise.	Clearness of sky F'm 10 to 0. 3 o'clk P M	Course & strength of wind.* Sunrise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·25	29·33	58	67	1	10	sw 2	nw2	
2	·42	·48	59	72	8	8	0	w. 1	
3	·50	·51	45	74	9	9	0	w. 1	
4	·43	·33	50	83	9	8	w. 1	nw 2	
5	·26	·27	63	82	10	6	w. 2	w. 2	
6	·30	·33	63	66	0	7	sw 1	w. 1	
7	·32	·31	47	59	1	9	sw 2	w. 1	
8	·38	·45	44	60	10	8	w. 2	n. 1	
9	·40	·56	37	59	0	7	se. 2	w. 1	
10	·50	·45	45	73	3	8	w. 2	s. 2	
11	·31	·31	57	74	8	7	0	ne 2	
12	·45	·49	53	73	5	7	ne 1	ne.2	
13	·53	·50	39	77	8	9	0	w. 1	
14	·40	·31	51	79	5	4	0	0	
15	·35	·29	67	82	0	7	0	w. 2	
16	·31	·33	66	82	1	6	w. 2	sw 2	0·03
17	·32	·34	61	80	8	5	0	w. 3	
18	·37	·36	59	76	6	1	0	w. 3	
19	·39	·35	63	86	8	5	0	w. 1	
20	·30	·25	61	83	3	4	0	w. 2	
21	·28	·27	51	81	2	9	n. 1	w. 2	
22	·37	·32	56	79	4	8	0	ne.1	0·06
23	·35	·33	63	76	0	1	0	ne.1	0·03
24	·37	·38	61	85	4	7	0	sw2	
25	·34	·33	68	82	6	9	sw 1	w. 5	
26	·30	·31	71	82	8	1	0	w. 4	
27	·34	·35	66	86	5	6	0	w 1	
28	·41	·42	68	85	4	9	w. 2	sw 2	
29	·44	·43	56	82	9	7	0	w. 2	
30	·43	·49	58	83	9	7	0	sw 2	
	29·37	29·37	58	76	Average.		Tot'l rain		0·12

MAY.

Days Mo.	Barometer. Sunrise.	Barometer. 3 o'clk P M	Thermometer. Sunrise	Thermometer. 3 o'k P. M.	Clearness of sky F'm 10 to 0. Sunrise.	Clearness of sky F'm 10 to 0. 3 o'clk P. M.	Course & strength of wind.* Sunrise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·50	29·44	64	82	9	3	0	sw 3	0·04
2	·42	·41	67	80	5	3	sw 1	sw 4	
3	·42	·42	63	79	2	1	0	w. 1	
4	·42	·41	64	84	2	4	0	w. 5	
5	·37	·38	64	79	2	2	0	w. 4	
6	·32	·30	64	78	1	1	0	w. 6	
7	·24	·26	58	78	8	7	0	w. 5	
8	·40	·48	51	74	10	10	0	w. 1	
9	·51	·55	44	76	9	7	0	w. 1	
10	·58	·60	49	80	10	5	0	0	
11	·60	·54	57	76	1	5	0	e. 4	
12	·38	·42	63	68	0	0	e. 2	ne.1	0·30
13	·37	·39	63	75	0	9	e. 1	0	
14	·35	·26	59	77	10	5	0	sw 3	
15	·14	·19	63	67	0	0	se. 2	ne.1	0·86
16	·15	·20	48	66	10	10	ne 1	ne.1	
17	·32	·34	40	71	10	8	w. 1	w. 1	
18	·33	·33	47	77	9	10	0	w. 1	
19	·35	·35	49	75	7	8	0	w. 2	
20	·35	·35	54	81	5	5	0	0	
21	·36	·37	58	82	8	5	n. 1	0	
22	·35	·26	54	83	7	5	0	se. 1	
23	·24	·20	61	86	9	5	0	sw 2	0·01
24	·17	·25	62	78	8	5	0	ne.1	
25	·35	·41	61	72	6	5	e. 2	0	
26	·40	·39	51	76	5	5	se. 1	w. 1	
27	·26	·33	51	78	9	5	0	sw 1	
28	·34	·33	57	81	10	5	ne.1	0	
29	·25	·26	63	86	7	4	0	sw 3	
30	·32	·40	64	79	9	9	0	sw 2	
31	·52	·32	57	73	10	10	e. 2	0	
	29·35	29·36	57	74	Average.		Tot'l rain		1·21

JUNE.

Days Mo.	Barometer. Sunrise.	Barometer. 3 o'clk P. M.	Thermometer. Sunrise.	Thermometer. 3 o'k P. M.	Clearness of sky F'm 10 to 0. Sunrise.	Clearness of sky F'm 10 to 0. 3 o'clk P. M.	Course & strength of wind.* Sunrise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·53	29·51	46	77	6	10	0	0	
2	·50	·52	51	76	5	8	e. 1	sw 1	
3	·53	·52	59	81	5	2	0	w. 1	
4	·49	·48	57	83	3	4	ne 1	0	
5	·45	·45	67	87	1	5	0	0	
6	·48	·49	65	89	9	7	0	s. 1	
7	·49	·51	64	89	10	5	0	se 3	
8	·51	·50	67	87	4	7	se 1	0	
9	·53	·54	72	88	1	6	e. 1	se. 1	
10	·58	·54	73	88	0	2	e. 2	sw 2	
11	·54	·44	74	86	0	3	sw 1	w. 4	0·07
12	·39	·34	72	84	0	1	sw 1	w. 5	
13	·35	·38	69	89	8	2	0	w. 3	
14	·38	·42	65	88	8	0	0	sw 5	0·11
15	·50	·50	67	85	2	5	0	0	
16	·51	·49	69	89	3	5	0	w. 2	0·01
17	·45	·46	71	89	2	4	0	w. 3	
18	·51	·54	69	90	2	4	0	w. 1	0·03
19	·59	·60	72	88	0	3	se. 1	sw 4	
20	·60	·57	71	90	6	3	0	sw 3	0·06
21	·46	·46	70	92	8	8	0	sw 2	
22	·40	·34	72	94	9	8	sw 1	sw 5	
23	·36	·39	74	95	10	10	w. 1	w. 4	
24	·41	·44	69	94	8	5	0	sw 4	
25	·40	·37	74	95	5	6	0	sw 4	
26	·36	·39	70	92	7	5	e. 1	sw 3	0·04
27	·42	·42	69	91	8	4	n. 1	sw 3	0·02
28	·39	·41	69	91	6	5	0	sw 4	0·14
29	·20	·16	68	87	5	5	w. 3	w. 5	
30	·22	·26	60	83	10	10	n. 1	w. 2	
	29·45	29·44	67	87	Average.		Tot'l rain		0·48

Average for the Year.—*Barometer*, at sunrise, 29·97; 3 o'clock, P. M. 29·39—*Thermometer*, sunrise, 50; 3 P. M. 69—*Total Rain*, inches, 7·93.

* Note.—Course and strength of wind, from 10 to 0—0 being least and 10 the strongest. In clearness of sky, 0 represents most cloudy, and 10 perfect clearness.

Resuscitation of Worn-out Land.

Four years ago, two gentlemen of this city, (Baltimore,) bought each a ten acre lot, adjoining each other, on the road leading through the Canton property to Patapsco neck. At the time of the purchase, these lots were the very pictures of poverty personified, slightly covered with sedge-grass of a stunted growth. Some years previous we had seen them in corn, with stalks about the thickness of a man's thumb; as to ears, there were none---of nubbins even, the produce was scarcely worth gathering. The first spring after these lots came into the possession of their present owners, they each plowed his respective lot as deep as strong double horse teams and good plows could plow it, then put on thirty double horse cartloads to the acre, of compost formed of street dirt and stable manure; then cross-plowed the manure in some 4 inches deep, spread 100 bushels of soap-boilers' ashes to the acre, broadcast; harrowed and rolled their ground, listed it 4 feet by 2, and planted it in corn, putting a handful of plaster and ashes on each hill. The product was 86 bushels of good sound shelled corn to the acre.

The cultivation of the corn, after the first plowing, was with the cultivator and hoe, the object of the proprietors being to maintain a flat surface, with the view of seeding the lots down in grass. In August, after the corn had been laid by, the harrow was passed through the rows, and a peck of timothy seed and 8 lbs. of clover seed, sown upon each acre, which was harrowed in with a light harrow.

The grass seed took well, and has produced from two and a half to three tons of excellent hay to the acre last year and the year before. We saw these lots a few weeks since, and from their luxuriant appearance, we should judge that their yield the present year will be equal to that of the two preceding years.

To enable the uninitiated to understand what is meant by soap-boilers' ashes, we will remark that they are spent ashes, and generally contain about two-fifths of lime in their composition; so that he who uses them, both ashes and limes his land at one and the same time.

A great horror is generally entertained at buying worn-out lands; and, indeed, where means and plenty of money are not at hand to improve them, this horror is very justly entertained; for no amelioration can be produced until you restore to the soil the elements of fertility of which it may have been deprived by long continued and improvident culture---but where the soil has been *once good*, it is an easy matter, with the proper kind of manure and plenty of it, to restore its wonted fertility. That such is the case, the lots in question offer the strongest evidence. For, from a state of abject poverty, they were brought up, by a single manuring, to a state of the highest fertilization, and have now, for the third year thereafter, maintained it.

The facts presented by this instance of restoring lands, once good, after being impoverished by an improper course of culture, should not be without its *moral*, as they hold out inducements to the owners of such lands to exert themselves by all possible means, to accumulate manures and apply them to their exhausted fields, as there are none so poor but may be brought up by proper applications, in sufficient quantities, of vegetable, animal and mineral manures---and they point too, with unerring certainty, to the propriety of undertaking the improvement of no more land at a time than can be well improved. We are very certain that neither of these lots, unaided by manure, would have produced more than 15 bushels of corn to the acre, and yet we see these poverty-stricken soils brought up in a single season, to the capacity of yielding 86 bushels, being over five times that quantity, and continuing their fertility for four years in succession, with every prospect of a thorough restoration having been effected.

To Cook Tomatoes.—He that does not love tomatoes is an object of pity. Every art of cooking should be employed to inveigle the appetite of every man to love a vegetable so wholesome.

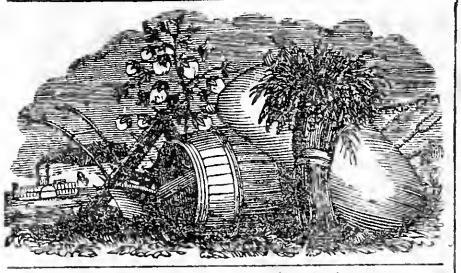
Peel a dozen ripe tomatoes and fry them in a little sweet butter, (which nine Hoosiers out of ten will understand to mean a little clean lard,) together with two or three sliced green peppers; sprinkle on a little salt, and finally slice up an onion or two, and let the whole cook thoroughly. This is the Spanish method of preparing them.

Another method, which, from a long experience we know will wear well, is as follows. The directions are for a mess of tomatoes amounting to about three pints when cooked:

Begin by parboiling two onions. While this is doing peel the tomatoes, which is easily done after hot water has been poured over them—cut them up and add the onions, also a teacupful and a half of bread crumbled fine, a table spoonful of salt, a heaping teaspoonful of black pepper, a lump of butter of the size of a turkey's egg, or about four table spoonfuls. Beat these thoroughly together and set them over a slow fire to stew. They should cook slowly and for a long time; never less than three hours, but the longer the better. About fifteen minutes before they are to be used beat up six eggs and stir them in, and put them on fresh coals and give them one grand boil up, stirring them all the time. When so cooked no directions will be needed how to eat them.

The art of cooking the tomato lies mostly in cooking them enough. They should be put to work the first thing after the breakfast things are out of the way, even if you do not dine till three.—*Indiana Farmer.*

The ignorant man is dead even while he walks upon the earth—though he is numbered with the living.



The Southern Cultivator.

AUGUSTA, GA.

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Wheat.

In the course of this month, those who intend to plant wheat will be getting their ground in order, and towards the end of the month they will be putting the seed in the ground. Very much of the success of the crop and of the quality of the grain will depend on the manner in which the ground shall be prepared for the reception of the seed, and on the proper selection and preparation of the seed itself. In the former particular—the preparation of the ground—the practice of Southern planters has been very especially careless: so much so, indeed, as to have occasioned the remark that if, in those States where wheat is a main crop, the ground were prepared and the seed sown in a manner as slovenly as by many Southern planters, nothing at all would be made. The great defect in our practice in preparing for this crop, as well as all others, consists in our shallow plowing. This is to be remedied by subsoiling, about which there has been so much said in the CULTIVATOR. Then, as to the soil itself, the defect, in most parts of the South, is the deficiency of lime and potash. Every wheat grower ought, by all means, to put on his wheat land, where this deficiency exists, at least ten bushels of lime, and the like quantity of ashes, to the acre. These both contain essential ingredients of both straw and grain, as has been repeatedly shown by analysis. And where they are liberally supplied to soils deficient in them, other things being properly attended to, there will be produced large heads of wheat filled with large, plump grains, and straw of strength sufficient to hold such heads up. If the lime and ashes cannot be applied when the wheat is sown, it will answer as well —some say better—to defer it till winter. When the land is poor, the American Farmer says, "the cheapest as well as the best manure that could be used would be Guano, in the proportion of 150 to 300 pounds to the acre, to be mixed with about ten times that quantity of mould, and one bushel of plaster. The whole to be mixed together, sown broadcast, and lightly harrowed in at the time of sowing the grain, or any time during the winter;" omitting the use of the harrow in the latter case, of course.

Where Guano cannot be had, the American Farmer recommends as a very excellent substitute, the following mixture:—"Take 2 bushels of ground bones, 2 bushels of ashes, 10 bushels of rich loam or mould, 1 bushel of plaster, 2 bushels of salt, and 20 gallons of urine; mix the whole together well; let the mass remain for a few days, when it will be fit to sow. The quantity here named is intended for an acre, and would, we have no doubt, tend to increase the yield thirty-three per cent. in the crop of wheat, besides greatly improving the succeeding crops of any rotation which might follow, and leaving the ground in a meliorated condition."

Where are we to get the bones? you ask. Yes, there is the difficulty in making use of this prescription. We in the South are not poor enough yet to begin to save bones, but we soon will be, going on as we do now. Let any one, however, think for a moment of the quantity of bones he might save on his plantation if he were to set about gathering up what are thrown out to bleach in the sun, or be consumed by the abominable race of sheep-stealing dogs with which the whole country is infested, and the difficulty will vanish. Besides, you have only to create a demand for ground bones, and the demand will be speedily supplied with the article from abroad. The field of Waterloo, for many years after that battle, supplied not only many of the wheat fields of England with bones for the improvement of the soil, but also many of the English millers with bones for the improvement of the weight of their flour, in the same way as some Northern millers are said to use Plaster of Paris to improve the weight of buckwheat flour for our Southern markets, producing, in this buckwheat case, results very surprising indeed, and profitable beyond anything that could be accomplished by the application of the same quantity of plaster to the soil where the buckwheat grew.

"To prevent smut,"—we quote from the American Farmer—"all seed wheat should be well washed in clean water, so that all the lighter grains and the seeds of weeds may be skimmed off. To insure this, the wheat should be put into a hogshead, in small quantities at a time; kept stirred, so that the impure grains and extraneous matters may be floated to the top. This process should be continued until all such are removed, and the water, which should be drawn off and replenished occasionally, ceases to be colored by the operation. After this has been effected, let a brine be made of salt or lye of ashes, sufficiently strong to bear an egg; cover the seed wheat with it and let it soak for twelve hours; then draw off the soak, spread the wheat on a floor, sprinkle slaked lime or ashes over it, and stir up the mass so as to coat each grain with the substance used. When this is done the wheat will be ready for sowing. No more wheat must be taken out of the soak than can be sown each day, and care should be taken to plow it in as sown, not more than about *three inches deep*. The *harrow* and *roller* should follow the plow. Seed thus prepared and put in, will, besides being exempt from smut, come up quicker, grow more rapidly, and, of consequence, obtain a much better series of roots before winter, than would such as may be sown without preparation, and therefore be better able to withstand the effects of frosts and thaws."

Sir John Sinclair recommends, to prevent smut, to run the grain very gently through a riddle into clean water, when not only the smut balls, but the imperfect grains and the seeds of weeds, will float, and may be skimmed off at pleasure. As a further means of preventing smut, he recommends steeping the seed in any one of the following preparations: 1. Pure cold water and lime. 2. Boiling water and lime. 3. Water impregnated with salt. 4. Urine pickle. 5. Lye of wood ashes. 6. A solution of arsenic. 7. A solution of blue vitriol.

Arthur Young sowed beds with wheat seed that was black with smut. The first bed sown with unwashed seed had 377 smutty kernels. A bed with seed washed in clean water had 325 bad kernels—washed in lime water, had 43 kernels; in lye of wood ashes, had 31; in arsenic and salt mixture, 28; steeped in lime water, four hours, had 2; in lye, four hours, had 3; in arsenic solution four hours, had one smutty kernel; steeped in lye 12 hours, had none; in lye 24 hours, none; in lime water 24 hours, none; in arsenic 24 hours, had five smutty grains.

Smut, then, can be gotten rid of. Everybody knows how to escape, to a great extent, the ravages of the fly. We wish the same could be said of rust, the only other serious malady wheat is liable to. On this subject, notwithstanding so much has been written, very little, we believe, is known that is really useful. Both the cause and cure are nearly as much involved in mystery as ever. Sir John Sinclair, in his *Code of Agriculture*, discusses the subject at length, and recommends as remedies that were most efficacious in his time:

1. Cultivating hardy sorts of wheat.
2. Early sowing.
3. Raising early varieties.
4. Thick sowing.
5. Changes of seed.
6. Consolidating the soil.
7. Using saline manures.
8. Improving the course of crops.
9. Extirpating all plants that are receptacles of rust.
10. Protecting wheat plants by other crops.

Mr. Colman's attention was directed to this subject, in New England, and after experiments carefully made, and extensive reading and observation, he came to the conclusion that, early sowing, from the best observation he had made of wheat crops that had come under his notice, from the united and decided opinion of the British wheat growers and from many American authorities, is to be strongly advised as a preventive of rust. This may do in New England, but in the Southern States early sowing exposes the crop to the ravages of the fly.

Of late, it has been confidently asserted that charcoal dust spread liberally over the ground is a sure preventive of rust. But here we want more light, and careful experiment alone can furnish it. Who will not be willing to undertake the experiments necessary to test not only this matter, but also many others connected with this crop?

"Now then, farmers"—to use the language of the Ohio Cultivator—"one and all, what will you do towards accomplishing this desirable object? It is vain for us to write or talk or travel amongst you, if you do not put forth the necessary efforts to carry into effect the measures that may be recommended, or to test by experiments the plans of improvement that may be suggested by the discoveries of science. Here then is work for you all! Some of you we know have already engaged in it, and are acting upon the numerous suggestions that have been made through our columns, in regard to the manner of tilling and enriching the soil; but there is need of much more being done, and we want every one to take a part. In the first place all should try to put in their wheat a little better this year than formerly—this all can easily do, without much additional trouble, if they have made a proper use of their own powers of observation, or have given any attention to the published ac-

counts of the experience of others. Then we want, also, that every farmer should make some definite experiment this year, which may put to the test some theory of science, or perhaps lead to some discovery that will prove of advantage to the farming community, when the results are made known.

"This may be done in a multitude of ways:—we have published numerous articles on the use of different kinds of manures and fertilizing agents, as lime, ashes, plaster, charcoal, &c.: now let each farmer who can obtain any of these substances try experiments with them, by dressing one portion of the field and leaving the other undressed. The same may be done with numerous other kinds of manure and substances to be found about the farm or neighborhood. Then, too, in the mode of tilling or preparing the land, there is unlimited scope for experiments; plow a little deeper than ever before, and if you can buy or borrow a subsoil plow, try that on heavy soils, and be sure in all cases to leave a portion of the field under ordinary tillage, so as to enable you to perceive the difference, if any.

"In the time and manner of sowing, and the kind of seed, there is also room for a multitude of important experiments, which will suggest themselves to the mind of every farmer: let them all be tried and the results published next summer in the Ohio [Southern] Cultivator, and the information thus obtained may be the means of adding millions to the wheat crop of Ohio [Georgia] for years to come, and bringing prosperity and happiness to the farmers themselves."

Breaking up Prairie Lands.

Col. A. McDonald, of Eufaula, Alabama, writing from Illinois, thus describes the farm of his relative and the manner of breaking up new ground in that State:

"Mr. A. McDonald was one of the early settlers of the country. He had an opportunity of selecting a choice place, and he made good use of the advantage he enjoyed; for certainly a more desirable farm than Elm Grove cannot be found in any country. There is about a section of the richest land, one-half timbered with black walnut, elm, cherry, the sugar maple; and the other half the richest prairie, finely watered. The manner of breaking up the prairie lands of this country interested me much. They hitch seven yoke of steers to one of their large plows—the steers, plow, and all, managed by one man, turning over from one and an half to two acres per day, which costs from $1.50 to $2 per acre. This work is performed in the finest style, the plow fixed to run on wheels."

Just think of such plowing as that, ye who never thought of going deeper than about four inches!—Seven yoke of oxen to one plow, and the plow attached to a pair of wheels very much like what is known among us as a carry-log! And then to pay TWO dollars per acre for this first plowing—a sum equal to what a great deal of our land would sell for even when new! Is there anything wonderful in the crops that are gathered from such ground, thus prepared for the reception of the seed?

Mr. Meriwether's Address.

Ever since we received a copy of Mr. Meriwether's speech before the Agricultural Society of Putnam county, we have been trying to find room for it in the Cultivator. The speech is quite too good to be spoiled by cutting it up into extracts, and rather too long for a paper like ours. Though there is no danger of its being spoiled by keeping, yet we will see if we can't get it in the next number of the Cultivator.

Decrease of Population—Study of Agriculture.

They are complaining about the decrease of population in the interior of the State of New York. And it is asserted, that unless something is done *by the Legislature*, to aid in improving the soil, half the rural population will go to the West, where land needs no improvement, for the present, at least. Wheat, the great staple of western New York, is now brought to Buffalo, from Illinois, Indiana, Michigan and Wisconsin, at five cents per bushel. In this state of things, it is confidently asserted, that, without the aid of science, the wheat growers of New York will have to give up the contest. Their condition is said to be still worse, who make wool, pork, butter, or cheese, according to the old system, on account of competition from the West.

Under all these discouragements, however, there is this to cheer us. It is said, that in spite of the prolific production of western soils, and the cheapness of freights on the lakes, there are still some farmers in New York who make money—and they do this, because they are enabled, by the lights of modern science, to give a triple value to every muscular movement, in whatever work they set their hands about. That is, their one head and pair of hands, can accomplish more in the same time, than the three heads and three pair of hands of those who work by the old rule, which, rejecting altogether the essence of brain, seeks to accomplish every thing by the use of mere elbow grease.

If these things are happening in the state of New York, from western competition in the growth of wheat, what may we not expect to happen in the production of cotton, when the rich and extensive cotton fields of Texas shall be brought into full cultivation, and into active competition with us who shall remain in the old Southern States? With our exhausted soils, and the markets of the world well-nigh glutted—not from over-production of cotton, but because the consumption of it is checked and restrained everywhere by despotic laws—the prospect of such competition would be appalling indeed, did we not know, that by setting our shoulders to the wheel, and calling upon science for aid, we may withstand it, successfully. We must study our profession carefully. We must bring all the light of science to bear on every process we engage in.

"Why should not"—asks Dr. Lee, of the *Genesee Farmer*, in an admirable article—"a person study the profession which he is to follow through life? Is the skilful cultivation of the earth, a pursuit not sufficiently honorable to be regarded as a *profession?* or is agriculture of too small importance to be *studied* as a science, as well as *practised* as an art? Why this resolute, this protracted, this hitherto successful opposition to the study of rural economy? We can not comprehend it.

"Is there really danger that the rising generation will know too much about the nature and properties of the things which must ever form all their annual crops? Are we apprehensive that, if they study and understand the unerring laws of Nature, so far as they relate to the improvement of the soil, and the production of human food, we shall have an over supply of the necessaries and comforts of life? Perhaps it is thought that nothing can be learned about the things that unite to form the 20 bushels of "increase," from one of seed, that God gives to reward the well directed toil of the husbandman. If this is the stumbling block, let us see if we can not remove it out of the way.

"A farmer sows one bushel of wheat, and harvests twenty. From what source does he derive the nineteen, to say nothing of the straw that supports the whole crop? Unless the whole increase is an entire new creation of matter, of course it must all come from somewhere. Now, it is obvious, that it would be of no consequence whatever, *where* this matter came from, or *what* it was composed of, provided God gave an "increase" precisely according to the amount of labor bestowed, irrespective of the folly, ignorance, or misapplication that might direct the same. But all experience confirms the truth of the remark, that Heaven does not so reward the labor of the farmer. The Author of our being interferes by no special providence to save the erring children of men from hunger, disease and death, provided they violate the laws of Nature. If an innocent child places its finger in a burning lamp, neither its innocence, nor its ignorance of the properties of fire, will save it from the full injury and pain of a burn.

"God has conferred upon talking man, not only a sense of just accountability to his Maker, and his fellow man, but *reasoning* faculties, memory, and other powers, which, when fully developed, will understand all the natural laws that concern his subsistence and happiness. These moral and intellectual faculties seem to be created to no purpose, unless they are awakened into life and usefulness, by the physical and mental wants of humanity. As a stimulus to rural industry, our Maker has created a necessity for man to "eat bread in the sweat of his face." This necessity is, moreover, "the mother of invention," and the parent of knowledge. Man's necessities arising from hunger, cold and nakedness, led him to the use of fire, and to make a thousand discoveries in the arts. These necessities still exist in full force. Undoubtedly the Creator could easily have formed every acre of land, so that the most ignorant man alive, might plow and sow it, and reap 100 bushels of wheat on the same, year after year for his whole life time, without impairing its fertility. But such abundance would have been an enduring bounty on ignorance, if not on vice and crime. *Knowledge* is necessary to renovate any large tract of country, which has been much injured by unwise tillage; and this knowledge can be best acquired by uniting the *study*, with the *practice* of agriculture.

"The study of agricultural science, implies no more nor less than the investigation of the laws of our own being, as social, physical, moral and rational creatures. It is only a question of *time*, when we shall begin to learn *what it is* that forms good bread, milk, butter, cheese, potatoes, beans, peas, lean meat, wool, and bone. We can not go on forever, increasing hungry mouths to be fed three times every day, and wasting to the tune of untold millions, the constituents of our daily food, and not *pay* for our folly.

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"Every body knows that there would be some difference in a loaf of bread, whether it was made out of a pound of good wheat flour, or a pound of oat straw! We are wonderful nice about our own food, but we expect our wheat plants to elaborate fat, muscle, brain and bone for us, and use materials as foreign from human flesh and blood, as copper, arsenic, and lead! We are all exceedingly fond of good bread, milk, and potatoes,

while we heartily despise the patient study that will inform us what are the simple elementary bodies that unite to make these articles of food. We greatly magnify the importance of blind hard work, as though man had the power to create a bushel of corn out of nothing, by dint of protracted and intense muscular toil. To study the nature and properties of the substances that Nature *must* have to form 80 bushels of this grain on an acre, is a perfect waste of time! A knowledge of these things can be of no possible use to the practical farmer! Who cares to know what there is in a kernel of corn, or a sound, mealy potatoe? These things can be made out of nothing, *only work hard enough!* A gallon of human sweat, spread evenly over an acre of land, is better than all the agricultural science in the world, because it can be sold any day in August for *fifty cents!*

"If it were not for the indifference of farmers to the spread of agricultural knowledge, rural industry would raise at once 50 per cent in productiveness and value. So long as the tillers of the earth shall work 12 or 15 hours in 24, to make something out of nothing, the balance of the world will give them but a precious little for their service. And why should they? If a farmer gives as much labor for one bushel of corn or wheat as he should for three, ought he not to exchange his badly directed industry, by giving three day's work for one with those that *study* their business, and make every hour's work tell to the best advantage? We can not blind our reasoning faculties, and then plead ignorance of the things that form our annual crops, as a reason why we should have more than the market value for our produce. There is no alternative but to lessen the hard work now expended in growing all our agricultural staples, by the aid of knowledge. If we cruelly withhold this knowledge from our sons, we indirectly give a bond that they shall be the hewers of wood and drawers of water for the better informed, and that too, at the smallest wages, all their days.

"Kind reader, if you have a son, and believe with us, that the study of the laws of Nature will do him no harm, purchase for him Mr. Jas. F. W. Johnston's "Lectures on Agricultural Chemistry," latest edition, which will cost you but $1,25. Let him buy as soon as he has thoroughly studied Johnston, Boussingault's "Rural Economy," which will cost a dollar and a quarter more. These invaluable works should be in every common school library in the state. We commend them to the attention of all teachers of young men in academies, and other seminaries. As Text Books, they may be regarded as standard works in all debates; although they differ in their respective analyses of certain plants, such as wheat, potatoes, and a few others. But plants differ in the proportion of their elements in different soils. The analyses of both are doubtless correct in the particular cases to which they refer.

"There is scarcely ten farmers in the whole State that feed all their cultivated plants, including fruit trees, grape-vines, and strawberries as they should be fed. The same is true, to some extent, in regard to feeding, with the most appropriate and economical food, all domestic animals. How important, as well as interesting, is the study of the organic structure of all the living things kept on the farm! These organized vegetable and animal beings possess many *organs*, and each organ has its peculiar office to perform.

"Do we work *with* or *against* the purpose of Nature, in our treatment of all these vital functions? Are we sure that we obtain the largest possible crops of peas, potatoes and corn, from any given amount of land and labor? or the largest return in good pork, for the corn, peas, and potatoes consumed by our swine? How is it in regard to the production of grass, carrots, beets, beef, butter, cheese and wool? Whose wool, worth 30 cents a pound, costs him the least money in land and labor? Whose cheese and butter yield him the largest profit or compensation for his industry? When we export 1000 tons of cheese to England this fall, how much truly valuable matter have we drawn from our pastures? Where are the *precise things* in boundless quantity, that makes cheese, wheat, and wool?

"What madness to resist the STUDY of these things. The great "Empire State," with its five hundred thousand field laborers, can not support *one* agricultural school!

"'O shame, where is thy blush?'"

Distinguished Farmers.

We have had great pleasure in publishing in recent numbers of the CULTIVATOR, accounts of the farms and the management of Mr. CALHOUN, Mr. CLAY and Mr. VAN BUREN, and we have no doubt those who read these accounts had an equal amount of enjoyment therefrom. We now occupy a pretty large portion of our paper —could it be better occupied?—with an account of the farm and management of another distinguished statesman—Mr. WEBSTER. It *is* truly gratifying, as the writer remarks, to see men of such signal abilities and exalted repute, though differing in politics, united and ardently devoted to the great cause of Agriculture.

VISIT TO THE FARM OF HON. DANIEL WEBSTER, *Marshfield.*—We have been gratified by a visit to the farm of this distinguished statesman, and had the pleasure of holding converse with him as a farmer in his retirement, and who, by his urbane and friendly manner makes one almost forget that he is in the presence of one of the greatest intellects of the age. As a public man, he is well known, but not as a citizen and "the Farmer of Marshfield"—at home, on his farm, or among his neighbors. Here the mind is unbent—the stirring scenes of political life are apparently thrown aside and forgotten, and the farmer may approach him on equal ground, and however experienced he may be in the one pursuit of his life, he will find Mr. Webster at home on the subject of agriculture, with a disposition as ready to impart, as he is to receive information, on a business which appears to be more his pleasure than his profit. But if his farming does not result in pecuniary profit, he has the satisfaction—which, in a mind like his, is prized far higher than pecuniary gain—of countenancing and encouraging by his example, the great agricultural interests of the nation as well as the influence he exerts on all suitable occasions to promote them.

His farm is extensive, and that we might have the best opportunity to see every part of it, his foreman with a carriage, was at our service, to take us over it, and explain the various operations and experiments that are in progress. Mr. Webster also devoted a portion of the time we remained on the farm in pointing out to us the improvements he had already made, as well as those he had in contemplation, and related many interesting incidents in the history of the family of the original proprietors of his farm, and of events which transpired in the early history of this ancient town.

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Mr. Webster's farm contains about *fifteen hundred acres.* This large area embraces a great variety of soil, about 300 acres of it salt marsh, the remainder very diverse: some portions of it may be considered of first quality, other sections medium, and some of it rather inferior; but none so poor that good crops cannot be produced with good manuring. The situation is a fine one for a stock farm—and if good prices for good beef and mutton could be obtained, it might be a profitable farm for that purpose. What adds much to the value of the place is, the facility with which sea manure can be obtained. It is said that there are seven miles of beach, reckoning all the indentures and various outlines of the shore which skirts the farm. Here large quantities of kelp are annually obtained, and in some seasons white fish to any extent are caught. With these natural resources so near at hand, the farm is rapidly increasing in value and productiveness. Wherever these fertilizing substances have been applied their beneficial effect is obvious. A large portion of the farm is devoted to pasturage, which feeds not only Mr. Webster's large stock of cattle, but many others of his neighbors, which are pastured by the week or by the season.

The mansion house of Mr. Webster makes quite an imposing appearance as it is seen from the road, having recently been fitted up, and large additions made to the old part, which was originally a square house, two and a half stories high, with a wing extending back: a wing containing a suit of rooms, including a spacious library, has been added, making an extensive front, with a piazza the whole length, extending round the ends of the building and part of the rear. The old and new parts of the building harmonize very well. Comfort, convenience and neatness are more conspicuous in the arrangement, than any effort at display. The mansion is situated 30 or 40 rods from the public road, and is approached by a broad drive way bordered by a hedge and belt of trees and shrubs. In front of the house is a fine lawn of five or six acres, dotted with trees in groups and single, and ornamented near the dwelling with fanciful beds of flowers, cut out in the smooth sward. But the most striking object which meets the eye at first sight, is a majestic elm tree, near the east corner of the house, which forms a complete bower. It stands on an oval grass plot, which makes a fine carpet for the bower. At a distance of eight or ten feet from the ground the branches extend in every direction horizontally, gently curving over till they rest upon the green sward, excepting on the side next to the house, where it has been necessary to cut out some of the lower limbs, that carriages may pass to the eastern door. The branches on this side nearly touch the house, and form a complete canopy to this entrance. The longest diameter of this tree bower is 94 feet—perhaps 70 the other way. Seats are arranged around the tree near the trunk, where is a most delightful retreat, especially in such a day as was that when we enjoyed its shade, the thermometer indicating the heat as near 90°. The tree is said to have been planted 80 years ago.

The section of the farm on which the house stands, contains about 40 acres, and is bounded on three sides by a wide belt of young trees, through which there is a winding walk. In this area are included the lawn in front; to the west, the orchard; in the rear, grass, and a large fish pond, ornamented with a boat moored upon its surface, which an apprentice boy, while engaged in painting the house, took a fancy to convert into a mimic man-of-war; to the east, an extensive fruit, vegetable, and flower garden, of 3 or 4 acres; and beyond this, a conical hill, crowned with a summer house. When we visited this farm five years ago, this hill had the appearance of a miserable gravel-knoll, with a few stinted shrubs and trees. It was now covered by a luxuriant growth of young trees and shrubs, from 10 to 12 feet high—among them many locust and other trees which had been raised from seed, and other species which had been transplanted. The belts had been formed in the same way. In rear of the garden,

and at the foot of the hill, is an extensive poultry yard, well stocked with every variety of domestic fowls, with a pond for the accommodation of the aquatic tribes. In the rear of the house, at the N. E. angles, are carriage houses, stable, and other outbuildings, and a little further back, a large and well constructed barn.

From the piazza of the house, beyond the belt of trees, and on rising ground, in a westerly direction, the eye rests upon extensive fields of grain, roots, &c.; southerly, a sheep pasture, in which we saw the Leicester sheep, and further to the east, woodland.

The house of the head farmer is seen to the east, as the visitor enters the avenue to the mansion, and back of it extensive ranges of cattle-yards, piggery and sheds, and another fine large barn, now in the process of building, and nearly finished. There is no cellar under the barn, but Mr. Webster has hit upon a method to save every drop of the liquid manure, and in the best possible way. The planks composing the floor of the cattle's quarters, or *byre*, as the Scotch call it, are laid with an opening between them of about one half inch, and so arranged as to be easily taken up. The idea is to place about two feet of loam, or other earth, under the floor; this will absorb all the liquid part of the manure as it runs down through the openings, and in the spring will be converted into the finest manure, when it is to be removed, and replaced by fresh mould. Instead of having the upper part of the barn tight, he has purposely had it finished with crevices between the boards above the byres, to admit the air; but the byres are made tight by battens nailed on the inside. Instead of losing all the room over the drive-way, as is the case in barns generally, there is a flooring over two-thirds the length, leaving room for a large load of hay on the floor below, a door being provided for the oxen to go out at the end of the drive-way, while room is thus made for at least 20 tons of hay more than if the barn was finished in the usual way. Byres are arranged on each side of the drive-way, and yards are being made on each side of the barn, so that the stronger cattle may be kept by themselves, and prevented from injuring the weaker. The yards are so arranged as to receive the sun, and protected by sheds from cold winds. In addition to the two large barns we have mentioned, we noticed others at distant points from the mansion.

Manures and Crops.—We have already remarked that fish and other sea manures were extensively used on Mr. Webster's farm. Of the beneficial effects of fish and kelp on corn and grass, we were an eye-witness. A field of corn of 15 acres, had been divided into four sections, and manured as follows: 1st section with fish; 2d, kelp; 3d, stable manure; 4th, guano. On the three first sections, the manures were spread upon the sward and turned under; the section where the guano was applied, was turned over without manure, and the corn dressed with the guano soon after it had appeared above ground, and a second dressing given at the last hoeing, at the rate of 300 lbs. to the acre. Forty loads to the acre of stable manure, were applied to the section dressed with that substance: the quantity of kelp applied was indefinite, the ground having been well covered with it, without counting the loads. Fish were applied at the rate of 10 loads, of 13 barrels each, to the acre. Taking the field as a whole, it gave the appearance of a remarkable heavy crop. The section manured with kelp, took the lead; that with fish, next; that with stable manure, next; and the section with guano, behind the whole. The quality of the soil of the different sections was nearly equal, excepting that which was guanoed, which had the appearance of inferiority. The corn on this section, we were informed by the foreman, looked very unpromising in the fore part of the season, but was now evidently gaining more rapidly than that on either of the other sections, and he said it was impossible to make a just comparison until after harvest.

On a mowing field, we saw the effects of fish that had been applied since the grass was cut. The contrast between that portion of the field which had been "fished" and that which had not, was very striking, in the deep green luxuriant growth of the aftermath on the one, and the russet-brown, dead-like appearance of the other. But who can describe the *odor* which came from that field! All the old fish-oil stores on Long Wharf combined, would not produce the like, or any approach to it: and then the swarms of large green flies that covered the fences and trees! The plague of flies in Egypt, could hardly have exceeded them in numbers. The decaying fish furnished them a rich feast. Luckily, this section of the farm is remote from any human dwelling. But however unpleasant this vile smell from the rotting fish may be to a stranger, a person soon becomes accustomed to it, and as the unpleasant gasses arising from the decomposition of the fish, are said not to be injurious to health, and as this manure will double or treble his crops, the farmer should not be deterred from using it by the disagreeable character of the smell.

We noticed a small patch of corn in another place, that had been manured with guano in the hill, and afterwards received a fish to each hill as a top-dressing: the corn was of the deepest green, and of the most luxuriant growth.

We have often heard it asserted that fish manure, after exciting the land to produce one or two heavy crops, leaves it in an exhausted state. This opinion is at variance with what we witnessed on a pasture that had been "fished" four years since. We compared it with a pasture adjoining, both originally of the same quality of soil, or differing but little. The pasture that had been "fished," was thickly coated with fine grass, and notwithstanding the drought, still produced the best of feed. The neighboring pasture was dried up, mossy, and apparently of little value. Another pasture was shown to us, which had been manured with fish nine or ten years since, and before the application was almost worthless: it has since produced excellent feed, and is now in good heart. These results would seem to show that fish manure is not so evanescent as it has been represented by writers and others.

Mr. Webster said he considered one load of fish was equal to three loads of stable manure, and afterwards appealed to his head farmer, for *his* opinion upon the subject, who thought a load of fish equal in value to five loads of stable manure.

Sea weed is used in the piggery and barn yards, and every means of increasing manure from these sources, appear to be availed of.

Leached ashes has been used to some extent, and proves a valuable manure on the light soils which compose a part of Mr. Webster's farm. On a ten acre lot of very light land, 3000 bushels of English turnips were raised last season, with no other manure than leached ashes, and at an expense of only 73 dollars. About four acres of the same lot were sown down to clover, and the balance with oats, for the purpose of plowing in when green, to enrich the soil. A very light dressing of guano was given these fields. The oats were so promising, that Mr. Webster altered his mind with regard to their disposition, and concluded to let them stand and mature; and on this very light soil, with no other manuring than leached ashes last year and a small quantity of guano this, we now beheld, ready for the cradle, a heavy crop of oats. The clover on the other part of the field covered the ground, and was soon to be plowed in, as was also the stubble of the oats, for seeding down to rye.

A tract of ten acres, of the same quality of soil, was covered with a vigorous growth of buckwheat, which the plowmen were engaged in turning under, preparatory to rye. Another large strip was devoted to beans, and four or five acres to ruta baga, sown broadcast, and not sufficiently advanced in growth to enable us to form an opinion of the probable result of the harvest. A lot of three or four acres was devoted to mangold-wurtzel and sugar beets. In some parts of the field, the crop had been thinned by the worms, and causes attributed to the season or the seed—but the plants generally were thick enough to ensure a heavy yield. Another large section was devoted to English turnips, which, of course, had not yet begun to make much show.

Fifteen or twenty acres of the farm are devoted to roots, which are fed to the stock in winter. Last autumn and winter, a lot was fed off the ground by sheep, according to the English practice.

Spring wheat has generally succeeded well on this farm, but the present season has been rather unfavorable. Samples that we examined from the crop stored in the barn, did not indicate a very heavy yield; the grains did not look so plump as samples we have seen from this farm.

The yield of English hay this season, has been estimated at about 200 tons. The salt hay is mostly let out to farmers back from the shore, to cut on shares. The marshes yield about the same quantity of hay as the uplands. The quality of the marsh hay varies; some of it is almost equal in value to good English grass, while some is fit only for bedding or manure.

The farm appears to be well stocked with apples, pears, peaches, plums, grapes, &c.—Among the apples we noticed the High-top Sweeting, a variety that may be found on about every farm in Plymouth county, and in some orchards there appeared to be an overstock of this ancient and highly esteemed apple; but we are sorry to say there is hardly a thrifty tree to be seen; the variety seems to be on the decay.

The stock on Mr. Webster's farm, taking it all together, cannot be surpassed by any in the State. The last season he wintered ninety head. The cows are generally of the Ayrshire breed, either full-blooded or mixed. They originated from a cow imported by the Massachusetts Agricultural Society, and a bull imported by Mr. W. This animal is finely proportioned, silky, short-haired, and equal to any creature of the kind we have ever seen. The cows are also beautiful, and give abundant evidence of their superiority in the quantity of milk they produce—having averaged, in the first of the season, 20 quarts each per day. He has eight milch cows of this breed. We saw in a pasture at some distance from the house, 10 two-year old heifers of this blood, that could hardly be excelled in point of symmetry and general beauty, having the glossy hair and admirable mixture of colors peculiar to this breed.

For working oxen, Mr Webster prefers the Devon breed of which he had ten or twelve yoke, in excellent order, besides steers. He had sent a drove of fat oxen to the Brighton market, a few days previous to our visit.

Of sheep, he has the celebrated South Down and Leicester breeds—more esteemed for their excellent mutton than for their wool. Wethers are purchased at Brighton market, in autumn, and kept through the winter on turnips, hay, and a little grain, and when fatted in the spring, sold to the butcher. This has proved to be good husbandry, affording some profit, and increasing the manure heap.

The Mackay breed of hogs is now the only sort kept on the farm—the Berkshire having been tried and discarded.

We conclude this hastily penned and imperfect account of our most agreeable visit to this extensive and well conducted farm, by remarking, that the interest taken in Agriculture by such men as Mr. Webster, Mr. Clay, Mr. Van Buren and Mr. Calhoun—all of whom are engaged, and are proud to be, in the culture of the earth—is a scathing rebuke to those weak-minded or wrongly educated persons, who look, or affect to look, with contempt upon, and to consider as degrading, the noble occupation of the farmer. And truly gratifying is it to see men of such signal abilities and exalted repute, though differing in politics, united and ardently devoted in the great cause of agriculture—the basis of national wealth and national prosperity—and whose followers constitute alike in peace and war the main bulwark of the country's welfare and security.

Original Communications.

The Crops--The Drouth--Practical Hints.

Mr. Camak:—Having been preserved by a kind and overruling Providence to reach my native State, on my way home, I feel it due to my brother farmers (for I hope every Georgia farmer takes the Southern Cultivator,) to give them some account of what has fallen under my observation. Since I last wrote you from Illinois, I found the grain crop of the West promising an abundant harvest. This is peculiarly fortunate, indeed, at this time, as we have suffered so severely in all the South. For, I found, in passing through the State of Virginia, as well as North Carolina and South Carolina, and as far as I have came in Georgia, that the crop is literally cut off. Indeed, I have scarcely seen a field of corn that would yield over half a crop; and, from the best information I can get, this unfortunate state of things is general. A very natural inquiry comes home to every man: what is best to be done under this state of things? The answer is promptly given: Let us sow largely of the turnep crop; sow largely of the winter grains, such as wheat, rye and the hardy kinds of oats. Then, in the commencement of the fall and winter, use great economy in the consumption of what we have. By pursuing this course, and in the meantime, commence taking the example of our more prudent Northern farmers, set about saving and making manure for the year 1846, we will, I hope, be prepared against future drouths, at least as far as human foresight can prepare, particularly if we will pay much more attention to the provision crop generally, than we have heretofore done—that is, plant a much larger proportion of our lands in a provision crop, and much less in the cotton crop.

Having mentioned the subject of manure, let me tell my friends who cultivate the soil, that the sooner we turn our attention to that important part of husbandry, the better it will be for us. In passing through the States of New York and Pennsylvania last month, (August,) I found the farmers every where hauling out large quantities of manure. Indeed, from the size of the farms and the quantity of manure, I was at a loss to know how they managed to prepare so much of it; for, from the number of cart loads that they put on an acre I supposed they intended to spread it broadcast. And such was their attention to the soil, that they had previously plowed up the fields for its reception. Now, I don't believe in imitating the North in everything; for, from all I have seen, I would be the last man that would quit the South and settle in that cold region. But their system of industry and economy is worthy of all praise. If we would carry it out to the extent they do we might soon make our delightful country the garden spot of the world. Let us, in all the South, get up, as New York has done, State Agricultural Societies, and County Agricultural Societies. Let us universally, as farmers, encourage the agricultural press, and in a few years the whole face of the country will present a very different aspect. We will hear no more of hard times, but all will be flourishing and happy. Your friend,

Alexander McDonald.

Macon, Ga., September 15, 1845.

Bermuda Grass--Sweet Potatoe.

Mr. Camak:—How Doctors differ, or if you please, how we Bermuda grass men disagree as to how to give the death blow to this monster, Bermuda. Well, this is all well enough. The object is, to get at the experience of all; then sum it all up, and see who is right; and see who has learned to kill it so that it will stay killed: or to see if he who thinks he kills this grass, has not killed the soil, I think I must say, *deader* than the grass? And let me say, in this place, I feel no wounds inflicted, at having my plans controverted. I have stated, and my belief is, that shading crops—such alternate crops as peas in summer, and wheat or barley, in fall and winter—is the best. Mr. Rheney, of Burke, says it wont do; that hoed crops, with preparatory plowing, is the thing. According to his own statement, by a great deal of hard work, he has killed both grass and land, and that by plowing and hoeing. This he may do in Burke, where the land is, I presume, sandy: and I stated, that it was much easier to manage it (if not to kill it,) in sandy soils. But if he will come to old Greene, and kill it after his plan, on our large fields of stiff, red clay soils, and with any thing like the usual crop to the hands, and especially, if he will kill it without injuring the land, I think we will not only give him the silver cup, but fill it with kindness, and that to overflowing. For it will profit us but little, to be shown how to put an end to the ever-lived Bermuda, unless in so doing we can treat the soil more kindly. My plan had in view, not only the killing of it, but in doing so to have the land improved.

I would not have Mr. R. think, that I question what he says. I am glad he has said what he has, as we invite the experience of all, on this all-important subject. I only object to the state it leaves the land in, by his own statements of his process of destroying it.

We are very much upon the plan of trying to improve our lands in these parts, and we have been saying, or I might say hoping against hope, that Bermuda was coming in (to be what red clover was to the North,) to aid us. But enough, for I am pausing, to know, what more to say or think of this blessed pest, (as I must call it, till I can get a better name,) and these remarks are only in reply to friend R. of Burke.

My main object in taking pen in hand, to contribute my mite to the Cultivator, was, at this time, to do more immediate good to the community, than R. or I shall do in discussing the merits of Bermuda grass; and that is, now that we make but little to live on this dry year, to try to tell my friends and neighbors how to keep that little, when we have got it.

The *sweet Potatoe* is a favorite crop with me. It is one very difficult to keep, after you have made it, without a great deal of trouble; and they loose much of their flavor, if the least unsound. The best way to keep them good, that I have ever tried before my now proposed plan, is the old fashioned way of putting up in large hills or piles, and covering with earth. In some seasons, they will rot in this way.

I have mainly kept mine now for the last two years, *perfectly sound*, by putting them in a dry loft, on a tight plank floor, and covering with *cotton-seed*, about 6 or 8 inches thick. Any garret or loft, that is fit for nothing else, will do for this; for it may be only the room made by the roofing or rafters coming down to the floor, and scarcely high enough to stand erect in the centre: yet this is the very shape you want your potatoe-pile to be in, running the whole length of a long roof, if you have the potatoes; letting them lie here till cold weather is about to set in, so that they get perfectly dry and cured. Then cover with cotton seed, and you will have good fresh roots, till this time of the year. I can now show some as sound as the day they came out of the ground. The advantage over the old hill practice is, that it is not half the trouble to fix, is always ready to get at, to take out more or less, and when you take out, begin at one end of your roof-shaped pile, by displacing the cotton seed; when you have got out what you want, simply throw back a few seed, where you have just taken from. Try it, and it will do you good.

And, now, Mr. Editor, let me say in conclusion, as Sam Slick says; "the best land, with hard usage and constant cropping, will *run out*." So we novices, with pen in hand, and a desire to scribble, and not much in the head, will *run out*; and to make out my piece and fill my sheet, let me, through you, object to this anonymous writing in the Cultivator. There's my Bermuda friend P. of Walton, and there's your "Agricola's," and "Salamander's," and "Cotton Planters;" and next, I expect, we shall have our "Potatoe Eaters," &c. &c., Come out with your true names, gentlemen, and let us see who you are. And if we differ, and can't settle it by writing, let us know who you are, that we may go and see you, and settle the difference by word of mouth; surely, if we are engaged in a good cause, we ought not to be ashamed of our names. Subscribe your true names, as I do mine. J. Cunningham.

Greensboro', September 19th, 1845.

Sheep and Wool.

Mr. Camak:—Proof is unnecessary for the conviction of any intelligent mind familiar with the character of the soil and climate of our extensive pineries bordering on our rivers and tributaries, that they possess superior natural advantages to all other lands for successful and profitable sheep husbandry. Though almost in a state of nature, they may be made, in a few years, to yield returns in this branch of husbandry, unequalled by the most productive agricultural districts in the State. The scattering flocks of fine looking sheep in our pine land counties, fully demonstrate its practicability upon an extensive scale.

If sheep husbandry is made a source of immense profit in countries where land costs thirty to fifty dollars per acre, and the climate requires them to be fed eight months in the year, and that, too, on dry food, how much more available are our pineries at 10 to 40 cents per acre, with a genial climate and a soil of perpetual herbage? If the bleak States of the North raise their millions, why may not Georgia do the same, with greater advantages of soil and climate? With the same agricultural encouragement, she can raise finer sheep and double the number of any of the Northern States. And once began upon a liberal system of husbandry, we will see the husbandman of those States transplanting his flocks from their snow-capped mountains to the verdant plains of our noble and extensive pineries.

To those familiar with the natural advantages of our pine land counties, the question must force itself upon the mind, why have we neglected so long the blessings that the God of nature has given us? In truth, we are the slowest people in creation to profit by the force of example. Georgia is capable of raising millions of sheep, and in a few years may be made not only to supply the demand of her own manufactories, but to export millions of dollars worth of wool, from lands now entirely unproductive.

The most valuable of our pine lands for the raising of sheep are the counties included in what is termed Southwestern Georgia. Their variety of herbage and fertility of soil render them the most desirable lands in the world for the grazing of sheep. The counties on the bold and gushing Flint and its tributaries, from Dooly and Sumter to its junction with the Chattahoochee, seem designed by nature for sheep walks of the most novel and romantic kind. Within this area of country, including Lee, Baker and the adjacent counties, can be raised a larger number of sheep, to greater advantage, than in any country of its extent upon the habitable globe. From its great natural fertility of soil, surrounded by a vast region of grazing lands, and abounding in the richest and most luxuriant herbage, it must, one day, become the *centre* of a great sheep country. It is there the shepherd will delight to dwell. From its smooth and even surface and freedom from all underbush, the eye at a single glance can scan thousands at feed. Such is the character of a large portion of the pineries in that region of the State. There also may be seen what is often termed "the richest lands in the world," for the earth, indeed, "seems to teem with riches," and nature to have blended all her excellencies and exhausted her storehouse in the production of a virgin soil.

In contemplating the great agricultural resources of that region, we are naturally led to lament the destiny of unhappy friends who have overlooked the claims of their own Georgia, and sought homes upon lands in other States not half so rich, and for which they have paid three, yea, in many instances, five times their value. *Sic transit gloria.* What Georgian, who has passed a winter in that region of his State, but dwells with feelings of ecstacy and delight upon the sojourn.

The next of our pineries most desirable for the raising of sheep, are the counties upon the Ocmulgee, Oconee, Altamaha and Ogeechee rivers and their tributaries. The most intelligent men in these counties concur in their experience that this is the most profitable live stock they can raise. Sheep require little or no food during the severest winters, and thrive well on herbage alone. Your correspondent remembers well the information afforded him by a Representative to the Legislature from Irwin county a few years ago, that with only the care of a shepherd he could raise one thousand sheep easier than he could then fifty in view of the homestead. And that under a judicious system of sheep-husbandry in Georgia, Irwin county alone was capable of raising 50,000 head. Practical men have thoroughly demonstrated the fact, that every breed in this country can be raised as profitably upon our pineries as in any part of the Union.

It is a fact, too, worthy of observation, that sheep on our pine lands are exempt from the diseases that scourge flocks of other countries. If they escape the attack of their natural enemies—the dog and the wolf—they rarely ever die until old age carries them off. They manifest too, a remarkable quietness and content never observed in flocks elsewhere. And in the eye of an old buck of our pineries there is a leer of arrogance with an air of gracefulness in his step that gives him a knightly and lordly appearance.

The middle range of counties in Georgia between Scriven and Franklin, on the Savannah, and Stewart and Heard, on the Chattahoochee, are capable of sustaining thousands of sheep, though not in such large flocks as those counties suggested before: yet this region of our State affords great advantages to our planters to engage to the utmost of their means in this branch of agricultural industry.

Above the points defining the middle range are the adjacent mountainous lands. These are not surpassed by any sheep lands of similar character in any part of the world. Upon them also may be raised with great profit and success every breed known to us. The celebrated Alpaca will, one day, ruminate quite as free upon our mountains as upon his own Cordilleras. Endowed with great strength of constitution and capability of sustaining himself upon the coarsest food, may we not hope to see this noble animal browsing upon our mountain tops, the pride and wealth of our enterprising and patriotic agriculturists?

With hundreds of thousands of acres of wild lands, yielding a scanty support to the few unfortunate of our people whose lot has been cast without a single ray of hope in these sections, cannot their condition be relieved by the dawn of a brighter day? Yes; the beginning of an enlightened system of agricultural industry in Georgia will afford them a more cheerful prospect. And where nothing now presents itself to the eye of the traveller but the dull monotony of vast uncultivated tracts of country, their hills and plains will be covered with green pastures, and homes made cheerful by the sight of the shepherd and his grazing flocks of sheep.

Then why should a State, striving to promote public and private interest, delay longer in a measure fraught with such manifold blessings to her citizens? Here nature has opened a field rich for a harvest. Come ye! who wish to reap the product of her noble work. Legislator! put your hands first to the handle and the work is begun. Patriot! do that for your country that will secure you the gratitude of your countrymen—your success will feed the hungry and clothe the naked at your door. You cannot achieve for your State a nobler destiny than the encouragement of a wise, liberal and profitable branch of agricultural industry. Respectfully,

Reclusa, 10th August. JETHRO.

USEFUL AND CHEAP.—A parlor srove has been invented with a *gasometer* attached, by which as much gas can be extracted from the coal during the day as will serve for light during the evening.

"The Science of Good Husbandry."

MR. CAMAK:—Under the above caption Xenophon has detailed a conversation between Socrates and Ischomacus—of which a sketch, in part, may not prove unacceptable to the readers of the SOUTHERN CULTIVATOR. Socrates was considered the great founder of ancient moral and mental philosophy—and his name stands out from the past, the most conspicuous and shining light of antiquity.

Speaking of the improvement of estates, it was observed that stewards or overseers should be as good as the master—as careful and unremittingly industrious *as if the owner were present* during his absence. None other would avail. An estate is not strictly *property*, unless it be *profitable*. The time and attention of owners should be bestowed on a plantation; as a Persian king being asked what made his horse so fat, replied, the "eye of the master."

Money itself is valueless in hands extravagant or unknowing how profitably or felicitously to invest it. Everything is valuable only by its right use, more than possession. The best opulence is to be satisfied with your estate, whatever it be. But a good, thrifty and prudent wife enhances one's wealth by retaining and preserving what he brings in. And Ischomacus praised his wife for an obedient, amiable and diligent woman; hence he was admired by Socrates as a thrice happy man, well meriting the popular title of "*the Just.*"

Work should be done with regular diligence and constancy, but not so headlong as to fatigue too much.

Rich men should not be above working manually, with their own hands. Cyrus, the greatest monarch of Persia, was instanced as having *daily labored before meals*, and his extensive and beautiful orchard, was mainly laid out and planted by his own hands. But to be engaged in any way, at the study, or in the field, or the workshop, was in Socrates's opinion, commendable employment. I quote some of his translated words:

"By husbandry the ground gives us every thing necessary for food and nourishment, and such things likewise, as afford the greatest pleasures. Yet, though it gives us plentifully of all kinds of things, yet it does not allow us to reap them in sloth and idleness; but excites us to health by the labor it appoints us. * * * The practice of husbandry makes men strong and bold—enabling them to defend their country. What science is there that brings man more advantages for his labor. * * * He was surely a wise man that said husbandry was the mother and nurse of all the other sciences; for when she flourished all the other sciences and faculties fared the better; but when the ground lies uncultivated and brings no crop, all the sciences and arts are at a loss by land and sea. * * * It is a healthful employment, breeds good men, and occasions generosity of spirits and good will towards one's friends and country."

Ischomachus instanced the treatment of slaves: to carefully reward the diligent and lay as many hardships as you can on the idle and careless. Bad managers and fretful masters make bad servants. Be firm, but not outrageous. Nothing spoils or desponds a good servant so much as to see the idle and unworthy put on a level with him, or praised and promoted before himself. Dishonest overseers or drivers, no matter howsoever industrious and diligent, are not to be continued. Honesty in such is as valuable a quality as industry. "As to slaves," said Socrates, "we should not act on the laws of Draco and Solon alone, by punishing the bad, but upon those also of the Medes and Persians, by rewarding the good and deserving."

"Husbandry is profitable," continued Socrates, "to proficients, but exceedingly unprofitable to the ignorant, though not requiring length of time to understand. The principal difficulties are as to the soil. On it philosophers are rather occult; yet, the constituents of soils may be discovered by observing what best grows upon them."

"Plow fallow lands in the spring, as it is too wet in winter and too dry in summer. Weeds and grass turned in before the seeds mature improve the soil, as also green crops plowed in," observed Ischomachus.

"The sun's rays correct the rawness and sourness of earths. Not convenient to sow when dry. Good sowing requires experience, as seeds should be equally distributed over the ground," remarked Socrates.

"Ditch, to drain off superfluous waters; manure at every rate must be had---improvidence to be without it. Weeds laid under water rot, and constitute manure equal to dung. Water, in a still place on earths, too, convert them to manure.

"In planting trees never exceed three feet in depth, for any kind but the olive. The best width of the hole is two and a half feet. In planting the olive tree have clay at the bottom," said Socrates. "The land by its production is always the best teacher of its fitness. Dry and calcareous earths should be laid on sour unproductive soils." This, I think an idea of the *lime* of the moderns.

Socrates and his friend Ischomachus, then the best husbandmen in Greece, agreed that generous masters, especially with good servants, are more successful than the indiscriminately cruel.

It would appear from the above sketch of a long conversation, that the ancients were but little, if at all, inferior to the moderns in the cultivation of the soil. Even the experiences of two or three thousand years, are, to many, at this day, as unknown and unpractised as if Greece and Socrates never existed. Thus goes the world, folly and ignorance being always the same disagreeable things.

As the ancients remarked, the great difficulty to this day is, in finding the proper constituents of soils. They were ignorant of our gaseous derivations and chemical properties, or they might have handed down to us a manual, obviating many difficulties with which we have now to contend, notwithstanding our boasted wisdom. J. J. FLOURNOY.

Wellington, September, 1845.

Farmers' Club of Upatoie.

MR. CAMAK:—On the 5th instant an Agricultural Society was organized at this place, (under the above name,) by adopting a Constitution and electing as officers for the ensuing year—

JAMES H. JONES, Sen'r., President.
NATHAN RENFROE, and ALBUT JOHNSTON, } Vice Presidents.
R. W. CARNES, Corresponding Secretary.
DR. CHAS. M. SMITH, Rec. Sec. and Treas.
THOS. H. KENDALL, Librarian.
WM. W. WILLIAMSON, WM. B. ROCKMORE, WM. TINSLEY, JOHN L. SMITH, and WM. GRAHAM, } Board of Managers.

Our Club numbers forty-five members. We desire to be considered one of the *family*, and confidently expect countenance from other Associations, and such information and instruction from our brother farmers elsewhere as their convenience will permit. Very respectfully,

ROBT. W. CARNES, Corresponding Sec'y.

Upatoie, September 16, 1845.

MANURE MAKING.—There is one means of making manure on every farm which is too commonly overlooked or not availed of—we mean, from the wash and waste liquors of the house. Cart a load of loam near the outlet of your sink, and carry the spout on to it; shovel over the heap occasionally, and in six or eight weeks the mass will be enriched, and a fresh lot may be brought to undergo the same process. Thus, in the course of a year, several loads of manure may be made at a trifling cost, and of a quality hardly inferior to that from the barn-yard. This hint is worth something.—*N. E. Farmer.*

From the Genesee Farmer.

The Fruits and Fruit Trees of America.

By A. J. Downing, *of Newburgh, N. Y.*

This work, for which we have been looking with considerable anxiety for some time past, has at length made its appearance; and from the rather cursory examination which we have given it, we can say that it is the most complete and useful book of the kind yet produced in this country.

This was to be expected, not so much on account of the peculiar qualifications of Mr. Downing, as of the great facilities afforded for the compilation of such a work, by the recent careful and systematic investigations of European as well as American Horticultural Societies, and the increased general attention given to fruit culture everywhere.

The work has evidently been prepared with a great deal of labor and care, and with a view to make it as perfect as possible at the present stage of American experience in this department. We cannot convey to our readers an idea of the importance of the work any better than by giving a sketch of the various subjects of which it treats.

Chapter 1. Treats of the production of new varieties of fruit.

2. Propagation of varieties, grafting, budding, &c.

3. Pruning.

4. Training.

5. Transplanting.

6. Position of fruit trees, soil and aspect.

7. General remarks on insects injurious to fruit trees.

8. The *Apple*—history, uses, propagation, planting, pruning, insects injurious to it, gathering, keeping the fruit, cider making; and a description of 186 varieties, with engraved outlines, natural size, of upwards of 30 varieties.

9 The *Almond*—history, uses, culture, &c.; with a description of 7 fruit bearing and 2 ornamental varieties.

10. The *Apricot*—history, uses, cultivation and diseases, with a description of 16 varieties.

11. The *Baberry*—uses, culture, &c., and description of 4 varieties.

12. The *Cherry*—its history, uses, cultivation, training, gathering the fruit; with a description of the several classes, and of 37 varieties, with engraved outlines of 31 varieties.

13. The *Currant*—uses, propagation and culture; with a description of 10 fruit-bearing and several ornamental varieties.

14. The *Cranberry*—general remarks on its localities, culture, uses, &c.

15. The *Fig*—history, propagation, culture; with a description of 15 varieties.

16. The *Gooseberry*—its history, uses, propagation and cultivation; with a description of 40 sorts, esteemed by Mr. Downing as most valuable.

17. The *Grape*—its history, uses, soil adapted to its culture, propagation, cultivation under glass, with and without heat—descriptive figure of a vinery—insects and diseases peculiar to the grape—a description of 35 varieties of foreign grapes, 3 of them figured in outline: *Black Hamburgh, Royal Muscadine* and *White Muscat of Alexandria*. Also a chapter on the cultivation of the *native grapes* in the garden and vineyard—remarks on the diseases to which they are liable, and a description of 12 varieties, 5 of them figured in outline, natural size, viz: the Bland, Catawba, Elsinburgh, Isabella and Ohio.

18. The *Mulberry*.

19. The *Nut*.—Description and cultivation of the walnut, hickory nut, filbert, &c.

20. The *Plum*.—Its history, uses, propagation and culture—soil adapted to it—insects and diseases which attack it, with speculations on their causes, preventives and remedies, and description of 97 varieties, 29 of them figured in outline, natural size.

21. The *Pear*, as the author says, "the favorite fruit of modern times and modern cultivators."—Its history, uses, gathering and keeping the fruit, propagation, soil, culture, diseases; with a description of 233 varieties, 80 of them represented in outline figures, natural size.

22. The *Peach*.—Its history, uses, propagation, soil and situation—pruning, training, insects and diseases, with quite an elaborate disquisition on the yellows; in which the author seems inclined to advocate the belief that this is a "constitutional taint," existing in many American varieties of the peach, and produced in the first place by bad cultivation, instead of being, as many suppose, a "contagious disease"—to which is added, remarks on the distinctive characters of the leaves of classes, and descriptions of 79 varieties.

23. The *Nectarine*.—History, culture, &c., and description of 19 varieties.

24. The *Quince*.—History, uses, propagation soil and culture, and description of 5 varieties, 3 fruit-bearing and 2 ornamental.

25. The *Raspberry* and *Blackberry*.

26. The *Strawberry*.—History, culture, &c.—a description of 36 varieties, with figures of the two newest and best American seedlings: Hovey's and Ross's.

27. The *Musk Melon*.

28. The *Water Melon*.

29 The *Orange Family*.

30. The *Olive*.

31. The *Pomegranate*.

Then follows an essay on the "Duration of varieties of Fruit Trees," and the book closes with a very useful appendage: a key to the pronunciation of French names.

No one Tastes so Good Fruit as he who Raises Them.

This is particularly true as regards the small fruits of summer. The black mulberry, it is stated in the Encyclopædia Americana, is in perfection only a few moments, and that at the time when it can be detached from the tree by a slight shake of the branches. "All the fruit," says Dr. Alcot "but more particularly the berries, are more or less subject to the same law." The perfection of the strawberry lasts but an hour or two; and even the pea, the bean, and Indian corn, lose much of their freshness and flavor, by being plucked the day before they are used. Those who raise fruits, therefore, may pluck and eat them when they are at perfect maturity, when they are more grateful to the palate, and most conducive to health. Those who buy them, on the contrary, must buy those that are prematurely gathered, or which have passed their best state, and are in the incipient process of decay. In general, part of these objections lie against the summer fruits which are sold in the market—they are gathered before they are ripe, and they are in the progress of decay. How important is it, therefore, that the lovers of good fruit, should take care to have it in perfection by selecting and cultivating the choice varieties.

"The juices of all green fruits," says Dr. Alcot, "are different from those of ripe ones. Their acids are less wholesome than after they are changed by the action of the sun in ripening, nor does the addition of saccharine substance in preparing them, at all change their real nature. They are only concealed. The oxalic acid is still oxalic acid, cook green fruit as you will. No culinary process, I repeat, can be substituted for, or produce the effect of the solar action. The Creator, in many instances, by means of the sun, performs the most perfect culinary processes, and nature is often the best kitchen and cook.

The use of ripe fruits is admirably adapted to allay the feverish irritation of the stomach and bowels, at the seasons when they severally come to maturity; but unripe fruits, or those in the incipient stages of decay, are calculated to increase these excitements, and to generate disease. Fruits should always become ripe in their natural way, and be eaten when they are in their highest perfection.—*Albany Cultivator.*

Elevation of Agriculture as a Pursuit and a Profession.

The pursuit of agriculture is almost universally considered as merely a profession of commerce or trade, the farmer looking wholly to its pecuniary results. In a trading community, pecuniary considerations are always liable to control the judgment and predominate over every other consideration. Where the means are limited, and the farm must be cultivated as the only source of subsistence, pecuniary returns must, of course, be the main object. Where, as in England, the cultivator is not the owner of the soil, but an annual rent must be paid, and he is liable, as in most cases, to be compelled to quit his occupancy at the pleasure or the caprice of his landlord, farming must be conducted merely as a matter of business, and there is no inducement to pursue the profession as a matter of taste or sentiment. In many cases in my own country, it must, of necessity, be followed wholly as a means of support and of profit, and in some cases as a struggle for life.

But there are innumerable other cases, in which men have the power, under the most favorable circumstances, and I am most anxious they should have likewise the disposition to devote themselves to it as an elegant and liberal profession, worthy of a mind gifted even with the finest taste, and enriched by the highest cultivation. The United States present not many examples of very great wealth, at least when estimated by the standard of wealth which prevails in England, where, indeed, are to be found individual accumulations which distance all the dreams of oriental magnificence. But, on the other hand, no country upon the globe, and no condition of things since the establishment of society, ever presented more favorable opportunities than the United States for any one, by active and wholesome industry and a proper frugality, to acquire a competence, and that respectable independence, in which, with a full supply for the necessities of life, and an abundant provision for its comforts, there will be found within reach as many of the elegancies, and ornaments, and luxuries of life, as a well-disciplined and healthful state of mind can require. I have seen too frequently such beautiful examples in our country villages, and scattered over several parts of a land in many respects favored by Heaven above every other, not to be deeply impressed with a condition of life which, where its blessings are properly and gratefully appreciated, seems to leave little more on earth for a rational and reflecting, a benevolent and truly religious mind, to ask. Happy is it where its waters are not poisoned by an insatiate avarice, nor disturbed and thrown into confusion by ambition of political office or distinction, or a feverish thirst for notoriety and excitement; but in a quiet, yet not stagnant repose, they reflect everywhere the tokens of that divine goodness, which seems in such examples to have poured out its richest earthly treasures. Now, I am anxious that agriculture should occupy that place among the liberal professions to which it can be raised, and to which, from its importance, it is entitled. But this can only be done by improving the education of farmers as a class—by multiplying, hrough the means of a most liberal and extended education, the charms of the country, and the subjects of interest which would be constantly more and more developed to a cultivated and inquisitive mind; and by showing that its successful pursuit, either as a matter of business or recreation, where a moderate fortune is possessed or a moderate professional income is secured, is not incompatible with the highest improvement of taste, and even a vigorous and successful pursuit of learning; and that, where so pursued, under favorable circumstances, it affords as fair a chance of rational enjoyment and quiet usefulness, as any situation which the most lucrative trade, or the most successful political ambition, or even the highest professional eminence, can command.

But I fear, how much soever I may satisfy

the sober and reflecting minds on this point, my opinions and persuasions will scarcely be heard, and far less heeded, in that rush for wealth, for office, and for notoriety, which, like a torrent sweeping over the country, carries every movable object in its course. It seems, however, not less my duty to record my strong convictions, which the experience of a life not short has served only to confirm. I see in my own country, every where proffered to an honest industry, a wise frugality, and a wholesome self-government, the most ample rewards: I see a wide extent of rich and beautiful territory waiting the improving hand of skill and labor, to be had in many cases almost for asking, with every man free to choose where he will pitch his tent, not only without injury, but to the advantage of his neighbor: I see the means of education, of competence, and of substantial independence, held out to all who will avail themselves of them. In the midst of all this, I see thousands and thousands of young men, blest with education and fortunes adequate to supply all reasonable wants in the country, rushing into cities, exhausting their small means in the extravagancies and dissipations of fashionable life; crowding all the professions to repletion; pressing on, with vexation and disappointment heaped upon vexation and disappointment, into all the avenues of political office and distinction, and into all the bitter strifes of political controversy; forcing their way into the pursuits of trade without talents for their prosecution, and almost sure to involve themselves in bankruptcy and ruin; and, in one form and another, dragging on through life without satisfaction to themselves and without usefulness to others, and too often a ruinous burden upon those whom it is now their turn to succor and relieve. I cannot, therefore, help wishing that the pursuits of agriculture might be made attractive to such persons; and that with education, and that moderate fortune which would give them the command of the best advantages of rural life, they might find in it, as far as rational happiness and humble usfulness are concerned, that philosopher's stone which in other places they are almost sure to search for in vain.—*Coleman's Agricultural Tour, No. 3.*

Study of Botany by Ladies.

Extract of a Lecture read before the Ladies' Botanical Society, at Wilmington, Delaware, March 2, 1845. By. Dr. Wm. Darlington, of Chester, Pennsylvania:

"Of all the intellectual exercises kindly provided for us in this stage of being, few are more instructive or more agreeable to contemplative minds than the *study of nature*—or, the investigation of the history, character, relations and purposes of the material objects which a wise and beneficent Creator has placed around us; and, of the several departments of what are called the Natural Sciences, perhaps one of the most useful—certainly one of the most elegant and attractive—is that which embraces the varied products of the vegetable creation.

"The science of Botany has for its objects the most lovely of all the inanimate works of God. It treats of those beautiful forms which annually unfold themselves to our admiring gaze—which every where clothe and decorate the teeming surface of the earth, affording, directly or indirectly, the sustenance of all animals, and regaling every sense of every creature that has capacity to be gratified. It is a science peculiarly appropriate to gentle minds. Its cultivation imposes no tax upon the feelings—involves no cruelty—shocks no sensibility; all its incidents and attributes are promotive of corporeal health and pure intellectual pleasure. Why, then, should not a rational acquaintance with those interesting products which surround us on every hand and are literally strewed along our paths, why should not such a science be made an indispensable branch of female education? As a mere *accomplishment*, it is entitled to rank with any of those ornamental acquirements to which so much time is devoted. As a means of enlarging and disciplining the mind, training it to habits of correct observation and profitable reflection, the study of plants is far superior to many of the fashionable and fugitive attainments which now so generally engross the attention of young ladies. It is a pursuit, too, which carries with it its own reward. The knowledge which it affords is at once pleasing in the acquisition, and of enduring value. It is continually called for and always at command, ready to minister to the instruction and gratification of the possessor, whether in the garden, the field or the forest.

"'These studies,' said the Roman orator on another occasion, and it is even more emphatically true on this, 'These studies are the intellectual nourishment of youth, and the cheering recreation of age; they adorn prosperity, and are the solace and refuge of adversity; they are pleasant at home, and are no incumbrance abroad; they abide with us by night—go with us in all our travels, and lend additional charms to the attractions of our rural retreats.'

"Those who make only occasional visits or excursions in the country will find their pleasure greatly enhanced by an acquaintance with the plants which mainly contribute to the beauty of the scenery: but, by those whose constant residence is in the midst of the vegetable tribes, a reasonable knowledge of Botany should be regarded, not merely as an accomplishment, but, as one of the indispensable qualifications for the duties of rural life. I have often insisted that an American Farmer should blush to be ignorant of the objects of his peculiar care; and I know not why a Farmer's Wife or Daughter should be entirely excused for a like deficiency in her attainments. On the contrary, I believe it is to wives and daughters that we must look for the commencement of a thorough reformation. A competent knowledge of the character and properties of those plants which interest the gardener and the agriculturist, is unquestionably desirable for both sexes: and I sincerely believe that the most effectual method of diffusing such information will be to invoke the friendly aid and countenance of the ladies. Their salutary influence has been felt and owned in many a noble cause, and I cannot doubt their efficacy here.

"Some of my young friends, although, perhaps, assenting to the justice of these views, may yet be inclined to object, that the science of botany is so encumbered with uncouth terms, and barbarous names, as to obscure its charms, and even render it repulsive to the youthful student. I am free to admit that appearances, at a first glance, seem to warrant the objection. I have experienced all its force, and can fully appreciate its influence upon others: but I can truly add, for the encouragement of beginners, that, when the study is properly conducted and the subject comes to be rightly understood, the difficulty is rather *seeming* than *real*. It undoubtedly appears enormous to the uninitiated—just as strange objects are apt to be magnified when encountered by twilight, or viewed through a mist; but there is no ground for dismay or apprehension. The supposed obstacle will either vanish when approached, or prove itself to be an aid, rather than an impediment, in the way of the learner. It is, indeed, impossible to describe objects or to communicate definite ideas without the employment of terms and names; yet these are not science. They are but the *implements*—the mere machinery with which the mind operates, and should only be taken up or resorted to as they are wanted for use. It is worse than idle to commence by lumbering the memory with hard words, of which the student comprehends neither the meaning nor the application. Such a plan, I admit, is calculated only to dishearten and disgust. But, let him begin, where all true knowledge begins—by a practical acquaintance with *things* rather than with *names*—by observing features and examining structures, and he will soon perceive the importance of *terms* by which to designate and distinguish the objects of his attention. When the investigator of plants comes to take a discriminating view of the vegetable tribes and observes the varied, yet definite forms, and arrangement of the organs, which constitute their botanical character—so far from complaining of the burthen of names and terms, he will eagerly seek and adopt them, as indispensable aids in his progress; and he will find, moreover, that, although many appear harsh and arbitrary, the greater number are remarkably significant and appropriate. A moment's reflection will convince any of us that even in the common occurrences of life, we cannot dispense with the names, and what may be called technical terms, and that new ones are continually added to our stock, without an effort, and almost without our consciousness. When we make new acquaintances among our own kind, especially if they are agreeable, we never think of such an objection as that of having to learn or remember their *names:* and even in the minor gratifications of dress and personal comfort, we are all very expert in acquiring the nomenclature—strange though it be—of such articles as attract our notice or suit our fancy. The facility with which young ladies become familiar with the vocabulary of taste and fashion—their admirable tact in discerning, and their fluency in discussing the qualities and patterns of *Gimps* and *Ginghams*, *Gros des Indes* and *Mousselines de Laine*, satisfy me that *technicalities* have no real terrors for them; and the *language of botany* can never present any serious obstacle to their progress in the science—*provided* that they have the will and the application: and I desire no better evidence of the requisite disposition and effort than that which I have now the pleasure to witness."

To Prevent Smut in Wheat.—We have received, says the American Farmer, the annexed note from the Hon. Wm. Carmichael, whose authority with us is equal to that of any agriculturist of our State:

In the third volume of the Farmers' Register, page 743, there is an account of a series of experiments, made by M. M. de Bombasle, for preserving wheat from the smut, one of which he found entirely successful, and perhaps some benefit may be derived from an account of the advantage I have derived from its application.

Smut was brought on my farm by changing my seed wheat, and though it never extended so far as to produce very serious injury, I was very anxious to expel it: and, in the year 1843 I used the means in the article I have referred to, according to the manner therein directed. At the next harvest, I found the smut much diminished but some still remained. Last fall I used the same means, under a different application. I dissolved in a large tub eighteen pounds glauber salts in twenty-two gallons of water. The wheat was thrown into it, well washed, and so much of the solution as was not taken up was drawn off for further application; the wheat was then put into a bed of quick lime (slaked immediately before being used) on my barn floor, well stirred so as to produce adhesion to each grain, and then spread to dry.

I have lately finished threshing. I have examined the wheat, and have not detected a smut ball. This is also the experience of my overseer, and my most observant laborers.

I donot know that the germinating power would be injured if it remained unsown for many days under the lime, but to avoid the hazard, I have not permitted the wheat thus prepared to remain more than three days unsown.

My neighbor Mr. Wm. De Coursey, to whom I communicated the experiments of Mr. Bombasle, made one with common salt, by which the smut was much diminished, but some still remained. My experiment with glauber salts has resulted in entire success.

Agricultural Inconsistencies.—Prejudice and error generally go hand in hand: a man may be allowed to indulge in obstinacy for his own gratification, but when society is affected by it, the sooner a new light breaks in upon him the better. I proposed subsoiling my heavy

land for beans, so as to admit the action of frost and air abundantly. A demurrer was instantly raised by a farmer present. Oh! we always plow shallow for beans. Well, I know you do. Do you ever double-spit your gardens? Oh, certainly we do. Do you ever grow beans in your garden? To be sure, capital ones. What, and that on double dug ground? Impossible, surely. It would puzzle a conjurer to tell why a farmer always digs his garden 20 inches and plows his land only 5 inches. Docks, thistles, couch, and other strong, deep rooted weeds are not to be found in his garden. What reason can a farmer give for drilling his beans at 7 inches in his field and 27 in his garden? Does the former mode give him a larger or earlier produce? Again, a farmer will caution you against sitting in a draught, or lying in a damp bed—of course, he takes care not to do so himself, and recommends it to his friends, but pursues an entirely different plan with his cattle. They must be exposed to both, as if their sensations and physiology differed in that respect from our own. Let us keep our cattle warm, dry and well fed, and we shall seldom feel the cramp in our pockets.—*Chelmsford Chronicle.*

CRUELTY TO ANIMALS.—In Henry Colman's first Report on European Agriculture, there occurs a passage which does honor to the heart of the writer, and is worth the subscription money of the whole work. After speaking of the aquatic birds kept on the artificial lakes in the Parks of London, the protection there afforded to their lives and the consequent tameness of the birds, he continues, "Man, in general, is a great savage, and a ferocious beast of prey. He makes continual war upon many of the animals below him, not for subsistence merely, but for pleasure. His conduct towards the brute creation shows, too often, how certain he is to abuse unlimited power, and conveys a strong argument against despotic authority. Indeed, his war upon the birds merely as a matter of sport, always makes me look upon him with a degree of shuddering, and feel that a man who can find his pleasure in the wanton destruction of little birds, the most humble of all animals in their claims, the most delicate, innocent and pure in all their tastes and habits, and comparatively useless for food, puts himself beyond the pale of humanity, and could scarcely, with safety, be trusted with a child. It were worth considering always how many of our pleasures are purchased at a most bitter expense of happiness and life to others! Two or three days coursing, manly and healthful as the exercise on horseback undoubtedly is, and strongly exciting as the sport is, did not quite reconcile me to it; and the wailings and shriekings of the affrighted and dying hares in the jaws of the hounds, sounded in my ears for several days afterwards like the cries of expiring children.—*Boston Cultivator.*

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ORIGINAL PAPERS.

SELECTIONS, EXTRACTS, &C.

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REMARKS OF JAMES A. MERIWETHER, Esq.,

Before the Agricultural Society of Putnam Co., May, 1845

[Published by request of the Society.]

The depressed price of Southern agricultural products is leading the public mind anxiously to inquire, what relief can be found from that depression? To those who inhabit the middle region of Georgia, it is a proposition particularly interesting. With a soil once productive, but now much exhausted; a country almost too poor to live in, and yet inhabited by a people unwilling or unable to abandon or remove from it; the *relief* from our general embarrassments is naturally a subject of solicitude. Past prostrations of our interests have been rapidly alleviated by a rigid economy for a few years, succeeded by remunerating prices for our labor. But, it is only justice to ourselves to declare, that the prospect of such a recurrence is very far from being probable. The increased supply of cotton beyond the demand—the opening of fresh fields to the West, and the yearly increased quantity of labor employed in them, admonish us that it is folly to hope for a return of such prices for our labor as we have before enjoyed—while we must feel this evil of low prices aggravated by the continued deterioration of our lands. Besides, we are *consumers*, and not *producers*, of many of the necessaries of life; the reduced price of our cotton will not cause a corresponding decline in *their* prices, and hence we must bear the two-fold aggravated evils of poor lands, and low prices for their products, while *we* have to pay comparatively high prices for our necessaries. Then, with exhausted lands, and almost profitless labor applied to them, what shall we do? is the universal cry.

Many can, and doubtless will, leave the "sinking ship," and find partial relief in the productiveness of the rich alluvial lands of the West; but many *do not* wish to leave, many *cannot* leave, and it is for *these* to determine the great question, how can this country be rendered even tolerable for those who are to inhabit it.

The answer to this proposition is clothed in a few words—"*live at home—diversify your pursuits—and, above all, enrich your lands.*" To ascertain the surest and best mode to attain these ends, is the object of our immediate association.

No people ever have, or ever will, permanently prosper, who rely as we have done, upon the labor of other people, for their provisions and other articles of prime necessity. No practical man can doubt for a moment the high obligation upon every community of people, erected into States, to produce within itself the breadstuffs, meats and all domestic animals employed upon the farm. The first principles of economy, both political and private, are disregarded by a people who will not recognize this obligation; and if pecuniary embarrassments should overwhelm them, it is but the operation of cause and effect, and is at no time to be regarded as any matter of surprise, only that the effect is not more confounding. It is that system of economy which tolerates such imprudence, that in its varied operations overwhelms us with ruin and prostration.

One of the subjects which I shall more particularly invite your attention to is the improvement of your lands. A prejudice has grown up in the minds of very many persons against what is called "*book-farming*;" and many valuable suggestions are disregarded, because they are said to owe their existence to such an origin. Science is disregarded because it is said to be all theory, and not practice. But is it rational to reject the lights which it affords? What is this earth but a mighty chemical compound, and how is it possible properly to appreciate and use its ingredients without a knowledge of their natures? Soils differ in their composition, and all grains in their constituents. Every man knows from his own experience that some soils suit one plant better than others—and these very men, who reject all science in agriculture as mere *humbug*, act upon this principle of adapting their crops to their lands. Now, if this be a proper course to pursue, why will they not go one step farther and learn the reason for their preferences? But no, this would be "*book-farming*."

No profitable system of husbandry can be prosecuted without a proper knowledge of the basis on which to build. The farmer should know the elementary constituents of his soil; he should know the constituents of the plants he cultivates—knowing these, he learns the ingredients wanting in his soil to grow the crop profitably, and with a proper knowledge of the constituents of each manure, he is enabled to apply that kind which will accomplish his object. This knowledge is indispensable to the farmer who seeks the improvement of his lands. Labor is often thrown away without it, which would be profitably employed with it. Some soils only require sand, others only clay to make them productive. Lime, one of the most valuable of all fertilizers, is not only rendered valueless by an improper application of it, but sometimes it renders the soil to which it is applied sterile and worthless. The secret of success then lies in a knowledge of the constituents of the soil, and the like knowledge of the constituents of the manure.

Every farmer knows full well that he cannot plant a succession of like crops upon the same land without greatly reducing the amount of the product, and the reason is obvious; each crop takes from the soil the salts necessary to its existence, and unless they are returned to it by manuring exhaustion follows, and sterility is inevitable. The true maxim is to give back to the soil annually full measure of whatever is taken from it by the crop; in fact we should give back annually *more* than we take from it; by such means we increase the crops and enrich our lands. To do this the farmer must know what has been taken away, and he must know how he can give it back. This alone can be derived from that much despised system called "*book-farming*." It is obvious that without this knowledge all efforts at restoration are controlled by accident and uncertainty; and the result must and will prove unsatisfactory and discouraging. I would not argue that it is *necessary* that every farmer should understand the whole science of agricultural chemistry in order to improve his lands, but I do contend that he should understand some of the elementary principles of it, that he may apply them to practical purposes. Hence, to obtain this knowledge—which is beyond the reach of the great masses, is the object of agricultural societies and the circulation of agricultural papers.

A few facts will illustrate the truth of what I say. In Rhode Island an analysis was made, and an estimate based upon it of the saline contents taken from one field which had been cultivated for eight years, and the result was: potash 424 lbs.; soda 131 lbs.; lime 532 lbs.; magnesia 64 lbs.; alumina 5 lbs.; silica 390 lbs.; sulphuric acid 113 lbs.; phosphoric acid 108 lbs.; and chlorine 58 lbs.

Here, then, a large quantity of salts have been withdrawn from the earth by cultivation. Nature does not restore them as rapidly as they are taken away, but by knowing them, science enables *us* to restore them, and make the land productive, which would otherwise become sterile.

We have only to look at the crop just gathered, or the one to be sown, to learn the necessary and proper manure for it. We know that wheat contains of potash 33.84 parts; lime 3.09; magnesia 13.54; phosphoric acid 49.21. If, therefore, wheat has been sown, or is to be sown, the proper manure to be applied either to restore the land or to increase the crop, is that which contains the salts mostly contained in wheat. It has been ascertained by experiment that the actual amount of earths, &c., contained in 2000 lbs of green cornstalks is about 78 lbs. In every ton of stalks there are of

Potash	lbs 3,78	Manganese	lbs 0 40
Soda	" 0,08	Silex	" 54 16
Lime	" 13,04	Sulphuric Acid	" 2 12
Magnesia	" 4 72	Phosphoric Acid	" 1.08
Alumina	" 12	Chlorine	" 0.12

With a knowledge of these facts and the further knowledge of the properties of each manure, how easy and how agreeable is the pursuit for the farmer to add increased fertility to his soil, while he draws increased crops from his lands.

But chemical science not only gives this knowledge to the farmer, but it enables him to learn the value of foods, and the most profitable use of them. He ascertains the properties of one kind to give flesh to his animals, and of another to give fat—and what particular kinds will accomplish his object the soonest.

	Flesh forming principle.	*Fat forming principle.*
Peas contain	28 parts	51 parts.
Beans "	31 "	52 "
Oats "	10½ "	68 "
Barley "	14 "	68 "
Hay "	8 "	68 "
Turnips "	1 "	9 "
Potatoes "	2 "	24½ "
Ind. Corn "	12½ "	77 "

Thus it will be seen that there is a great difference in the different kinds of food to form fat or flesh. Peas and beans give flesh; corn, oats and barley give fat.

Again, he ascertains another important fact by chemical science; the relative value of the different kinds of food for either purpose of *fat* or *flesh*.

Sixty pounds good hay from clover are equal in nutriment to 100 lbs. common hay; 281 of potatoes; 520 of wheat or bailey straw; 574 of oat straw; 642 lbs of turnips; 20 lbs. of beans; 31 lbs yellow peas; 49 lbs. wheat; 51 lbs. of rye; 54 lbs. oats, and 59 lbs. of barley.

It is by the aid of *book-farming*, that the farmer ascertains the existence of all these important facts—and without a knowledge of them, the true principles of agricultural economy can never be applied or practised.

Our Legislature some few years since seemed to be impressed with the importance of placing agricultural information in the possession of the people, and ordered a geological survey of the State; one of the objects of which was to

obtain an analysis of the soils, and the existence of the different kinds of natural fertilizers. Some ten thousand dollars were appropriated and spent, and because the benefits of the work were not realized in the shape of principal and interest compounded annually in dollars and cents, the work was abandoned, and the people have been shut out from the information which had been obtained. The cost of these surveys is trifling when compared with the actual benefits derived from them; and may I not urge this association to undertake an examination of the lands of its members? The example will doubtless be followed by others.

In the remarks I am about submitting, it is not my purpose to attempt a dissertation on the constituents of soils, and the manner in which all vegetation derives support from them. I shall advert mostly to elementary principles, on which as a basis practical operations may depend. In the first place, plants derive their chief food from the soil. In all soils there is what is called *humus*, which is the dark colored substance we see on the surface, and it is nothing more than vegetable and woody fibres in a state of decay. This is the source from which plants are said to be directly nourished, and it is regarded as the chief element of fertility. Without it, vegetation exists very imperfectly, and in the proportion in which it does exist is estimated very much the value of soils. Humus, however, is not the only constituent of soil, and it will not of itself produce and sustain vegetation. There must likewise be clay and sand in the soil.

Clay is valuable and indispensable on many accounts; it increases the fertility of the soil by the adhesion which it contracts with water, by the solid support which it affords to the roots of plants, as well as by the resistance it presents to the too great extension of their roots—by preventing the atmospheric air from coming in contact with the roots of the plants, and by attracting *oxygen*, the substance which is so necessary for the formation of carbonic acid. The properties of clay demonstrate the necessity and profit of deep plowing; and it is from a correct understanding of them, that has originated the use of the subsoil plow, one which penetrates and breaks the clay, without mixing it with the soil, and which should be used by every farmer.

An *excess* of clay is, however, injurious to plants, because in damp weather it retains the water with which it is impregnated too long, thereby preventing evaporation and draining—because in dry weather it becomes too hard—because "it forcibly attracts and incorporates with itself the nutritive juices contained in the manure bestowed upon it, and will not part with them for the support of the plant." Washed hill-sides are unproductive, because of the presence of too much clay, and the application of manure therefore does not furnish corresponding benefits. The best treatment for such barren spots is to spread a *large* quantity of sand upon them, mix the sand and clay by plowing and then the farmer will find a profitable return in the manure he may apply.

Sand, however, becomes injurious to land where it enters too largely into the composition of the soil—because it is not sufficiently retentive of moisture—because "it does not combine with the humus or decayed vegetable matter, and hardly enters into a physical union with it sufficiently strong to absorb those fertilizing particles which the atmosphere contains"—because frequent cultivation destroys its coherence, and because sandy soils being good conductors of coloric, they transmit the influences of severe heat or cold immediately at each sudden change which the temperature of the atmosphere undergoes.

These are the respective properties of clay and sand as described by the chemist Thaer. The soil in our own county does not possess an excess of sand. Clay predominates with us, and hence the inquiry which we have to make is, how shall we improve our clay hill-sides? I have already anticipated that question in part, in the prescription of sand for *galded* or worn-out spots. This is the basis on which we must rest our system of manuring.

The next question is, how shall we prepare and apply a manure which shall multiply their production? *We need the very best manure—we require the greatest quantity possible of it—and we desire to make it upon the very cheapest plan, and with the least labor and trouble.*

Here is our necessity, now how shall it be relieved? There are many valuable manures, by the application of which, our lands would be greatly improved; but whether they are all within our reach is a different matter; we cannot adopt the use of any which, in common language, "costs more than it comes to." Lime, marl, green sand, gypsum or plaster of paris, guano, charcoal, are all valuable fertilizers, and if properly applied would soon restore the fertility of our once rich soil.

Lime produces astonishing effects—but yet to be valuable the land must be manured upon which it is applied, for the heavy crops consequent upon its application are said to be the result of the earthy exhaustion of the humus so necessary for vegetation. "It acts by accelerating the decomposition of the humus, and making it soluble, and thus fit to enter the minute fibres of the roots of plants. It also deprives *sour humus* of its acidity and renders it fertilizing." On lands containing a great quantity of sour humus, the effects of lime are most beneficial. "When animal manure has been applied for some time, lime becomes a valuable manure by decomposing the particles of vegetable matter in it, and thus making them food for plants." "Repeated ameliorations of lime will soon exhaust poor and sandy soils and reduce them to absolute sterility. Each application of it exhausts more and more of the humus until it is gone; the only remedy left is to restore to the land vegetable matter." Lime would make our clay lands more valuable by rendering them more friable, but it is a manure which in middle Georgia we cannot hope to employ.

Marl is another valuable manure, and is a "natural mixture of chalk, shells, or carbonate of lime in some of its forms, with clay or sand, or both." Professor Johnson says of it, that "it renders clay lands more open and friable, and to all soils brings an addition of carbonate and generally of phosphate of lime, both of which are proved by experience to be not only very influential, but to be absolutely necessary to healthy vegetation." *Green sand* is likewise a valuable fertilizer, containing but little lime, and valuable because of the potash it contains. In New Jersey extensive experiments have been made with it, and the fact is stated to have been satisfactorily ascertained, that one bushel of green sand was equal to ten bushels of stable manure. Both these substances exist in our own county, and sufficiently so to authorize their general application, and a small sum of money spent in a geological survey would develope their localities. They are said to exist abundantly in Morgan, Green and Baldwin. Some few years since I submitted specimens of marl taken from my own well and that of Mr. Michael Dennis, in this place, to the examination of Professor Cotting, then State Geologist, both of which he informed me were very rich.

Gypsum or Plaster of Paris, and Guano, are both valuable manures; the first is said not to be availabte in the production of corn, wheat and oats—the latter is a most powerful fertilizer, and upon poor lands will produce a most astonishing effect; but its cost is too great to admit of use on our farms. An artificial guano has been manufactured, which is said to be equally valuable with the natural, and in time may be made so cheap as to admit of general use.

Charcoal is a manure which is well worth the attention of our farmers, and is within the reach of every one. It is more lasting in its effects than any other, and alike active and fertilizing. It acts by absorbing the ammonia from the atmosphere, and from all surrounding objects, and holds it thus *fixed* as food to the roots of plants as they require it. Some plants are more benefitted by it than others, yet all are promoted by it. It should be applied to wheat, oats, corn, &c. Considerable economy may be practiced in its preparation, by burning two or more kilns on the same ground, and breaking the coal to pieces on it—the portion left after raking off the large pieces will render the earth as valuable for manure as the coal itself; then spread at the rate of 20 to 50 bushels to the acre. The coal should be powdered in a trough or other vessel which will save it from loss. I have tried it upon several kinds of plants, and astonishing results have followed its application. I have discovered that the coal which had been burnt two years produced much greater effects than that of comparatively recent preparation. The wheat crop in France is said to be increased annually several millions of bushels by the use of it.

The question left for our consideration then, is, under the circumstances, what kind of manure is the cheapest, best, and most abundant for our purposes? It is farm-yard manure; and this suits all kinds of crops the best, because it is compounded of all the ingredients which constitute the different crops grown.

Johnson, in his "Farmers' Encyclopædia," says, "of all the fertilizers the most useful and most valuable to the cultivator and yet the most generally mismanaged, is farm-yard manure, which has often been described as the farmer's sheet anchor." "The manure commonly furnished by the farm-yard is compounded of a mixture of animal and vegetable substances, of the putrefying straw of various descriptions of grain mixed with the excrements and urine of cattle, horses and swine." Nothing indeed appears so simple at first sight as the collection and manufacture of this dung, and yet there are endless sources of error into which the cultivator is sure to fall if he is not vigilant in their management. Horse dung thrown up in heaps very soon ferments and heats to an excess; the centre of the heap is charred or burned to a dry white substance called fire fanged, and in this state it loses from one half to three-fourths its value."

Again, he says, "the recent manure loses weight by lying in the farm-yard. The moisture evaporates and volatile matters escape by fermentation. By the time that the straw is half rotten this loss amounts to one-fourth of the whole weight, while the bulk is diminished one-half. If allowed to lie still longer the loss increases, till at length it may approach to one-half of the whole, leaving a weight of dung little greater than that of the food and straw which have been consumed." "In the short period of 24 hours, horse dung heats and begins to suffer loss by fermentation. If left in a heap for two or three weeks scarcely seven-tenths of its original weight will remain. Hence the propriety of early removing it from the stable and of mixing it as soon as possible with some other material by which the volatile substances given off may be absorbed and saved. The cold and rotten cow or hog dung will answer well for this purpose, or soil rich in vegetable matter, or *peat* or saw dust, or powdered charcoal; with *peat* or *saw-dust*, it will form a rich compost, and to soils which contain much inert vegetable matter, it can be applied with great advantage."

In our warm climate *evaporation* and *fermentation* have to be particularly guarded against, for they readily occur, and it is difficult to prevent either, unless by mixing the stable manure with earth.

Dr. Jackson, in his address before the last Agricultural Society of Massachusetts, says, "the most common method of making a compost with peat or swamp muck is to mix *three* loads of the peat with one of dung, and to allow the whole to undergo putrefactive changes. Then, previous to spreading it on the soil, a bushel of recently slaked lime should be mixed with each load of compost. It is usual to mix the lime in the Spring 10 to 14 days before spreading the manure; the lime should be slaked until it falls into powder." Again, he says: "Peat is valuable as a basis for com-

peat, not only on account of the large proportion of vegetable matter it contains, and the saline matters in it, but also, because it retains moisture. It is also when dry a good absorber and retainer of heat, and thus serves to maintain a higher temperature in the fields during night. Chaumont also has this property, and land sprinkled with it was found, by an experiment I made ten years ago, to be of a higher temperature than that adjoining it."

The editor of the "American Farmer" says that the richest of manure may be saved upon an easy and cheap plan. "Let the farmer mix with his horse and other dung in equal portions, layer upon layer, almost any rich earth or mould, and as he does so, let him have ground plaster or pulverized charcoal, sifted over each layer in the proportion of a bushel of the first and two of the latter to every twenty loads of dung thus mixed with the earth or mould. The manure heap when thus reformed, should be covered over ten inches with earth of some kind, the whole to present a cone-like shape so as to carry off the water."

Peat should be spread in the stable to absorb the urine, which is the most valuable part of animal manure. One of the best, if not the very best, modes of making manure in our climate is to spread both leaves and peat in the stable—permit them to remain until well saturated with urine, and until the leaves have become well trodden and the dung and peat mixed; then throw into a heap, adding peat until it exceeds the dung in the proportion of three to one. By such means the *quantity* will be very greatly increased. the dung prevented from fermentation, and all the *ammonia* which would otherwise escape and be lost, would be preserved and absorbed by the peat, and the whole mass become better food for plants than the ordinary dung. If a strong smell like hartshorn should at any time arise in the stable, sprinkle powdered charcoal and it will be arrested. This *smell* is the ammonia escaping, which forms the chief food for plants. The manure heap should at all times be protected from both sun and rain; if a pit be dug into which the manure is thrown, it will be better preserved.

A great object with the farmer is to multiply in every conceivable way the quantity of manure. He cannot rely alone upon that from the stable—his cattle are a valuable source on which he can depend. Professor Johnson says, "cow-dung forms by far the largest proportion of the animal manure which in modern agriculture is at the disposal of the practical farmer. It ferments more slowly than that of the horse and the sheep. It acts more slowly, though for a longer period, when applied to the soil. By exposure to the air it undergoes a sensible loss, which in 40 days has been found to equal one-fifth of the whole solid matter which recent cow dung contains. Although, therefore, the comparative slow fermentation as well as the softness of cow-dung fits it better for treading among the straw in the open farm yard, yet the serious loss which it ultimately undergoes will satisfy the economical farmer that the more effectually he can keep it covered up, or the sooner he can gather his mixed dung and straw into heaps the greater proportion of this valuable manure will be retained for the future enriching of his fields." It is very valuable and should be saved; and instead of permitting it to be dried up by the sun, or washed away by the rains, as it now is, let leaves be spread in the cowpens, and let peat be spread likewise; the urine will thus be preserved, as well as the excrement. If the dung could be collected daily and mixed in equal portions with *peat* the quantity would be doubled, and the value improved. An additional source of supply of manure may be had by spreading leaves and peat in the hog-pen, by which the urine will be absorbed and preserved and a compost made with the dung. As a basis for all compost, *peat* is the very best—because it retains moisture to a greater extent than any other earth, and hence will suit our dry and warm seasons. Professor Johnson says of it, "to soils which are deficient in vegetable matter, it is clear that a judicious admixture of peat must prove advantageous, because it will supply some at least of those substances which are necessary to the production of a higher degree of fertility. It decays very slowly in the air, and hence its apparent effect when mixed with the soil is very small. It will not immediately prepare the land for the growth of any particular crop; but it its decay be promoted then its immediate and apparent effect upon the soil is increased, and it becomes an acknowledged fertilizing manure. The half dried peat may be mixed with from one-fourth to one-half its weight of fermenting farm-yard manure—the heap being covered with peat to prevent the escape of fertilizing vapors—or the liquid of the farm yard may be employed for the same purpose." [*Concluded in our next No.*]

The History of the Thrifty and Unthrifty.

BY A NEIGHBOR.

From the American Agricultural Almanac.

In the neighboring village hard by, there are two farmers of equal standing as regards honesty of purpose, benevolence of intention, and all the social virtues. They both mean to discharge all their duties to society, their families and friends, and it is only when we try them by their performances that we find any striking difference. But to mark their qualities more fully, and afford instruction through the successive progression of their parentage, youth and manhood, we must notice them distinctly in each.

Their Fathers.—They were both born in the village where they now reside, and of equally reputable parents. Both were farmers and respectable members of society. The same year that the father of Thrifty was sent to the General Assembly, the father of Unthrifty received the commission for the office of Justice of the Peace. There was a slight difference in their respective characters in only one particular. They were both "well to do in the world," as the phrase is: but while the elder Unthrifty had inherited all his property, a part of which he had already spent by his easy good nature and somewhat indolent habits, the father of Thrifty had been a poor boy and worked his own way in the world, and having married early in life, had brought up a large family, while the other had but this only son.

Their Mothers.—The greatest difference, however, in their parents, was in their mothers. Like her husband, Mrs. Thrifty was a poor child and an orphan, but had been "brought up" by a widowed aunt in habits of great industry, order, and economy. She was early taught to have a place for everything, and everything in its place; to waste nothing and spend no time in idleness; and when her work was done instead of sozzling away her time, playing with the kitten or her apron strings, or sauntering with Goody Tittletattle's girls, and gossiping about the young men, she devoted her leisure hours to reading useful books, or making up counterpanes, knitting stockings, and other articles that might be useful: so that when she had become one-and-twenty, she not only had her mind well informed, but had made up quite a wardrobe for herself, and had acquired so good a character that Mrs. Thrifty thought, and rightly enough too, she was a very good match as a wife. Mrs. Unthrifty, on the other hand, had been indolently and indulgently educated, and always having enough on hand, without any necessity for looking out for herself, her parents "well off," she arrived at what ought to be "years of discretion," without any particular habits of any kind; yet being a pretty, amiable girl, and withal, having a prospect of inheriting some money, Unthrifty thought himself a lucky dog in securing her as a partner for life.

Their Boyhood.—The boys went to the same district school, yet though Unthrifty was nearly two years the oldest, little Thrifty soon caught up to him in his studies, when being put in the same class, he easily got above him, and after generally stood at the head, while Unthrifty stood at the foot. This was not owing to any want of cuteness on the part of Joe, or Josey as he was generally called, for occasionally when any prize was offered that Joe wanted to obtain, he would, by a little application, get ahead of all the boys and secure the prize; while Tom, as they called young Thrifty, would study with all his might without coming within arm's length of Joe. At hunting, fishing or frolicking of any kind, which required ingenuity or skill, Joe was sure to be ahead of all his playmates. But then his habits were negligent, he was half the time late at school, his lessons given him over night not half learned when he got there, and he had very little idea of minding any of the rules; not that he was stubborn or bad tempered, but he "didn't see any use in sitting in his own seat for three hours together, and learning arithmetic, geography and grammar, neither of which would help to tree a squirrel, hole a fox, catch a trout, or bring down a turkey at a shooting match." Tom was always punctual at school, always had his lesson learnt, though he had to work hard for it, and always did as he was bid by the master, simply because his parents told him this was the only way to make a man of himself—and he believed them. Josey's parents indulged him as they indulged themselves, and let him take pretty much his own course as they had done before him, and it was universally believed had the boys swopped parents when they were babies, Joe would have been the smartest scholar of the two.

Grown Up.—The boys got to be men while they still thought they were youngsters, and before they were three-and-twenty both were married to young women in the village, somewhat after their own character.

Their Wives.—Tom's wife was the daughter of a poor, but hard-working wagon maker, and had always been accustomed to industrious habits, while the wife of Joe had received many more advantages in school, though it is said she had misimproved them; but she could do worsted embroidery, draw pretty well from a copy, and play common psalm tunes, Yankee Doodle, and contra dances on the piano.

Their Occupation.—Tom took to farming as his father had done before him, and as he had nothing to begin with, he rented a small farm which his father helped him to stock. He had of his own, a pair of oxen, a few sheep, and some tools, which a couple of years of hard service since he "came of age," had enabled him to purchase; and his wife besides had three good cows, given her by her mother, while her father gave him a good second-hand ox wagon. Tom and his wife went "right" to work. They were up by daylight in the morning, and by the time he had his "chores" done, the cows milked and turned to pasture, the oxen curried, fed and yoked, and the pigs provided for, breakfast was on the table, so that he was ready to go out to his day's work by the time Josey and his wife had "turned out of bed."

In five years after he was married and went to farming, Tom had actually got "fore-handed" enough to buy a farm near him, which was naturally very good land, but had "run down" from the shiftlessness of the former owner; for which he paid $2,000 in cash, out of his own earnings, which were pretty much all used up by the former occupant, in paying off executions and debts against him, and he had just enough left to carry him to Michigan, to begin the world at forty, when Tom began at twenty-one. A mortgage of $1,000 still due on the place, he assumed to pay to the merchant in the village who had taken it some time before in payment of all old scores, including some $200 costs which had accumulated against the debtor.

Josey had a first-rate farm, too, which had been given to him by his father, who also stocked it with all the horses, cattle, sheep and pigs Joe wanted, but Josey "some how or other," hadn't met with very "good luck," as he called it. Indeed, 'twas some time before Josey decided he would take to farming at all.

Josey's Professional Inclination.—His father and mother, before him, had baeen in good deal

of a quandary, whether their son, on whom they thought as all parents generally do, especially if they have but one, was not rather too good for farming. He used to loiter about the bar-room when his father tried the suits before him, and he had picked up a good many legal phrases from the smart young attorneys who used to spout there. He could tell what was a "cause of action," whether the "case should be brought as an action of *tort*, or an action of *trover*," or simply "as an action on the *case*." But though often thinking about it, and rather urged by his ambitious parents, he found so many hard words in looking into Blackstone, the "*Pons asinorum*" of all legal aspirants, that he concluded he would not attempt it. His friends afterwards thought it a great pity, as if he had only got into practice, the law would give him his fees, whether he rendered any service to his client or not. Other friends equally lamented he did not take hold of medicine, for which he at one time had quite an inclination, but from which he was deterred by an indolent and unsuccessful attempt at mastering the technical names of diseases and their remedies, in that horn-book of young Galens, the Dispensary; as they said, "if he only got a run of custom, he was sure to pocket his fees, as no man living could tell what kind of medicine he gives. If his patients got well in spite of the medicine, he was a first rate doctor, and if they didn't, 'twas the fault of the disease; and as for a trial for mal-practice, it must be decided by the doctors themselves, and if they gave it against him, they would be the losers, as it would unsettle confidence in the *profession*. But if he went to farming, and didn't plant and sow right, and do his harvesting at the proper time, or let his cattle die of disease or neglect, he would have to bear the loss himself, as the law didn't compel his customers, in that case, to pay him for what he didn't sell them." In short, before they were thirty, Thrifty and Unthrifty had at last got on the same platform or level, for Tom had by this time paid up for his farm, and had it well stocked, and was entirely out of debt.

Thrifty's Farming.—But the see-saw did not stop when it brought them to this position, for Tom kept going up while Josey kept going down. His father could not help him any more, as he had only enough left to carry him and his wife through the world, while Tom had the prospect of getting some money from his father's estate, who had lately died and left a snug property. But the great difference was in their own management. Thrifty's plowing was always done in the right time, his crops were in early, and they were harvested as soon as ready to cut; his manure was always carried out and spread on the ground; his orchards were well planted and grafted with the best fruits, and he soon had the choicest to sell, which being better than his neighbors, always commanded a high price, besides supplying his own family with all they could use. The orchard was indeed one of the most profitable things of his farm. His tempting ripe peaches, with bread and milk, made a luscious meal for himself and his little ones. The rich sweet apples and baking pears, when cooked without any addition of sugar or molasses, was "sauce" good enough for a king; and it is hardly going beyond the truth to say, that it saved him a barrel of pork a year, besides giving him a luxury which any one might envy. His garden was always the best, for he chose a good spot for it, manured it abundantly, had its seeds in early, and what was best of all, he usually spent a half hour in it with his hoe before the dew was off, by which he secured an early, rapid growth, and his garden made up a third of his summer's living, besides giving good vegetables through the winter. His cows were well chosen and well fed, and were another great help to his living. Besides this, his wife made butter and cheese enough to buy all the groceries, which did not come to much, as they made their own maple-sugar and molasses, and used little tea or coffee and no spirits or wine. His sheep have good fleeces and lambs. The last gave them choice mutton whenever they wanted fresh meat, and besides they occasionally sold some to the butcher, and having got a good name for fine lambs, they always brought a large price. His wife made her own stocking yarn, and home-made flannel, and put out the remainder of the wool on shares to be worked into satinets, and fulled cloth, and flannel, so that their half not only furnished what they wanted for their own use, but gave them some besides to pay their hired men. His fences were always up, and he never suffered from the depredations of his own or neighbors' cattle. His children were punctual at school, and the whole family as punctual at church. All were neat and tidy, for Mrs. Thrifty was as busy and managing within, as he was without, and as was to have been guessed, Thrifty made rapid progress in "getting on in the world."

Josey's Farming.—With Josey, or as we must now dignify him, Mr. Unthrifty, things were quite different. He was going down-hill while Thrifty was going up; yet he took it as easy as he used to do his whippings at school, and thought himself equally as little to blame now as then; in short, "it was all his luck," as he used to say.

His fences were seldom all up at the same time; and when they were repaired, which was never done till the last minute, they were just hitched together, so that the first unruly ox that came along, would tumble it over if he squinted very hard at the dwindled, stunted crops, growing on the other side. Indeed, the poverty stricken appearance of the crops more often prevented depredation than the fences themselves. He got up late, had his breakfast late, and never went out to work before he ate it. By this time the dew was off, and none of it was hoed into the ground, or moistened the grass to make the scythe cut easier. He plowed late, sowed late, planted late, and harvested late; but he had one great advantage in all this, for he had so little to gather, that it never took a great while to secure his crops; or if the storms, snow, or ice did get them at last, he always consoled himself with the idea, "that really he hadn't lost much—they were hardly worth gathering." He had a very good orchard on his farm ten years before, thanks to the owner who preceded him, but the wind had broken off some of the branches, and for want of trimming, the broken and dead limbs had rotted down to the trunks, and made the bodies quite rotten, and the fruit itself had become stunted and wormy, and didn't bear any; and the few it bore, were only fit for the hogs, which, for the want of suitable attention, matched very well with the apples. These he had procured by years of breeding, peculiar to many of the farmers. He always killed the best pigs because they were fattest, and as soon as he got one into the pen that would not fat at all, he said she would have pigs just as well as any others, and 'twas a pity to save them, as they were worth something for pork. His sheep were neglected and got the scab. He consoled himself by denouncing the whole flock as a misbegotten race, and unworthy his regard, and turned them on to the common, where the dogs and crows soon removed both sheep and scab together. His cattle became poor from short allowance and want of attention, and as misery loves company, poverty was soon followed by lice, and thinking them too degenerate for the attention of a man of his expectations, he called them a lousy, drivelling race of Pharaoh's lean kine, and traded them off for anything he could get in exchange, old muskets, fish-nets, and a trooper's second-hand ri His house was leaky, and wanted shingling, but in rainy weather he couldn'nt go out to do it, and when it was fair he didn't want it; so his wife was taken sick from damp rooms, his children had the scarlet fever, and he got a confirmed rheumatism which lasted him for life. As we have not room for any further particulars of the history of *Thrifty* and *Unthrifty*, the remair der shall be reserved for the *American Agriultural Almanac*, for 1847.

By boiling and skimming molasses you may make it nearly as good as sugar for cooking.

Analysis of Soils.

From the Massachusetts Plowman.

We copy the following from the published transactions of the New York Agricultural Society, a copy of which was recently sent us by the officers of that Institution. We are informed, in a note, that this was the last production of the lamented Willis Gaylord, who died in March, 1844.

"Ever since the revival of chemistry, and particularly since its importance in its application to agriculture became known, experiments have been making to determine the character of the soils, their power of production, and the causes of their varying fertility, by a chemical examination of their constituents. That soils varied much in their adaptation to particular plants, was a fact perfectly obvious to all; for instance, that oats would succeed well on soils where wheat could not be grown, was a fact familiar to every farmer, and it was desirable to ascertain, if possible, the reasons of this non-adaptation, so far as it existed in the soil. It was found also, that certain plants of different species, wheat and clover for example, delighted in the same soil, and in their production could be serviceable to each other; and chemical analysis was resorted to in order to determine the cause of this affinity. There certainly appeared to be externally no good reason why this difference in the character or productive qualities of these soils should exist, and the separation or reducing them to their original elements promised much in solution of these difficulties.

Sir Humphrey Davy, whose discoveries in chemistry were so extensive and brilliant, was one of the first to enter the field of agricultural chemistry, and in the importance and value of his labors can scarcely be said to have been exceeded by any of the numerous able men that have followed in the same course of investigation. New paths have indeed been struck out, new processes adopted, many errors corrected, many new and important results been obtained, and the sphere of agricultural chemistry astonishingly simplified as well as extended, yet the honor of being the pioneer in this direction of science, as well as one of the ablest that have labored in this field, belongs to the English philosopher. Chaptal, in France; Liebig and Sprengel, in Germany; Johnston, in England: and Dana, in this country, have all been successful investigators in this department of science, and Liebig and Johnston, by the extent and success of their interrogations of Nature, have given to agricultural chemistry almost the aspect of a new science.

"It was early found that the perfect analysis of soils, required a more thorough acquaintance with chemical processes, and a more extensive and costly laboratory, than could be generally expected, and that a multitude of the original elements of soils were present in such small quantities, or under such circumstances, as to show they could be scarcely essential to the success of the crops usually grown by the farmer; and their total absence in some cases or their presence in the smallest appreciable quantities, proved that such was the case. The more important original elements, however, those which the analysis of the plants themselves, as well as of the soil producing them, proved to be essential to their perfection, was found in such quantities, and so easily determined, as to render a general knowledge of the soil—that knowledge so essential to the practical farmer—of comparative easy acquisition. The processes for ordinary analysis have accordingly within a few years been much simplified and improved, so as to be within the power of almost any one who chooses to undertake the task of investigating the character of the soils he cultivates; while the more delicate processes necessary for a refined and perfect analysis are left for the laboratory of the professed chemist.

"Cultivated soils are composed of certain earths, salts and vegetable matter, and as a general rule it may be stated that in the temperate zones, and under ordinary circumstances, the

earthy part of soils does not vary far from 90 to 96 per cent. The salts are of course in small yet active quantities; and the vegetable matter ranges from half per cent. to 70 or 75. The essential earths—those on which the peculiar qualities of all soils are based—are sand, clay and lime, or the compounds formed of *silex*, *alumina* and *calcium*. There are other elements entering into combination with these, but it is on these, and the relative proportions they bear to each other in the soil, that their fertility is depending. Pure sand, clay, lime or vegetable matter, will not produce healthy plants, or indeed in most cases, any vegetation, however imperfect; it is the mixture or combination of these that constitute a fertile soil, and analysis is the method by which the nature of these combinations, and the proportion of each element is made known.

"The mixture of these elements is usually purely mechanical, and always so with the silex and the lime; but in the clays the sand and alumina is frequently chemically combined, or in such a state that mere agitation in water will not separate them. The purer kinds of pipe and plastic clay are of this nature; indeed, what is called pure clay, although composed of perhaps 60 per cent. of silex and 40 of alumina, is of this character. Where sand and alumina is mechanically mixed, it becomes loam, the name and character of which is determined by the proportion of the several elements of sand, clay and lime it contains. Professor Johnston has in part classified the soils thus formed as follows: *Pure, or pipe clay;* about 40 per cent. of alumina, and 60 of silica. No sand subsides when agitated in water. *Strong or unctuous clay;* pure clay, with from 5 to 15 per cent. of sand, which can be separated by boiling and settling. *Clay loam* contains from 15 to 30 per cent. of sand mechanically united, and which may be separated by washing. *Loamy soils* deposit from 30 to 60 per cent. of sand by mechanical washing. *Sandy soils* contain no more than 10 per cent of pure clay. *Marly soils* are those in which the lime is more than 5, but does not exceed 20 per cent. Marls are sandy, loamy, or clay marls, as these several substances preponderate in the mass. *Calcareous soils*, are those in which the lime exceeds 20 per cent., and thus becomes a prominent constituent. *Vegetable soils*, are those in which the decomposed organic matter exists in proportion of from 5 to 10 per cent., as in garden mould, or from 60 to 75 per cent., as in peat. It is also clear that these will be clayey, sandy or loamy, as these several earths may predominate in the mixture.

"It sometimes happens that the surface soil, or the part usually cultivated, is unproductive, or perhaps entirely barren, from the too great predominance of one of the principal earths, while the subsoil may be of precisely the character wanted to give it the greatest fertility. This occurs oftener on a sandy soil than any other, as on such soils there is a constant tendency to permit clay and vegetable matter to sink through the porous surface, to a more dense subsoil. Thus there are many tracts of sandy soils so light as to be unfit for cultivation, resting on subsoils that require only to be combined with the surface one, to give the proper combination for the highest degree of fertility. Such instances may be found in this country, and they will become more common as the time increases during which our soils have been under tillage. Sprengel, among the soils analyzed by him, gives instances of some wholly barren, but which contained in the surface soil from 27 to 38 per cent. of vegetable matter. Analysis showed that while these lands contained from 70 to 95 per cent. of silica, there was but 1 or 2 per cent. of alumina, and a mere trace of lime, and thus the cause was shown at once why they were unproductive. On the contrary, the subsoil in these cases was rich in the earths and salts most wanted, and had it been raised and mixed with the surface soil, abounding as that did in humus or decayed organic matter, a soil of the most fertile description would have been the result. There is scarcely an instance of barrenness in soils, in which an analysis, such as may be made by any one, will not point out the evil, and thus lead to the best means of remedying it."

The Peach Trade.

From the Boston Cultivator.

A DAY AT THE REYBOLDS' IN PEACH HARVEST.—Desirous of affording our readers the means of forming some idea of the magnitude and importance of the Peach business of Delaware, we lay before them the details of "A day spent at the Reybolds' in Peach harvest."

We took passage from Philadelphia by the steamer Pioneer at Arch-street Wharf, at 7 o'clock on the morning of the 29th August, Reybolds' wharf adjoining being full to overflowing with his empty baskets in transitu; passing the steamer Napoleon, which had arrived at the railroad wharf on the Camden shore, and was discharging her lading of 3000 baskets of Reybold peaches for the New York market. During the passage to Delaware City we were continually passing boats of different descriptions loaded with peaches for the Philadelphia market, reaching the wharf at 11 o'clock, 40 miles below Philadelphia, where it was with difficulty that we could pass along it, for the rows of baskets of Reybolds' peaches, three tiers in height, and extending about one hundred yards in length, flanked with carriages, from the six ox and six mule wagons, counting their 125 baskets each, to the single horse cart or Dearborn, with its score or two awaiting their turn for unloading; reloading with empty baskets and driving furiously back for more—a scene which bade defiance to imagination.

Here we found the Reybolds loading a sloop which departed for Philadelphia with 1230 baskets, only to make room for the Cohansey steamer, on board which were placed 1000 baskets more; and then they began to prepare the evening's loading for the Napoleon, that had returned from Philadelphia during the day, on which were put 1700 baskets from the orchards of Messrs. John, Philip, jr., William and Barney Reybold, when she proceeded to the wharf of Maj Reybold, which is situated in the midst of his orchards, to complete her loading, another 1490 baskets, starting for Philadelphia, so as to be again in the market before daylight next morning, with a total of 3190 baskets.

The details of this day's shipment, therefore, are as follows:

On board the sloop	1,230
On the steamer Cohansey	1,000
On the steamer Napoleon	3,190
Total baskets	5,420

from the Reybold peach orchards only. These all reached their destination before daylight next morning, consigned to Mr. Anthony Reybold, by whom they were disposed of before 11 o'clock, at from 16 to 31 cents per basket, containing about 3½ pecks each.

From the books of Maj. Reybold and his sons were ascertained the quantity of peaches sent to market to the 29th August, inclusive, viz:

Maj. R. from his Maryland and Delaware orchards	31,145
John Reybold	13,300
Philip Reybold, jr.	6,000
William Reybold	5,699
Barney Reybold	7,200
Total number of baskets	63,334
No. of baskets employed for transit	40 to 50,000
No. of acres of orcharding	1,090
No. of trees planted in orchards	117,720

Business detaining us in that part of the country, we returned to Delaware City on the 31st, and found the Reybolds loading two large steamboats at the wharf—the "Napoleon" for Philadelphia, and the "Mutual Safety" for New York direct by sea; the latter of 700 tons burden, leaving with 3581 baskets on board, the former, completing the shipment for that day, a total of 4075 baskets, having taken the day before her usual loading of near 3000. Here we saw three steamers loading with peaches at the same time, while the empty return baskets had numbered 16,000 within the last 24 hours. Major Reybold has it in contemplation to start a large steamer with peaches direct to Boston! Success attend him!

In conclusion we would add, Mr. Philip Reybold, jr., is extensively engaged in the nursery business, more particularly in the raising of peach trees; of which he has from 60 to 80,000, 5 feet high and 2½ inches in circumference from the seed the present season; and from the facilities which he enjoys, as well as the peculiar care and attention employed, those requiring the very finest varieties, so as to form successional orchards, may depend upon a supply of trees true to character and of "most magnificent proportions." It is worthy of remark, the largest peach ever raised in England by the most careful culture measured 12 inches in circumference, while in the orchards of the Reybolds' the present year, one has been found to measure 11½ inches in circumference, and hundreds from 10 to 11, in the open ground and the largest crop, perhaps on record—the third in succession.

At the conclusion of the harvest we will endeavor to present our readers with the sum total of peaches sent to market from Newcastle the present season. JAMES PEDDER.

Philadelphia, Sept. 1, 1845.

P. S. Philip Reybold's address is St. Georges, Delaware.

The Apple Trade.

From Hovey's Magazine of Horticulture.

PROGRESS OF HORTICULTURE IN INDIANA.—The Horticultural Society's Fair is held annually, on the 4th and 5th of October. Experience has shown that it should be earlier; for, although a better assortment of late fruits, in which, hitherto, we have chiefly excelled, is secured, it is at the expense of small fruits and flowers. The floral exhibition was meagre, the frost having already visited and despoiled our gardens. The chief attraction, as, in an agricultural community, it must long continue to be, was the exhibition of fruit. My recollection of New England fruits, after an absence of more than ten years, is not distinct; but my impression is, that so fine a collection of fruits could scarcely be shown there. The luxuriance of the peach, the plum, the pear and the apple, is such, in this region, as to afford the most perfect possible specimens. The vigor of fruit trees in such a soil and under a heaven so congenial, produces fruits which are very large without being coarse-fleshed, the flavor concentrated, and the color very high. It is the constant remark of emigrants from the east, that our apples surpass those to which they have been accustomed. Many fruits which I remember in Connecticut as light colored, appear with us almost refulgent. All summer and early fall apples were gone before our exhibition; but between seventy and a hundred varieties of winter apples were exhibited. We never expect to see finer. Our most popular winter apples are: Yellow Bellflower, White Bellflower, [called *Detroit* by the gentlemen of Cincinnati Horticultural Society, but for reasons which are not satisfactory to my mind. What has become of the White Bellflower of *Coxe*, if this is not it?] Newtown Spitzenberg, exceedingly fine with us; Canfield, Jennetin or Neverfail, escaping Spring frosts by late blossoming, very hardy, a great bearer every year; the fruit comes into eating in February, is tender, juicy, mild and sprightly, and preferred with us to the Green Newtown pippin—keeping full as well, bearing better, the pulp much more *manageable* in the mouth, and the apple has the peculiar property of bearing frosts, and even freezing, without material injury; Green Newton pippin; Michael Henry Pippin, (very fine;) Pryor's Red, in flavor resembling the New England Seek-no-further, Golden russet, the prince of small apples, and resembling a fine butter-pear more nearly than any apple in our orchards—an

enormous bearer; some limbs exhibited were clustered with fruit, more like bunches of grapes than apples; Milam, favorite early winter; Rambo, the same. But the apple most universally cultivated is the Vandevere pippin, only a second or third rate table apple, but having other qualities which quite ravish the hearts of our farmers. The tree is remarkably vigorous and healthy; it almost never fails in a crop; when all others *miss*, the Vandevere pippin *hits*; the fruit, which is very large and comely, is a late winter fruit, yet swells so quickly as to be the first and best summer cooking apple. If its flesh—which is coarse—were fine, and its (too sharp) flavor equalled that of the Golden russet, it would stand without a rival, or near neighbor, at the very head of the list of winter apples. As it is, it is a *first-rate* tree, bearing a *second-rate* apple. A hybrid between it and the Golden russet, or Newtown Spitzenberg, appropriating the virtues of both, would leave little more to be hoped for or wished. The *Baldwin* has never come up to its eastern reputation with us; the Rhode Island Greening is eaten for the sake of "auld lang syne;" the Roxbury russet is not yet in bearing—instead of it, several false varieties have been presented at our exhibitions. All the classic apples of your orchards are planted here, but are yet on probation.

Nothing can exhibit better the folly of trusting to *seedling* orchards for fruit for a main supply, than our experience in this matter. The early settlers could not bring trees from Kentucky, Virginia or Pennsylvania, and, as the next resort, brought and planted seeds of popular apples. A later population found no nurseries to supply the awakening demand for fruit trees, and resorted also to planting seed. That which at first sprang from necessity has been continued from habit, and from an erroneous opinion that seedling fruit was better than grafted. An immense number of seedling trees are found in our State. Since the Indiana Horticultural Society began to collect specimens of these, more than one hundred and fifty varieties have been sent up for inspection. Our rule is to reject every apple which—the habits of the tree and the qualification of its fruit being considered—has a superior or equal already in cultivation. Of all the number presented, not six have vindicated their claims to a name or a place, and not more than *three* will probably be known ten years hence. While, then, we encourage cultivators to raise seedlings experimentally, it is the clearest folly to reject the established varieties and trust to inferior seedling orchards. From facts which I have collected, there have been collected during the past year, in this State, at least one hundred thousand apple trees. Every year the demand increases. It is supposed that the next year will surpass this by at least twenty-five thousand.

In connection with apple orchards, our farmers are increasingly zealous in pear cultivation. We are fortunate in having secured to our nurseries not only the most approved old varieties, but the choicest new pears of British, Continental or American origin. A few years ago to each one hundred apple trees, our nurseries sold, perhaps, two pear trees; now they sell at least twenty to a hundred. Very large pear *orchards* are established, and in some instances are now beginning to bear. I purchased William's Bon Chretien in our market last fall for 75 cents the bushel. This pear, with the St. Michael's, Beurre Diel, Beurre d'Aremberg, Passe Colmar, Duchesse d'Angouleme, Seckel and Marie Louise, are the most widely diffused, and all of them regularly at our exhibitions. Every year enables us to test other varieties. The Passe Colmar and Beurre d'Aremberg have done exceedingly well—a branch of the latter, about eighteen inches in length, was exhibited at our Fair, bearing over twenty pears, none of which were smaller than a turkey's egg. The demand for pear trees this year, has been such that our nurseries have not been able to answer it, and they are swept almost entirely clean. I may as well mention here that, besides many more neighborhood nurseries, there are in this State eighteen which are large and skilfully conducted.

The extraordinary cheapness of trees favors their general cultivation. Apple trees, not under ten feet high, and finely grown, sell at 10, and pears at 20 cents, and in some nurseries, apples may be had at 6 cents. This price, it should be recollected, is in a community where corn brings from 12 to 20 cents only, a bushel; wheat sells from 45 to 50; hay at $5 the ton. During the season of '43 and '44, apples of the finest sorts—Jennetin, Green Newtown pippin, &c.—sold at my door, as late as April, for 25 cents a bushel, and dull at that. This winter they command 37 cents. Attention is increasingly turned to the cultivation of apples for exportation. Our inland orchards will soon find an outlet, both to the Ohio river by railroad, and the Lakes by canal. The effects of such a deluge of fruit is worthy of some speculation. It will diminish the price but increase the *profit* of fruit. An analogous case is seen in the penny-postage system of England. Fruit will become more generally and largely an article, not of luxury, but of daily and ordinary diet. It will find its way down to the poorest table, and the *quantity* consumed will make up in profit to the dealer what is lost in lessening the price. A few years and the apple crop will be a matter of reckoning by farmers and speculators, just as is now the potato crop, the wheat crop, the pork, &c. Nor will it create a home market alone. By care it may be exported with such facility that the world will receive it as a part of its diet. It will, in this respect, follow the history of grains and edible roots, and from a local and limited use, the apple and the pear will become articles of universal demand. The reasons of such an opinion are few and simple. It is a fruit always palatable, and as such, will be welcome to mankind, whatever their tastes, if it can be brought within their reach. The Western States will, before many years, be *forested* with orchards. The fruit bears exportation kindly. Thus there will be a *supply*; a possibility of distributing it by commerce, to meet the taste already existing.—These views may seem fanciful—may prove so; but they are analogical. Nor, if I inherit my three-score years and ten, do I expect to die until the apple crop of the United States shall surpass the potato crop in value, both for man and beast. It has the double quality of palatableness, raw or cooked—it is a *permanent* crop, not requiring annual planting, and it produces more bushels to the acre than corn, wheat, or, on an average, than potatoes. The calculations may be made, allowing an average of fifteen bushels to a tree. The same reasoning is true of the pear—it and the apple are to hold a place yet as universal eatables—a *fruit-grain* not known in their past history. If not another tree should be set in this county, (Marion county,) in ten years the annual crop of apples will be 200,000 bushels. But Wayne county has double our number of trees—suppose, however, the 90 counties of Indiana to have only 25 trees to a quarter section of land, i e., to each 160 acres, the crop of 15 bushels to a tree, would be nearly two millions.

The past year has greatly increased the cultivation of small fruits in the State. Strawberries are found in almost every garden, and of select sorts. None among them all is more popular, or more deservedly so, than Hovey's Seedling. We have a native white strawberry removed from our meadows to our gardens, which produces fruit of superior fragrance and flavor. The crop is not large, but continues gradually ripening for many weeks. The blackberry is introduced to the garden among us. The fruit sells at our market for three to five cents—profit is not therefore the motive for cultivating it, but improvement. I have a *white* variety. Assorted gooseberries and the new raspberries, Franconia and Fastolff, are finding their way into our gardens. The Antwerps we have long had in abundance. If next spring I can produce rhubarb weighing two pounds to the stalk, shall I have surpassed you? I have a *seedling* which last year, without good cultivation, produced petioles weighing from eighteen to twenty ounces. My wrist is not very delicate, and yet it is much smaller in girth than they were.

In no department is there more decided advance among our citizens than in floriculture. In all our rising towns, yards and gardens are to be found choicely stocked. All hardy bulbs are now sought after. Ornamental shrubs are taken from our forests or imported from abroad in great variety. Altheas, rose acacia, jessamine, calycanthus, snowberry, sumach, syringas, spicewood, sheperdia, dogwood, redwood, and other hardy shrubs abound. The rose is an especial favorite. The Bengal, Tea and Noisettes, bear our winters in the open garden with but slight protection. The Bourbon and Remontantes will, however, drive out old and ordinary varieties. The gardens of this town would afford about sixty varieties of roses, which would be reckoned first rate in Boston or Philadelphia.

While New England suffered under a season of drought, on this side of the mountains the season was uncommonly fine—scarcely a week elapsed without copious showers, and gardens remained moist the whole season. Fruits ripened from two to three weeks earlier than usual. In consequence of this, winter fruits are rapidly decaying. To-day is Christmas—the weather is spring-like—no snow—the thermometer this morning 40°. My Noisettes retain their terminal leaves green; and in the southward-looking dells of the woods grasses and herbs are yet of a vivid green. Birds are still here—three this morning were singing on the trees in my yard. There are some curious facts in the early history of horticulture in this region, which I meant to have included in this communication, but insensibly I have, I fear, already prolonged it beyond your convenience.

H. W. BEECHER.

Indianapolis, Dec, 25th, 1844.

Swiney, or Disease or Strain of Shoulder.

From the American Agriculturist.

This is an affection not uncommon, but yet little understood. If of recent occurrence it will be seen that the shoulder is *swelled*; if of long standing, that the shoulder is *diminished* in *size*, the muscles having shrunk away. The shoulder is frequently shrunk when there is no disease in it. This shrinking arises from disuse of the muscles. To retain its full volume a muscle must have constant action. Now, disuse of the muscles of the shoulder may arise from two causes: 1st, lameness of the foot or leg; 2nd, lameness of the shoulder. If it arise from the foot no treatment is necessary for the shoulder. It may be easily known if it proceeds from the foot. In such case the horse, when he moves, lifts his *foot clear from the ground*; and when he points his foot forward he places it flat on the ground. If the injury be in the shoulder, when he moves he *drags the toe of the foot along the ground*, seemingly unable to lift it clear; when he points his foot out, his *toe* only rests on the ground, not the sole of the foot. If the injury is in the shoulder the horse reluctantly turns his head towards the opposite shoulder, as this strains the muscles; but he will willingly turn his head toward the lame shoulder, as this relaxes the muscles.

The common causes of shrinking or swiney of the shoulder, when it arises from the foot or injury to the leg below the shoulder, are all the diseases of the foot and leg, which continue long enough to occasion such a disease of the muscles of the shoulder as to occasion their shrinking. Such diseases are foot founder, contraction of the foot, strain of the navicular joint, ring-bone, pumiced foot, sand crack, quittor, gravel, any separation of the foot, in short, any of the various diseases of the foot which induce the horse to favor it, and thus use as little as possible the whole leg and shoulder.

The shrinking of the shoulder, where it arises

METEOROLOGICAL JOURNAL

FOR THE YEAR 1845, KEPT AT ATHENS, GA., BY PROFESSOR McCAY, OF THE UNIVERSITY OF GEORGIA

Latitude, 33° 58′ N. : Longitude, 5h. 34m. W. : Elevation, about 870 feet.

JULY.

Days Mo.	Barometer. Sun-rise.	Barometer. 3 o'clk P. M.	Thermometer. Sun-rise.	Thermometer. 3 o'k P. M.	Clearness of sky F'm 10 to 0. Sun-rise.	Clearness of sky F'm 10 to 0. 3 o'clk P. M.	Course & strength of wind.* Sun-rise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·30	29·33	59	82	10	9	N. 1	W. 3	
2	·31	·33	63	88	10	7	N. 1	SW 3	
3	·29	·38	75	87	7	2	SW 1	NW 5	0·03
4	·25	·23	70	83	9	5	N. 1	W. 1	
5	·37	·45	75	82	2	6	NE 1	E. 2	0·60
6	·52	·52	74	88	1	4	E. 1	S. 2	
7	·54	·54	75	92	6	5	0	SW 3	
8	·49	·42	78	95	4	3	S. 1	W. 3	0·01
9	·37	·34	75	94	4	5	NE 1	SW 4	
10	·34	·35	74	90	5	4	0	S. 4	1·02
11	·36	·33	74	92	0	1	NE. 1	NE. 2	
12	·29	·34	72	86	7	1	N. 1	SE. 3	0·13
13	·28	·25	74	84	0	0	SW 1	S. 3	0·70
14	·30	·26	76	82	0	6	0	W. 3	0·12
15	·28	·32	73	85	6	1	W. 2	SW 4	0·82
16	·30	·34	74	85	5	3	SW 2	W. 4	
17	·39	·41	74	90	9	7	W. 2	W. 2	0·12
18	·42	·52	72	87	3	4	0	W. 4	
19	·42	·47	73	89	8	9	W. 1	W. 5	
20	·39	·41	71	93	10	10	E. 1	W. 2	
21	·37	·35	76	94	5	8	NW 1	W. 2	
22	·29	·30	77	95	7	9	0	W. 1	
23	·24	·25	74	96	8	9	0	NW 3	
24	·25	·31	62	89	9	9	N. 2	W. 3	
25	·30	·27	68	91	4	1	N. 2	NW 2	
26	·25	·18	74	89	0	2	0	SW 6	
27	·16	·17	74	89	3	6	SW 1	W. 5	
28	·24	·27	64	89	9	9	N. 1	W. 1	
29	·24	·20	64	90	6	2	N. 1	SW 1	
30	·12	·09	77	85	0	5	SW 2	W. 5	
31	·24	·30	76	88	10	10	W. 2	W. 2	
	29·32	29·33	73	89	average.		Tot'l rain		3·60

AUGUST.

Days Mo.	Barometer. Sun-rise.	Barometer. 3 o'clk P. M.	Thermometer. Sun-rise.	Thermometer. 3 o'k P. M.	Clearness of sky F'm 10 to 0. Sun-rise.	Clearness of sky F'm 10 to 0. 3 oc'k P. M.	Course & strength of wind.* Sun rise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·38	29·45	60	83	10	6	0	W. 3	
2	·46	·44	71	82	0	2	0	SE. 2	
3	·46	·44	67	82	0	5	0	SE. 5	
4	·45	·45	67	80	0	1	NW 2	NE. 5	
5	·40	·45	67	82	6	9	NE 2	E. 2	
6	·38	·40	62	86	10	7	NW 1	0	
7	·39	·39	71	88	10	1	0	NE. 3	0·20
8	·39	·42	70	87	10	7	0	0	
9	·43	·40	72	87	1	3	SW 2	SW 1	0·03
10	·31	·33	70	83	9	7	W 1	W. 4	
11	·26	·30	66	86	7	7	W 2	W. 2	
12	·30	·33	68	90	8	7	W 1	W. 4	
13	·39	·42	70	92	6	2	0	W. 4	
14	·35	·38	70	94	5	4	0	NW 3	
15	·34	·36	70	91	6	4	0	NW 4	
16	·38	·38	75	86	5	4	0	NW 2	
17	·37	·40	70	84	8	5	W. 1	NE. 3	
18	·34	·31	70	93	10	7	NW 1	W. 4	
19	·27	·30	71	92	8	5	0	W. 3	
20	·28	·28	77	89	3	3	NE 1	0	
21	·27	·25	74	89	4	5	NE 1	SW 1	0·14
22	·24	·26	70	89	8	5	0	SW 1	
23	·31	·32	71	88	9	1	0	NE. 1	
24	·42	·43	70	92	6	8	NE 2	NE. 1	0·03
25	·41	·43	73	90	3	1	0	N. 1	0·12
26	·40	·33	72	86	5	2	0	SW 2	0·16
27	·30	·33	74	78	0	1	0	SW 3	0·04
28	·33	·38	71	86	8	6	NE 1	0	
29	·40	·42	71	76	1	0	E. 2	E. 4	0·02
30	·35	·35	71	82	0	7	NE. 1	0	
31	·34	·33	70	87	9	2	0	W. 2	
	29·35	29·37	70	87	average.		Tot'l rain		0·74

SEPTEMBER.

Days Mo.	Barometer. Sun-rise.	Barometer. 3 o'clk P. M.	Thermometer. Sun-rise.	Thermometer. 3 o'k P. M.	Clearness of sky F'm 10 to 0. Sun-rise.	Clearness of sky F'm 10 to 0. 3 o'clk P. M.	Course & strength of wind.* Sun-rise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·33	29·32	74	85	3	0	0	N. 2	
2	·25	·23	74	90	1	3	W. 2	W. 2	
3	·30	·28	73	90	5	6	W. 1	W. 1	
4	·29	·32	76	90	3	5	SW 2	SW 4	
5	·34	·32	76	91	3	5	SW 2	SW 2	
6	·35	·36	70	87	6	10	NE 1	NE 2	
7	·36	·37	65	90	8	8	0	NW 1	
8	·37	·34	75	90	9	5	W. 1	W. 2	
9	·34	·35	76	87	4	3	0	W. 3	
10	·42	·41	63	83	8	8	E. 2	W. 1	
11	·44	·44	66	85	8	6	NE 2	NE 2	
12	·43	·49	63	85	10	5	NE 1	NE 4	
13	·50	·48	66	84	2	6	NE 1	NW 3	
14	·34	·27	72	82	0	9	SW 3	W. 5	0·04
15	·29	·34	55	80	10	10	N. 1	NW 1	
16	·42	·43	64	85	5	4	N. 1	E. 3	
17	·45	·48	62	85	3	3	E. 1	E. 3	
18	·44	·42	65	87	1	1	0	SW 2	0·01
19	·40	·35	65	85	1	6	N. 1	W. 2	
20	·33	·37	64	90	5	0	0	SW 4	
21	·12	·10	71	77	0	1	NW 1	NW 2	0·23
22	·26	·30	58	71	6	8	E. 2	E. 2	
23	·35	·36	47	73	10	10	E. 1	0	
24	·36	·42	54	74	5	9	N. 1	W. 1	
25	·43	·40	46	71	10	10	E. 1	W. 1	
26	·37	·35	47	77	10	10	0	W. 1	
27	·40	·37	50	73	10	10	0	0	
28	·45	·51	48	81	10	8	N. 1	0	
29	·48	·39	63	81	7	3	E. 1	SW 2	
30	·33	·26	63	74	0	0	S. 1	SW 1	0·30
	29·36	29·36	64	83	average.		Tot'l rain		0·58

AVERAGE FOR THE YEAR.—*Barometer*, at sunrise, 29·38; 3 o'clock, P. M. 29·37—*Thermometer*, sunrise, 57; 3 P. M. 75—*Total Rain*, inches, 12·85.

* NOTE.—Course and strength of wind, from 10 to 0—0 being least and 10 the strongest. In clearness of sky, 0 represents most cloudy, and 10 perfect clearness.

from an injury in the shoulder itself, has but one ordinary cause, viz: a strain of the shoulder. When there is s rain of the shoulder it is known at once. Within a few hours after its occurrence the shoulder is swelled, perhaps in its whole length, but generally at the lower end. The strain lies almost always in muscles which attach the shoulder-blade to the body; yet the swelling is on the outside; but this arises from sympathy.

When the horse is observed to be lame, and it cannot at once be determined where the lameness is, let him be walked, and if *he drag his toe*, it is in the shoulder. Let the shoulder be examined in front; if the affection be of long standing, the shoulder will be seen to be less than the other. If on feeling it, it be found to be free of heat, there will be no fever. The disease is then chronic. If, however, the shoulder be enlarged, it will be found, on feeling, to be hot —the injury is then recent and inflammatory. Where the disease is in the shoulder and is chronic, it has gone through the inflammatory stage, and is of some considerable standing. The chronic state is rarely cured. It is not unlike rheumatism. For the *chronic state* the best remedy is active *blistering*. This will rouse the vessels to activity. It may be necessary to blister repeatedly, and exercise should accompany the blistering, with good grooming and general care. Let the exercise commence as soon as the blister begins to diminish its discharge. This treatment continued judiciously and energetically for some time may cure *chronic* disease of the shoulder. When the strain is recent and inflammation exists, the horse should be bled from the neck and from the plate vein on the inside of the leg, as near the body as possible. Rest, cooling physic, both purgative and sedentary, should be given—*no blistering* should be allowed. Embrocations of a cooling nature should be applied. No *stimulants* should be applied externally, or given. They but add to the inflammation. When the inflammation is subdued and the shoulder has fallen back to its natural size, the horse needs nothing but rest with gentle exercise. Let him be turned out, if in the summer, to grass; in the winter, into a small yard in good weather, and a stable at night in bad weather. It will take him some time to get over the effects and be fit for work again.

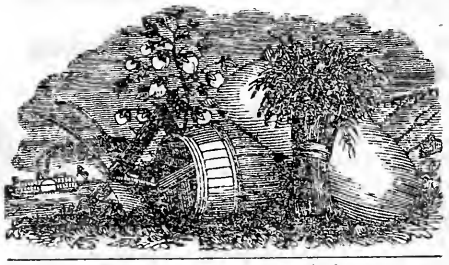
When the shoulder is shrunk or swineyed from lameness in the foot or leg, below the shouldre, no attention should be paid to the shoulder. When both feet or legs are diseased so that the horse seeks to relieve each alternately from pressure, both shoulders will be swineyed; they will be both shrunk, and the breast in front will be diminished and fall in. Treatment in these cases is to be addressed to the place of disease. If in the feet, cure them; if in the legs, cure them. Some diseases in the feet cannot be cured, and, of course, if there be swiney from such cause it cannot be removed. When the feet and legs are cured, and the horse recovers thereby his wonted action, the muscles of the shoulder will by exercise, recover their former size, and the swiney be gone.

Among the ignorant there is a variety of remedies for the swiney, as pegging (that is thrusting a knife in the shoulder and blowing in stimulating powders,) swimming, setons, &c. A recent writer in the Southern Cultivator says, "introduce the small blade of a common pocket knife (the point of which must be sharp,) into the thinnest part of the shoulder, which will be near the upper margin of the shoulder-blade, holding the knife as you would a pen when writing, and scratch up the membrane that covers the bone for a space the size of a silver dollar; the knife may be then withdrawn. The knife may then be introduced in one or two places below the first, and used in the same way, and the operation is over." Now, if the disease be in the shoulder, this method can only cure by rousing the vessels to action. Blistering will do this better, and is more humane and less dangerous. Wounded membranes frequently produce fatal inflammation. Blistering is never dangerous in chronic affections, and therefore is preferable on that score, and by general action does far better. It is done within two days. Scraping the membrane cannot be through its operation short of weeks. A. STEVENS.

Buffalo, January, 1845.

EDUCATION.—The following gives the state of education in the United States, in 1840. It shows the number of white persons in each State above the age of twenty-one, who can neither read nor write:

No. 1. Connecticut—1 in 311.
No. 2. New Hampshire—1 in 159.
No. 3. Massachusetts—1 in 91.
No. 4. Maine—1 in 72,
No. 5. Vermont—1 in 63.
No. 6. Michigan—1 in 44.
No. 7. New York and New Jersey—1 in 26.
No. 8. Pennsylvania—1 in 22.
No. 9. Ohio—1 in 18.
No. 10. Iowa—1 in 17.
No. 11. Louisiana—1 in 16.
No. 12. District of Columbia—1 in 15.
No. 13. Maryland and Wisconsin—1 in 13.
No. 14. Indiana and Mississippi—1 in 10.
No. 15. Florida—1 in 8.
No. 16. Illinois, Arkansas and Missouri—1 in 7.
No. 17. Delaware, Virginia, South Carolina, Alabama and Kentucky—1 in 6.
No. 18. Georgia—1 in 5.
No. 19. North Carolina and Tennessee—1 in 4.



The Southern Cultivator.

AUGUSTA, GA.

VOL. III., NO. 11..NOVEMBER, 1845.

Our Fourth Volume.

The publishers avail themselves of the present number to announce to the PATRONS and FRIENDS of the "SOUTHERN CULTIVATOR," that they will in a few days issue a Prospectus for the FOURTH VOLUME, which will be extensively circulated, and they can but indulge the hope that every *friend* of the work will make some effort to extend its circulation.

The Peach and Apple Trade.

The reader will notice two articles in this number of the CULTIVATOR, which will perhaps occasion some wonder—we allude to the articles on the peach and apple trade.

In addition to the information contained in Mr. PEDDER's article, we have learnt that from the orchard of the REYBOLDS there were sold, up to 29th August, 63,234 baskets of peaches; and up to 8th September, the number had reached to 75,000. The basket contains about half a bushel; and at the first of the season sells for something like three dollars; when the crop is fully ripe, the price falls to about 75 cents. The orchards of the REYBOLDS are said to contain 1090 acres, and 117,720 trees.

RIDGEWAY's orchard in the same neighborhood is a very productive one. It comprises only about 200 acres. In 1839, from 170 acres there were gathered as much as 18,000 bushels of ripe fruit; and about 25 acres had not come into full bearing.

The *Tribune* estimates the whole number of baskets of peaches sold in the city of New York last summer, during the 40 days of the peach season, at 12,000 baskets per day, making 480,000 baskets in all; which, at the average price, would make about three-fourths of a million of dollars paid by the people of New York for peaches in a single year. Mr. DOWNING may say with perfect safety, as he does in the preface to his "Fruits and Fruit Trees of America," that there are more peaches offered for sale in the markets of New York annually, than are raised in all France. And such peaches—so beautiful and so luscious! The best orange is hardly superior to some of the best sorts of Jersey Peaches. We have neglected the peach, as we have nearly every thing else but cotton, in the South, until our best sorts have become so poor, as to be a little worse even than Jeremiah's figs:—for though, according to Peter Pindar's account of these said figs, the bad were not fit for pigs, yet the good were very good. Peter couldn't say as much for our Southern peaches, if he had ever tasted some of the best Jersey varieties, such as the Grosse Mignonne, Red Cheek Malacoton, Early Admirable, or Early Crawford. The business in New Orleans last summer, shows how very inferior our peaches have been allowed to become, through sheer neglect; for there is no tree that repays so generously the care bestowed upon it. Even in that city the sales were only about 1,100 bbls. and 1000 boxes of peaches, nectarines, pears and quinces, amounting to about $4,200. This is mainly attributable, Mr. RUFF says, to the bad quality of the fruit; but the demand, he is confident, will keep pace with the production of *good* fruit.

Why can't the people along the lines of Railroad leading to Charleston, Columbia, Savannah, Augusta, Macon and Montgomery, use some of their poor sandy land that is good for nothing else, in raising good peaches for the supply of the markets of those cities? They have every thing to encourage them, as the facts we have stated clearly show. But unless they get the improved sorts, and then take care to cultivate them properly, they had better let it alone.

The other article is about the Apple Trade. Though it relates chiefly to the state of Horticulture in Indiana, we have copied the whole of it, because, coming from the pen of the Rev. Mr. BEECHER, Editor of the *Indiana Farmer*, it is, of necessity, very interesting. But our principal object is, to introduce to our readers the speculations of Mr. B., on the figure the apple is destined to make hereafter in the world, both as an article of food and of commerce. Do you think the estimate of Mr. B., an extravagant one? Remember there is a strong array of facts against you, some of which we will mention. The crop in the West is a short one this year, owing to late spring frosts. To supply the deficiences, there had been shipped, up to the first of October, from Oswego alone, 5000 barrels of apples for Ohio and Michigan. From other lake ports we have not heard. Mr. DOWNING says, nearly a quarter of a million of fruit trees have been planted in one year, in one of the newest Western States. You see these people believe in Mr. BEECHER. Mr. PELL, of Westchester, New York, has an apple orchard of twenty thousand trees. He sells his apples in New York at six dollars per barrel. The best, however, he sends to England, where they command twenty-one dollars per barrel. The nobility, and the wealthy people, bought them last year at a guinea a dozen, or about 45 cents a piece. Last year he sold 9000 barrels. This year he has already sold between 3000 and 4000 barrels. Scotch physicians prescribe American apples for dyspepsia. It is no unusual thing for an English lady to have on her table at a party, fruit which cost from £400 to £500. A dinner was given by an English nobleman some years ago, for which the fruit alone cost £6000. Invariably, where English and American apples are exposed for sale together in the London fruit shops, the American are preferred at double the price of the English.

With such a demand for fruit, both at home and abroad—with the means of supplying it afforded by American soil and climate and industry and energy and love of gain, Mr. BEECHER can't be far wrong in his anticipations.

What is all this to us of the South?—you ask. Is it not something to know that cotton and rice and sugar are not the only things whereby the pocket may be relieved from collapse—that riches may come of raising even peaches and apples? Moreover, if for want of direct and regular steamships between Savannah and Charleston and Europe, we may not furnish apples for English noblemen to eat, at 45 cents a piece, ought we not at least, to supply our own Southern cities, instead of allowing them to depend on supplies from abroad? The world may be defied to show better apples than the mountain region of the Southern States produces, with proper care. Some say the apple with which Eve was tempted grew here. About that we say nothing, because we don't know how it was. But we do know that the people of our mountain region love money just about as much as most other people; that they have about as much need of it; and that their apples will bring money about as surely as any thing they raise for market. It will be their own fault, if in a few years, a Yankee apple shall be seen in any of our Southern cities.

Lime.

We are not quite sure that Mr. BROWN intended his letter for publication. Not seeing how we could so well forward his ends as by publishing it, we have, Jackson-like, taken the responsibility of doing so. His purposes are now known to our planters, as well as to those who have the management of our railroads. We wish him all the success he can desire; and beg leave to add, that on the subject of transporting lime on railroads, to be used for agricultural purposes, we have never had but one opinion; and that is, that it ought to be transported at the very lowest possible rates. We are pretty sure there will be scarcely any demand for it at the prices stated in Mr. B's postscript. And even at such rates as it might be afforded at, were the freight reduced, it will take a great deal of persuasion to bring it into use. But we don't despair. As the waters wear the stones, so will the frequent repetition of our advice, and the example of others, we hope, wear away in time, the prejudice that exists against every thing that proposes to change the old system of husbandry in the South.

Sugar Cane.

The fact stated by "*Quisque*" in this number of the CULTIVATOR, if there be no mistake about it, is a very curious one. We can find nothing in the writings of vegetable physiologists, or in the recorded experience of practical gardeners, to throw any light on the subject. LINDLEY, KNIGHT, HERBERT, indeed every one, refers to the simple process of dusting the stigma of one plant with the pollen of another, as the only way in which either cross breeds or hybrids are produced: and that the act of fertilization consists in the emission, by the pollen, of certain tubes of microscopical tenuity, which pass down the style, and eventually reach the young seed, with which they come in contact; and, unless this contact takes place, fertilization misses.

Now the sugar cane does not blossom and bear seed, we believe, anywhere but in tropical climates. It is quite certain, therefore, that none of the established principles, of either muling or crossing, can be applied to explain the production of the new variety of cane mentioned by our correspondent. The case is, however, not without parallel. Something of the same kind came under our own observation a few years ago, occurring in our own grounds. The sweet potato does not bear seed, and but seldom produces even blossoms in temperate climates. On one occasion, we had the varieties known as the yam, and the Red Bermuda, growing in contiguous rows. In gathering the crop, we found one of the yams

true to its kind in all respects, except a stripe from end to end of about one-fourth its circumference, which was beyond all question of the Red Bermuda. The yams had blossomed in previous years, but the Bermuda never had with us. How did this mixture of the two kinds occur?

The Maine Farmer.

The editor of the *Maine Farmer*, in his paper of October 9th, copies from the CULTIVATOR of September, our commentaries on his articles therein inserted, and replies as follows:

In relation to the neglect of the South in the disbursement of the public money, Dr. HOLMES answers—

(1.) Alas, friend Camak, the answer is too obvious. We are, both of us, precluded by the *neutral* stand which agricultural papers ought to take, from going into these subjects in detail, because it would of necessity expose the "rottenness *in Denmark*"—the utter and shameless rotten-heartedness of the political leaders of each and every party. It would carry us into the very depths of the slimy and miry slough of party tactics, and party discipline. We may not do this: but we may say, or shall at any rate say, that the day of pure political principle and action has gone by. Men are not now as in the days of Washington, and Henry, and Franklin, and Sherman, chosen to high offices because they loved their country and their *whole country;* but because they will subserve some selfish purposes of this or that clique. The practice of politics has become a game, and he is most successful who is most skillful in the shuffle, cut and deal of the political cards. A government ought to distribute its favors and requirements equally—justly and without partiality all over this territory. The meanest and most humble spot should not be neglected—the poorest citizen should be cherished and protected. That it is not so, we grieve to say is the case, and we see not how either of us can help it, any further than our individual influence and exertions for truth and justice can go. If mere complaining were the order of the day, every section of the Union could find veritable cases enough for stock to work upon."

About the six per cent. and the one mill per cent. Treasury notes:

(2) "This is new to us, and we really do not see what right those who did the deed had so to do. It is customary for governments, both State and national, to issue scrip at different times, bearing different rates of interest; but that scrip should be issued with reference to any particular section of the Union is new doctrine."

To the last paragraph of our article, he responds thus:

(3.) "If we felt aggrieved, as our friend Camak appears to be, we should probably utter the *tallest thunder* we could muster. At the same time we should think it a duty to "be patient, be advised." We should endeavor, while we labored hard to remove any injustice which bore heavily upon our own particular section, to let reason take a calm survey of the whole ground, from "Maine to Georgia," and strive to so balance matters that the prosperity of all should be promoted, and the rights of none infringed. We live together, as a nation, bound by a chain of mutual concessions. The union depends upon such bonds, and while each section, from natural locality, must vary more or less in its interests, they should cheerfully yield a little, each to each, and by thus yielding, become strong in their mutual bonds. Leaving subjects of a more public political character, permit us, friend Camak, to both encourage and sympathize with you in your efforts to rouse up the good people of the South to a sense of their own interest, and to urge upon them the duty and necessity of well directed and well concerted action, in agricultural, as well as other reforms. We have had some experience for the last fifteen years in this business; for in our own section, as well as yours, there is much to reprove and to censure. Idleness is the besetting sin of man the world over, and all the concomitant evils of apathy and supineness bring with them the results of comfortless want wherever they prevail, whether it be North or South, East or West. On the contrary, industry, frugality and perseverance, will finally surmount both national and political obstacles—clothe the old fields with verdure, and make the wilderness blossom like a rose. While we find ourselves laboring under many difficulties, and sometimes ready to become sick and faint amid the battle with prejudice, obstinacy and ignorance, we would, nevertheless, bid you God speed in your own endeavors to bring back the flourishing and palmy days of the South, and hope, ere you die, you will see your labors crowned with a success far beyond your most sanguine hopes; and not only your own, but every State in the Union blessed with prosperity and filled with a virtuous, contented and happy people."

Hill-Side Ditching.

Hard as it is to change old habits, and much as our people may dislike to abandon their slovenly and wasteful processes of cultivating their soil, they have it to do. There is no mistake about it—they have either to mend their ways, or starve, or go to Texas. They must, as one of the first steps towards amendment, stir the sub-soil. We hope we have convinced them of that. Then they must go to ditching their hill-sides, to prevent any more of the cream of their soil going to enrich the bottom of the Atlantic, where it is not needed just now. Quite enough has been already sent off, by our bad management, on that mission. If you want encouragement in this reform, look at the example set you, by Mr. CUNNINGHAM, of Greenesboro', Mr. HARDWICK, of Hancock county, Capt. EGGLESTON, of Mississippi, and Mr. CALHOUN, of South Carolina. We have told you, in the pages of the CULTIVATOR, something of what all these gentlemen have done, or are doing, with hill-side ditches, except Capt. EGGLESTON. Mr. SOLON ROBINSON, in the last number of the *Albany Cultivator*, enables us to add to the others, an account of Capt. E's. practice:

"His place is all hilly, thin, oak land, very light soil, that melts away in water not *quite* so easy as salt or sugar; and yet he has scarcely a gully upon the whole farm; but he has more than 20 miles of hill-side ditches, which are so constructed, that they take up all the surface water, before it passes far enough over the ground to form gullies. While riding over the plantation, I found one of the overseers engaged, with a large force of hands, laying off and making ditches upon some new ground, it being a rule never to put in a second crop until the land is ditched. * * The rows have to conform to the ditches, however crooked; and the manner of plowing, is to lay off the rows in the first instance, the middles being often left unbroken, until after the corn is planted, and perhaps up. Capt. E's. plan is, to plow deep directly under the corn, and plow shallow while tending the growing crop His motto is to plow deep for all crops. He assures us that, since he has adopted the level system of ditching and plowing, that in addition to the advantage to the land, that his crops are better and the soil improving instead of deteriorating."

In the Southern States, some persons, as we have noticed in our travels, have tried the plan of horizontal plowing, omitting altogether the hill-side ditches. This is a ruinous error. Those who have tried it, have found it so; indeed, in the nature of things, it cannot be otherwise. It is far better to continue the old system of plowing straight up and down hill, bad as that is. Let hill-side ditches be made first; then, and not till that is done, should any one attempt to plow his ground horizontally, unless he wants to send his soil on the bootless mission hereinbefore mentioned.

The way to get credit is to be punctual; the way to preserve it is not to use it much; settle often—have short accounts.

The North-West.

Michigan, Wisconsin, Iowa, and the whole region thereabouts, would seem to be a very paradise for grain-growers. The extreme fertility of the soil, the enormous crops it produces, the small outlay of labor necessary to make and gather a crop—the high price it commands when taken to market, the salubrity of the climate, every thing seems to conspire to make the Northwest a most desirable region to those who can endure its cold. The *Racine Advertiser* says:

"Two farmers from Jamesville, in Rock county, whose farms adjoin, last fall conjointly had 200 acres of prairie broken and sown in wheat—the work being performed by two young men, with ten yokes of oxen, and two boys to drive a few weeks. These 200 acres of wheat have recently been cut by means of a machine, occupying only 12½ days, with an extra expense of fifty cents an acre for binding and stacking. The wheat turned out an aggregate of 5000 bushels, worth $2,500, or an average of 25 bushels to the acre. On Friday the owner came to Racine with two wagons, loaded with an aggregate of 205 bushels of wheat, which he sold to Mr. Richmond at 62½ cents the bushel."

Then we have an account of the soil of this region by Mr. WHITNEY, who has lately gone over it, from Lake Michigan to the great bend of the Missouri. He, it will be remembered, has been looking out for the route of his great Railroad to Oregon. Hear what he says of the country:

[From Mr. Whitney's letter in the Nat. Intelligencer.]

"Before leaving Prairie du Chien I fixed upon a route I would like to pass to the Missouri, and with compass in hand made it within five miles of the point started for. By Burr's map of Wisconsin, embracing Iowa &c. (which I found more correct than any I have seen,) we crossed Turkey river at Fort Atkinson, north latitude 43° 15'; thence we crossed the different branches of the Wabisipinica and the Cedars in about the same latitude to Clear Lake, in west longitude 93° 25'; thence northwesterly until we came to a branch of the St. Peter's, running northeasterly—and I will here remark that we did not find the Cedar's or St. Peter's branch to correspond with Burr's or any map I have seen; thence due west to the Des Moines, in latitude 43° 20', and west longitude 95°, which streams we crossed by felling trees for a bridge; thence due west to a number of small beautiful lakes forming the head-waters of the Little Sioux, and emptying into the Missouri; thence across Floyd's river; thence due west across the branches of the Calumet and the Calumet; thence to the Whitestone or Vermilion, then Jacques river, and then to the great, the grand Missouri, fifteen miles below the great bend; making a distance from the Mississippi of more than five hundred miles, over the finest country upon the globe, capable of sustaining more than three times the population of the same space in any other part of the world: no swamps, no marshes, no flooding of rivers, except in the vicinity of the Wabisipinica, and then only for a small distance, and undoubtedly the most healthy country in the world. I have never found the atmosphere so pure; the surface gently rolling to an almost level; always, however, enough undulating to let all the water off.

"While on this subject I will remark that none of the rivers west of the great lakes are natural rivers, but have formed themselves and beds by the constant wash of this vast and almost level plain. The soil of this vast wilderness is as rich as it can be—none richer in the whole distance. I did not see half an acre of useless or bad land; all covered with the finest of grasses, and, when cured, good hay. The farmer will want but the plow, the seed, the scythe, and sickle. As far as the Cedars (ninety miles west of the Mississippi) are considerable tracts of good timber, but none beyond to the Missouri, and then very little, till nearly down to Fort Leavenworth, and then only about three miles wide, and sometimes none on the river; but coals are abundant, and the growth of timber so natural that, without the fires, (which now spread over the whole prairies yearly, consuming every thing,) in fifteen years

the whole, from river to river, would be one dense forest."

[From the Alton Telegraph.]

"The quantity of standing corn, which may be seen from Mound Farm, in Jersey county, under twenty miles from this place, cannot amount to less than *five hundred thousand bushels*. Nor is this all, or the best. From Mr. B. A. Davidson's residence on the bluff, on the road from Alton to Edwardsville, and about seven miles from this city, there may be seen, without moving from the same spot, by looking only in two directions, fields of standing corn, the probable yield of which is estimated at *one million five hundred thousand bushels*. Beat this who can!"

Extraordinary as is the fertility of the soil in that region, and large as the crops are that grow on it, larger crops are gathered elsewhere from soil made fertile by the hand of the husbandman. The *Liverpool Albion* states an instance in which a man made at the rate of 80 bushels of wheat to the acre. His land had been prepared for wheat by the previous culture of potatoes and cabbage; and it had been stirred in the cultivation of the previous crops to the depth of *four feet*.

To come nearer home—we find it stated in the *American Farmer*, that Mr. SMELTZER, of Frederick county, Maryland, raised of the "Oregon" wheat, at the rate of over 50 bushels to the acre, the seed sown being not quite one and an half bushels per acre.

The same gentleman also raised the "China" wheat, at the rate of 47 bushels per acre—a new kind which ripens early, and is said not to be injured by the fly, mildew or smut.

These are the results of careful cultivation and thorough tillage of the soil. In the English example, the soil was, besides being made rich, loosened by trenching to the depth of FOUR feet. This would seem to be useless labor, if we had not the authority of TULL for the fact, that in properly prepared soil, the roots of wheat have been traced to the depth of two feet.

Yankee Enterprise.

The farm of Mr. PHINNEY, of Lexington, Mass., is perhaps one of the most striking instances of what Yankee energy will undertake and accomplish. It contains about 160 acres, and most of it originally, was very rocky and rough. Mr. BRECK, of the *New England Farmer*, says that according to an estimate that had been made, every six feet square of this farm contained a ton of stones, leaving out of the calculation the immoveable ones. This will give, he says, more than a thousand tons to the acre. Yet they have been removed; and the land that was once thus covered, is now producing luxuriant grass, or is planted with apple and peach trees—and in their season with potatoes, melons, &c.

Just think of that, ye lazy *conks* of our sunny South, who will plow round stones and stumps, and over logs, day after day, and year after year—just think of removing a thousand tons of stones from an acre before you can plow it at all; and let shame burn your cheek, because that, with so great natural advantages over Yankeedom—with our generous soil and abundant means to enrich it, with our genial atmosphere and glorious sky—this end of Uncle Sam's heritage is allowed to wear such an aspect of dilapidation and misery—to look so much like the very fag end of creation.

Mr. PHINNEY is clerk of the county court, and his office is some 8 or 10 miles from his farm; yet, by early rising, he looks over his farm every morning, goes to his office, discharges its duties, returns, and looks over his cattle by light of lantern. There is industry for you—another trait of Yankee character that we want to see imitated in this our blessed land of sunshine and idleness. Here's another example. The *Baltimore American* says:

"The town of Rome, in Western New York, containing a population of over 5000, has been built up by factories for making paddles and oars from the ash, thousands of which are shipped by almost every vessel for England, France, Germany, Prussia, Sweden, Russia, and throughout all the East. The Junks of the Chinese are now all managed by American oars, and the small boats of all Europe and Asia, are now propelled by the enterprise of the people of this one village."

Good Lecturing.

The editor of the *Star of Florida* discourses after the following fashion, of the exceeding great folly of his neighbors, in buying what they ought to raise at home. We like these simple truths told in this plain way; and we hope that paper will continue the hoarhound until there shall not be found in Florida a planter who shall not be ashamed to be caught buying a bushel of corn or a pound of bacon—a plow or a wagon—a broom or an axe handle, that is not the production of Southern labor. These Southern States ought to be independent of the world. The people have the means of making themselves so, if they will but use them.

From the Star of Florida.

A WORD TO THE FARMERS.—Corn was selling in the Tallahassee market this morning at 31½ cents per bushel. The average price of the last crop we suppose not to have been over 37½ cents. The average price of Cotton of the last crop was perhaps 4½ cents.

The price of Bacon in the same market is now, and perhaps the average price during the season has been, 10 cents per pound.

Yet, notwithstanding the relative price of these articles, there are many thousand tons of Bacon annually brought here from the Western States and sold to our farmers at these high prices, and their cotton sold at ruinous prices to pay for it. Can there be any wonder why our people should be embarrassed?

But with some of our people there is a worse state of things than this. The farmers of Leon county, as we have remarked, make corn at 37½ cents a bushel. In a neighboring county, less than fifty miles from Tallahassee, a large portion of the farmers depend upon the New Orleans market for their supplies of corn, which they receive by the way of the Chattahoochee river at a cost of not less (in general) than one dollar per bushel. They depend upon their cotton crop, and their tobacco crop, to pay for their bread and meat. Can such a system lead to anything else but hard times and embarrassment?

Again, the Florida farmers have an abundant supply of most excellent timber, for all mechanical purposes, at their own doors. They have an abundant supply of mechanical skill, if properly encouraged, in their own neighborhoods. Yet if a Florida farmer wants a plow, he sends off to the next market and buys one which has been imported from Yankeedom, and pays five dollars, and makes cotton at 3 or 5 cents per pound to pay for it. If he wants an axe handle, scythe sheath, or any article of a similar sort, he pursues a like course.

By such a system, hundreds of dollars are annually sent abroad, which might with very little trouble have been kept at home.

"But," says the farmer, "I want to buy plows and so on, where they can be had at the cheapest rates. If I want an article made at home, I must run after the mechanic, hunt him up, and then perhaps he will ask an exorbitant price. But I deal with Mr. Sharp the merchant—he takes my cotton—I trade it out with him—and it is very *convenient* to get anything I want from him."

Yes, there certainly is a sort of *convenience* in getting what one wants without much trouble. But yet, on the other hand, there is a very great *inconvenience* in being made to pay through the nose, for what one doesn't want.

Now, it may sometimes seem to the farmer that he pays less to the merchant for an important article than the same would have cost him if made at home—when in fact such is not the case.

When a farmer buys an article which has been manufactured abroad, he must pay for it in cash, or in some commodity that will command cash, at the place of manufacture. And as cotton is almost the only article grown at the South which commands cash in a foreign market, it follows as a matter of course, that the farmer must continue to grow cotton, even at the most ruinous prices, so long as they purchase their principal articles of consumption abroad.

But if the farmer procured his manufactures from a neighbor, even at a *nominal* higher price—yet the money would remain at home, and a large portion of it would, in the course of the year, find its way back to the farmer's pocket again.

The mechanic must have timber to work up in the different branches of his trade. And he pays back to the farmer some portion of his price of his plow, for what, otherwise, would rot in the forests. The mechanic must procure from the farmer, bread for himself—corn and fodder for his horse—shucks, pumpkins and turnips for his cow, and many other articles which the farmer could not send to the North to pay for a plow.

And it may therefore often be really cheaper for the farmer to pay *nominally*, a higher price for an article if made at home, than a *lower* price for an article of foreign fabric.

Deep Plowing.

From all parts of the country where sub soil plowing has been tried, the testimony is uniform in its favor. We do not know of a single exception. Even the political papers are urging its importance on their readers. The *New York Tribune*, for example, says:

"As to deep plowing, all science, all practice, all authority recommend it, and yet three-fourths of our farmers persist in skinning their land over from five to eight inches deep, or not half what is required. We saw field after field of corn which will not yield ten bushels to the acre, (and poor stuff at that) which might have been put up to twenty by deep plowing alone. Of course, one year would not exhibit all the benefits of this culture, though even the first year, if a dry one, would show its decided advantages, but let land have time to get used to deep plowing, and it will tell you plainly how it relishes that treatment. And the man who plows deep is pretty apt to put something else into the soil as well as iron. He will have muck and peat from his swamp holes and a noble compost heap near his barn.

"We hear farmers complain, and most truly, that they can make nothing by their business—and this while they are paying taxes, keeping up fences, and perhaps paying the mortgage interest, on twice as much land as they can cultivate well, and letting half of it go from year to year, without tillage, without fertilizing, and often growing up to bushes and all manner of mischief. Now the wonder is not that such farmers do not thrive—the marvel is that they manage to exist. Let any manufacturer, or merchant, do his business after this pattern, and he must fail—there is no help for it.

"But must we conclude that bad farming has become inveterate among our people?—that our farmers have resolved, though they know better, to hold twice as much land as they can till thoroughly, and torment it till it ruins them. We will not give it up. Every farmer we see admits the evils—says he and his neighbors run over too much land, cultivate too slovenly, are not sufficiently wide awake to the march of improvement,

and lay out too much main strength on what could be easier and better done by the aid of skill and science. All are aware that they must farm better or break, for the car of improvement moves on, and the only choice is to ride on or be run over by it."

Chickasaw Pea.

A correspondent of the *South Carolinian*, writing from Greenville, speaks in very high terms of the Chickasaw Pea as a fertilizer. If this pea, after extensive trial, continues to answer the expectations that have been formed of it, we need not, in the Southern States, complain that clover will not succeed with us. We will have in this pea what will answer our purposes just as well.

We shall be glad to hear more of it from those who have tried it; and especially if it be not the same as what is known as the *Tory Pea*, in Alabama, and some parts of Georgia.

The account by the *South Carolinian's* correspondent, is as follows:

"There is, perhaps, no section of country in the upper districts which has improved more in agricultural condition than the "Old Pendleton" neighborhood—the result, we are told, of an Agricultural Society, composed of intelligent and practical farmers. We were struck with the manifest improvement in the breeds of cattle and hogs. The Berkshire cross has here told well, for the very simple reason, we presume, that stock is attended to. We have never seen a finer stock of hogs in travelling through any country. More attention seems to be paid to the Pea culture here than in any section we have been. We are told that it is the opinion of many good farmers hereabouts, that land can be improved to a high degree by the Pea culture. We have no doubt of the fact, if properly applied. There is a Pea, the Chickasaw Pea, which bears most abundantly, and once planted, is almost inextirpable. We have seen it put into corn ground—after the corn was taken off—pastured by the cattle and hogs all winter—in the spring put in oats, and after the oats was taken off the pea came up in great abundance. Now suppose these were to be let alone, and in lieu of the absurd system of pasturing stubble, the *vine* and *stubble* should be turned under in the fall—would not the land be vastly improved? We have no doubt, if the pea were sown on our stubble lands—a peck to the acre—and the crop turned in, while in the bloom—that the effect produced would be equal to the best clover leys, so much esteemed in Virginia and the North. It is an admitted fact, that leguminous plants exhaust a soil in a very slight degree.

"The Pea vine contains about 53 per cent. of Potash, a most important ingredient in all soils for the production of grain or cotton. If this should be returned to the soil, in addition to the carbon and nitrogen contained in the vine, it seems to me that there would be a manifest improvement. It has been discovered by analysis that Cotton wool contains potassa 31.09 per cent.; lime, 17.05.; magnesia, 3.26; phosphoric acid, 12.30; sulphuric acid, 1.22. That the seed contains phosphoric acid, 45.85; lime, 29.79; potassa, 19.40; sulphuric acid, 1.16 per cent. While Corn contains potassa, 20 87; phosphoric acid, 18.80; lime, 9.72; magnesia, 5.76 per cent. The following analysis of straws may not be uninteresting:

	Wheat Straw.	Barley Straw.	Oat Straw.
Potash	½	3½	15
Soda	¾	1	15
Lime	7	10½	2¾
Magnesia	1	1½	¼
Alumina	2½	3	2½
Oxide of Iron,	2¾	½	2¾
Silica, or flint	81	73½	80
Sulphuric Acid	1	2	1½
Phosphoric do	5	3	¼
Chlorine	1	1½	¼
	100	100	100

From the foregoing data we learn, that potash is a most important ingredient in cotton and corn, and that the pea vine and cotton seed would be most invaluable manures---how easy would it be to avail ourselves of both. If a planter should sow 20 bushels per acre of cotton seed upon a luxuriant vine crop, and put it in wheat, is it not reasonable to suppose that the advantage derived would be as great as from a clover ley, and gypsum. We are sure, the elements are nearly the same, and we have no doubt of its effect. It is an admitted fact, we believe, that oats exhaust land more than any other grain crop. The mystery is solved, we think, by the analysis, for thereby, oats is found to contain 15 per cent. of potassa, while barley straw contains only 3½, and wheat ½ per cent. No doubt the rapid growth of oats, and close pasturing aids much in the exhaustion of the soil, and we derive an important lesson from the analysis-- the want of potassa in the soil---which may be supplied by the pea crop, and the keeping off one's stock. Grass does not exhaust a soil, for the very simple reason, that it takes up no potash. Grass contains, carbon 45 per cent; hydrogen 5; oxygen 38; nitrogen 1½; and ashes 9 per cent.

Every old woman in the country can tell us, that post oak and hickory contain the most potash---yet how few farmers know, that this is the reason, why post oak and hickory lands are the most productive. Let a piece of land of this growth be exhausted and turned out, and it will put up pine, which contains less potash, perhaps, than any other tree. For this reason a pine old field will produce but a few years, without manure. In all pine old fields, you will find an abundant supply of silica, and if you only will add the potash, you are certain of a good crop.

We look forward to a day when the Pea crop will be found a most important auxiliary in the resuscitation of the worn out lands of the South. Clover cannot be grown here---the climate is altogether too hot to expect a luxuriant growth to answer for manure. We see no resource left us but the Pea culture. PAUL PRY.

Original Communications.

Sheep and Wool.

MR. CAMAK:—I am glad to see that your paper is becoming the medium of conveying matters of vital interest to the public mind. Trivial experiments in trivial farming has been the dead weight which has overburdened almost every agricultural paper, and eventually created a disrelish which has condemned them to failure. Some of your correspondents have come to your aid in a branch of production, which must, ere long, constitute a source of great revenue to individuals, and render the South an independent people. If Georgia does not become a large wool-growing State it will be for reasons wholly unassignable. It cannot be for the reason that we have not territory and climate perfectly adapted to it; nor can it be, that it is unprofitable. I will not place wool-growing upon the ground of patriotism, for that basis is apt to yield to the weight of individual interest. So far as you have expressed the desire that we should and ought to become *independent of the world* to supply our wants, every Georgian will concur with you. That we can do so in the main and necessary articles of food and raiment, I believe with you, that *we can*. There seems to be no doubt among men of reflection, that Georgia must, ere long, from position and conformation, become a manufacturing State; and it is not only the manufacture of cotton, but almost every branch resulting in an entire supply of such as we need. This end I am certain you wish to forward.

As it was intended in this paper to bear testimony only to the sound doctrine expressed by some of your correspondents in relation to wool-growing, it will be confined to that matter. Coincidence in the opinions of a few men results in forming "public opinion." I cannot promise any methodical arrangement in this matter, but as an idea arises I will put it down in ink, good or bad. Can we or not, raise wool? This has been settled long since. I might say it had been done in every county in the State; but to do it as a source of actual income is the point which is most material to prove. If it is not profitable and cannot be made so, no proof on paper will change our production of cotton. If more money can be made or saved by making cotton than raising wool, no conviction on paper will induce people to turn to wool-growers. But I am under the impression that a portion of our State can, and will be convinced, that wool-growing is the only resource of permanent profit left to us in time to come—I might say at this time. The Cherokee district is yet too fresh; although the greatest part is fit for very little else in agriculture, still the people will not alter their production from grain to wool—I mean, to take it up as a main and leading production. Although no country on the continent is more suitable than some sections of Cherokee, it will not be done. Where anything, cotton, corn or silk, can be produced with greater profit than wool, let it be done. Where wool meets with such competition it would be abandoned. For this reason, although the climate and soil of the cotton region of Georgia might be entirely suitable, the rivalship of cotton is too powerful. We must then look for a theatre where wool would be free from such competition. The counties of Hall, Habersham, Rabun, Franklin, Clarke and Madison, either entirely or in part, present every inducement to embark in this matter. The best evidence is that which is in reach. To prove anything by conjecture or supposition is useless where money is concerned. To induce men to take up a new business, I must prove that it is not only possible, but profitable. The members of the Western bar are all in reach, if called on, to prove that it is *possible;* if not to raise wool, certainly to raise better mutton than in New England. I understand such to be the case in Habersham and Rabun. The possibility is therefore settled. I do not say better *wool* than New England, but I will say, better than the foreign wools from Smyrna and Buenos Ayres. The wool from Smyrna looses about one-half when washed after it reaches our market. That from Buenos Ayres is always coarse, and it is imported because it is *cheap*—perhaps the cheapest. I mention these counties of Hall, &c., because we all know them. They are to become our allies in this production. This place would be the market for wool grown in them.

The average yield of sheep is better known to the farming people than to me. But we may put it at 3½ pounds for sheep well housed and pastured. This, if managed neatly, would be worth 30 cents per pound, or about the cost of the sheep per head, leaving out the increase from a flock. It is rarely that we find a man who does not admit that wool-growing would be profitable in this section—perhaps not one in a hundred; and many are anxious to test the matter, and are willing to risk much larger amounts than the Southern people have credit for. But in the history of the world there is no parallel to the insignificance of the cause which prevents this outlay of capital in Georgia. I might say with truth, that millions of dollars are lost to the State by those worthless dogs which are allowed to wander and depredate, utterly useless to their owners. Now is there not a species of madness about us to suffer this annual loss, and make no effort to better our condition? I know we cannot get protection from the Legislature; at least, no law will ever be passed embracing the whole State. No party, no legislature, will have the independence to save us from the fate of Acteon. Neither parties nor individuals will hazard their vanity or popularity by introducing a "dog law." But if we cannot get a general law, let old Clarke do her duty. If we cannot get Clarke county to do it, by her people openly and freely asking the Legislature to protect us in the attempt, let

us of this, the Athens district, sign our names, requesting the Legislature to pass a law giving us the privilege of excluding these miserable depredators, that "make night hideous," from our district. Let us agree upon the provisions of a bill which will insure the success of the experiment so far as it may be impeded by dogs.

Clarke county has led forward nobly and successfully—the first to propose, adopt and urge on the great railway system in this State. The money of her people has been laid down to effect it, and at great personal sacrifice. There is no parallel in monetary affairs to the patience and endurance of her people under the adverse circumstances which have impeded her enterprise. Clarke county stands the noblest example of the manufacturing interest in the South. Their capital was pressed into it when it was deemed hazardous if not chimerical, and her manufactured produce is now greater than in all the State beside. Let us take one more step in advance of public opinion—let us be fearless of the result. If we cannot induce politicians to do their duty, let us do ours. We have no hope of obtaining a dog law to protect the whole State; let us then protect our little district. As for myself, I am not above the influence of party feeling; I may admit that I might be considered rancorous; but notwithstanding the admission, I am willing to pledge my vote to any man of any party, to forward these ends, regarding the matter as one of the highest interest to the people. This county, as well as those immediately north of us, are not adapted to cotton, except in a slight degree, and they become less so every succeeding year. We are, therefore, I might say, driven to make something else, and it is fortunate that we have a resource which promises so well. Separate from the individual profit to the wool-grower, the interest and prosperity of this town and the merit of a good example, will, by success, extend the action of the law to other districts in this county, and to other counties. These few counties can make nothing else on a large scale—and I might say that the population favors the project, because there is not a sufficient inducement in the present worn out condition of the lands to employ a large Negro labor; and in this business the poorest man can employ some capital and reap a reward which, under existing circumstances, he cannot do. Any man can own a few sheep. The very poorest can make something with less trouble than by any other means, if he is protected from devouring dogs. Let us go to work and counsel with our neighbors and settle among ourselves what we can do for the country.

If we cannot induce the whole country, let us reason with a part, and that part our own neighborhood. And in our consultations we may present forcible opinions to each other. It appears to me we would come to the point at once. We do not wish to raise wool to make broadcloth, at least not at this time. We can make such as is suitable to the existing state of manufactures. They cannot make broadcloth now, and never will unless we justify them in obtaining men and machinery, and this they cannot do unless there is a regular and full supply to retain these requisites in their service. The wool we would make would be such as they want now, and they would manufacture the description of goods which we want. If we cannot get broadcloth we can wear Southern kerseys and satinets, and we should merit much more, dressed in that, than if we were full rigged in superfines from Old or New England.

I believe such privilege or protection, call it as you like, would raise the price of land when it was in operation. I am certain on this point. Perhaps there are 10,000 acres of land in this district utterly useless as a source of income to the owners. The most of it the owners would not acknowledge as their property if they were not "stirred up with a sharp stick" by the tax collector. But, poor as it is, every acre of it, perhaps, would pay to the owner two or three dollars per annum, without any enrichment of soil, if permitted to use it in the manner proposed. This is more than the land is worth now, or ever will be, without this change. My opinion is, that the privilege extended to one or more districts would induce people to come within the limits with their money to be so invested. The town, the manufactories and the people, are all to be benefitted by such a movement. Let the unanimous petition of the district place us, if possible, for the third time, at the head of a great enterprize. N.

Athens, Oct., 1845.

Suggested Plan for Improving Soil.

Mr. Camak:—In the South, to be successful, we must have an agricultural literature of our own. The same plan of operations is not equally well adapted to every section of this extensive country. That which answers an excellent purpose in a cold latitude may succeed but very indifferently in a warm climate. Theories in farming may many times appear beautiful upon paper which turn out most badly in practice. I would give more for the experience of one intelligent practical farmer than for a thousand theories that have never been tested by actual experiment. The experience and experiments of the best and most successful farmers of this section of country is what we want. Will the farmers and planters of this region withhold this information any longer. I would fain hope not. Come, gentlemen, let your communications adorn the columns of the Southern Cultivator—a paper that will well compare with any agricultural paper published either South or North.

So far as my observation has extended, in the South we have three kinds of agricultural doctrines taught. One class of individuals says, wear out your land and move away. Another says, use prudence by resting the land and other means so as to make it last as long as you conveniently can, and then move. Others say, so manage as to improve both the soil and crops. I believe the last to be the soundest doctrine.

This doctrine cannot be carried into practice, however, without manuring. The next difficulty is, how can that be effected by the least possible expense of time and labor. Now for the practical part: I will take ten acres of perfectly exhausted land—surface sandy with a clay subsoil. Next month I will sow half a bushel of rye per acre, which I will turn under with a one horse turning plow, being careful not to cover so deep but that it will come up well. Next May, when the rye is not yet matured, I will sow upon, and right among the rye standing as it is, two bushels of corn, (mixed with cow peas, say one peck,) on each acre. Then, when the corn is about tasseling, I will sow rye again and turn under the corn and peas. The following spring, I will lay off and plant corn, and so soon as it comes up I will, with a turning plow, cover up for manure all the rye that is growing in the spaces between the rows.

Will any of the readers of the Southern Cultivator point out the defects of the above and communicate by means of the Southern Cultivator, a better method? The following are some of its advantages: The growing rye will keep the land from washing during the winter rains. It takes less of rye than of any other grain per acre to sow land. After the corn crop is raised, sow wheat or oats or rye, and then corn and peas, broadcast, and turn under, and then a crop of corn or cotton. By that means the land produces a crop every year except the first—that is, next year. By repeated plowings, in sowing and turning under the manures, the land will be kept free of weeds, &c.

How will such a plan do? Intelligent farmers of the South, an answer is respectfully requested. I have named a one horse turning plow, because all the most experienced farmers say that too deep plowing will ruin the land in this region. I ask for information. I make no pretensions to agricultural experience or knowledge myself. Charles D. Davis.

P. S.—Should any one see fit to suggest another plan, the comparative expense and the *modus operandi* is requested to be given.

Sugar Cane--Inquiry.

Mr. Camak:—A few of us in the vicinity of this place, who are your subscribers, wish your opinion on a subject about which we differ. It is the mixture of the two kinds of sugar cane. Where the green and ribbon cane have been planted very close to each other we have discovered a third kind, partaking of the nature of both the other plants, but not exactly like either. It has a blue color, but has not the stripes of the ribbon cane. In texture, it is softer than the ribbon and harder than the green. It contains more sap than the ribbon, but not so much as the green. But the sap contains more saccharine matter than that of the green, and not so much as that of the ribbon. Some of us think it is a mixture of the other two kinds, while others think they cannot mix, as they never bloom or bear seeds. As we have agreed to refer the matter to you, you will please give us your opinion; and if you believe such plants mix, say, by what process in nature such mixture is effected. Respectfully yours, Quisque.

Buckeye, Laurens Co., Oct. 4, 1845.

Lime.

Mr. Camak:—Upon the suggestion of the Rev. C. W. Howard, I take the liberty of addressing you, upon a subject in which I presume you will take some interest. We are preparing to burn *lime* in large quantities, under an impression that the demand for agricultural purposes will be great when its value as a manure comes to be properly appreciated in Georgia. Our quarry is situated immediately upon the line of the railroad in the valley of the Conasena creek, Cass county. The rock is of a superior quality, and we have every advantage necessary to burn it with economy. We desire to obtain your opinion as to the probability of its being used by the planters of your acquaintance, and what will be the maximum price they will give for *slaked lime* per bushel. We should also be happy to receive your good offices in making known through the Cultivator the fact of our being prepared to supply any orders after the first of December. As soon as I can ascertain the exact rate of freight upon the railroads I wish to insert an advertisement at fixed prices per bushel or barrel. The cost of transportation is the main *item*, and I am afraid the Railroad companies will charge too much.

We design at the outset to put the price as low as possible, as only in this way can it be brought into immediate and extensive use. The liberal use of lime as a manure, by fertilizing the soil will increase its production, and thereby cause a large surplus to be sent by railroad to market. It appears to me that this argument ought to induce the companies, as well for their own interest as that of the agriculturist, to fix the rate of transportation at a *minimum*.

Mr. Howard desires me to ask you to speak upon this subject to Col. John Billups. He is a large planter, and one who, it is probable, would be likely to appreciate the value of lime as a manure.

Please excuse any trouble an early attention to this letter may give you.

Your obedient servant,
Wm. Spencer Brown.

P. S. At the *advertised rates* of freight we can afford slaked lime at from 25 to 30 cents per bushel; of course, as the rates are reduced the price will fall in proportion.

Rome, Floyd Co., Oct. 10, 1845.

Liquid Manure.—The Chinese, who are particularly skilful in the management of manure, are extremely careful not to waste the smallest portion; and, according to Sir George Staunton, they prefer the dung of birds to that of all others, and next to that, night soil, which they apply in a liquid state.

Agricultural Meetings.

Agricultural Meeting in Barbour County.

A meeting of the Barbour County Agricultural Society was held on Saturday, the 4th instant, in the Town Hall in Eufaula, Ala.

The President, Col. A. McDonald, in the Chair, and H. Hemphill, Secretary.

The object of the meeting having been stated by the President to be, to make arrangements for the approaching anniversary of the Society, and the Agricultural Fair to take place on the 5th day of November, being the first Wednesday in the month.

The following letter from Dr. J. M. Raiford to the President of the Society, was read, on the subject of giving premiums for fine cotton:

GLENNVILLE, October 3, 1845.

COL. McDONALD:—*Dear Sir*—Owing to physical indisposition I shall not be able to attend the Agricultural Meeting in Eufaula to-morrow. I regret it very much, as it has been my desire at that meeting to consult with the farmers of the Society, on the subject of the proposition I suggested to you, when I saw you last.

The proposition is this: that some ten or more of the farmers *who belong to the Society*, contribute the sum of five dollars each, which shall be appropriated to the purchase of a suitable silver premium to be awarded to the individual who exhibits the best lot of ten, fifteen or twenty bales of cotton, (the number can be definitely fixed by the competitors,) at the Agricultural Fair on the 22d November next. The same rules and regulations that were observed by the Apalachicola Chamber of Commerce in the examination of cottons and award of premiums, in the years '41, '2, '3 and '4, to be observed in the award of the premium under consideration.

At a glance, my dear sir, you discover the great benefit such an exhibition would exert on the immediate interest of the competitors, by causing them to take more pains in the preparation of their cottons, thereby improving the quality and price, and also in awakening a spirit of emulation in others to excel in the management of this important article. Ultimately it will have an incalculable beneficial influence on the prosperity and reputation of the country, and will also be of vast benefit to Eufaula as a commercial city.

I would be glad that you would bring this subject before the attention of the Society, and if the proposition takes, let me know soon.

With respect, &c. JOHN M. RAIFORD.

The following gentlemen were appointed a committee to take into consideration the matter contained in the letter of Dr. Raiford, and report to the Society, to wit: Col. J. L. Hunter, Gen. C. Shorter, John A. Calhoun, Esq., and Abner McGehee.

On motion of W. S. Paulin, Messrs. Calhoun, Flournoy and Archer, were added to the Executive Committee.

The President offered the following resolution:

Whereas, there is the greatest diversity of opinion as to the extent of the present crop of cotton; and whereas, it is believed that owing to the unparalleled drought that has prevailed throughout the cotton growing sections during the past summer, that there will be an immense falling off of that valuable staple from the amount made the previous year; and whereas, it is a matter of the deepest interest to the cotton planters as well as the community at large, to ascertain as near as possible the extent of the crop or the quantity made:—Be it resolved, That the corresponding Secretary of the Barbour County, Agricultural Society, be requested to commence a correspondence with the growers of cotton in the different sections of the cotton growing region, for the purpose of ascertaining as near as possible the amount of the crop, and lay the correspondence before the next meeting of the Society.

The Committee appointed on Dr. Raiford's letter, made the following report:

The Committee to whom was referred a letter from John M. Raiford, Esq, Vice-President of the Society, on the subject of offering premiums for fine cotton—report that they have had the same under consideration, and recommend that a subscription be opened at one or two dollars for each individual—the amount collected to be equally divided between the successful competitors of two lots, one of five, and one of twenty bales, to be exhibited on the 1st Monday in December next, at the market of Eufaula, at 12 o'clock: Provided, also, That if the merchants shall contribute the largest amount of money, that the said cotton shall be sold in the town of Eufaula.

JNO. L. HUNTER, Chm'n,
REUBEN C. SHORTER,
JOHN A. CALHOUN,
ABNER McGEHEE,
} Com'ttee.

The report was taken up, and upon motion of Mr. Calhoun, the same was laid upon the table, to be considered at an adjourned meeting, to be held on Saturday next, at which the merchants be invited to attend.

Resolved, That the President appoint a committee of five to award premiums and make arrangements for a Fair to be held at the Market House in Eufaula, on the 5th day of November next.

Resolved, That the proceedings be published in the Eufaula Democrat and the Southern Shield.

The Society then adjourned till Saturday next.

The following gentlemen, from the Executive Committee, met and decided on the premiums to be given at the Fair: John A. Calhoun, Esq., Thomas Cargile, Esq., and W. S. Paulin.

For the best stallion, 4 years old or upwards.....$3 00
2d best.....honors
Best filly, 3 years old or upwards.....$2 00
2d best.....honors.
Best colt, 2 years old.....1 vol. Southern Cultivator.
2d best.....honors.
Best year old colt.....1 vol. Albany Cultivator.
2d best.....honors.
Best brood mare, with or without colt.....$3 00
2d best.....honors.
Best mule colt.....honors.
Best bull.....$3 00
2d best.....1 vol. Southern Planter.
2d best.....honors.
Best milch cow.....$3 00
2d best.....American Agriculturalist.
3d best.....Tennessee Agriculturist.
Best 2 year old heifer.....Southern Planter.
2d best.....honors.
Best boar.....Southern Cultivator
2d best.....honors.
Best breeding sow.....Albany Cultivator.
2d best.....honors.
Best 10 yards negro cloth....American Agriculturist.
2d best.....honors.
Best plow.....Tennessee Agriculturist.
2d best.....honors.
Best counterpane.....$1 00
2d best.....honors.

The following gentlemen were appointed judges to award premiums at the Fair: Gen. R. C. Shorter, Wilson M. Bates, Dr. J. M. Raiford, Henry Tolston and Benjamin Gardner.

H. HEMPHILL, Secretary.

Greenville Agricultural Exhibition.

The Society met on Saturday, October 4, at 10 o'clock, A. M. The President, V. McBee, Esq., took the Chair. Several new members were admitted. Reports of competitors for premiums were received by the President, and Committees were filled by the appointment of persons in the room of absentees.

Officers were elected for the ensuing year, viz: B. F. Perry, Esq., President; Col. S. M. Earle and Dr. A. B. Crook, Vice-Presidents; C. J. Elford, Esq., Secretary, and Dr. C. B. Stone, Treasurer.

At 12 o'clock the Society repaired to the lots where domestic animals were collected for exhibition; and notwithstanding the rain and inclemency of the day, the show of horses, cattle, hogs and sheep, was equal, if not superior to anything hitherto seen in Greenville. The cattle were certainly superior to any previous collection. There was a large crowd of spectators to witness the exhibition, all of whom evinced great interest in observing the fine specimens of improved stock.

The examination of the committee over, and the curiosity of the crowd satisfied in the stock line, after an interval for dinner, the Society re-assembled in Mr. McBee's large new building, at half-past 2, P. M. The spacious room was already filled with ladies and gentlemen. Here was to be seen the ladies' department of the day's exhibitions, and the display was truly admirable, both in the useful and ornamental; fine culinary vegetables, fresh butter, tastefully prepared for show, domestic cloth, and rich bed quilts, specimens of knitting, ornamental needle work, and fancy work of great variety, and baskets of choice and beautiful flowers.

The President, V. McBee, called to order, and the committees reported successively on the award of premiums of $5 Silver Cups, as follows:

The Committee on Horses, through B. F. Perry, Chairman, reported, awarding a premium for the best Horse to Col S. M. Earle's Colt—from Bay Maria, by Col. Hampton's Monarch; and to Gen. Thompson's sorrel Filley, out of Zela, by John Bascombe.

To W. M. Goodlett's Mule Colt, the preminm for the best Mule

Col. McNeely, from the Committee on Cattle, reported, awarding the premium to Dr. C. B. Stone's Durham Bull Osceola, 3 years old—and a certificate for the second best to Dr. Stone's Calf Moneco, 9 months old.

For the best Cow or Heifer—premium to Mr. McBee's red Heifer, 7½ months old, by Dr. Stone's Bull, Osceola, out of a fine cow of the native stock, belonging to Mr. McBee; and a certificate for the second best to Gen. Thompson's Cow, a superior animal of native stock.

The Committee on Hogs, through Col T. P. Butler, Chairman, awarded the premium for the best Boar, to V McBee's pig Osceola, by J R. Poinsett's Berkshire Boar, from Col. Hoke's Sow Betty. For the best Sow, to Mr. Bradshaw's Sow Betty, of the same stock.

The Committee on Grain awarded the premium to Dr. O. B Irvine, for the greatest product of Wheat per acre; report on Corn postponed till November.

Premiums for domestic and household manufactures, vegetables, butter, ornamental work, &c., were awarded as follows:

For the best piece of Domestic Cloth, a Work Bag, worth $2.50, to Mrs. Martha Alexander.

To Mrs. Dr. Stone, a Silver Hook and Thimble, for the best Bed-quilt.

To Mrs. Bradshaw, a silver Butter Knife, for the best specimen of Butter.

For the best specimen of Knitting, a set of silver Knitting Needles, to Miss Eugenia Stone.

For the best basket of Flowers, a copy of the American Flower Garden Companion, to Mrs. General Earle.

For the best basket of Culinary Vegetables, a copy of Miss Leslie's Complete Cookery, to Mrs Dr. Stone.

The Committee on Ornamental Needle Work, awarded a premium of a Gold Thimble, to Miss Jane Walker.

The thanks of the Society were voted to Miss Sarah Belcher and Miss Ann Hyde, for beautiful specimens of Straw Bonnets, manufactured by themselves; also to Mr. Bradshaw, for a specimen, in the box, of Honey taken from the "Bee Palace;" also to Dr. T. Croft, for a specimen of Rice grown in Greenville District; also to D. Westfield, for specimens of a Drawing Knife, and assortments of Chisels of superior workmanship and finish, made by him.

On motion, a committee of three, consisting of B. F. Perry, G. F. Townes and C. J Elford, were appointed to select for publication, reports of the competitors for premiums.

V. McBee, Esq., towards the close of the meeting, left the Chair, and called on his successor, B. F. Perry, to preside. Mr. McBee made a brief address on retiring, and recommended various measures calculated to promote the interest of the Society. Maj. Perry addressed the Society and meeting from the Chair, first returning his acknowledgments for the honor of being elected to the post of President; and he suggested various important means of encouraging and securing the permanent existence and usefulness of the Society.

On motion, the thanks of the Society were voted to the late President and other officers of the Society, for the able and faithful discharge of their respective duties.

On motion, Resolved, That the President be authorized to select some one to deliver an anniversary address at the next annual meeting.

On motion, adjourned. V. McBEE, Prest.
G. F. TOWNES, Secretary.

Florida Sugar--Letter from F. P. Miller.

From the Floridian.

We have been shown a specimen of Sugar manufactured by F. P. Miller, Esq, of Jefferson county, (referred to in the letter below,) which is by far the finest sample of Florida sugar we have ever seen. It is nearly equal in whiteness to the Havana box, and is superior to the sugar brought here from New Orleans. Had we the capital to erect proper works, sugar would soon become no small item in our exports. As it is, however, our planters will soon be able to manufacture not only sufficient for their own use, but to supply the demand of our home markets. The annexed letter from Mr. Miller, which has been kindly furnished us by Gov. Mosely for publication, contains some hints which may be useful to those engaged in the cultivation of the cane. We would respectfully suggest to those of our planters who have had experience in the manufacture of sugar to communicate the result of their observations to the public. We should be happy to extend the use of our columns to any one who would favor us with articles upon sugar as well as upon the culture of tobacco, &c.

JEFFERSON Co., Sept. 1, 1845.

Dear Sir:—In a communication which I received from you a few days since, you requested of me to furnish you with an article on the cultivation and manufacture of sugar. I have had some hesitancy in complying with your request, only from the fact, that my opinions would possibly differ with some of the farmers of the country, and some, too, of experience. But, after giving the subject due consideration, and thinking I might be of service to some in my communication, I have yielded to your request; and, so far as I am capable of giving my opinions, you shall have them freely. As I am more accustomed to using my farming utensils than wielding the pen, and knowing better how to make sugar than to describe the operation, you must allow me to give my opinions in my own plain way. In the first place, I prefer the ribbon cane for this climate, for the reason that it will stand the cold spells, which we are sometimes subject to in the fall season, much better than the green. I have noticed in some crops that I have made, where my cane has been mixed, that the green cane has soured after a killing frost, when the ribbon cane would be perfectly sweet. This I consider a great advantage by giving the planter more time to gather in the other products of his farm. The sample of sugar which I send you, was made from the ribbon cane after a severe freeze, which I consider a good test of its preference. I have been accustomed to banking my seed cane in low, flat beds, say about four feet deep, with the roots inclined downwards, and leaving them entirely uncovered with earth until after the first frost, or until the blades are entirely dry. The advantage to be gained by this mode of putting up seed cane, I consider a great one, from the fact that the cane will remain in a warm, moist state, during the winter, and the roots and eyes will not only be perfectly sound by the usual planting time, but will have put forth their sprouts, and secure to the planter an earlier and better stand. The usual mode of banking up seed, by drawing the bed to a narrow ridge on top and covering with earth before the blades are thoroughly dried, causes the cane to heat, and consequently a great many of the sprouts will perish from dry rot.

The kind of soil from which I raised my cane last year is of good quality pine land, about fourteen or fifteen inches deep, of a very light cast, and has been in cultivation several years. Cane should never be planted on first year's ground, from the fact that the juice extracted from it will not granulate. The most favorable time for planting, in my opinion, is about the middle of February, provided there is a suitable warm spell; for I consider the cane to be doing much better by remaining in bank, where it will sprout and remain sound and not exposed to the cold until the earth has become a little warm. My own observation has convinced me that cane planted about this time, will grow off faster, be equally as forward, and the stand much better than when planted earlier. I have usually planted my cane four feet between rows, and very thick in the drill: a stalk of cane six feet long, should lap or be touching. The seed should be planted deep and covered with a turning plow.

The first working which it receives should be done with the hoe, what is commonly called by the farmers flat-weeding. This will break the crust which may have been formed on the surface of the bed, and forward its coming up. The first plowing I usually give my cane is with the turning plow, but after it becomes of any size, I use the sweep. The usual time for laying by, is the first of June, but should it be growing rapidly, I would advise later and deeper plowing, which will check the growth and cause it to mature better.

It will have been noticed by all who are in the habit of using it, that the saccharine matter is greatly increased after the growth has been checked by the first frost; and until then should never be cut for grinding. I am convinced that a great many of the failures in making sugar is caused from the fact of the cane being topped too high, and consequently a good deal of the juice is extracted from cane that is not matured. The best criterion to be governed by is from the blades drying up, and leaving the stalk exposed only so far as the cane is matured; and I make it a rule to cut my cane at the joint above the first green blade, by which means you are certain not to have any cane unmatured. I have found a great advantage in cutting my cane and exposing it to the sun about two or three days before grinding. A good deal of the watery particles will evaporate, without any loss of the saccharine matter. The process of boiling will depend a great deal upon the quality of the cane and its maturity. A person would learn more from seeing a few boilings taken off than from all he might hear or read on the subject. In the first place, I would advise the use of lime, which assists a great deal in clarifying, and causes the grain to be much firmer. My plan of using it is to mix a half gallon of the cane juice with a half pint of lime; after setting a while pour it off. This quantity should be put into a hundred gallons of the cane juice. It is best not to commence skimming until it is nearly in the act of boiling, at which time most of the scum has risen to the surface, and is much easier taken off. There are so many marks by which the sugar maker ascertains when his boiling has arrived at the sugar state, that it would be difficult to describe them all. I will give one or two which I consider most certain: It is known by all who have any experience in sugar making, that, as the boiling approaches the sugar state, the froth or foam is greatly increased, and the bubbles become much smaller, by constantly dipping up and pouring it off from the cooler. It will be seen that the quantity of liquor or syrup decreases very rapidly after the boiling has turned down: this should be continued until there is but a small quantity of syrup left, which will be seen in the drainings from the cooler. Another criterion to be governed by is, when it is ready to be taken off, the bubbles, instead of rising and falling out from the centre, will turn in, when it should be taken off and put into the cooling vessel as soon as possible.

With regard to the process of dripping, I would say that it is all-important to have the molasses well drained from the bottom of the barrels; to effect which, it is necessary to have two or three holes bored in the bottom, into which should be inserted stalks of cane, which will gradually wither and leave the orifice larger at the time when the draining is most needed from the bottom. The hoops should be well loosened after the sugar has been in the barrels a few days.

In conclusion, I would say, that I believe as good sugar can be raised here as in any country, from the fact, that I have seen samples of sugar made in this country, that would compare with the best quality of imported sugar, and if not cultivated as an article for market, should be made by all the farmers for their own consumption.

Yours, truly,

FRANCIS P. MILLER.

To Gov. WM. D. MOSELEY.

Silk Culture in the United States.

From the National Intelligencer.

Messrs. Gales & Seaton:—In your European Correspondent's letter of August 20, published in the Intelligencer of September 13, I find the following paragraph:

"In the Journal des Debats of the 12th inst. there is a column of American statistics derived from the last report of your Commissioner of Patents. Towards the end, it is said that the culture of the mulberry and the raising of the silkworm have utterly and ruinously failed in the United States. 'Let France,' it is added, 'cease to fear American competition: the Union will be for her an immense market.' We may hope that the silk case is not so forlorn with you. What are the *natural* obstacles to perseverance and success."

I assume the duty of answering the very interesting interrogatory at the close of this paragraph. There are NO *natural* obstacles to *perseverance*, much less to *success*, in the silk business in the United States. The obstacles to its progress at present are purely artificial and *ephemeral*. I have had my eye upon this subject now *twenty-one* years. That I might be a disinterested witness even in the public opinion, I have kept myself clear of any pecuniary interest in the culture of silk. I have witnessed its progress, its experiments, its successes and its failures; have scrutinized all the details of each and all; and have never yet found the slightest reason to doubt its ultimate successful establishment as one of our main staple productions.

The reason of its apparent depression at this time is to be found in the very place where it should be most rationally looked for. The late speculation in mulberry trees, called the multicaulis speculation, which I never failed to oppose, and which I never in the slightest degree advanced, caused expectations of profits from the silk business that were not only unreasonable, but wildly extravagant. The failure to realize these expectations by the many that began the culture of silk, and although a *reasonable* profit was at hand, induced its abandonment by thousands. They expected to realize a thousand dollars from an investment of capital and labor that in any other agricultural employment would have been satisfactorily compensated by fifty or a hundred. Disappointed in this extravagant expectation, they abandoned the enterprise. Another obstacle was found to its progress in the go-ahead character of our people, and their want of foresight. They raised large quantities of cocoons before there were means provided for their conversion into any useful article, and had not patience to preserve them till these means were provided. This was a great error, and placed one of the most insurmountable obstacles in the way of our progress.

Let everybody understand that the late multicaulis speculation had nothing to do with our capability to produce silk; that the true friends of the silk culture were always opposed to that speculation, and did all they could to restrain and suppress it, (the writer of this among them,) but that it had the effect of proving conclusively that the United States, from 32 to 42 degrees of north latitude, (longitude without limit,) is well adapted to the silk culture, equal in climate to China, superior to China in the enterprise, industry and intelligence of our people, and superior to France or even Italy in every requisite for the successful culture of silk. *I* may not live to see it, but the time is not far off when even France shall be supplied with silk from this country—all Europe of course. The germ of this great interest is already firmly imbedded in our physical condition, and nothing can ar-

rest its steady progress to an overwhelming extent. The time will come when even cotton will be second to silk on the list of our staple productions. But, before all this can happen, our people will have to learn to be satisfied with moderate but remunerative profits, and to gather these in particles so small that the common or unpractised eye would scarcely discern them. They must also learn to make up large results from small items. Did it never occur to you, Messrs. Editors, that the great difference between our Northern and Southern people consists in this peculiar feature—they of the North are satisfied in collecting large sums from the congregation of extremely small items, almost ultimate atoms; while they of the South can never contemplate with composure anything less than a crop of a thousand bales of cotton, that is to yield them twenty to thirty thousand dollars? Even these latter, *with big eyes*, can only see a large *cotton field* of one hundred to a thousand acres; the individual plant itself is too small for their vision. They forget that it is only from the aggregation of the products of these individual plants that their hundreds or thousands of bales are made up. Now, silk is a peculiarly small article—small, I mean, in physical proportions; but there is no article so well adapted to aggregation into large masses of value.

Please say all this to your much respected correspondent in Paris. Tell him that the self-complacency of the Journal des Debats is misplaced, and bid that Journal and the people of France, and those of Italy with them, beware of "American competition" in the production of silk. Respectfully,

GIDSON B. SMITH.

Baltimore, September 13, 1845.

Rural Architecture in New England.

We extract from the correspondence of one of the editors of the Louisville Journal, travelling in New England, the following notice, effectively descriptive of the character of the improved rural edifices in that country:

"I had a great desire to see the lovely cottages at New Bedford, of which Downing speaks in his Landscape Gardening, but this pleasure I could not enjoy without detaining my companions, and I relinquished it with the less reluctance from having already seen at Boston a number of exquisite rural structures of different styles, built since my visit to Boston in 1843. These are the Italian villa of Theodore Lyman, six or eight miles from Boston, and a group of cottages at Linden Place, near Boston, some in the Italian and others in the English Gothic style, but all differing materially in their details. I wish it were in my power to give your readers some idea of the delightful emotions with which the sight of these exquisite specimens of art filled me. If it were, I might contribute thus to create a taste in the West for rural architecture, of which, I am sorry to say, it is almost wholly destitute. These buildings are all of wood—their cost ranges from $2,000 to $10,000—certainly not more than that of the suburban dwellings of the West generally, and yet they are exceedingly beautiful, perfect gems of architecture, producing an effect infinitely more charming than the most costly Grecian structure. I have seen most of the costly public edifices in this country, but none of them, with the single exception of the new Gothic church in Broadway, New York, give me anything like the pleasure of the cheapest and simplest of these wooden cottages, where effect depends in no degree upon size, costliness or material, but wholly upon the magic of art.

"I am glad to find that in every quarter of the Eastern and Middle States, the Grecian style of architecture, for dwelling houses, is universally condemned and rejected. Every gentleman of taste here would prefer a tasteful wooden cottage, costing but $2,000, to Girard College with its thirty-two immense Corinthian columns. The Grecian style in domestic architecture is now regarded as vulgar, and no costliness or magnificence can redeem it from the air of inappropriateness and upstart pretension. Columns and walls, without visible roof or chimneys look very fine in the ruins of Greece and Rome, and can be endured in legislative halls in America, but in the dwelling house give us the warm hospitable aspect of the old English cottage, with its steep, projecting, bracketted roof, its sharp gables, its swelling and sociable bag-windows, and its long, conspicuous, ornamented chimney shafts—a style susceptible of never-ending variety of detail. But I must refer the reader to Downing's Rural Architecture, trusting that no one will hereafter build the cheapest cottage without first consulting that work, or getting a design from an architect of taste, one who rejects the Grecian styles, and assuring the reader that, however admirable may appear the designs in Downing, the houses themselves appear infinitely finer. Theodore Lyman's Italian villa looks well in Downing, but the villa itself infinitely surpasses the idea conveyed by the picture. I neglected to mention Bute cottage, which was built, I think, previous to my visit in 1843. It is a small cheap cottage, but it is, to my eye, the most charming of all. I noticed one defect, and that was in the color of the verandah, which is green, and does not harmonize with the other colors of the building. The new cottages are none of them white, but of some quiet unobtrusive color, drab or light chocolate."

A Chapter on Feathers and Feather Beds.

From the Indiana Farmer.

He is poor indeed, in this land of abundance, this paradise of geese, and turkeys, who cannot feather his own bed. At the West, at any rate, whatever other thing is wanting, none need lack a feather bed; no girl is of a marriageable age or condition who has not earned a feather bed. The careful mother, intent on her daughter's dower, weaves her sundry woollen blankets, (ye gods of the loom! how thick and warm, and cosey, of a winter's night!) and makes her a huge, well-stuffed feather bed.

The Dutch, when fresh from "fader-land," sleep not *on* feather beds merely, but *under* them, employing them instead of bed-clothes.

It is very well, then, to attend to the science of feathers, or as the old sermonizers used to say, their "origin, nature, and uses, with some practical reflections."

1. The best feathers for domestic purposes are geese-feathers, being the most elastic and durable. There is about as much difference in their quality as in the wool of different breeds of sheep. The quality depends on their strength, elasticity and cleanliness; and these again, depend upon the condition of the bird, its health, food, and the time of plucking its feathers. *Down* is the term applied to under feathers—most abundant in water-fowl, and in those especially which live in cold latitudes, being designed to protect them from wet and cold. The eider-down, from the eider-duck, is of the most repute. It is brought from extreme northern latitudes, and is used for coverings to beds, rather than for beds themselves, as, by being slept upon it loses its elasticity.

Poultry feathers, as those of turkeys, ducks and chickens, if assorted and the coarse ones rejected, afford very good beds; but they are not so elastic as geese-feathers.

2. Everybody knows that live geese-feathers are the best. Every one does not think of the reason; which, as it is the key to the art of having good feathers, we shall propound.

So long as a bird is alive the feathers are as much an object of nutrition as the flesh, the bones, or any other part. When the bird has been for any time dead, its parts relax, and the feathers are also affected, although from their chemical elements, the decomposition is not as rapid as it is in the flesh. But it *begins*. They lose their glossy color, their spring or elasticity, and like the rest of the body, they are dead.

Those feathers are best which are plucked in the very height of health and growth. It is well known that sickness changes the hair and skin of animals. A dull colored hair, dry and rough, is a concomitant of sickness in the horse, ox, &c. On the other hand, a bright, glossy hue is a sign of health. Every one has noticed the same thing in fowls—the drabbled, rumpled, lack-lustre plumage of sick ones. The higher the condition, and the more vigorous the health of a flock of geese, the better the *fleece*; while a meagre, draggling, half animated flock, never will yield *live*-geese feathers.

The same results arise from the *age* of feathers. They ripen and are shed as the hair of animals. At the time of moulting the feathers are dry and lifeless—because they are spent, and are to be cast off as dead. When fowls are killed, the feathers will be alive and good, if immediately plucked off before the body grows cold. Sometimes geese are plucked five times a year, but only when they are owned by a greater goose than themselves. Such avarice defeats itself. No geese can be healthy under such cruel extortion; and, without health, feathers cannot be good; twice a year, in spring and mid-summer, is often enough.

2. After feathers are picked they require careful attention.

Every feather is largely imbued with oil, by which it is defended from wet; and this oil must be removed or neutralized before feathers are fit for beds. This is effected by heat, or by heat and an alkali. As soon as picked they should be spread upon boards and oven-dried, or they will heat and stick together and putrify. Upholsterers prepare the feathers by rejecting from them all coarse ones—the tail and small wing feathers. They are next put into rooms heated artificially, with ventilators at the top to let off all impure vapors which arise from them. In this room they are frequently turned till quite dry. They are put into a coarse bolting machine, and whirled round with great velocity until all dirt and dust is driven off. The whole process of curing will reduce their weight about one pound in seven.

They are sometimes prepared by sprinkling a little quick-lime over them, which combines with the oil and prevents its becoming rancid.

Another mode is to take a pound of quick-lime to a gallon of water, stir it well, then let the sediment form, and turn off the clear water from the top. Immerse the feathers in this for two or three days; then spread them upon coarse nets to dry. Shake them from time to time, and when perfectly dry, put them loosely in bags and beat them thoroughly, and they will be ready for use.

If a recipe is required for a bed fit for a carrion-crow, here it is: Let your geese be as unhealthy as possible. Either pluck them four or five times a season, or, if you kill them, let them lie several hours till cold. Then put them into hot water to make the feathers come easy. In pulling, take out large handsful at a time, so as to have scraps of meat and shreds of skin adhere to the quill; let them lie for several days in wet heaps to ferment a little. Then dry them suddenly by violent heat, cram them into the bed-tick, and jump on, and if you have not an odorous bed, and, in a month or two, a bed full of visiters seeking food, then there is no truth in the laws of nature.

4. *The care of beds*, is not understood, often, by even good housewives. When a bed is freshly made it often smells strong. Constant airing, will, if the feathers are good, and only new, remove the scent.

A bed in constant use should be invariably beaten and shaken up daily, to enable the feathers to retain their elasticity.

It should lie after it is shaken up, for two or three hours a day, in a well ventilated room. The human body is constantly giving off a perspiration; and at night more than usual, from the relaxed condition of the skin. The bed will become foul from this cause if not well aired. If the bed is in a room which cannot be spared for such a length of time, it should be put out to air two full days in the week.

In airing beds, *the sun should never shine directly upon them.* It is *air*, not *heat*, that they need. We have seen beds lying on a roof where the direct and reflected rays of the sun had full power, and the feathers, without doubt, were *stewing*, and the oil in the quill becoming rancid; so that the bed smells worse after the roasting than before. *Always air beds in the shade, and, if possible, in cool and windy days.*

And now, if any of our attentive housewife readers, and we have not a few, are disposed to reward us for all this advice, let them give us a bed to sleep on, when we next visit them, made of growing feathers, from live and healthy geese, carefully picked, well cured, daily shaken up and thoroughly aired; and if we do not dream that the owner is an angel, it will be because we are too much occupied in sound sleeping.

Improvements in Agriculture.

From the Genesee Farmer.

"The great truth that animal manures are nothing else than the ashes of the food produced from our fields, consumed or burned in the bodies of men and animals, has given the chief direction to all modern improvements in agriculture."—*Liebig.*

The above remarks deserve the profound consideration of every practical farmer. After an animal has attained his maturity, and adds nothing to his weight in the course of a year, it is obvious that the matter which escapes from the body must be the same in quantity as that which enters it. A very notable portion of the food of all warm-blooded animals passes out of the lungs in the form of air and vapor during their ceaseless respiration night and day, just as wood passes out of a chimney when burnt in a fire-place. The combustion of grass, hay, and grain in the system of the cow, horse, or sheep is not so complete as that of fire applied to the same substances in the open air. In the latter case, nearly all the combustible ingredients—carbon and hydrogen united with oxygen and nitrogen—are expelled into the atmosphere. In animal combustion, a larger portion of carbon, hydrogen, oxygen, and nitrogen remain with the ashes contained in the food taken into the stomach, and voided with the solid and liquid excretions.

The time will shortly come in this State, (New York,) when the liquid and solid manure derived from the combustion of one ton of hay, or 100 bushels of grain, will be worth half as much to make another ton of hay, or 100 bushels of grain, as the original crops were worth.

That portion of cultivated plants which escapes into the air through the lungs of man and his domestic animals, growing plants can regain by their roots and leaves, and thus reorganize into animal food. But the case is different with the ashes or earthy portion of all plants. If these minerals are taken from the soil in crops, and not faithfully restored, by replacing on our cultivated fields all the *salts* contained in the excretions of the human family and of domestic animals, the injury to our State and our race will be large, almost beyond calculation.

Nearly one-third of all the wheat grown on the globe is raised by the Chinese. For thousands of years this wonderful people have cultivated most successfully this bread-forming plant. For a long period their wheat-fields have been fertilized almost exclusively with the ingredients of wheat derived from its decomposition in the human system. In other words, they manure their fields with *night-soil alone.*

In Belgium and Flanders, the liquid excretions of all animals are diluted with twice or three times their bulk of water, and are then spread over the growing crops, or on to plowed ground, from a watering cart.

Many years of experience have demonstrated the fact, that the urine of a single cow for a year is worth $9.50 to make into wheat to be sold at 70 cents a bushel. In Holland, cows are kept up the year round in stables, mainly to save every particle of their excretions. The manufacture of corn, wheat, barley, oats, hay, potatoes, pork, beef, butter, cheese, wool, and horse flesh, can be reduced to an exact science. The laws of chemical affinity, of vegetable and animal vitality, are *uniform* and easy to be understood, so far as successful agriculture is concerned. One of these laws is, that no man nor vegetable can possibly make *anything* out of *nothing.* Another is, that one simple substance, like carbon, cannot be transformed into another simple element, like nitrogen. Clay cannot supply the place of sand, nor sand of clay. It will require as much matter, and the same kind of ingredients, to form ten million bushels of wheat or corn, in 1845, that were consumed for that purpose in this State in 1844. The same remarks will apply to all agricultural products, whether vegetable or animal.

How, then, can a practical farmer, cultivating 60 acres of arable land, send to market 20 tons of grain, pork, beef, mutton, wool, roots, butter, cheese, and the like, every year, to pay for his groceries, dry goods, nails, crockery, and mechanical work, and not ultimately sell all the ingredients in his 60 acres, which will form crops enough to pay for cultivation, fences, and taxes? Suppose you have the materials to produce 50 good crops in your now fertile soil, when those materials are worked up and sent to distant cities, where then will the largely increased population of the State go to find their three good meals a day, clothing, &c.? Do you say, to the West? But what right has the present generation to consume and destroy the natural fertility of God's bountiful earth, to the serious injury of those who are to succeed them?

By every principle of common justice and philanthropy, we should augment the natural productiveness of the soil at least 4 per cent. per annum, or double its fruits in 25 years. For in that time our race double their numbers, and their physical wants, in the State of New York.

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REMARKS OF JAMES A. MERIWETHER, Esq,

Before the Agricultural Society of Putnam Co., May, 1845

[CONCLUDED FROM LAST NO.]

Peat may likewise be rendered a valuable manure by saturating it with the contents of the washtub—by pouring upon it human urine—by pouring on it the slop from the kitchen, and by mixing ashes with it. It is the great natural manure of middle Georgia, and it requires but little art and labor to make it a source of great profit to our farmers. It is found on every branch and creek in Putnam county, and the valley of Leek creek has enough to manure the whole county for years. Mr. Dana, in his Muck Manual, says, "it is highly concentrated vegetable food," and is nothing more than "pond mud, the slushy material found at the bottom of ponds when dry, or in low grounds, the wash of higher lands." Some is more valuable than others; that which is deposited by eddy water is the best, yet all washings contain vegetable matter, and are therefore valuable. It lacks only ammonia to make it equal to cow-dung. Mr. Dana says, "it is certainly a very curious coincidence of results, that nature herself should have prepared a substance whose agricultural value approaches so near cow-dung, the type of manures." "The great question comes, how is to be given to peat, (a substance which in all its other characters is so nearly allied to cow-dung,) that lacking element, ammonia? By the addition of alkali to peat, it is put into the state which ammonia gives to dung. The question then arises, how much alkali is to be added to stable dung? A cord of stable dung composted with two of peat forms a manure of equal value to three cords of green dung. Indeed, the permanent effects of this compost exceeds those of stable dung. The best plan for preparing this manure would be to dry the peat, or swamp muck, in the fall; in the spring of the year let this be mixed in the proportion of 30 lbs. of potash, or 20 lbs. of soda-ash, or 8 bushels common house ashes, to every cord of fresh dry peat. If ashes are used they may be mixed at once with the muck; if soda ash or potashes are used, they must be dissolved in water, and the pile evenly wet with the solution. If spent ashes are used to prepare this muck, add one cord of spent ashes to three cords of peat or swamp muck. There are other sources of alkali for converting peat into soluble matter. It has been actually proved by experiment that a dead horse can convert 20 tons of peat into a valuable manure, richer and more lasting than stable dung." The next great and prolific source of ammonia is the urine.

I have been thus minute in reference to peat, because it is a manure which is to be found on every plantation—is accessible, and by a very little labor is capable of being made very valuable, and it must therefore of necessity, prove to this region of Georgia the basis of all compost manures. We need but a slight acquaintance with its properties to induce us to make a general application of it. It should always be composted with other manures that it may acquire ammonia, the great food of all plants, and which it lacks. Let me urge you to try it; it may be had plentifully for the labor of digging.

Another source of improvement to our lands, is the plowing in of green vegetables. Professor Johnson says, "this manuring is performed with the least loss by the vegetables in the green state. In no other form can the same crop convey to the soil an equal amount of enriching matter as in that of green leaves and stems." The crop should be plowed in while green, for if exposed to the air, green vegetable substances gradually give up a portion of the saline matter they contain to the rains that fall, and hence a great fertilizing property is lost. A distinguished agriculturist in Maryland states on his own experience, that the very best green manure, even better than clover, is green corn. Sow it broad cast; when of convenient height, plow it under—sow again, and again turn it under, and so of the third sowing in the same season. He says, "many suppose the old plan of clover laying, is the cheapest and best; I differ with them; you can put but one clover layer in every two years—you can turn under three crops of corn in a year, and each crop of corn will carry as much nutritive matter into the soil as each crop of clover can do." Let the experiment be tried; the labor bestowed on one acre is not much, if wholly lost; if successful, you have gained a great deal.

There is an indisposition however with many to commence a system of manuring because they say it takes too much time, is too troublesome, and has to be repeated every year, and not having manure for all his land, the farmer concludes it is not worth while to manure any. But is there any truth in these objections? Land well manured will increase the product many fold; by increasing the *fertility* you can reduce the number of acres in cultivation—the time saved in cultivation may be applied to the preparation of manures, by which an annual increase is made, and so in succession are the crops increased and the land enriched. A retrenchment in the expenditures for tools and their repair is effected—an outlay of capital for horses, &c., is saved, and otherwise employed. In fact, it is the most effective system of economy which can be resorted to; for every one knows, that if by a system of cultivation thirty acres of land can be made to yield as much as one hundred acres did before, that there must be a saving in the number of hands and horses which cultivate it, as well as in the food which supports them, and the capital employed. As a matter of economy let every farmer improve his lands, and if he has only manure enough to make 20 acres *tolerably* rich, or ten acres *very* rich, let him enrich the ten, as a matter of economy. Last year I attempted an experiment in this way: I selected one acre of ground very poor, so much so as not to be fit for cultivation. Upon it I placed 300 bushels of manure, and the result was 43 bushels of corn, and 66¼ lbs. of well cured fodder. I do not think that the land would have produced *three* bushels without the manure. The ground was laid off in drills four feet apart, the rows were first run with a scooter, then plowed deeper with a long pointed shovel, and in the bottom of these a long broad pointed coulter was again run. The manure was deposited in the bottom of the furrow—the corn was planted on it, and covered with the plow. The land was then broken with the coulter, once plowed with the shovel, and once hoed. At no time did the corn even wither or droop, while some near by was very much twisted and affected by the drought.

But after applying the manure to the land, a great object is, so to apply it as to make it the most available and enduring. On our broken lands it is subject to be washed away along with the soil, by the heavy rains. To prevent this, hillside ditches have been found to answer valuable purposes. If properly constructed with sufficient fall and capacity, and proper length, they will be found to answer every purpose. In the improvement of broken lands this seems to be the first consideration, and without this preparation the after labor of manuring seems to be badly and almost uselessly applied.

But supposing the ditches opened and the manure ready to be applied, how shall it be done? on the surface, or at the root of the grain?

I apprehend I shall be encountering some old and stubborn prejudices, in advancing the opinion, that it should be applied *beneath* the surface. Broadcast manuring is decidedly to be preferred to that in the hill, because, the roots extending out, pass beyond the limits of the manure in the hill, and therefore draw no support or nourishment from it, save those roots which are immediately in its vicinity, whereas if the manure is spread broad cast, the more they extend the greater the supply of it. If the soil be sandy it would doubtless be best to apply the manure between the surface and the grain when applied in the hill, but on soil not sandy, apply it *beneath* the surface and *beneath* the grain.

A common opinion prevails, that manure sinks, and therefore to benefit the plant, you should place it on the surface, that in making its descent the roots may catch it. But whoever dug into the ground and found where the manure sank to?

But one fact will contradict this theory; ammonia is said to be the life-giving property of manure; this is gaseous—intangible and incapable of being seen—if exposed to the air it escapes, and is lost to the plant. Go to a manure heap, and the offensive smell like hartshorn which meets you is the ammonia. Now if it did not *rise*, but *sank*, then these heaps would yield no smell at all.

To put manure upon the surface is but to expose to evaporation its most valuable parts. Rain and sun, have the effect to dissipate all the salts and gaseous matters and to leave the manure a heap of matter little better than chaff.

Great discoveries are making daily in this important branch of agriculture. The chemists of Germany have discovered that the seed of plants may alone be manured by which as heavy crops will be produced, as though the *soil* was manured. If this discovery should prove practicable it will in truth result in the greatest benefit which could be conferred upon the agricultural world, both for economy in the preparation of the manure, as well as the application of it to the soil. The mode of its application is to make a liquid and steep the seed in it.

These experiments in Germany have induced similar ones in the United States. Dr. Webster, of New Hampshire, has tried the effect of soaking corn in the common sal-ammonia (hartshorn.) of the druggists, and the result was surprising. The solution was prepared at the rate of four and a half bushels of corn to one pound of ammonia dissolved in water and soaked for five hours—corn from the same ear was planted, soaked and unsoaked, in hills side by side, and the following was the result: No. 1, was planted in good light soil into which a fair dressing of stable manure had been plowed—5 kernels planted in each hill; results the soaked corn produced 8 ears, the unsoaked corn only 4 ears. No. 2, soaked hill gave 5 ears, the unsoaked 3 ears; six hills were tried with corresponding results, and as each hill was treated similarly the fair conclusion is, that the result is to be attributed to the ammonia. The cost of this per pound is only 50 cents; and one pound will be sufficient to manure an entire crop. Let our farmers try the experiment next year!

A chemical preparation is now vending in the Northern States, Hauterive's chemical solution for the benefit of wheat and other seeds, and is said to improve the crops very much, by those who have tried it.

Mr. Campbell, of Scotland, has published the results of experiments which he has made, and the process he has pursued, which present altogether extraordinary facts. He says, "I steeped the seeds of the various specimens exhibited, in sulphate, nitrate, and muriate of ammonia; in nitrate of soda and potash, and in combinations of these,

and in all cases the results were highly favorable. For example, seeds of wheat, steeped in sulphate of ammonia on 5th of July, had by 10th August, tillered into nine, ten and eleven stems of nearly equal vigor, while seeds of the same sample *unprepared*, and sown at the same time, in the same soil, had not tillered into more than two, three and four stems. I prepared the various mixtures from the above specified salts, exactly neutralized, and then added from 50 to 94 hours at a temperature of 60 degrees. I found that barley does not succeed so well, if steeped beyond 60 hours. The very superior specimen of tall oats averaging 160 grains on each stem, and eight available stems from each seed, were prepared from sulphate of ammonia. The specimen of barley was prepared from nitrate of ammonia, it had ten available stems, and each stem had an average of thirty-four grains. The second most prolific specimen of oats was from muriate of ammonia, and the other specimens, strong, numerous in stems, (some having not less than fifty-two,) were from nitrate of soda and potash, and those not so tall from the sulphate or muriate of ammonia. To avoid the difficulty of the grain being too high, a combination of sulphates of ammonia and soda, or potash, should be used."

Speaking of another experiment he had tried, he says, "I found that plants from prepared seeds excelled, in a very marked degree, those from seed sown along side, but not prepared. The former had from five to eight stems, while the latter but two and three from each seed."

These experiments, thus vouched for by very good authority, are well worthy of being tried by our farmers, and should they prove practicable, will be of immense advantage to the agricultural world.

It is a fact long known to the farming community that seeds soaked in water alone, and rolled in plaster of paris, are much benefitted, because it is an absorber and retainer of ammonia, "husbanding the gaseous bodies in the immediate neighborhood of the plants, and thereby serving the purpose of a reservoir to contain and dole out their active nutritive properties, to the roots, as their necessities may require." Powdered charcoal would doubless answer the same ends.

Another subject of deep solicitude to our farmers, should be the improvement of their seeds. It requires as much labor to plant and cultivate a stalk producing but one ear, as it does to rear a stalk which will produce three ears of corn, and the same labor and capital must be employed to produce a crop of wheat, rye, barley, oats, or peas, half ruined by blast and decay, that is requisite to rear one, which is free from all these defects. If the principle be true, 'that like produces like,' from imperfectly matured seed, or from defective seed we need not expect a vigorous and prolific production. We might as well look for a superior race of cattle, from an inferior stock, as to hope for good crops from inferior seed. Let the seed be selected in the field rather than in the grainary. Select seed-corn from those stalks having the greatest number of ears—take the ear which comes first and thereby an earlier and more prolific variety is obtained. Select seed-wheat, rye, oats, &c., from those bunches having the greatest number of shoots—take from these the largest ears, and from these the heaviest grains—sow them, and in a few years an improved variety is obtained, and in this way it will be preserved. By selecting the first cotton-bolls which open and planting their seed, an earlier variety will be obtained. This attention to seed is a matter of economy; for by it the greatest possible product is afforded to labor.

Another subject of interest to the farmer is the improvement of his cattle and swine, his horses and mules, and of the various implements which he employs in agriculture. In the use of tools the great objects to be attained are, the combination of such principles as will enable the farmer to perform the greatest quantity of labor with the least fatigue to his laborers. In the use of agricultural machines labor is not only saved, but the farmer is enabled to develope the various uses to which his products may be applied, and he is also enabled to economise in their use. Such is the corn-cob crusher, by which the farmer is enabled to convert to valuable purposes in feeding his cattle, the cob which has hitherto been regarded as valuable alone for fuel. An improved state of our agriculture will disclose the propriety and value of the introduction of all the improvements in agricultural instruments among us, which are now enjoyed and used by our more economical brethren of the Northern and Middle States. We must hope for improvement, only as we diffuse a taste for agriculture among the people. This must be a work of patience and labor. Our schools can do much—our colleges and higher schools can and should do a great deal in giving direction to the minds of the young men of our country, in this important particular. Instruction should be given in agricultural chemistry—in the practical analysis of soils, the composition of manures, &c. The young men should be educated for farmers as well as for lawyers and doctors. The learned professions are overflowing, and with them, in a pecuniary point of view, it is a "beggarly account" of famished clients and pennyless patients. But make it a part of every one's collegiate course to study the application of science to agriculture, and a taste for the pursuit will be created and extended, and society will reap the benefits of it.

Another subject of no less importance, perhaps of equal importance, consists in diversifying our pursuits. Experience has told us, and every other civilized people, that we cannot acquire a continuing prosperity without this. The policy of the South for the last forty years, has been *to make cotton with which to buy negroes, and to buy negroes to make cotton.* While we have made ourselves dependent on the labor of others for our bread-stuffs in part—our meat in a greater degree, and for our horses and mules in a much greater degree, we have been the insurers against rain and drought, against high and low prices, and now we are paying dearly for the risks assumed. We have relied upon our cotton to furnish us all the necessaries of life, instead of providing them at home, and placing our surplus labor beyond their production, to the production of cotton. We have now but one relief left, and that is, to adopt the rule, which we should have established at the outset. The resources of our State are great, and the over production of cotton should prompt us, that so far as their developement was necessary, our labor should be diverted from its production.

Let the meat necessary for our own consumption be furnished by our own farmers—let the horses and mules required, be supplied by them—let them extend their wheat crops, and not only furnish the demand of flour for our own consumption, but produce it for exportation. We shall become eventually formidable competitors in the flour trade, Southern is intrinsically more valuable than the Northern; it is *drier*, and a given quantity will make more bread than Northern flour. It is for this reason more valuable for the West India trade. It is as certain a crop here as at the North; if sown in good land it yields profitably; in fact, with proper attention our wheat will yield as much to the acre, and it will weigh as much to the bushel as any other wheat. If true to our own interests, Georgia will not only become a *producer* to the limits of her wants, but will become a heavy *exporter* to other markets. In 1842 I had an opportunity of comparing Georgia wheat, with that of each State in the Union. By the request of the Commissioner of Patents, specimens of the different cereal grains were carried to Washington City, by the members of Congress, and at that office were exposed to public inspection. I carried on several parcels, and among them one of the "little white," grown by Jeremiah Clark in this county; it was compared with the other parcels and pronounced by competent judges, to be equal to the best there exhibited. An examination of the specimens collected there satisfied me that Georgia was as capable of producing superior wheat as any other State.

Wool is another article of general and extensive consumption, in the production of which we might profitably participate. We consume, annually, millions of pounds in negro blankets, clothing, hats and other clothes. It is grown mostly in New York and Vermont. Why should not we raise for sale an amount at least equal to that we consume? We can raise as good an article as that we buy, and at much less cost, at less risk, and consequently at greater profit. At the North they are compelled to feed their sheep at least six months of the year; we need not feed them three. We have extensive woods and fields for sheep walks, and every facility for prosecuting the business is enjoyed by us. Why should we not then engage in the pursuit, at least so far as to produce for market as much of the raw material as we consume?

We consume, annually, millions of dollars in shoes, leather, and saddlery of all kinds, and we buy all these from abroad. There is *profit* in this pursuit, and why not appropriate it to ourselves? Our coarse negro shoes are made abroad, and so are most of those which we wear; and nearly all our leather is from abroad likewise. The raw hide is frequently taken from the Georgia farmer, carried abroad, manufactured abroad, and then again sold to those from whom it was purchased. It has happened within a few years past, that raw hides have been purchased in our own county, hauled to Virginia, converted into leather and shoes, and sold again in our State. Now who pays the price of hauling to Virginia, the price of manufacturing the raw article, the price of bringing it back, and the profits upon each operation? It is the people who are simple enough to rely upon others for the supply of their commonest necessaries, and those are the people of Georgia. An idea is prevalent that good leather cannot be made in Georgia; *this has been shown to be a great error;* there is now manufactured at the Penitentiary, from *Georgia hides*, with *Georgia bark*, and in a *Georgia climate*, leather of all descriptions as good as that we buy from the *North*.

Again: the iron we consume all comes from abroad, while our mountains are filled with the richest ores—land cheap and water power abundant. The cost of manufacturing here will prove from thirty to forty per cent *cheaper* than in Maryland or Pennsylvania. All we need is experience, and why will not this be *bought* by those who have the capital to invest—a capital now almost unprofitably invested in cotton making? It is humiliating to reflect, that for every nail in our houses, we are indebted to the skill and enterprise and labor of others from abroad.

And again: the very lime with which we point our chimnies or wash our houses, is dug out from the earth, and prepared by the labor of others 1000 miles distant from us, while here in Georgia we have inexhaustible beds of the rock untouched. And why? Because we do not actually possess energy and zeal enough to burn a bushel of the stone properly, and prepare it for market.

We destroy the article in its preparation, because we are too negligent and indifferent to do it in a suitable manner. And yet what a profitable investment of labor would it be, were our own citizens to determine to supply our own State with the single article of lime, instead of sending annually thousands of dollars to Maine and Massachusetts to procure it, and thereby to reward *their* labor and develope *their* resources, instead of *our own!*

Who does not see in every shop, in every village, and at every cross road, fruits brought from New England for sale? And yet our mountain regions produce them, as finely flavored and as rich as any from abroad. Why will not our people turn their attention to this pursuit, and divert their labor somewhat from the culture of cotton? Fruit, apples especially, is becoming a heavy trade with England, and they not only command a higher price there than their own, but are decidedly superior in quality. The United States produces the finest in the world, and upper Georgia is behind no part of the Union. Will not our mountain friends arouse from *their* lethargy, and not only supply Georgia with the fruit for her consumption, but make her an exporter of it?

The labor necessary for the production of these, if withdrawn from the cultivation of cotton, would not only serve materially to affect the production, but it would find a more profitable investment elsewhere. It would make us independent—would give encouragement and business to our own mechanics, *and all the profit to labor* would remain among us in the shape of increased capital, building up our own people, and enriching our own State, instead of drawing from it its wealth, and adding to that of other States.

We expend large sums annually for the article of sugar. Can we not supply this within ourselves? Every farmer in this county may manufacture from the corn-stalk a sufficiency for each year's support. A little experience is alone necessary to make it as valuable an article as that we buy. Besides, the lower part of our State would yield us enough for the support of the whole State, manufactured from the cane itself. The great difficulty with them hitherto has been that the syrup would not granulate. That difficulty has now been obviated by the recent improvements in sugar making. And even in this latitude, I doubt

very much if with that improved process, the cane would not be found to have ripened sufficiently to make sugar.

In the lower part of our State, the cultivation of the olive would prove a profitable investment of labor. The value of its oil is well known, and though we do not need its fruit for bread, as other nations do, yet we might find a handsome return or our labor in its cultivation.

Let our labor be directed to these several pursuits, and I apprehend the continued cry of hard times will be successfully silenced. With pursuits diversified, the temporary failure of one may be relieved by the prosperity of another; but with one pursuit alone, the failure of that is the prostration of the whole people. May we not hope that our next Legislature may take some steps to develope the resources of our people—to advise them how they can employ their labor to the best account—and to open the way to the improvement and advancement of our agriculture?

And now, how shall we accomplish the objects we have avowed? We feel the country to be depressed by the causes which are here presented, and the effort at relief has commendably been made. Those who have stepped forward in the cause must never look back—but yet the task to arouse the public mind and to give it proper direction, is an Herculean one. But I say, *we must not falter*.

We must ask our country friends to meet with us, and with us to investigate the causes, and with us to apply the remedies. If they will not, however, come to us, we must go to them. Print and circulate among the people the information necessary to arouse them to a proper appreciation of the condition of the country. Get the people to *read*, to *reflect*, and then they *will act*. This society has undertaken the work of reform in this county, and they must not falter in the effort. It may be a source of some expense to give to the people the necessary information which will disclose to them the difficulties about them, and the means of escape, yet the press is the mighty light, which must guide them in the path, and we *must* employ it. The result of a systematic, vigorous, and united effort, will secure to the country lasting and abiding blessings. Our object is not simply to meet and *talk* and *talk*; but it is to meet to talk and to *act*—to stimulate each other, and TO AROUSE THE WHOLE COMMUNITY TO A VIGOROUS EFFORT TO ENRICH THEIR LANDS AND IMPROVE THEIR AGRICULTURE.

Agricultural Societies.

From the North Carolina Watchman.

Our attention has been called of late to the reports and doings of Agricultural Societies in different parts of the country. South Carolina, our sister State, shows a good spirit on the subject. She has a number of Agricultural Societies within her bounds which, by their enterprising and energetic labors, bid fair towards bringing about a sound, practical, as well as theoretical knowledge of Agriculture among our people. Agriculture is the greatest, the most interesting and delightful pusuit of man; and yet we venture to say that it is the least understood of all; particularly in the South. Farmers, generally speaking, have an aversion to what they call "book farming," and consequently prefer plodding through life in the old beaten track—the track of their fathers, and fathers' fathers. The consequence is, that in a few years after opening a plantation, it is worn out. They are driven to the necessity (as they think) of clearing more land—the old fields no longer producing crops worth the labor to till them: they are "turned out," and in a year or two the rains wash great gaping gullies through them, and to the present owner the land is lost. This system is kept up for a few years, and the farmer becomes dissatisfied with the gloomy prospect presented him, of young pines and sassafras growing all around him, and of the young chasms gaping wherever he looks as if waiting to swallow him. He resolves to sell his old homestead. He can never do that part by his family that he should do, if he remains there. So he advertises: "Having determined on removing to the *West*, the subscriber offers for sale his *valuable* plantation, lying on the waters of Panther Creek," &c. &c. This plantation, once valuable indeed, is sold at a price falling one, two, three, or four thousand dollars below first cost; and its late possessor leaves it, perhaps with less means at his command than when he first entered it. This is one system of Agriculture, and a very destructive and shameful system it is; *nevertheless*, it is a very *common* one in many parts of our country.

The purchaser of these worn-out fields and frightful gullies, happens to be a different sort of man: he is a firm believer in book-farming, if you please; for every spare moment from his out-door labor is spent in reading Agricultural books and periodicals; and he watches with the avidity of a beast of prey every experiment that is made, or making, calculated to make some new developement in the science of agriculture. Agriculture is a Science with this man—one that is pleasing and delightful—and not drudgery, a galling yoke, as some men regard it, to which they reluctantly submit, to obtain leave to live.

Six or seven years rolling by, and our scientific farmer, still laboring on the old homestead, has become the pride and boast of the neighborhood. The people just around him thought he was a silly, shallow-brained fellow, at first, else he would never bought such a place to settle on; and they would frequently indulge in very hearty laughs at his expense, when he chanced to speak of his plans. But now, things have taken a change; instead of laughing when they meet with him, their eyes, ears and mouths are all open to catch every word he utters; and when they visit his farm, with all the curiosity of *green ones*, they go to examining this thing and that about the premises. In fine, they are utterly astonished to see what a wonderful change has been wrought upon the old fields: The gullies have all been stopped, and the red clay declivities through which they ran now bear a luxuriant crop of corn. The old fields, late the haunt of wild turkies, lost sheep and hogs and strayed cattle, under the hands of this new, scientific farmer, have shed their pine, sassafras and persimmon bushes, and now bear upon their bosoms rich, waving wheat, barley, rye and oats, or else delight the eye with the deep green of a heavy clover carpet.

This is no fiction—no fancy sketch. The farmers of Pennsylvania, New York and other Northern States, present a more striking contrast with those of North Carolina than the foregoing, or any one would imagine, who has not seen them. The reason why it is so, is very evident: The farmers of those States are a reading, reasoning, and consequently enlightened people—enlightened particularly on the pursuit or occupation of their lives. They not only labor in the fields with their hands but also with their heads. From books they learn the constituent qualities of all the various products of the farm; and from them also learn the nature of the soil they have to work, as well as the kinds of manures suitable to those soils and necessary to facilitate the growth and increase the product of each and every crop they wish to grow.

Let no man despise "book farming," but on the contrary, let every one embrace all opportunities to store his mind with many useful and valuable maxims and hints as well as the philosophy of that pursuit which is the greatness, wealth and happiness of his country. To do this successfully, we know no better plan than to get up Agricultural Societies. By these, enterprising spirit is aroused, which leads men to read, to think and to act, and thus prejudice yields to the light of reason, and wisdom manifests itself on every acre of the farm. We therefore rejoice to see that South Carolina and Georgia are waking up to the importance of a change in their system, who by their Agricultural Associations are destined to exercise a powerful influence upon the prosperity of their people, and glory of themselves.

Several horses died recently in Princeton, N. J., from the effects of eating musty oats.

Agricultural Meetings.

Agricultural Association of Georgia.

MILLEDGEVILLE, Nov. 10, 1845.

The Agricultural Association of Georgia met this afternoon at 3 o'clock. The President being unavoidably absent, on motion of B. S. Jordan, President of the Baldwin County Agricultural Society, Richard S. Hardwick, President of the Hancock County Agricultural Society, was called to the Chair.

The Constitution, as adopted by the Association at its first meeting, held in April last, together with all the proceedings of the meeting on that occasion, were read.

The President then requested the delegates present to report themselves to the Secretary, when it appeared that the following Societies were represented as follows:

Hancock County Agricultural Society.—R. S. Hardwick, A. E. W. Brown, Wm. Terrell, I. P. Whitehead, N. C. Sayre, E. H. Baxter, W. H. Brantley, D. W. Lewis, T. Vinson, R. P. Sasnett, and B. T. Harris.

Putnam County Agricultural Society.—S. Pearson, E. Callaway, O. S. Crediller, Wm. Turner, and Thomas G. Sanford.

Burke County Agricultural Society.—James Grubbs, John T. Brown, J. W. Jones, M. J. Reynolds, and Wright Murphree.

Burke Co. Central Society.—Mulford Marsh.

Oglethorpe Agricultural Society, (Bowling Green)—Wm. Lumpkin, and F. Phinizy.

Baldwin County Agricultural Society.—B. S. Jordan, Thomas F. Green, James Dickson, R. M. Orme, Benjamin A. White, S. K. Talmage, H. V. Johnson, W. H. Mitchell, R. H. Ramsey.

On motion of Mr. Sasnett, it was

Resolved, That an Executive Committee be appointed by the Chair, in accordance with the provisions of the Constitution. The Committee named were—R. P. Sasnett, B. S. Jordan, Thos. F. Green, R. M. Orme, and B. T. Bethune.

On motion of Dr. T. F. Green, the Association then adjourned until half past seven o'clock this evening.

Half past 7 o'clock, P. M.

Association met pursuant to adjournment.

Governor Crawford, President of the Association, being in attendance, took the Chair.

On motion of Judge Sayre, an invitation was extended to any gentlemen present representing Agricultural Societies, whose names have not been previously enrolled, to come forward, furnish their names to the Secretary and take their seats as members of this Association. Whereupon the following gentlemen presented themselves:

Warren Agricultural Society.—John Harris, President.

Clark Agricultural Society.—Wm. L. Mitchell.

Chatham Agr'al. Society.—Wm. P. Bowen.

Walton Agricultural Society.—William Rutherford, President, and James Jackson.

Jefferson Agricultural Society.—J. B. Todd.

The President then called for the reports of the Committees appointed by him, under a resolution of the Association at its organization in April last, when the following reports were presented and read:

Report on the Agriculture of Georgia, by Wm. Turner, Chairman.

Report on Grains, by R. S. Hardwick, Ch'm.
" Stock, by Wm. Terrell, "
" Manures, by J. W. Moody, "
" " by I. P. Whitehead, one of Committee.

All of which were referred to the Executive Committee.

On motion of Judge Sayre—

Resolved, That the Executive Committee cause so much, and such parts of the reports of the several committees and of the proceedings of the Association, as they may deem expedient, to be furnished to the publishers of the "Southern Cultivator" and other gazettes that may be willing to receive them, for publication.

The following preamble and resolution were introduced by Mr. Sasnett:

Whereas, in the opinion of this society, Agriculture is the paramount business of the State; that upon its resources and improvements, all other classes and interests mainly depend for subsistence and for wealth; and that upon the virtue, intelligence and skill of those who direct its labors, comprising as they do the mass of our population, must materially depend our moral and intellectual character as a people.

That it is consequently of primary importance to the merchant, mechanic, manufacturer, and to all other members of society, that this great branch of industry should be especially honored and encouraged, and that the Agriculturist himself should receive all those mutual aids, and that stimulus to industry which are calculated to make him more prosperous in his business, and more useful to society.

That the exhausted and worn out state of much of our lands, the low price of our great staple production, and the great scarcity and high price of bread stuffs and other provisions, particularly admonishes to put forth all our efforts to enlighten its labors and increase its productions.

That to the Legislature of the State as the legally constituted guardians of the public welfare, especially belongs the duty of fostering this great source of our wealth and happiness.

That from the experience of the past, at home and abroad, this association is confident that the patronage of the Government may be advantageously extended, (and without detriment to the financial operations of the treasury) to this great object.

Resolved therefore, That a committee of five be appointed by the Chair, to wait upon and petition the Legislature to lend its aid in promoting and improving this branch of industry in which the State is so universally interested, by the appropriation of such a sum, and under such restrictions and conditions as may, in their wisdom, seem most advisable.

Which were, on motion, adopted.

The President requested to be allowed until to-morrow to make the appointment of said Committee.

The Association then adjourned until 9 o'clock to-morrow morning.

—

Tuesday, Nov. 11th, 9 o'clock, A. M.

Association met pursuant to adjournment.

The President having taken the Chair, presented the following as the Committee appointed under the preamble and resolutions of Mr. Sasnett, adopted last evening: Messrs. Sasnett, B. S. Jordan, Harris of Warren, Todd, R. M. Orme.

Mr. Sasnett, from the Executive Committee, to whom were referred the communications received during the recess by the Corresponding Secretary, reported that they have examined those papers, and find them to contain information of the organization of auxiliary societies in different parts of the State, to the number of fifteen, (including those represented in this meeting,) with lists of members, and expressions of desire to co-operate heartily with this association.

The committee recommend that those communications be preserved, and record made of the names of societies and their members by the Recording Secretary of this association.

On motion of Mr. Hardwick,

Resolved, That the President appoint Committees of three to report at the next annual meeting on the following subjects:

1st. The best method to prevent the washing of hilly land by the frequent heavy falls of rain.

2d. The practicability of reducing to a profitable state of cultivation, the wet lands on the margins of our creeks and branches, and the best method of ditching the same.

3d. The best method of preparing land for the planting and cultivation of Indian Corn.

4th. The best method of preparing land for planting cotton, and method of culture, with suggestions as to the practicability of reducing the number of acres, and attaining an equal result as from a greater number.

5th. The best method of preparing the land for wheat, oats and barley—the method of sowing the same, and the variety most likely to succeed in this climate.

6th. The practicability and importance to the State of growing our own bread stuffs, raising our own horses, mules and pork, and whether the wealth of the State would not be augmented by pursuing such a course and cultivating less Cotton.

On motion of Mr. Hardwick,

Resolved, That the President, Executive committee, and Recording Secretary procure the services of some gentleman to deliver an address on Agriculture, at the next annual meeting of this association.

On motion of Mr. Turner,

Resolved, That the Constitution be so amended as to require the annual meetings of this Association to be held on the third instead of the second Monday in November.

On motion of Mr. Lewis,

Resolved, That the President and Executive Committee be authorised to appoint the next annual meeting of this Association to be held in Milledgeville, or any other place in the State, which in their discretion they may deem proper.

There being no other business, the Association adjourned to meet on the third Monday in November, 1846. BENJ. T. BETHUNE,
Recording Secretary.

Annual Fair of the Warren County Agricultural Society.

WARRENTON, Nov. 10th, 1845.

MR. EDITOR:—The various executive committees of our Society transmit to you for publication, the following synopsis of the proceedings on the day of our agricultural fair.

The members convened at the Court House on Tuesday, 28th October, ult., where many citizens from this, and the adjoining counties, had met to witness the examination of the various kinds of domestic fabrics and stock, which were examined by the several committees, who made their reports for premiums and honors. The premiums and honors awarded, were as follows, viz:

Horses and Mules.—$5 premium to Thos. Neal, Sr., for his bay horse Wonder, 6 yrs. old; $3 premium to Thos. Neal, Sr., for his brood mare Lucinda; 1st honor to Jas. McCason for his sorrel mare; 2d do. to Green Burson for his black brood mare.

Horse Colts, 3 years old and under.—$3 premium to Vincent Johnson, Jr., for his bay colt, 2 years 6 months old; 1st honor to Jas. McCason for his sorrel horse colt, 7 months old; 2d honor to Jas. Kitchens for his sorrel mare colt 15 months.

Geldings.—$3 premium to Sampson R. Culpepper for his saddle horse.

Mule Colts—$2 premium to Thos. J. Wheeler for his mule colt 6 mos. old; 1st honor to Geo. W. Hardaway for 13½ mos. old; 2d honor to Thomas Jones, Sr., for his 6 mos. old.

Cattle.—$2 premium to G. V. Neal for his male calf 1 yr. old and under; 1st honor to Rev. P. N. Maddux for his male calf 1 yr. old and under.

Swine, best pig six months and under:—$2 premium to Rev. P. N. Maddux, 6 mos. old, weight 108 lbs.

Domestic Fabrics.—$2 premium to Mrs. Mary Jones, L. C., best piece of Jeans, 8 yds.; 1st honor to Miss Rina Hunt, 2d best do. 8 yds.; 2d honor to Miss Celia Barksdale, 3d best do. 8 yds.

Domestic Quilts.—$2 premium to Mrs. Anna Thomas for the best bed quilt; 1st honor to Miss Emily Beall, for 2d best do.; 2d honor to Miss Mary J. Harris for 3d best do.

Counterpanes.—$2 premium to Mrs. Celia Barksdale, for the best counterpane; 1st honor to Mrs. W. Fowler for 2d best do.; 2d honor to Miss Susan W. Jones for 3d best do.

Domestic Woollen Coverlets.—$2 premium to Mrs. Lester for two excellent woollen coverlets.

Butter.—$1 premium to Mrs. Sarah Beall for an excellent lot of butter.

Miscellaneous Articles.—Honor for an excellent fancy foot stool, to Mrs. Anna Thomas; honor for some excellent worsted fancy candle mats, to Mrs. Anna Thomas; honor for a pair of beautiful embroidered cloth shoes (uppers) to Mrs. Martha Barksdale; honor for a beautiful willow basket, by a lady of Morgan; honor for a beautiful pin cushion, by Miss Elizabeth Hubbard; honor for a beautiful open worked collar, by Miss Emily Beall; honor for a beautiful fancy ladies' cap, by Mrs. Ann Hale.

There was no election for officers for the ensuing year. The present officers are:

JOHN HARRIS, President,
G. W. HARDAWAY, 1st Vice-President,
SAMUEL HALL, Sr., 2d do.
JOHN H. ROBERTS, jr., Secretary.

Resolved, That the proceedings of the Fair be published once in the Southern Cultivator, Tri-weekly and Weekly Chronicle and in the Southern Recorder.

The Committee on Domestic Fabrics presents to the ladies the thanks of the Society for thus doing honor to, and gracing the occasion with so many specimens of domestic industry, and also for the countenance and encouragement they gave by their presence and approving smiles, to the laudable enterprise in which we are engaged. We take pleasure in remarking that all the ladies have presented their premiums to the Society, which example will be followed by the gentlemen almost unanimously. We have the promise from the ladies that our next fair shall do honor to old Warren. Our prospects are now brighter than at any time heretofore. Owing to late organization, we offered no premiums for grain.

JOHN H. ROBERTS, jr., Secretary.

Fair of the Planters Club of Hancock.

The Annual Fair of the Planters' Club of Hancock, was held on Friday and Saturday, the 31st of October and 1st of November. The members of the Club were particularly gratified at the fine array of stock and domestic manufactures, but regret the few reports on crops, in consequence of the great drought of the season, competitors deeming their results unworthy of notice. At 11 o'clock on Friday, the Club met at the Court-house—President, M. G. Harris, in the Chair—transacted the ordinary business of the Club—appointed their various committees for awarding premiums, and elected their officers for the next year, viz: R. S. Hardwick, President—A. E. W. Brown, J. P. Whitehead and T. Whaley, Vice Presidents—T. H. Audas, Recording Secretary and Treasurer, and Col. N. C. Sayre, Corresponding Secretary.

At 11 o'clock on Saturday, a procession was formed at the Court-house by the members of the Club and citizens, escorted by the Hancock Troop, marched to the Female Academy, where they found already in attendance, a large concourse of ladies in waiting to cheer them on in their noble enterprise, having the walls of the building literally hung with the most choice specimens—the work of their own hands. The meeting was called to order by the President, and the report of the Committees called for, after the reading of which, an able address was delivered by R. P. Sasnett.

Crops.—The Chairman of the Committee on Crops, I. P. Whitehead, presented the following report: To R. S. Hardwick, a premium of a silver cup for the best acre of upland corn; to William Dickson, junior, a premium of five dollars for the best acre of low ground corn; to B. T. Harris, a silver cup for the best acre of wheat; to E. M. Pendleton, a premium of $5 for the second best acre of wheat; to R. S. Hardwick, a premium of $3 for the third best acre of wheat; to R. S. Sayre, a premium of $3 for the best acre of oats. The gathering of the crop of cotton not having been completed, reports on that article will be made to a subsequent meeting.

Horses.—The Chairman of the Committee on Horses, R. M. Orme, presented a report as follows: To Thomas Neal of Warren, the first

premium of $5 for his thorough bred horse, Wonder; to S. A. Pardee, the second premium of $3 for his very beautiful horse, John De Witt; to J. B. Edwards, the first honor for his horse, Ned Soullard; to M. G. Harris, a premium of $3 for the best three year old filly; to Henry Griggs, a premium of $2 for the best two year old filly; to James M. Cason, a premium of $5 for the best brood mare; to Chas. R. Knowles, a premium of $2 for the second best brood mare; to R. S. Hardwick, the first honor for his young mare, Tranby; to F. D. Gonder, the first honor for the best colt under one year old; to J. M. Cason, the second honor for the second best colt under one year old; to T. Jones, a premium of $3 for the best mule colt.

Cattle.—The Chairman of the Committee on Cattle reported as follows: To Dr. J. S. Whitten, red Durham bull, aged, a premium of $5; to Dimas Ponce, a red bull, aged, a premium of $2; to T. C. Grimes, a red Durham bull, aged, the first honor; to Dr. J. S. Whitten, dun Durham bull, aged, the second honor; to Dr. J. S. Whitten, white Durham bull, the best yearling; to J. B. Ransone, red Durham bull, second class, a premium of $1; to J. R. Ransone, white Durham bull, first honor; to R. S. Hardwick, for his cow, Spot, as the best milker, without regard to blood the first premium, $5; to J. S. Whitten, roan cow, Durham, having regard to blood, $5; to T. C. Grimes, red cow, Durham, second premium, $2; to R. S. Hardwick's cow, Flower, third premium, $2; to R. S. Hardwick, red heifer, best two year old, a premium of $2; to J. B. Ransone, red heifer, second best two year old, a premium of $1; to R. S. Hardwick, roan heifer, first honor. Dr. Whitten and Mr. Grimes exhibited other thorough bred stock, highly creditable to their spirited owners, and which bid fair at some future day to be dangerous competitors. Mr. Hardwick also exhibited some half bloods, which fully sustained his character as a judicious breeder, and clearly shows the benefit to be derived from well selected crosses.

Swine and Sheep.—The Chairman on Swine and Sheep, T. M. Turner, submitted the following report: To C. R. Knowles, for the best boar, the first premium, $5; to R. S. Hardwick, for the second best boar, the second premium, $2; to Wm. H. Sayre, for the best sow, the first premium, $3; to C. R. Knowles, for the second best sow, the second premium $2; to R. S. Hardwick, white sow, first honor; to Wm. H. Sayre, premiums of $5, $3, and $2, for the first, second and third best and heaviest fat pigs between 6 and 12 months old; to B. J. Winn, for the best ram, first premium, $2; to B. J. Winn, for the best ewe, first premium, $2; to B. J. Winn, third, fourth and fifth honors.

Domestic Fabrics.—The Chairman on Domestic Fabrics, reported as follows; to Mrs. Lucy Bonner, for the best piece of black jeans, a premium of $3; to Mrs. Martha McCray, for the second best piece of colored jeans, a premium of $2; to Miss R. Hunt of Warren county, for the third best piece of jeans, a premium of $1; to Mrs. B. T. Harris, for the fourth best piece of jeans, the first honor; to Mrs. Richard Fears, for the fifth best piece of jeans, the second honor; to Miss Judy Ann Fears, for the best hearth rug, a premium of $1 25; to Mrs. E. F. Coleman, for the second best hearth rug, a premium of $1; to Mrs. F. P. Bird, for the handsomest window curtain fringe, a premium of $1; to quilt No. 19, (name not given,) first premium, $3; to Emily Bell of Warren county, the second premium, $2; to M. J. Harris, (quilt No. 40.) the third premium, $1; to Mrs. George W. Bass and Mrs. Lockhart, each a quilt, honors; for a quilt, by a lady unknown to the committee, we would award the highest encomiums for the ingenuity and beauty displayed. To Mrs. Lewis, Mrs. Terrel., Mrs. Thomas, Mrs. Bell and Mrs. Parrish, your committee award, and would be pleased to divide between them premiums set apart for their articles, viz: $3 for the best, and $2 for the second best—but your committee find it impossible to decide upon any difference between them. To Mrs. E. L. B. Hall of Putnam county, for the best piece of cotton diaper, a premium of 50 cents; to Mrs. E. S. Bass, for the best piece of domestic silk and cotton, a premium of $1; to Mrs. Terrell, for the best piece of dimity, a premium of 75 cents; to Miss Frances Soullard, for a beautiful dress trimmed with inserting of her own make, a most beautiful article, a premium of $1; to Miss A. E. Kelly, for the best plaid homespun, a premium of 50 cents; to Miss C. E. Haynes, for a satin cradle quilt, most beautiful, a premium of 50 cents; to Miss H. Binion, for an embroidered black silk apron, a premium of 50 cents; to Mrs. F. P. Bird, for two worked shawls, a premium of 50 cents; to Mrs. F. P. Bird, for a superior article of tallow candles, a premium of 50 cents; to to Mrs. E. M. Thomas, for a beautiful article of refined salt, 50 cents; to Miss Russell, of North Carolina, for an ingenious guard chain, a premium of 25 cents; to Mrs. F. P. Bird, for two silk purses, honors; to Mrs. Terrell, for half a dozen pair of half hose, a premium of $1; to Miss E. L. Alford, for a satin work bag, a fancy basket and lady's pocket handkerchief, a premium of 75 cents; to Miss Margaret McKie, of Augusta, for a pair of mitts, an honor. The committee regret that they could not award a premium for a piece of mixed cotton goods, of superior quality, in consequence of the number of yards; owners name not known. To Gen. B. J. Winn, for two bottles domestic wine, vintage of 1844, a premium of $1; to Miss Emily Bell, of Warren county, for a lady's pocket handkerchief, a lace collar and a pair of embroidered slippers, a premium of $1.50; to Miss Lester, of Warren county, for a handsome carpet bag, a premium of $1; to Miss Melinda Sanford, for a bead bag, of curious device, a premium of 25 cents.

Miscellaneous.—To Mrs. M. A. Lewis, for the best turnips, an honor; to James Thomas for the second best turnips, an honor; to Mrs. E. M. Thomas, for the best article of starch, an honor; to Mrs. A. E. W. Brown, for the second best article of starch, an honor; to Mrs. F. P. Bird, for the best article of butter, a premium of 50 cents; to Mrs. A. E. W. Brown, for the second best article of butter, a premium of 50 cts; to A. E. W. Brown, for a specimen of corn, an honor; to F. D. Gonder, for a specimen of cotton picked by one of Oglesby's Gin, honor; to I. P. Whitehead, for a large specimen of the beet, an honor.

After Mr. Sasnett had addressed the meeting, the club adjourned to half past 2 o'clock, when there was a sale made at public outcry of such things as the ladies wished to dispose of, among which was some superior homespun that brought high prices. The Executive Committee, in closing their report, beg leave to return their thanks to the ladies for the splendid array of domestic articles which their industry and ingenuity furnished, as well as their presence.

R. S. Hardwick,
A. E. W. Brown,
T. H. Audas,
} Executive Committee.

Sparta, Nov. 3, 1845.

Monday, November 3.

Mr. John W. Graves, of Newton county, having arrived with a fine lot of stock too late for the fair, in consequence of having been misinformed as to the day, therefore

Resolved, That James B. Edwards, Samuel A. Pardee and James H. Ransone, be a committee to examine his stock and make such report on their merits as in their judgment they deserve, and that said report accompany the proceedings of the fair.

Whereupon, the Chairman made the following report:

The Committee was highly pleased with the exhibition of an Eclipse mare, and colt by the imported Merman, which, in their judgment, would have been dangerous competitors for the premiums. They could but admire a two year old bay colt by Neel's Archer, dam by Saladin. He has all the requisites to make him a useful horse, combining beauty, power and action. The three jacks, Imported Stallion, Henry Clay and Daniel Webster, your committee consider very fine, and would respectfully recommend them to mule raisers. The four jenneys and colts, and four yearlings, do credit to their spirited owner. To wind up the exhibition, Mr. G. showed a mare mule in foal, and from her appearance, we have no doubt of the fact. The committee regret that Mr. G. did not arrive in time with his stock to compete at the fair for the premiums, which they have no doubt he would have divided. He is entitled to the highest credit for his judicious crosses and selections, and to the thanks of our club for the trouble he has taken to add to the exhibition at our fair.

By order of the Executive Committee.

T. H. Audas, Secretary.

Cobb County Agricultural Fair.

The Society convened in Marietta on Friday morning the 14th inst., and adjourned on Saturday afternoon the 15th inst. The meeting was large and very interesting. Messrs. Thomas H. Kirkpatrick and William Harris, Esqrs., Vice-Presidents, presiding at its opening, assisted subsequently by H. R. Foot, Esq. an associate Vice-President.

The weather was delightful during the whole time, and the scene was enlivened by the smiles of the numbers of Ladies who graced the occasion by their cheering presence.

The forenoon of the first day was spent in the business of the Society---the appointment of committees, &c. &c.

The meeting after dinner, was addressed by the Rev. Thos. F. Scott, who was unexpectedly called out, in the absence of Hon. C. J. M'Donald, the Orator of the occasion, who was detained longer than was anticipated at Milledgeville. Mr. Scott acquitted himself with much credit; and his useful suggestions, so earnestly, and eloquently expressed, and so aptly and forcibly illustrated and enforced, will not pass unimproved by his attentive audience.

On motion of Mr. Scott, a committee were appointed to suggest to the Society the best means of diffusing Agricultural information, &c., to report the next morning, and their report ordered to be published.

On Saturday morning that committee, by its Chairman, submitted the following report, which, on motion of Rev. Isaac W. Waddell was accepted, considered and unanimously adopted:

The Committee appointed to suggest to the Society the best means of diffusing information pertaining to the subjects contemplated in our association, respectfully submit the following suggestions:

1st. We recommend the members of the Society to subscribe for some of the Agricultural periodicals published in our country. Among these we particularly recommend the "Southern Cultivator," edited by James Camak, of Athens, and published by J. W. & W. S. Jones of Augusta: and "The Cultivator," published at Albany, N. Y., by Luther Tucker. These are sterling works of established reputation.

2d. We recommend to the members of the Society who are practically engaged in its objects to note particularly their processes of cultivation, modes of rearing stock, &c., and to report the same, with their various success, to the Society. This we regard as of primary importance in effecting the objects of association.

3d. We recommend the formation of a Circulating library, to be accessible to all members of the Society, under the direction of the Executive Committee. This might comprise all the important Agricultural periodicals, and such books as might be purchased or given from time to time, and would, in few years, constitute a valuable collection.

Thos. F. Scott,
A. J. Hansell,
R. M. Goodman,
} Committee.

The suggestion of the Committee as to the Library, was, by resolution, referred to the Executive Committee who are now making arrangements to carry it out.

The Society proceeded to the election of officers for the ensuing year, when, on counting out the ballots, it appeared that the officers of the present year were unanimously re-elected.

Chas J. McDonald, President; H. R. Foot, Samuel Young, Wm. Harris, James S. Bulloch, Thos. H. Kirkpatrick, Hardy Pace, and James Lemon, Vice-Presidents; William P. Young, Treasurer; and A. J. Hansell, Secretary.

PREMIUMS.

In the afternoon, the several Committees on Premiums awarded the following:

Domestic Manufactures.—Rev. Thos. F. Scott, Chairman on Domestic Manufactures, &c: To Mrs. Hairston for the best piece of Homespun (Jeans,) gentlemen's wear, $5; Mrs. Barber 2d best do., certificate of excellence; Mrs. Barber for the best piece of homespun for ladies' wear, $5; Mrs. Young for the best 10 lbs. butter, $5; Mrs. Hairston 2d do. certificate of excellence; Mrs. Gunby of Cherokee county, a pound of beautiful domestic sewing silk, $5.

Agricultural and Horticultural Products.—Col. John Merritt, Chairman on Agricultural and Horticultural products: To James L. Stokes for the best ¼ acre of sweet potatoes, $2; David Dobbs, for best acre of cotton, $3; John W. Lowry for best acre of upland Indian corn, $5; H. R. Foote, for best 2 acres of peas, $1; Wm F. Groves, for best ¼ acre cabbage, $2; Mrs. E. McDonald, for best and largest 25 beets, $1; Valentine Kolb, for ¼ acre beautiful herd's grass, $3.

Stock.—Wm. Harris, Esq., Chairman on Live Stock: To Wiley Roberts, for best Mule Colt, $5; Aaron S. Smith, for 2d do, cert'c of excel'c; Wm. M. Davis, for best horse colt, $5; H. R. Foote, best Hog under 2 years old, $2; N. M. Calder, for 2d do, $1; H. R. Foote, best Pig, under 1 year old, $3; Thos. B. Daniel, 2d do, $2; H. R. Foote, for the best Calf under 1 year old, $2 50; Benj. Page, for 2d do, certificate of excellence.

Agricultural Implements.—James L. Stokes, Esq, Chairman on Agricultural implements, &c.: To R. M. Goodman, for his imported turning Plow, which they highly recommend, $2; James Lemon, for a turning and subsoil Plow united, invented by himself, and which they also recommend highly, $5.

Miscellaneous.—A. J. Hansell, Chairman of Committee on all articles exhibited not comprised in the published list of premiums: To Miss Kilby, for her beautifully wrought Ottoman covers, $1; Mrs Waddell, for her very handsome mats and Ottoman cover, $1; Mrs. Spier, for her pretty and tastefully embroidered apron, $1; Mrs. Husk, for her beautifully and substantially woven counterpane, $1; Mrs. Morris, do $1; Miss Taylor for her skillful and beautiful paintings, an honor.

The Committee also called the attention of the ladies to the rare style, beauty and comfort of a woollen coverlet, shown by Mr. Leonard Simpson, Sen'r., which has been in use for a full half century, and is yet handsome.

There were exhibited by Messrs. E. Denmead, Wm. Root, and Thos. B. Daniel, a corn-sheller, highly improved cutting knives for oats, hay, &c. which are of the highest utility, and challenged the admiration of all who saw them in operation.

The utmost harmony and good feeling prevailed; and unless we very much misconstrue the signs of the times, the soil of Cobb is destined to a highly improved culture. The Society now numbers more than an hundred members, all of whom manifest much interest. Several of the members, Messrs. Goodman, Roberts, Foote and Lemon, manifested a praiseworthy spirit of liberality in offering individually premiums for wool, woollen blankets, &c., in addition to the Society's premiums, for our next Annual Fair.

A. J. HANSELL, Sec'y C. C. A. S.

Barbour Co. Agricultural Society Fair.

From the Eufaula (Alabama,) Shield

The "Barbour County Agricultural Society" met in this place in the Town Hall, on Wednesday, 5th inst. a large number of ladies and gentlemen in attendance. The President (Col. McDonald) called the meeting to order, and in the absence of the Secretary, Benjamin Gardner was requested to act in that capacity.

The proceedings of the last meeting were read, together with the advertisement of the Executive Committee, offering premiums for the best Stock enumerated therein—and for the best articles of domestic manufactures—after which, the President read an appropriate to the occasion, and eloquent extract from an address delivered by E. C. Baxter, Esq, before the Agricultural Society of Hancock county, Ga., and concluded with some very brief, but interesting observations of his own, upon the subject of Agriculture, and the best means for its improvement. The meeting was also favored with interesting addresses from Col. John L. Hunter, Col. John G. Shorter, and H. N. Crawford, Esq

Being the day appointed for holding the Fair, proposed by the Society, and awarding premiums to the successful competitors, a committee, consisting of John Gill Shorter, Dr. A. P. Crawford, M. Browder, A. McGehee and Dr. Thornton, was appointed to assist the Awarding Committee previously selected, in examining the domestic fabrics then lying on the table, before the meeting for exhibition—which committee forthwith proceeded to the discharge of the duties assigned them—when were exhibited to the Society and citizens present, many very fine specimens of the handiwork and industry of the ladies of Barbour county, conclusively proving that we need be dependent on nothing but our own industry for the comforts and conveniences of life. There were exhibited specimens of fine Counterpanes, Quilts and Comforts, which were worthy of the highest commendation, and between them it was difficult to discriminate. Other specimens, such as Jeans, Negro Cloth, both cotton and woollen, were exhibited, of the finest texture and most durable material, reflecting great credit upon the industry of those who had been engaged in their manufacture. Other materials, for which premiums were not offered, were presented, viz: a fine saddle, made by Mr. Fenn, a workman in this place, and some fine leather tanned by Mr. Cargile, at his yard, in this place, which the committee considered worthy of premiums, and consequently awarded them.

After the exhibition of the above noticed fabrics, the Society adjourned till after dinner, for the purpose of examining the Stock which had been brought for exhibition:

The Society again met, agreeable to adjournment, for the purpose of hearing the report of the Awarding Committee, and electing officers for the ensuing year. The President in the Chair, the Committee then made the following

REPORT:

The committee appointed to award premiums at the Fair this day held, report the following as the result of their labors, but take occasion to remark that, in many instances, it was difficult to discriminate, which rendered the duty imposed upon them, of an exceedingly unpleasant and embarrassing character, (as all deserved the highest praise for their efforts in advancing the best interests of the country,) and the Committee only regret that it was not in their power to award a premium to each one. They, however, have discharged their duty to the best of their judgment, and submit the following as the result of their investigation:

Horses.—The best stallion, Nathaniel Roach, $3.00; 2d best, Wm. T. De Witt, $1.00; best filly, Henry Tolson, $2.00; best colt, Wm. T. De Witt, Southern Cultivator; 2d best colt, Edward Battle, honors; best brood mare, T. Flournoy, $3.00; 2d best brood mare, Philip Causey, honors; best mule colt, E.S.Ott, honors.

Cattle.—Best bull, R. C. Shorter, $3.00; 2d best bull, A. McDonald, Southern Planter; 3d best bull, R. C. Shorter, honors; best milch cow, W. T. De Witt, $3 00; 2d best milch cow, R. C. Shorter, American Agriculturist; 3d best milch cow, R. C. Shorter, Tennessee Agriculturist; best 2 year old heifer, R. C. Shorter, Southern Planter; 2d best two year old heifer, A. McDonald, honors.

Swine.—Best boar, A. McDonald, Southern Cultivator; 2d best boar, Robert Martin, honors; best sow, Robert Martin, Albany Cultivator.

Miscellaneous.—Best plow, G. W. Pournell, Tennessee Agriculturist; 2d best plow, Thos. Gillenwaters, honors; best 10 yards negro cloth, Mrs. M. A. Browder, American Agriculturist; 2d best 10 yards negro cloth, Mrs. Alex. McDonald, honors; best counterpane, Mrs. W. Archer, $1 00; 2d best counterpane, Mrs. R. O. Dale, honors; best jeans, Mrs. M. A. Browder, $1 00; best domestic ginghams, Miss Parke, $1.00; best carpeting, Miss Parke, honors; best cotton negro cloth, Mrs. A. McDonald, $1.00; best quilt, Mrs. J. C. Pope, $2.00; 2d best quilt, Mrs. J. G. Shorter, $1.00; 3d best quilt, Mrs. P. M. Calloway, honors; best hearth rug, Mrs. P. M. Calloway, 50 cents; best saddle, Mr. Fenn, $1 00; best leather, Thomas Cargile, Southern Cultivator.

After the reading of the above Report, the Society proceeded to the election of officers for the ensuing year, which resulted as follows:

Dr. J. M. RAIFORD, President.
M. A. BROWDER, 1st Vice-President.
J. A. CALHOUN, 2d Vice-President.
T. FLOURNOY, Treasurer.
M. M. GLENN, Recording Sec'y.
B. GARDNER, Corresponding Sec'y.

Executive Committee.
A. M SANFORD,
J. DENNARD,
E. E. DUBOSE,
H. TOLSON,
W. S. PAULIN,

After which, the Society adjourned.

BENJ. GARDNER, Secretary pro tem.

From the Transactions of the N. Y. Agricultural Soc'y.

Subsoil Culture.

By John Macdonald—President Washington County Agricultural Society.

The site of Salem, as all will remember who have visited that pretty village, in the eastern extreme of a plain that extends some two miles south and west, with very gentle undulations of surface, and may embrace near 3,000 acres. This plain is surrounded by hills, and constitutes the bottom of a very picturesque, natural basin, that geologists conjecture was once filled with water by Black Creek, from the north, and the Battenkill from the east, and was finally drained through a gap in the hills, by which the "Kill" flows westward to the Hudson.

Not far from the centre of this basin lies my farm—the surface rolling—the more elevated portions, gravel—and the low glades, loam—all resting on clay at different depths—approaching the surface, however, only in the loam. For 30 years prior to 1834, it was occupied by two industrious tenants, who taxed its productive powers to their utmost capacity—sowing wheat while wheat would grow, and then covering it with rye, year after year.

I found the farm so exhausted that it was exceedingly difficult to make grass seed catch without manure—and no wonder—for it did seem as if the gravel soil in some of the easiest tilled, and therefore the most exhausted fields, had been *leached*, and little beside clean sand and gravel left. (The course of husbandry adopted, and by which I enjoy both pleasure and profit of seeing these gravel fields giving fair promise of returning fertility, may, perhaps, be the subject of a future communication.) The *loam too*, seems much impoverished by constant tillage and successive annual cropping—but the mere exhaustion of the soil was not the worst of it; for in the lower glades there was not *sufficient depth of soil* for either grass or grain.

The surface of rich alluvial lands, it is

known, may be so impoverished by constant tillage and severe cropping, as to become comparatively barren, but they may be renovated by giving unusual depth to the furrow and bringing up a portion of soil that has never been robbed of its native fertility.

But in my case this could not be, for the clay or rather the subsoil, composed of clay and sand, in many locations almost impervious to water, and altogether sterile, was found at depths of from four to eight inches from the surface. Here then, were two difficulties—my soil lacked fertility, and it lacked depth. It was not only poor, but there was not enough of it. Its fertility might be restored by manure, but the want of depth was always fatal to the crop, in seasons either of drought or moisture.

The great desideratum, then, was to increase the depth of soil. This could not be done by deep plowing, with the common plow, or by the use of the subsoil plow.

The first of these modes is liable to two objections, both of great practical importance. And 1st. In those fields where the depth of the soil varies from four to eight inches, a furrow ten inches deep and of the common width, would require the power of two yoke of oxen—and any considerable increase in the depth of furrow would employ the addition of a third team. 2d. Under such culture the soil is buried deep and the subsoil brought to the surface, presenting a clay-cold, pale face. The great amount of manure necessary to bring such land to at once—to give it the hue of health, and the vigor of fertility, I could not at all afford; and as illy could I avail the slow natural process of amelioration by the frost and the snow of winter, and the showers and the sunshine of summer. My interest required that I should adopt some plan less expensive than the one, and more expeditious than the other.

I had long thought of the subsoil plow as an implement adapted to my purpose; but not until the past winter did I resolve to test theory by experiment, and give subsoil culture a fair trial, deeply impressed with the belief that it steered clear of those insuperable objections that exist to the other mode, and that it was well adapted to effect my object in the most perfect manner, and at the least possible outlay, both of labor and manure. That impression has been deepened by experience and observation.

At our late cattle show and fair, I exhibited my subsoil plow, and am satisfied, not only from the report of a committee, making gratifying mention of it as a new and valuable implement, and awarding me a premium, but also from the universal curiosity excited by its exhibition, and the equally universal marvel "what it could be for," that it may not be out of place here, briefly to describe it and the manner of its working.

The subsoil plow is perhaps best described as "the common plow without a mold board," and having in lieu of it, a cast iron plate four or five inches wide, fastened to the share, and running back (with its plane at right angles to the plane of the landsides) to the heel of the plow, when it is elevated about four inches, constituting an inclined plane, over which the clods broken up by the share pass, and in their progress are still more broken and displaced. The stilts most convenient are those commonly used with the side-hill plow.

It does its work entirely below the range of the soil plow, and at the bottom of the furrow made by it; and in ordinary culture a common plow is always employed at the same time with the subsoiler.

First goes the soil plow, in the usual way, turning over its slice of soil, and just after it comes the subsoiler, working in the bottom of the new made furrow, thoroughly disturbing and displacing but not inverting the hard subsoil, to the depth (if required) of 14 inches, with No. 1, and 18 or 20 with larger sizes of the plow. Then comes the soil plow again, on its second round, turning over its slice of soil—covering the work of the subsoiler, (not its furrow, for it makes none,) and uncovering a new and unbroken line of subsoil for the second round of the subsoiler. Thus they alternate, and experience satisfies me that two teams (one to each plow,) will do as much with respect to quantity, more with respect to efficient and profitable tillage, than three similar teams can, with the common plow, in the other mode. Thus at least a third of the team work is saved at the outset, besides being altogether more manageable and convenient.

Subsoil culture leaves the soil at the surface, where it is wanted—inverted, but not buried—and by breaking up the subsoil, prepares it for the meliorating influence of the frosts of winter, and the genial warmth and showers of summer.

Whatever may be the culture of the soil, whether it be in the grass, in grain, or in fallow—manured or starved—no matter how deep the frost, how fierce the heat, or how refreshing the rain, a stiff and unkindly subsoil is still just what it was a century ago, and what it will continue to be for ages to come, unless it be disturbed by mechanical action. But let its natural compactness be but once effectually broken up by the subsoiler, and then the frosts pulverize and render it permeable, rains carry down fertilizing matter, superabundant moisture is let off, the temperature is raised, small roots pioneer downward in search of food and room, and tend still further to fit materials lately so barren, for an active and beneficial agency in sustaining vegetable life.

It is generally thought, and seems reasonable to believe, that in porous soils the rains leach the surface and carry down one of its valuable productive qualities below the reach of ordinary plowing; and may it not be so, to some extent, with more tenacious soils? Is it not probable that stiff subsoils may have received and retained that, which, when brought to the surface and incorporated with the upper soil, will add somewhat to its fertility?

At each successive plowing then, let the depth of furrow be gradually increased, thus bringing up to the surface, by little and little the ameliorated material from below, and until the depth of soil is obtained: and it seems quite probable that the occasional use of the subsoiler in after years, would be amply rewarded by an increase of crop, and may indeed be indispensable, again and again, to break up the partially compacted subsoil, and to keep open that kind of underdrain, so universally needed in stiff soils, and especially when under grain.

In the course of the summer I have had occasion to break up the gravelled wagon track of the highway near my dwelling, and have done it wholly with the subsoiler and a single team. It was severe work certainly for the horses—but with the soil plow, two just such teams would not have stirred it an inch; and with team enough to perform the work, no ordinary plow would have borne the strain for a moment. We thus completed speedily and in the best manner, with the team, what would have required a comparatively large outlay of hand labor—the subsoiler being substituted for the pick, and the team performing the work of at least a half dozen men.

Wherever ditches are required, on land sufficiently firm to carry a team, the subsoiler is employed to great advantage. The team needed is a yoke of oxen—the yoke, a piece of scantling long enough to allow each ox sufficient room to travel outside of the ditch—and lengthening the chain, enables you to plow without inconvenience in a ditch two feet deep.

My experiments have not been sufficiently accurate or extensive to enable me to state the actual saving, but I am fully satisfied not only that the amount of hard labor is materially abridged, but that the necessity for spading, the hardest part of that labor, is obviated entirely.

The plow used in making the following experiments, is of the manufacture of Ruggles, Nourse & Mason, of Worcester, Mass., procured from Pruyn, Wilson & Vosburg, of Albany. It is a substantial, neat, and highly finished implement, as are all the articles of their make that I have happened to see:

Experiment No. 1.—May 16th.—Plowed two acres—in potatoes last season, planted on the sod—soil, a sandy loam, six or eight inches deep—subsoil somewhat clayey. One-half of this piece was subsoiled to the depth of eight inches below the bottom of the soil plow furrow, making the whole depth of the culture about 14 inches. After a dressing of ten loads of rotten dung to the acre, one-half was sown to wheat, and the other to oats, and finished with grass seeds and the roller.

Experiment No. 2.—May 17th.—Subsoiled a strip four rods wide, through a field planted with corn the 19th. Soil, deep sandy loam, with occasional gravel knolls.

Experiment No. 3.—Green-sward last year, and planted with potatoes. Soil, similar to No. 1. Plowed 24th May, and half of it subsoiled—sown in oats same day, and treated in all respects like No 1.

The corn crop on No. 2 was good, but had no advantage either in growth or yield over adjacent parts of the field. The experiment was made with the expectation that it would be labor lost, and so it was. But with respect to Nos. 1 and 3, better hopes were at first cherished—hopes early disappointed and soon abandoned. No benefit to any of the crops on 1 or 3 has yet been realized.

This shows that with a medium depth of soil already under good cultivation—with a subsoil not unusually hard and stubborn—with ten loads of good manure to the acre as a top dressing, and with a favorable season to crown the whole, we need not look for profitable results from subsoil culture, at least the first season. And yet, I confess I shall be disappointed if the *clover* do not feel and show the benefit of it the coming season, a fact that can be certainly and readily determined, for the pieces subsoiled are all accurately marked.

None of that portion of my farm where subsoil culture is expected to be most beneficial, has been under the plow the past season—but in the course of the approaching spring it is designed to try it on a more extensive scale, and on land better adapted to prove its value.

There are three sizes of the subsoil plow. When selecting mine, I judged that either of the large sizes would require more than a single team to work it, but from the ease with which a single span of horses draws No. 1, in all ordinary work, I am satisfied that No. 2 would have better answered my purposes—the greater width of its work, and of course the more complete displacement of clods effected by it, constituting an obvious advantage, and at very trifling cost. If needed, one or more additional team may be attached without risk, the plow being designed to resist the severest strain.

Several of my neighbors witnessed my experiments, and among them were Chief Justice Savage, late President of our County Agricultural Society, and Dr. Fitch, its indefatigable and intelligent Secretary—all of whom with one accord pronounced the new plow a very perfect implement, admirably fitted to *deepen* and to *dry* thin, hard and wet soils.

My own conclusions, based on repeated trials of the plow, are

1st. That subsoil culture is the only practicable mode of deepening the soil.

2d. The expense attending it is not materially greater than that of common plowing.

3d. It is entirely practicable to break up the most indurated subsoil, to any required depth.

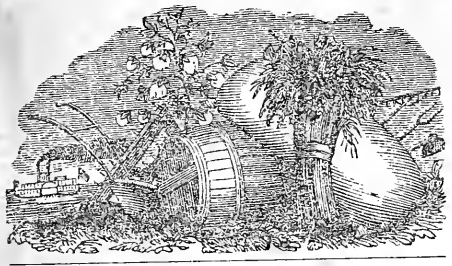
4th. The harder the material the more perfect the breaking up, and the more complete the displacement of the clods.

5th. This mode of culture neither buries the soil nor necessarily brings the subsoil to the surface.

6th. It is the most economical and effectual mode of disposing of superabundant moisture, and, by consequence, raising the temperature of the soil, destroying mosses, and encouraging the growth of a profitable vegetation.

Salem, Dec. 30, 1844.

Persevere and you will ensure success.



The Southern Cultivator.

AUGUSTA, GA.

VOL. III., NO. 12...DECEMBER, 1845.

OUR FOURTH VOLUME.

PATRONS AND FRIENDS OF THE "SOUTHERN CULTIVATOR!"—as this number closes the Third Volume, the Publishers avail themselves of the occasion to address a few remarks to each and all of you, in reference to the Fourth Volume, a Prospectus for which you will find on another page, to which we would invite your attention.

We desire to continue with every one of you the relations of Patrons and Publishers, because we believe it will result in our mutual benefit. Whether those relations will be continued, depends entirely upon you. If you forward the money, we will most cheerfully and certainly send the paper. If not—not. So much for the effect of the CASH SYSTEM!

We not only desire to send the paper to all of you, but we wish to send it to all your friends and neighbors, that they too may be benefitted, and ourselves better rewarded. And we therefore appeal to every one of you, to see your friends and neighbors, and persuade them to become subscribers. It will only require a few minutes' conversation with each of them, and you may benefit them much, and ourselves a little. There is not one of you who cannot obtain for us, if you will try, at least one new subscriber, and many of you *we know* can obtain hundreds. Will you not make the effort? It is a good, a noble cause---one worthy to engage the best energies of the Philanthropist, Patriot and Statesman. May you not then devote a little time and labor to such a cause?

The price of subscription is so low that we cannot afford to send agents among you to solicit you to subscribe, and we must therefore rely upon the exertions of those of you who desire to see the work sustained. With these remarks, we commit the destinies of the "SOUTHERN CULTIVATOR" to your keeping. If you extend the circulation, it will be improved, and continue to present new attractions for your approbation and benefit.

To sum up, then, we want every man of you to send us a DOLLAR for your next year's subscription, and ask your friends and neighbors to do the same thing; and if you send us enough of them, in addition to the many other good things that you will find in the fourth volume, we will send you some elegant engravings of splendid cattle, hogs, horses, sheep, &c. &c.

As this No. completes our third volume, we send a general index herewith.

Fruits and Fruit Trees.

"Here's to thee, old Apple tree, [blow:
Whence thou may'st bud, and whence thou may'st
And whence thou may'st bear for us apples enow,
Hats full, and caps full—
Bushels and sacks full!
Huzza!" *Old Song.*

DECEMBER is the best time, in the Southern States, for transplanting fruit trees; and as we believe more attention than heretofore is about to be given to this business, we have thought that directions for planting, together with lists of good sorts, might be acceptable to the readers of the CULTIVATOR. We condense what follows, to bring it within the compass of our paper, from the best authorities extant, chiefly from DOWNING, adapting it, as much as possible, to the use of the Southern States, by engrafting on it the results of our own experience, which has been somewhat extensive during the last ten years.

In taking trees up, it should never be forgotten that the delicate and tender points of the roots, usually white and swollen, are the organs by which food is taken up from the soil for the nourishment of the tree. These should be preserved as much as possible, the chance of perfect success being lessened by every one of these points that is bruised or destroyed. Where it becomes necessary to cut large roots, the cut end should be made perfectly smooth with a sharp knife. Where the roots are gotten up without much injury, very little trimming of the top is necessary. If the trees cannot be planted immediately, they will be greatly benefitted by dipping the roots in water and rolling the wet roots in the soil, so that a coat of it shall adhere to them, and then covering them with mats. They should never be allowed to become dry. If the trees are to be carried to any great distance, their roots should be carefully packed in wet moss.

In planting, the almost universal habit of the South, of looking upon a tree to be planted pretty much as on a fence post, and of treating it accordingly, must be corrected. The whole of the ground intended for an orchard should be rich, except for peach trees, and should be stirred, either by subsoiling or by trenching, to the depth of at least two feet. The holes for the trees should be dug out two feet deep at least, and four or five feet square, the subsoil removed, and its place supplied by surface soil, and with this filled up within as many inches of the top as will allow the tree to stand exactly as it stood in the nursery—the whole art consisting essentially in placing the roots as nearly as possible as they were before. Set the tree, and fill in among the roots with the soft surface soil, enriched, if necessary, with a mixture of charcoal dust, barn yard —not stable yard—manure, and slaked lime. Pour a tubful of water about the tree, and this will settle the earth far better among the roots than the usual practice of shaking the tree and treading the soil around it. Set a stake by the tree and tie the tree to it with a hay band, and finish by covering the ground for four or five feet around the tree with coarse straw, litter from the barn yard, or leaves from the forest.

The proper size of trees for transplanting is a very important matter. It is clearly settled by both theory and practice, that health, vigor and duration are all best promoted by selecting small trees from three to six or seven feet high. Such trees planted as herein directed, make wood rapidly, and come very soon into a state of healthy and long continued productiveness.

There is trouble in all this! So there is. But what earthly enjoyment that is worth anything is to be had without trouble? Let any one plant an orchard according to these directions, and, in a few years, if he take any pleasure in seeing the work of his hands prosper, he will not regret the trouble his orchard has cost him—more especially if he remember in the mean time that it is an indispensable requisite in all young orchards to keep the ground mellow and clean by cultivation for the first few years, until the trees are firmly established in the soil.

We must not omit to remark that if any one intends to engage in fruit raising, either for consumption on his own table, or for the benefit of his stock, or for market, and wishes to have *good* fruit and thrifty trees as the result of his labor, he must first of all make himself acquainted with the principles of Horticulture. The study of this branch of science is a delightful recreation, and the application of its principles to practice, is still more delightful. For the theory, we beg leave to recommend—

Lindley's Outline of the Principles of Horticulture.

Lindley's Theory of Horticulture, by Downing.

For the practice—

Kenrick's American Orchardist.

Downing's Fruits and Fruit Trees of America.

APPLES.

In the Southern States apple trees should be planted in a deep, damp, loose loam, of calcareous or limestone character, with a northern exposure. The rich alluvions of our rivers and creeks, not subject to be overflown, would furnish the very best location for apple orchards. Steep, rocky, north hill-sides, of strong soil, would be perhaps the next best. The distance of the trees apart should be at least forty feet. And such sorts should be selected as are known to succeed in the neighborhood. For there is hardly any tree so local in its character as the apple. The Baldwin and Roxbury Russet succeed well only in Massachusetts—Peck's Pleasant and Seek-no farther, are best in Connecticut—the Spitzenburg and Newtown Pippins, in New York—the Bellflower and the Rambo, in Pennsylvania. English apples do not succeed well in the United States; and American sorts planted in England loose their high flavor. In 1832 we brought from Ohio some very fine sorts—they are now growing in our grounds, but they have never answered our expectations, notwithstanding all our care of them. In the Northern and Middle States every neighborhood almost has its favorite varieties, which will not elsewhere come up to their high character at home. So too is it in the Southern States, with the exception of the Horse and Red June Apples. They flourish everywhere, we believe, with proper treatment. Hence we do not furnish a list of apples, but leave every one, as ensuring the best success, to make a selection of those that have been tried, and are therefore known to do well in his immediate neighborhood. Yet we would advise every one to set about getting a good apple orchard—not indeed for the reason assigned by Dr. Johnson to one of his friends:—"I know a clergyman," said he, "of small income, who brought up a family very reputably, which he chiefly fed on apple-dumplings." That happened in Eng-

land—but, thanks to the men of '76, no such hardship need befall any one in this country—clergymen or laymen. We place our advice on the ground of the exceeding great usefulness of the apple, on the table, in the kitchen, as an article of food for cows, horses and hogs, and as an article of commerce.

PEARS.

Formerly, the Pear was not very highly esteemed. In its wild state it is extremely austere: and even the pear which has been removed only one step from savagedom—the choke pear—considered by many as the type of this sort of fruit, lays hold of the mouth and throat with a grip rather more severe than a green persimmon. And besides, the late bearing of most of the common sorts had given rise to the saying:—

"He that plants pears,
Plants for his heirs."

But within the last sixty years, through the exertions of VAN MONS, KNIGHT, and others, the pear has been so greatly improved, in all respects, as to be styled the queen of fruits in temperate latitudes. VAN MONS devoted the whole of his life to the improvement of the pear; and, from 80,000 seedlings which he raised, he got a number of varieties of high excellence. Mr. KNIGHT, by crossing, has added many others to the list of fine sorts; and some of the very best are the production of nature, having been found growing in hedges and meadows. In all, there are between 800 and 1,000 sorts that are esteemed good. But of all these, only about twenty are really first-rate.

The best soil for the pear is a strong loam, of moderate depth, on a dry subsoil.

If trees are wanted for an orchard, those grafted on pear stocks should be procured—for the garden, those on quince stocks should be preferred, as they make dwarfs, and come into bearing very soon. We have had trees on quince stocks to bear when only about three feet high—and large crops have grown on those that were only about ten feet. In the orchard plant 30 feet apart—in the garden plant dwarfs, if Quenouille training is intended, 6 feet; otherwise, 10 feet apart.

In gathering pears, it should be always remembered that most varieties are much finer in flavor, if picked from the tree, and ripened in the house. There are many varieties, Mr. DOWNING says, that are only second or third rate, when ripened on the tree, but have the highest and richest flavor if gathered at the proper time and allowed to become mellow in the house. Winter pears, however, require a somewhat different treatment. They should be allowed to hang on the tree till the nights become frosty, and when gathered they should be wrapped separately in paper, packed in barrels, and put away in a cool room, until within about two weeks of the time when they usually beome mellow, then be brought into a warm room and be there allowed to mature perfectly.

CLASS I.—*Summer Pears.*

Bloodgood,
*Bartlett, or Williams' Bon Chretien,
*Dearborn's Seedling,
Green Chisel,
*Jargonelle,
Julienne,
*Madeleine,
*Rousselet de Rheims,
*Summer Franc Real.

CLASS II.—*Autumn Pears.*

Andrews,
Althorpe Crassanne,
Belle et Bonne,
Beurre de Capiaumont,
*Beurre Brown,
*Beurre Bosc,
*Beurre Diel,
Bergamot, Gansel's,
*Frederic de Wurtemburg,
*Golden Beurre of Bilboa,
Heathcot,
Hacon's Incomparable,
*Louise Bonne de Jersey,
*Marie Louise,
Napoleon,
*St. Ghislain,
Goshing,
*Dix,
*Douchesse d'Angouleme,
*Doyenne, White, or St Michaels,
Flemish Beauty,
Stevens' Genesee,
Seckel,
*Surpasse Marie Louise,
*Surpasse Virgalean.
Van Mons Leon de Clerc,
*Washington.

CLASS III.—*Winter Pears.*

Beurre d'Aremberg,
Beurre Ranz,
*Black Worcester,
Bon Chretien Spanish,
Columbia,
*Chaumontel,
*Glout Morceau,
*Jaminette, or Josephine,
Louise Bonne,
*Passe Colmar,
Vicar of Winkfield, or Clion,
*Winter Nelis.

Those pears in the preceding list marked thus (*) have borne fruit in our grounds, and they fully sustain here the character given to them by MANNING, KENRICK, DOWNING and others. And in this list are included those that are esteemed to be the very best in Europe and the U. States. They can all be purchased in Northern nurseries, at from 25 to 100 cents per tree, and can be safely sent to any part of the country.

PEACHES.

As we remarked on a former occasion, this fruit has been so much neglected in the Southern States as to have become comparatively worthless. Even the brandy that is made of it, compared with what was made thirty years ago, is often little better than blue ruin or cockle-burr whiskey. It is, in reality, slowly falling back into its original poisonous character. No one who has tasted the fine sorts grown in New Jersey and Delaware, can ever afterwards relish the miserable trash that is too often allowed to grow in Southern orchards. Even as food for hogs, it would be for every one's interest to get good sorts and cultivate them carefully.

Every body knows the kind of soil the peach tree grows best in—and every one knows that no tree is more easily propagated. From the stone in one year, trees may be raised large enough for budding. And every one may learn, in five minutes, how to bud a peach tree, either from the books or from one who understands the process. Get good kinds and go to work, and in three years orchards may be had to any extent, that will be worth something. We add a list of kinds, about the high qualities of which there is no dispute. To praise them would be to "gild refined gold." But unless they are properly taken care of, it will be all labor thrown away. The ground should be plowed and kept clean, and the trees carefully pruned every year according to the system of shortening-in, that is, cutting off, in January, half the last year's growth over the whole outside of the tree, and also upon the inner branches, cutting always close to a leaf-bud: the object of this pruning being to diminish the crop one-half, make every peach double the usual size, and of superior flavor, and furnish a large supply of strong bearing wood for next year.

Commercial gardeners usually sell peach trees at about 25 cents each. Those marked (*) we have tried, and know to be good

CLASS I.—*Freestone Peaches with pale flesh.*

*Bellegarde or Red Magdalen,
Brevoort's Seedling Melter,
*Belle de Vitry,
Early York,
Early Newington,
*Early Admirable,
George the Fourth,
*Grosse Mignonne,
Late Admirable,
*Morris' Red Rareripe,
*Morris' White do.,
*Morrisania Pound,
Malta,
*Noblesse,
Oldmixon,
Royal George,
*Red Rareripe,
*Snow, or White Blossom.

CLASS II.—*Freestone Peaches with deep yellow flesh.*

Abricotee, or Yellow Admirable,
*Crawford's Early Malocoton,
*Columbia, or Pace,
Crawford's Late Malocoton,
*Red Cheek Malocoton,
Yellow Alberge,
Yellow Rareripe.

CLASS III.—*Parvies, or Clingstone Peaches.*

*Blood Clingstone,
*Catharine,
*Heath, or "White English" of our orchards,
*Incomparable Admirable,
*Lemon Clingstone,
Late Yellow Alberge,
Oldmixon,
*Old Newington,
Pavie de Pomponc,
Tippecanoe.

PLUMS.

The plum is one of the hardiest of fruit trees, and requires not near so much care in the cultivation as the apple, pear and peach. It succeeds best when planted in a heavy loam, or in a soil containing a large proportion of clay. Where the soil is sandy it should be thoroughly mixed with clay, and enriched with swamp muck. Mr. DOWNING says he has found common salt to be one of the best fertilizers for the plum. The most successful plum grower in his neighborhood, he says, applies, with the best results, half a peck of coarse salt to the surface of the ground under each bearing tree, annually, about the first of April.

Grafted on seedling stocks of the common Chickasaw plum of our fields, under the surface of the ground, it makes a beautiful dwarf tree for the garden, comes very soon into bearing, and produces very large crops of very fine fruit.

The most effectual protection against the attacks of the curculio is to catch and kill the insect. About a week after the trees are out of blossom, commence the war. Every evening for about a month, spread a white cloth under the tree, then jar the tree by striking the body of it with the hand. The curculio will double himself up and fall on the cloth as if dead, appearing very much like a dead bud of the tree. On close examination he is readily distinguished from the buds that fall with him, and may be caught and crushed. Of all the methods recommended that we have tried, and we have tried the most of them, this is, by far, the most effectual.

In the following list, those marked thus (*) have fruited in our garden, and we know them to be good.

CLASS I.—*Green, White or Yellow Plums.*

Buel's Favorite,
*Bingham,
*Coe's Golden Drop,
Dana's Yellow Gage,
*Green Gage,
*Huling's Superb,
*Imperial Gage,
Jefferson,
*Large Green Drying,
*Washington, Bolmer's,
*White Magnum Bonum,
Prince's Yellow Gage,
*Semiana.

CLASS II.—*Red, Blue or Purple Plums.*

*Brevoort's Purple Bolmer,
Blue Imperatrice,
Cooper's Large Red,
Columbian Gage,
*Damson, Common,
*Duane's Purple,
Diamond,
Elfrey,
Frost Gage,
*Horse Plum,
*Italian Damask,
*Orleans, Smith's,
*Purple Gage, or Reine Claude Violette,
*Quetsche, or German Prune,
Red Magnum Bonum,
Royale Hative,
*Sharp's Emperor.

The usual price of plum trees in the commercial gardens is from 50 to 100 cents per tree.

There may still be remaining in the land some few persons who may look upon all this fuss about fruit, as the veriest nonsense—utterly and immeasurably beneath the notice of men who plant cotton. If there be, we have only to request that they hold their peace until they shall have seen the next number of the CULTIVATOR, and read therein an account of the recent celebration of the anniversary of the Massachusetts Horticultural Society, at which Mr. WEBSTER, Mr. EVERETT, Mr. WILBUR, Mr. CHAPMAN, Mr. CHOULES and others made speeches, investing the whole subject with an interest and a charm

never dreamed of by those, all of whose ideas about fruit are associated with hog-plums, choke-pears and crab-apples.

The Cash System.

The beauty of the *credit system*, when applied to the publishing business, is made strikingly manifest, by the case of the *Democratic Review*. That work has now due to it, according to a statement recently published, on account of subscriptions, the sum of $40,000. We have the authority of the "*New York Farmer and Mechanic*," for this fact.

When Mr. J. B. HINES purchased the *Georgia Journal* of Mr. S. GRANTLAND, the debts due that paper for subscription and advertising, were estimated to amount to about $60,000. Of this large sum there never was collected, according to present recollection, more than between three to four thousand dollars.

Would not the publishers and proprietors of the CULTIVATOR, with the knowledge of these facts, be doing a very fine business indeed, to abandon the cash system, and encounter losses such as those above stated, merely to please some few persons, who, because they cannot get credit for a year's subscription, choose to fall out with the paper and every body connected with it?

All our experience is in favor of a steady adherence to the cash system in the publication of this paper. This number closes the 3d volume. Our contract with our subscribers has been complied with fully. Every one wishing to get a copy of the 4th volume, will oblige us by sending his order for it, accompanied with the cash, without delay, as it is very desirable to know before the first of January how many copies will probably be wanted.

Southern Dependence.

Surely the severe scoring our Southerners get on every side, will, in the end, enable us to head our articles, "Southern *In*dependence," instead of *de*pendence. Among others, Mr. SOLON ROBINSON takes liberties with us, and our system of economy, as in the quotation below. Mr. R. lives in Indiana, but spent the last Winter in Mississippi; and has written, and published in the *Albany Cultivator*, his "Notes of Travel in the Southwest." His advice is in exact conformity with ours, given in almost every number of our CULTIVATOR. We trust it will be the more heeded, as Mr. R. lives in a region which derives very great profit from our Southern habit of buying what we ought to make at home.

"There are a good many other things," he says, "that Southerners might learn economy in. And one of the first things to learn is, that out of their own staple we furnish them almost every manufactured article, for which they pay us for carrying the raw material from the gin and press we built for them, done up in our bagging and rope, and sewed with our twine and needles, drawn upon our wagons by our horses, in our harness, over roads made with our plows and hoes and spades, to our steamboats, and upon that to our ships; not forgetting to let our Commission Merchants have a good share of the "skinnage;" and then, after manufacturing, to return it in the same way to exchange for more raw materials; by all which means we constantly keep a raw spot in your feelings; but it is not yet sufficiently "galled" to teach you to become *home manufacturers*—the only healing salve that you will ever find to cure the festering sore of "such low prices for cotton that planters cannot live by it." Would you adopt a more prosperous course? Quit planting, as you understand it, and become farmers, as we understand it—raise upon your farm, as far as possible, every thing that you eat, drink, wear, and use, and never buy an article of cotton goods, except it is of home manufacture—that is, manufactured in the country where the raw material grows—and never bale your cotton in any thing but cotton baling, made from cotton not worth sending to market in any other shape. Get up and keep up agricultural associations, and give premiums to that farmer that shall come the nearest to raising every thing he consumes, and to him who will exhibit the greatest proportion of his Negroes clothed in plantation manufacture throughout—and above all things else, read and support agricultural papers."

English Farming.

In looking over our agricultural exchanges, we noticed the following statement of the expense of cultivating an acre of ground in Irish potatoes, in England.

Rent	$24
Taxes	1
Manure	24
Plowing	3
Seed	10
Planting	7
Hoeing or Plowing	3
Digging the crop	7
Total Expenditure on one acre	$79
The result is about 400 bushels at 38 cents	152
Profit	$73

Sometimes the crop will sell for more, and rents, taxes and labor may vary, yet the statement shows what may be considered a fair average.

Near London, however, the item of rent is very much higher. Mr. COLMAN says land is usually rented there for about $100 per acre, for producing potatoes for the London markets.

Of the market gardens near London the income per acre is very large. Mr. COLMAN mentions one case as quite worthy of remark. The actual sales from it, in one year, were—

Radishes	£10
Cauliflowers	60
Cabbages	30
Celery, 1st crop	50
do 2d do	40
Endive	30
	£220

Or about $1,100, for the gross income from the produce of one acre of ground in 12 months.

Subsoil Plows.

Mr. CHURCHILL, of Athens, brought from Boston this fall, some subsoil plows. They were sold very soon after they were unpacked at his store, and there is a demand for more. This we take to be pretty good evidence that some converts have been made—either by our preaching, or the preaching of somebody else. We intend to consider them ours, any how, until some better claim shall make its appearance.

Railroads.

The way railroads use up Northern towns, is admirably illustrated in the case of Fitchburg. May not a like fate be in store for Augusta, Columbia, Macon, Athens, and other towns in the South? Fitchburg, says a Northern paper, since the completion of the railroad from Boston, has grown very rapidly. The Crocker Company are erecting a large cotton mill to cost $200,000. There are three manufactories of woollen goods, at two of which a very good article of broadcloths and cassimeres is made; the other is devoted to the manufacture of negro cloths. There are three scythe factories in operation, three paper mills, and saw mills, grist mills, &c. in abundance. Alvah Crocker, Esq. is erecting a brick building, two hundred feet long, between thirty and forty feet wide, and four stories high, for a railroad car manufactory, to be occupied by Davenport and Bridges, of Cambridgeport. Messrs. Clark and Blackburn are building a factory of granite and brick, one hundred feet long by forty-six wide, and four stories high, for cotton goods; and Messrs. A. P. Kimball & Co. are building a scythe factory of granite, one hundred by forty feet; all of which are on the Nashua, and when finished will give employment to a large number of hands. There is a spacious brick hotel now building and nearly finished, in the immediate vicinity of the railroad depot.

How to Get Rich.

About eight years ago, says Mr. BEECHER, Editor of the *Indiana Farmer and Gardener*, a raw Dutchman, whose only English was a good-natured yes to every possible question, got employment here as a stable man. His wages were six dollars and board; that was thirty-six dollars in six months, for not one cent did he spend. He washed his own shirt and stockings, mended and patched his own breeches, paid for his tobacco by some odd jobs, and laid by his wages. The next six months, being now able to talk good English, he obtained eight dollars a month, and at the end of six months more had forty-eight dollars, making in all for the year eighty-four dollars. The second year by varying his employment—sawing wood in winter, working for the corporation in summer, making garden in spring—he laid by one hundred dollars, and the third year one hundred and twenty-five dollars, making in three years three hundred and nine dollars.

With this he bought eighty acres of land. It was as wild as when the deer fled over it, and the Indian pursued him. How should he get a living while clearing it. Thus he did it: He hires a man to clear and fence ten acres. He himself remains in town to earn the money to pay for the clearing. Behold him! already risen a degree—he is an employer! In two years time he has twenty acres well cleared, a log house and stable, and money enough to buy stock and tools. He now rises another step in the world, for he gets married, and with his amply built, broad-faced, good natured wife, he gives up the town and is a regular farmer.

In Germany he owned nothing and never could; his wages were nominal, his diet chiefly vegetable, and his prospect was that he would be obliged to labor as a menial for life, barely earning a subsistence, and not leaving enough to bury him. In five years he has become the owner in fee simple of a good farm, with comfortable fixtures, a prospect of rural wealth, an independent life, and, by

the blessing of Heaven and his wife, of an endless posterity. Two words tell the whole story—industry and economy. These two words will make any man rich in the West.

Southern Independence.

It gives us real pleasure to be able to copy such articles as that which follows. We find it in the Greenville (South Carolina) paper. May we not hope that this is the beginning of a new state of things in the Southern States?

"We presume it is not generally known that a Corn Broom Manufactory has been in successful operation at this place, (Greenville, South Carolina,) during the past year—such, however, is the fact, and it is probably the only one south of the Potomac. The establishment is owned and under the direction of Dr. Crittenden, who manufactured five or six hundred splendid Brooms last season—equal to any made in the United States for strength and beauty of finish. He raises the corn, and turns the handles from timber obtained on his farm. We are informed that these Brooms will be furnished, wholesale or retail, as cheap as a similar article can be delivered in any of the Southern cities. They can be had at the Store of Hastie and Nicol, in this town, and probably at other places. A sample can also be seen at this office.

"Dr. C. made preparations for extending the business next year, but the drought of the past Summer almost entirely cut off his crop of Broom Corn; he has raised sufficient, however, to make about 1000 Brooms. Success attend all similar enterprises, say we."

Speed the Plow.

Things are sure to be going right in any country, where people take an interest in such exhibitions as that described in the following paragraph, which we find in the *National Intelligencer*.

"At the Newcastle County (Delaware) Agricultural exhibition last month, there was a spirited plowing match for boys under sixteen years of age. It is thus described: Now followed the second match, being entries for boys under sixteen years of age; eight of whom entered. Their performance was indeed surprising. The first premium was won by a lad by the name of Janvier; the son, as I understood, of a poor widow woman; and when asked whether he would have a piece of plate or its value in money, replied he would take the money; "he wanted it for his mother." The second was won by master George Jackson, a boy of ten years old, (a son of Mr. Bryan Jackson, a large farmer,) and thought small of his age. The clearing up furrow of this lad exceeded any effort I ever saw of the kind by a boy. In addition to the second premium, Mr. Pedder presented to him, through a member of the committee, as coming from the Messrs. Prouty, whose plow he held, a beautiful little watch, with chain, key, &c., and the possession of it seemed to gratify the little fellow much; nor was it scarcely less gratifying, apparently, to the numerous spectators, who all voted him the General Tom Thumb of the plowing ground."

To cure a Stifled Horse.—Take one gallon of urine, and put therein a small handful of junk tobacco, boil down to one quart; then add two ounces of the oil of spike, one ounce of the oil of amber, two spoonsful of spirits of turpentine, and two spoonsful of honey. Put it into a jug, and cork it tight for use.

Process of Application.—Rub the stifle bone hard with the mixture fifteen or twenty minutes; then dry it in thoroughly with a red hot fire shovel, then ride the horse forth and back one hundred rods. Repeat the above two or three times, and the cure will be effected.—*Correspondent American Agriculturist.*

Several silk raisers from the North and East, have gone to Virginia, where they anticipate doing well. There are eight silk factories in the town of Mansfield, Ct., and all the works continue to increase.

Original Communications.

Proposed Plan of a General State Society.

Mr. Camak:—It is evident that Georgia either absolutely, or in comparison with other States, possesses vast resources of wealth, and her citizens are becoming sensible of the fact. The old business of planting, alone, can no longer confine their views and efforts. Conscious of wealth beyond, they are daily overleaping this narrow boundary to attempt the development of other resources; but, finding themselves in a new field, surrounded by new pursuits, with which they are unacquainted, and therefore unable to make a proper choice, they often engage at random, and no wonder their attempts are frequently awkward, misdirected, or unsuccessful. We have capital and labor in abundance, as well as material. The spirit of enterprise is already aroused. Give it proper direction and prosperity will result. Under these and other views, I offer the following proposition:

Let a society be formed in Athens for the purpose of promoting the general interests of the State—call it by what name you please—let it be regularly organized, and have its regular meetings, and make honorary or corresponding members of intelligent citizens in every part of the State. Let the society examine all communications made to it, and publish such as might be thought worthy of it. It should have a suitable organ for this purpose. The Cultivator, enlarged, would, probably, be better than a separate magazine.

Such a society might endeavor first, to improve every kind of business now pursued in the State; and secondly, to introduce such other pursuits as might be profitable, and to develope all resources not yet developed. The first would comprehend agriculture, mechanism, manufacturing, gardening, commerce, navigation, the fine arts, &c. The labors of this department would fall to the share of the society proper, and especially to the Secretary, who should gather all valuable knowledge upon these subjects. Could not the Legislature be induced to pay him an annual salary? In bringing out the dormant resources of the State the corresponding members might be of use. They could give the society a topographical description of every neighborhood in Georgia—its soil, production, climate, mines, minerals, and timbers; stone, waters, water power, and everything else which might be useful. I believe Georgia would become a great State if her domestic economy could be skilfully managed, and that this might be done by a suitable combination of talent. I hope this short draft will enable you to understand me. Please give me your opinion on the plan, and oblige,

Yours truly, T. Foster.

Peavine, Walker Co., Ga., Sept. 30, 1845.

Salting Food for Stock.

Mr. Camak:—I lately saw a publication, (certain evidence of thought, and good feeling in the writer,) recommending as saving in feeding, cutting up straw, hay, shucks, &c., in this time of scarcity, which is certainly an economical mode of feeding where the quantity is so limited.

Permit me to add my experience in saving and making coarse food more nutritious, to the valuable mode recommended:

If hay, straw, shucks, or tops, are cut for feeding, which can be done very easy and quick on the late improved straw cutters, it should be done in quantities that will fill, say two large hogsheads. Sprinkle the cut straw, we will now call it, with a small quantity of salt water, and then pack it into the hogsheads by pounding it with a wooden pestle. In this state the salt will diffuse itself through the cut straw, so delicately, that it will be sweetened with the salt, making it palatable and more nutritious, and much more healthy to the animal. The hogsheads should be kept closely covered, and when the cut straw, hay or shucks, is taken out, it will have the flavor of new made hay or straw, delicious to the smell.

In using two hogsheads, one should always be kept full, to undergo the process of diffusion, which takes some little time. Care should be taken that not too much salt is applied, or the animals will not eat it. A very small quantity only is required.

Those who have observed even cut oats fed, have seen that the joints of the straw are left by the animals, being too hard; yet this part is the most nutritious part of the straw. Sprinkle the cut oats with salt and water and these joints are softened and sweetened, and will be eaten up with avidity.

Horses or mules fed in this way will soon show the value of the sprinkling, by an improved coat of hair; and as salt is the best vermifuge, they will be protected from destruction by the ravages of the bots.

The planter should, in every operation as much as possible, adopt system. This would systemise feeding, essential to health, and consequently strength, even in the human family.

Respectfully, &c. R.

Greenville, S. C., Oct. 24, 1845.

Hides.

Mr. Camak:—If you think the following worth publishing you are at liberty to do so. Almost every farmer (frequently other persons too,) has more or less hides to dispose of every year. Hitherto, they have generally taken bad care of them—many persons neglecting them altogether. The principal reason of this, I presume, has been the want of a good market for them. Now every little saving to the farmer (the same is true of all of us,) is so much clear gain, especially if he can do it without neglecting other business, and with little or no inconvenience or expense. The demand for hides is on the increase, and consequently the price must be better. A market is almost at the door of every man. As an instance, take Putnam county, where, a few years ago, there was no tannery; now it has six. And I have good reason to believe that there is a great increase of tanneries in all parts of the State.

Almost every farmer has from three to ten hides annually, some from thirty to fifty. These hides are worth (if properly taken care of,) from 50 cents to $6 a piece. Upon an average their price may be safely estimated at $2 each; so that from this estimate you see that the farmer's hides are worth annually to him from $6 to $100. Notwithstanding this, you will scarcely find one tenth of the community who bestow proper attention on their hides. 'Tis true, some are alive to their interest on this subject—but how few!

The common mode is to flay the beef and throw the hide on a fence rail, under a shelter or hen roost, or on top a negro cabin; there it remains till the farmer wishes his annual supply of leather, or till he has leisure to send to the tannery. By this time it is generally tainted, worm-eaten, or destroyed by the rats; it is then good for nothing—not worth tanning. Many persons have their hides tanned on shares, viz: give one half for tanning. When they bring such hides to be tanned, they expect to realize good leather from them; but this is out of the question—they won't make good leather, and the tanners are blamed for not making good leather out of bad hides. 'Tis this injurious exposure that has prevented many yards from tanning on shares. If good hides are always brought to the yards, good leather may be expected in return. Thus you see, by neglect, from $6 to $100 is annually lost to the farmer, in part or in whole. This is perhaps more than double his annual tax. Perhaps not less than 2 or $300,000 is lost to the State every year, in this one article alone. Is it not high time for us to economize? How much better would it be to appropriate this amount to educational purposes annually? We buy largely

Northern shoes and leather, taking the proceeds of cotton to pay for them. And that I may do good on a larger scale, let me speak a little more particularly to the wealthy farmer: You employ an overseer to attend to your business, and he perhaps cares nothing for your hides. Now, when you employ an overseer, let this be part of his business. Perhaps that one item may cover one-fourth or one-half his wages. I am acquainted with men who are called neat farmers, and they make money too, and seem to have everything conducted in systematic style, yet they hardly ever realize anything from their hides.

If the farmer has no better rule for preserving his hides, let him take mine: In the first place, always send your hides to the yard, while green, then you run no risk, and green hides generally make the best leather. You will realize more from the green hides than when dry—5 cents per pound for green hides is about equivalent to 12½ cents for dry; but the tanners pay only 10 cents for the dry—that is, double the green price. But if not convenient to send to the yard when the hide is first taken off, sprinkle a little salt on the flesh side and fold it up, this side in, for two or three hours, for the salt to strike in, then hang it up *smooth*—that is, free from wrinkles—in some barn or out-house, keeping it out of the sun and rain all the time. When cured, sun them occasionally and beat the worms out, if there be any. You may then have no fear of your hides.

You must recollect another thing also: if you have timber to cut down, do it in the spring and sell the bark to the tanners, and your sap timber will then last nearly as long as the heart. Your sap timber is generally ruined by bark being left on it, and also by cutting down at improper seasons of the year.

Mr. Editor, I could have written more, but this communication is already two or three times as long as I expected, so you will excuse my prolixity. Very respectfully,

J. H. Anderson.

Salem, Ga., Oct. 20, 1845.

Deep Plowing.

Mr. Camak:—In June last, I went from this place to Augusta, and on my way saw the planters, who were then threshing out their wheat, put up the straw in so careless a manner, that I saw they set little value on it. I spoke to Mr. Jones in Augusta about it. He requested me to write an article for publication on the value of wheat *straw*, as compared with fodder. I did so, and thought but little more of the subject. I lately was in Habersham county at the house of a gentleman, who I found patronized your invaluable agricultural paper. I had not seen a number of it until then. I asked him if he had observed an article in that paper on the value of wheat straw. He told me he had, and spoke in terms of commendation on the discovery.

On my return, near Pendleton, in looking over the Pendleton Messenger of the 18th June, I read a communication extracted from your paper, by Williams Rutherford, jr., of Cowpens, Walton county, Ga., dated 21st March, on the subject of deep plowing. I will give you an experiment made by me from necessity. The result was something similar.

I had a field of thirteen acres, naturally very poor, (so much so, that the first natural production was a poor growth of sheep sorrel, a certain indication of sterility,) which I intended to put in wheat. The summer was something like the last, excessively dry. When the time arrived that this field should be broken up, it was so hard a plow with two horses could not be got into the ground. Four horses were tried without success. A coulter was tried with two horses but the draft was too great, and four horses enabled the plowman to break this field.

The weather continued dry, and when it was time to sow the wheat, a piece of corn was gathered and that sown (no rain meanwhile;) the plows were then removed to the field plowed with the coulter, and it was discovered it plowed well. The wheat was sown; no manure was applied. The wheat when harvested was a very tolerable crop, (for such poor land, very good,) and there were many places from 10 to 20 yards square covered with luxuriant clover. No seed could have been on the land, and how it came to grow can only be solved by future experiments.

The idea that struck me (which I would like to see investigated by some more scientific experimentalist,) is, that the plow having reached deep into the clay bottom, (the top soil was decomposed granite, or coarse gravel,) the clay attracted nitre from the atmosphere, and thus caused the growth of clover, which it is believed will only grow on lands cultivated for some time and manured. New lands will not produce clover if very rich.

Another suggestion I will make, with the hope it may be subjected to scientific and chemical research, which this experiment suggested to me:

By deep plowing at the season when the sun's power is diminished from summer heat, the earth then becomes warmer than the atmosphere, and as there is attraction in heat, may we not suppose the nitrous particles floating in the atmosphere will be attracted by the greater warmth of the earth, and so powerfully aid in fertilizing the soil. From the accidental experiment of myself and Mr. Rutherford, I hope others will be disposed to examine the result of similar experiments.

With much respect, R.

P. S. If I have time I will send some remarks on irrigation, the result of my agricultural experiments. All the upper part of South Carolina and Georgia is admirably adapted to improvement by irrigation, and hay may be made an article of export to an immense amount. When one acre will produce one and a half tons of hay at a cutting, at least, which can be cut and cured by one hand in two days, and at least two cuttings can be taken in one summer, then corn will not be injured by pulling off the natural feeder, the blade, given by an All-wise Being to give it maturity.

Greenville, S. C., Oct. 22, 1845.

Rot in Sheep.

Mr. Camak:—Sir—Having promised some remarks upon the final cure of that disastrous distemper commonly called the Rot, among our sheep of the South, I now proceed to comply with my promose. Mr. Livingston, in the Farmer's Cabinet, made some remarks upon the excretory duct of the feet of sheep, that is worthy of the attention of every wool-grower throughout the United States. But it is our duty to improve upon every suggestion made by our friends; therefore, I shall offer a few remarks upon the excretory duct.

Twelve years past my father had a fine flock of young sheep, and as the sheep grew older they began to linger, and in fact, some did positively dwindle away and die, and at the same time, I suppose, they had as good pastures to feed in as any farmer of Newton county. We knew very well that it was the rot, commonly so called by the Little River farmers, but the cause that produced that coughing disease was a matter of great astonishment with us, as the sheep had fine pastures to run in, and were regularly salted. So we commenced examining, and we found out that the excretory duct was the grand cause. Well, we being determined to get rid of our sheep, or that they should be relieved of this destructive disease or distemper, for they were not worth anything of consequence, and an experiment on them would not be attended with much loss if we should lose the whole flock. Therefore, instead of bathing the feet in warm water, or of brushing the fissure of the hoof, or of probing the orifice, or of pressing out the fluid, or of extracting the fluid alone, we resorted to the needle and knife, and extracted the whole affair. This is done by taking a common sized sewing needle and a strong thread; press open the fissure of the hoof, and take up the point or mouth of the duct with your needle, draw your thread through and take a sharp small-bladed knife and split the skin each side of the thread, commencing precisely at the thread on the top of the duct, lengthways the split of the hoof. So soon as you have cut through the natural skin of the hoof you will perceive, to your astonishment, that the duct is, like the eye of the sheep, separate entirely from either skin or hoof, and only confined in the bottom of the fissure by a small thread or tube. And when you have cut this thread the pocket of poison will leave its den of secret disaster or destruction to the sheep.

This was done to my father's flock about eleven or twelve years past, and if any of the sheep have had the rot or cough since, I never heard of it. But, to the contrary, they commenced thriving, and instead of holding up their heads that they might breathe, they were able to put them down to feed upon the grasses and herbs of the fields; and instead of standing or of lying and coughing their lives away, they were enabled to rest at ease in any position, and chew their cuds, and thrive upon the very food that once would poison and kill.

My brother has operated upon a large flock for Mr. M. Gresham, of Stewart, the present year. We would like to hear the result on the pine woods sheep of Mr. Gresham. I will only remark that those sheep that feed behind in the flock are the worst off, and wherefore?—because the poison that the grass gathers from the duets of those sheep that feed before, is eaten by the latter. For it is my opinion that the way it is caught is, by eating the grass that has caught the poison from the duct of the feet.

I could write this communication as much longer if time and circumstances would justify. If my brother farmers wish to know the philosophy in full of this communication, I will give it in a future number of your highly esteemed paper; for I believe that the reading of your paper for two years, that only cost me two dollars, has been already worth more to me than one hundred dollars, and I do say that I think any man is acting in the dark who attempts to carry on a farm without book farming.

Thos. L. Middlebrooks.

Newton Co., Ga.

Florida Coffee.

"For naught so vile that on the earth doth live,
But to the earth some special good doth give."
Shakspeare.

Mr. Camak:—Some seven or eight years past, I was in Georgia on business, and found an old friend of mine engaged in raising what he called Florida Coffee. He had procured some seed, and had sowed it in a lot, for distribution amongst his friends. I happened to know more of this coffee, at the time, than he did, and advised him to destroy every plant and seed if he could. Whether he followed my advice or not I am unable to say.

Now, sir, I have been for ten years endeavoring to find out some use for it, and not finding any, to destroy it—both in vain. It still flourishes in my best soil. If it would be contented to grow in old worn out fields, I could with some patience spare it ground. But it selects, unerringly, the best spots of soil whereon to fix and to grow, and will grow nowhere else. The seeds will lie in the earth all winter and come up, from May to October, in successive crops as you kill it. If you cut it down with a scythe it will put up twice as thick from the stem, by lateral branches. If you pull up every stem, and before it seeds—it avails nothing—next year it will appear again. Nothing will eat it. The birds spurn its numerous seeds, which fall to the earth and remain as uninjured as if they were kept in a house. As I have seen no mention of it in the Cultivator, I hope it has found no foothold in Georgia. If it has, I hope some of your correspondents or subscribers will be so kind as to communicate whatever of good or evil their alchemy may have discovered of this rattle-weed, alias stink-weed, alias Florida Coffee, and oblige An Alabamian.

Can a Horse Reason?

The Editor of the Mobile Advertiser, whence we take the following curious and amusing statements of Judge Taylor, says they may be entirely relied on, and can be corroborated by the testimony of hundreds of the most reputable citizens of Mobile.

My purpose is not to discuss the question at the head of this article, but to submit some facts for the speculation of those who may be curious in such matters. As you are aware, I own a horse called *John*, that for several years has not only amused, but astonished the public, by his various feats of intelligence and sagacity.

Everybody knows John; and if he is seen, as he often is, in a buggy, and no one in it, walking, trotting or galloping through the most crowded streets, threading his way among carriages and drays, no citizen offers to stop him; but if a stranger attempt it, he only excites a laugh, and is asked how long he has been in the city? I have witnessed some amusing scenes of this kind, at the expense of some one's *good intentions.*

It is proper I should state, that for the last seven years, with the exception of the past and present winters, I have resided about two and a half miles from the city. I generally come to town every day, about 11 or 12 o'clock. I frequently drive to town and back, without touching the rein. If I come down St. Francis-street he is certain to stop at the Waverly, without anything being said to him; and as soon as I get out he will start in a trot or gallop and stop at the Corinthian. If I come down Dauphin-street, he will go directly to the post-office, where he will stop until I get out, when he will wheel across the street, and remain there, in his *opinion*, a reasonable time; if he wants water he will go to a pump, and from one to another, until he finds a friend to pump it for him, when he will return.

John is also a general favorite. The "*freedom* of the city" was long since presented to him in a buggy! He is therefore not confined to any particular street, but goes where he likes, in pursuit of me or his own amusement. He will sometimes go to Water-street, and then to Commerce, where, with excellent *taste* and judgment, he will sample bales of hay on the side-walk; but, unlike the cotton samplers, he was never known to fill a bag and carry it off on his back. He not only knows me from others, but can distinguish my voice from all others, as may be easily proved. Hundreds of persons may pass him daily, without attracting from him any particular notice. If I come toward him when his head is turned *from* me, and happen to be talking at the time, although from his tight check rein the motion may be difficult, and perhaps painful, he will turn his head round, resting it against his side, with his eye, which then exhibits a peculiar, tremulous motion, fixed on me, till I pass. If he then desires to go home, he will raise his head, point his ears, and start after me, stepping loftily, and keeping me in view. Although a spirited animal, nothing "frightens him from his propriety;" in fact, he "dares do all that may become a"—*horse!* It is a fact quite notorious, that he will go about the city in pursuit of me; it is equally so, that experiments have been made to induce him to leave me, by turning him up the street leading to the country; but after turning a block or two he would invariably come back. There are many instances of gentlemen having driven him to their residences in different parts of the city, and turned him loose to come back; and I am informed some bets have been pocketed on such performances. I had a standing bet for some years, that I would send him to the market, or the post-office, or any house or point that might be designated, and that he would return safely with the buggy. No one doubted he would do it. But a few months since, I sent him from my house across the country to the Spring Hill road, and up that road a distance of a mile, to the house of a friend, although he had not been there for more than a year. I have often sent him on errands of a similar character. I have only to go with him and show him a place, and he never forgets it. He is perfectly under command of my voice. I speak to him as I would to a servant; and that he understands many things I say to him, is proved by the fact that he obeys me. In harness, or out of it, he follows me about like a dog. He stands in no fear of me, and has no cause; for although I may sometimes *scold* him, I have never struck him, as I believe, in the seven years and a half I have owned him. He therefore does nothing from fear, but everything from kindness.

It is getting quite late—two or three o'clock—I must have gone up the street. He turns up Royal-street, and stopping a short time at the Literary Depot, and several other places, he goes to the Waverly. There is no use in going farther in this direction, for he knows I seldom go above that point. He becomes uneasy; turns back, and goes down the street as far as the courthouse. He turns again, much excited; his ears thrown back, his neck arched, his nostrils flattened, and starts in a fast trot. As he passes the Mansion House, he is in a round gallop, wildly throwing his head from one side of the street to the other. If he sees me he will stop, or come up to me. I get into the carriage, and without saying a word to him or touching the rein, he takes up the first street leading to our home. Here is a narrow lane leading to the gate, and to make a clean turn through it, it is necessary to keep to the right, near the fence. John knows it, and stops at the proper point; I get out, open the gate, and pass through. He wheels short round, describing a quarter circle, and sees all is right before him; the gate is narrow, there being but five or six inches to spare, between the wheel and the post. John knows it, and in more than five hundred times passing through that gate, he has not touched the post more than three or four times; but when he happens to do so, he will immediately back, sheer off of his own accord, and pass through, never failing in his second attempt. There are many instances of his having locked his wheels with other carriages when endeavoring to get a good shade, and disengaging himself in a similar manner, and which have been noticed by Gen. T. D. W. and others. But for the oddity of it, I certainly should not use either rein or bridle. In going to the city, or back, but especially at night, I would trust him sooner than a professed watchman. Not the slightest injury has ever occurred to the carriage by any fault of his.

But he has also a mode of communicating his wishes and wants, by signs, looks, and actions, which are as perfectly comprehensible by me, as if expressed in the plainest language spoken by man. He not only *uses* a language to express his ideas, emotions, &c.. but he has clearly *invented* that language himself, as I think I shall prove. A portion of the year, the stable being left open for that purpose, John is allowed to come to the house and kitchen when he likes. About 12 o'clock one light night, I heard a heavy knocking at the kitchen door. The knocking continued so long and so loud, that I got up and went to the window, when I found it was John creating the disturbance. His hind feet were on the ground, and his fore feet on the upper step. Lifting his foot, he would strike the point of his hoof against the door, ten or fifteen times, repeating it every few minutes. From many other feats of his sagacity, I was well convinced of his object. I called up the servant, and charged him with neglecting to feed the horse, but he stoutly denied the charge. It is certain I did not believe him. But the same thing happened several times afterwards, and I had as often called up the servant, who still asserted the horse had been fed. One day I happened to hear the old negro talking to the servants in the kitchen, laughing heartily, and repeating, "John won't lie, and master knows it." A laugh. "He believes John, and won't believe me." Another laugh. "I won't tell any more lies about feeding John. It's no use." They all laugh, and I laugh! When he wants water he will go to the well and knock against the curb, or the water tub, in the same manner. Of late years, the servant gets up at the earliest knocking, for he knows that no sleep is to be had on the premises until John's demands are complied with. I often direct that he should not be fed in the morning, for the purpose of inducing him to adopt some other method of communicating his wishes. After exhausting his patience in his usual efforts, he would come to the house and walk by the door, stepping short and quick, and wheeling abruptly round. After practising in this manner for some time, he would give one of the queerest squeals I ever heard, as much resembling the yell of a Choctaw, as anything else, although he *can*, if he likes, squeal in very good *English!*

In November last, Mr. H., of C., who was at my house, desired to witness some of John's performances. After performing several feats I have related, and we had gone into the house, the servant came to me and said John would not let her go into the kitchen. We went out on the gallery and saw that John had planted his heels directly opposite to the kitchen door, looking very savagely. I ordered the girl to drive him away, which she attempted to do with a stick. But no! John would not move an inch. With his head near the ground, his ears backed, stamping violently, and shaking his head, he bid defiance. All this I knew was merely for effect. I knew he would not have injured the least of living things. I then told the girl to go to the well and draw him water. As soon as she started in that direction, he threw off his theatrical character and followed her, looking pleased and highly gratified at the success of his ingenious experiment. I will relate one feat of a different character. A year or two ago, when I came to the city one morning, I left John at a shop in Church-street to be shod, requesting the smith, after he had done so, to put the horse in the buggy, and let him go; a practice I have pursued at that and other shops for several years. An hour or two after, I was standing on the side-walk, opposite to the Mansion House, when I saw John coming down Government-street, and then up Royal, in a fast trot, stopping within a few feet of me. He soon commenced stamping violently with his fore foot, which continued for a minute or two. The West ward omnibus was standing some 30 or 40 feet in front of him. Walking up to it, he put his foot on the *upper* step, and commenced biting it. After relieving himself of the fly—as I supposed it was—he backed the buggy to his old position. Although John *knew*, and had *his* reason, why he went to the omnibus, yet it is proper the *learned* public should be informed, that as his check rein would not allow his *head* to be brought down to his *foot*, he went to the omnibus to bring up his *foot* to his *head!* Mr. P., then and now of this city, and a number of other gentlemen, were amused spectators of this performance.

John is a northern horse, finely formed, and without a blemish; and although in his twelfth year, he has all the playfulness and elasticity of a colt.

H. W. Taylor.

Curious Clock.—The correspondent of the London Morning Chronicle, who accompanied the retinue of Queen Victoria, on her late tour to Germany, in giving an account of the various curiosities in the Museum in the palace of Friedenstein, gives the following account of a clock of very singular construction: "In another chamber there is a very elaborate and strange piece of clock machinery, combined with an orrey, which keeps time with the celestial bodies. The different dials of the clock tell seconds, minutes, hours, days, weeks, months, years, centuries, and thousands of years. There was something curious in looking at a needle constructed to move one inch every thousand years. I could not help thinking it satirically emblematic of German activity; but if it is slow it is sure, and so are my friends on this side of the Rhine. The ingenious piece of mechanism in question was constructed about a century ago, by a priest, whose name, I believe, is lost."

Experimental Farming.

From the Southern Reformer.

Col. W. M. Smith—*Dear Sir:*—The great object I have had in view from the very commencement of my writings for the public, was to induce my brother farmers to reflect more on their business, and thus insure the improvement not only of our soil, but of the mind. I am fully aware that many have thought, and indeed said, that my highest aim was to induce farmers to purchase improved stock, whereby I could realise money. This is an error, and were not such things so common, I would much regret my being suspected; as it is, I blame no one, feeling assured that my perseverance in the good cause will induce some to regret having attributed to me sordid motives, and others to forget having thought it. One who is sincerely desirous to teach, will adopt the course that he thinks will lead to the end the surest and readiest. I, believing that the feasibility of improvement could be shown by taking hold of stock, used it as a means of proving that we had not arrived at the ultima thule of perfection. And I still hold the same opinions that I did, that improved stock will pay better for keep than others; this is even now denied by many—they honestly believing that the corn-crib is the only improvement. Whilst I will admit the full benefit of the cross on the corn-crib, yet I deny in toto, that the corn-crib will make a racer out of the Indian tackey, or a four or five hundred pound hog out of the pure native breed of hogs. I furthermore contend, that the mass of the farming community do thoroughly believe in another sort of cross, and that having seen this, they are willing to admit that our crops of cotton, corn, &c. can be improved. The great drawback on a more rapid improvement in farming matters generally, arises from too much dependence on experience. This thing experience is a capital thing in its way, but to place so implicit reliance on it will cramp the energies of the strongest mind, and clog the wheels of improvement. We will take as an illustration, corn, which every farmer knows so well how to cultivate, and try not only to show up to our practical, hard-working farmers their error, but explain my meaning. Farmers who have cultivated corn for fifty or sixty years, claim experience by right. I ask, is it experience as it should be? They have planted one variety of corn, and cultivated it one way; they have made 20 to 30, or may be 50 bushels of corn from an acre. Of course their mode of cultivation is best; and why? because they have tried no other. Tell them to plow deeper, plant closer, cultivate shallow and lay by early; they answer, our "climate will not suit close planting." How do they know? Oh! they have left three or four stalks in a hill and made nothing; but "mark well"—they merely scratched the earth before planting, and plowed the corn to death after it was growing; and yet they claim experience. Let them boldly launch forth into the broad sea of experiment, unbiassed by the trammels of their own peculiar system, or that of their fathers, and they will soon find out they have not yet arrived at perfection, even in corn planting. My friend and kinsman, A. K. Montgomery, having brushed away the cobwebs of experience, tried this season what a different way of managing corn would do. He never saw corn planted thus and was taught to believe it would not do; but the result, 98 bushels per acre, with a firm conviction that he can make 120. Prudently, as all farmers should be, he only tried some two acres, but it being along side of his crop, and cultivated at the same time, he is well enough satisfied to try it again. To satisfy inquiry, his mode was this:

He scattered some 400 or 500 bushels of cotton seed per acre, plowed about five inches deep, laid off rows about 2½ feet apart, drilled corn and covered—thinned out to as near one foot as he could, plowed once, and flat-weeded with hoe twice, I think. The adjoining corn was cultivated as usual, and though rather more on an acre than he generally leaves as a stand, as it was planted one foot nearer, yet it will not yield much over 40 bushels. The plan to have succeeded best would have been, to have plowed 6 or 8 inches deep, scattered his cotton seed about 350 bushels per acre, cross-plowed shallow, then marked off rows, scattered about 50 to 100 bushels in the drill and dropped his seed. The after culture should have been without a plow at all, relying on harrow, or cultivators, or sweeps. He used the manure because it was at the spot, used too much of that kind for the season, and no doubt injured it by this heating manure. As it was dry at the time of filling, and the stand not regular, he made not as much as might have been made. I now ask, is the experience of this gentleman worth anything? Of course not, as it militates against pre-conceived notions, and cost too much. This latter argument is weightless, for we know that the land will be benefitted for four or five years. There was too much manure used, and even as it stands, one acre has produced about the average yield of three; therefore, two hands could have been spared to gather manure. I say that experience is a capital thing in its way; and when a man has fairly tried the different plans, for a time sufficient, then should it weigh, and not without. Farmers have an awful dread of theory and experiments, when appertaining to their own business, and which can be kept under their own control; but let them launch forth their bark on the tide of politics, or some other fantastic notion, and you cannot keep them from being controlled by the one, nor from blindly following the other. I think every farmer should be an experimenter, and he should maturely reflect before he commences; thus theorise, but not spend his income at the one, nor his whole time at the other. By way of illustration again, and to give a practical lesson too: I had heard many argue on the advantage of covering corn deep, and reflecting on it I came to the conclusion that it was wrong; I had examined many stalks, and found invariably one thing—the root had put out from the grain or its shoot near the surface. I, therefore, in the month of June, planted in *garden mould* several hills of corn, at depths varying from one inch to six inches: mark! under the most favorable circumstances—in June and in my garden. I used a mathematical scale, was particular to an eighth of an inch, and not one grain showed itself above ground that was planted over four inches deep—in fact, the deepest planted that made its appearance was three inches. This was only one experiment; a dozen should have been tried. I tried wheat dibbled about 2 to 4 inches deep; not one in an hundred ever vegetated to be seen, whilst that which was drilled half, or three quarters to one inch, vegetated well. These experiments occupied an hour or so of my time, cost nothing, and when fully completed, will satisfy myself at least. All that I ask of my readers and friends, is to examine well and to be prudent in trying experiments, and I make no question but they will find pleasure and profit therein. I would urge on every farmer and planter—aye, on the divine, the lawyer, the doctor, the merchant, mechanic and all, to subscribe to a farming and scientific periodical; they will soon acquire a fondness for the reading; and being innocent, profitable and pleasing in their bearings, cannot possibly do injury. They need not be run away with it; let that be left to hot-headed, impulsive, soft people; but let them read to reflect and to profit. This good will result at least, it will give to the younger folk a thirst after knowledge that will be innoxious in itself, and tend to draw them from sinful amusements. The expansion of the mind on any subject will of course have its advantages in any situation of life. It is the class of men who have felt this generous impulse, who are selected for the higher walks in life, as well as patterns for imitation. I would, therefore, press on parents, guardians, teachers, &c., to encourage the reading of agricultural works; and I presume there is no one who has more brains than fatty matter within his pericranium, will object to the policy. Yours truly, M. W. Philips.

Log Hall, Hinds Co., Miss., Aug. 25, 1845.

The proper application of Manures to Land.

From the Valley Farmer.

A few practical observations, I trust, will not prove unacceptable to most of your readers, when we consider the great importance of the subject, and how much the productiveness of our soil thereupon depends.

It is well known that the greater diversity of opinion exists as to the "modus operandi" and time of applying manure. Some, on the one hand, contending that it should undergo thorough fermentation, and become entirely rotted. Others, again, think that it should be applied fresh, and that fermentation should take place after having been applied.

Again, there is the same difference of opinion as to the manner in which it should be applied. Some contending that it is most beneficial and durable to have it plowed under as soon as spread: others preferring it applied to the surface in the form of a "top dressing."

The simple inquiry then rests upon this: By which mode of application does the same amount of manure act most beneficially?

I have carefully examined the various opinions, and have been led to the following results from experience, the best of teachers, that manure should be applied to lands in an unfermented state, and that upon the surface, and at as early a period as possible in the spring. I have derived the greatest advantage from the simple application of dry and unrotted straw, to my thin knolls, while the land was lying to grass, thereby protecting them from the scorching rays of a summer sun; and wherever thus applied, the land appears to be renovated and moist, and in fallowing it, I invariably find it mellow and loose. Now, the question arises, does the mere covering of the land increase its fertility. And how can it be accounted for if it is not simply because evaporation cannot take place; and is it not by evaporation, together with frequent tillage and exhausting crops, that land once fertile, becomes barren? Now, our main object should be to prevent each and all of these different effects and results. In applying our manure to the surface, we give to the land a shelter and protection, thereby preventing evaporation from the surface of the soil, and at the same time, the rain acting direct upon the manure thus applied, carries the dissolved substances no deeper than the roots of most of our plants generally grow; and there these substances remain held by the chemical affinity of the earth, until the roots of the plants by a still stronger attraction act upon them. Again, it is a conceded fact that the fertilizing substances of manure are only soluble in water, and will remain uninjured themselves and useless to plants, until that solution begins, whether they be applied as a top dressing or plowed under. Now this solution can only take place by the application of water to the manure, and when thus applied in the form of rain, it is taken up by the subjacent soil, and there held by gravitation, until it is received by the minute mouths of the plants, which can only receive it in a state of dissolution by water.

Nature always manures the soil by application to the surface, and then relying on the rains to carry down the decomposed solution to the roots of the plants. She has taught us a useful lesson in the application of leaves, as applied to the forest, and notwithstanding the immense growth of timber, that our lands produce and sustain, they are still by this extremely small annual return, not only kept from barrenness, but in most cases they are in a progressive state of improvement. What a lesson we are to derive from this example? Protection from heat and the drying winds, with a proper distribution of manure to the soil, are all that is required to produce large crops and a progressive fertility.

Again, in applying our manures upon the surface, we do not prevent that proper compact-

ness of the earth, in order that it may the more readily withstand the powerful effect of long continued droughts. But when incorporated into the soil, it renders it light and spongy and the roots of the plants do not enter into that solidity with the earth as to be thus enabled to withstand its scorching effects. But when applied to the surface acts as a renovator and a protection to the tender roots, thereby retaining moisture, by preventing evaporation.

I still further contend that by applying the unfermented manure to the surface early in the spring, that the decomposition is more gradual, and that the different elements it contains are evolved more gradually, and the volatile parts are absorbed as rapidly as yielded by the growing crops.

It is again urged that the carbonic acid gas, so necessary for the full developement of the leaves of the plants, is lost by the application to the surface.

Now, carbonic acid gas is heavier than atmospheric air, and by its specific gravity is confined to the surface until it is distributed in the surrounding atmosphere, and where it directly comes in immediate contact with the plant in its earliest stage. Nor is it thus lost, for it is driven off in such small quantities, by the very gradual fermentation and decomposition, that it is much more lasting in its effects upon vegetation and of much longer duration. Whereas, on the other hand, if speedy decomposition takes place, the carbonic acid gas is driven off much sooner, and there is an excess over and above the quantity required by the plant which must of course be diffused in the surrounding atmosphere. For it is well known that but a very small quantity is required by the plant; for plants exposed to a superabundance of carbonic acid gas will survive but a short time.

The same rule will apply equally well as regards ammonia which also escapes from manure during fermentation. But it is very obvious that manure will generate ammonia without the heat and moisture, and that heat by which ammonia is sent off in such quantities as is perceptible to the eye, on visiting a stable yard early in the morning, is thus prevented, by decreasing the bulk and exposing a larger surface to the action of the atmosphere. These are my practical opinions and reasons as to the proper manner and mode of applying manure. I am fully aware that I differ very materially from the great body of farmers; and I have been thus induced to give my views in full, hoping to induce others to point out the fallacy of my mode, if there be any; for it is by repeated experiments and close observation that we are best enabled to apply general principals to any particular practice; it is by sifting the opinions of each other with freedom and respect, that we often discover and avoid error, and elicit facts. I could here give you many striking illustrations, but shall refer only to one single example. In the summer of 1841, and during the month of June, I cowpenned my stock at night for the purpose of manuring a piece of ground for turnips. I suffered the stock to remain on the pen until thoroughly covered with manure. I then removed the pen and plowed up the ground, preventing as I supposed, the evaporation of the manure. I pursued the same plan with the second pen, breaking it up as soon as the pen was removed. I again stirred the ground with a shovel plow and harrowed it, and sowed my turnips about the 25th of July. The third pen I did not plow up, and it was left in that state until September, when I plowed up the whole field, together with the two first lots, they having missed in turnips. I sowed the field in wheat and there was a decided difference in favor of the pen where the manure was left upon the surface. The spring following, the field was planted in corn. The difference here was very perceptible in favor of the third lot; and this difference is now perceptible, it being in clover, when the first and second lot, together with the whole field missed, in part, to clover, the third lot was well set.

Summit Point, Jefferson Co. Va. W. C.

The Food of Plants.

From the North Carolina Farmer.

The practical farmer should understand enough of chemistry to know the compound of his lands. With this knowledge he would be able to form a correct estimate of the different soils, and adopt a suitable crop.

A succession of crops always impoverishes the land, no matter how well manured it may be, unless the farmer understands enough of chemistry to supply, in the manure, the parts extracted by the crops. This knowledge can be obtained in the course of one month, by studying one hour each evening in Chaptal's Agricultural Chemistry, or some other good work.

He will find there, the analysis of the different kinds of grain and straw; and when a deficiency occurs either in the grain or stalk, it points out the correct way to improve and assist the earth in bringing forth its crop.

When the science of agriculture is well understood, the planter will look after the health of his fields, with the same interest that he will his animals in the stable, or his servants that work the grounds: the same interests will induce him to give food to the soil and the coming crops that he may reap the abundant harvest. Unless this be attended to, a portion (and not a small one) of the husbandman's labor will be lost.

But to come directly to the food for plants: it must be understood that all plants do not require the same nutriment; but all require water and carbonic acid gas. The roots are thrown out for the purpose of collecting the water and the kinds of earth in solution which forms one or more constituents of the plant. The absorbent organs can be likened to numerous little pumps which are constantly at work; after the water has been brought up into the plant it makes its appearance under each leaf in the form of a globule or little drop ready then to receive the food of the atmosphere.

The evaporation of water from the surface of the earth, which is constantly going on, and which condenses each night in the form of dew on the under side of the leaves, contains carbonic acid gas, or rather the dew is converted into carbonic acid.

The plant receives this into circulation, and decomposes the water and discharges the gases during the day from the top of the leaf. This is a wise arrangement in nature. The plants are so organized that the gases cast from the lungs of animals can never be respirable again until decomposed and made the food of plants: were vegetation to cease, in a few years the whole atmosphere would be changed into carbonic acid gas, which would not support animal life. As it is, animals go on preparing an atmosphere for vegetation, and vegetation, in turn, restores an atmosphere of nitrogen and oxygen. It will be seen, then, that vegetation is necessary, not only for food, but to purify the atmosphere and render it wholesome and fit for respiration. Hence it is that the large parks in London are held sacred and are looked upon as the lungs of that great city.

Yours, S. N. B.

Blind Bridles.

Look and reflect, use your own intellect. Yes, use your own thinking powers, friends, they were given you to use and not abuse. Blind bridles! truly named, surely. Art never invented a more fatal thing to the eyes of horses than when she devised this plan of depriving the horse of what nature intended he should enjoy. But, says one, why are blinders injurious to the horse? Because they gather dirt and heat around the eyes. Dirt irritates the eye and heat produces inflammation. These bridles so entrammel the eyes of the horse that he is compelled to be straining them constantly to see his way. This over exertion of the nerve soon brings on disease. Eyes were not made in vain. Had they been useless, they would not have been located in the head. They were placed on the corner of the head that he might have the advantage of looking in different directions. Men, in the abundance of their imaginary wisdom concluded the horse had too much sight, and they wished to curtail it, hence the origin of blind-bridles. Think of this seriously and you will abandon the use of so destructive an appendage. Remember that blind bridles and diseased eyes are inseparably connected. Custom hoodwinks the senses of men, as much as blind bridles do the vision of horses.

Improper Education.

Why do we have so many puny men and nervous women? Because parents half the time do not know how to educate their offspring. If the child is but to school, at an early age, and if care is taken to provide the best masters, and if the morals are preserved by good examples and religious influence, the parents think all has been done that duty requires, and that their progeny will have nothing to reproach them for. Fatal error! It is not the mental, so much as the physical education of your child for which you will be called to account. Good health is of more value than book-learning, and contentment and happiness a better heritage than millions of dollars. But no persons can be happy with a sickly constitution. Half the miserable hypochondriacs you know may thank their parents for a diseased state of mind. A healthy frame has more to do with sound intellect than you think, and the shortest road to despondency is through a disordered system. If you would have your children grow up able, energetic men, with minds "equal to their fortune," take care in early childhood that they lay the seeds of good constitutions by proper exercise. As a general rule, children are put to school too soon. The consequence is, that the vital power which ought to go to strengthen the muscles and enlarge the frame is consumed in the sustenance of a brain overtaxed by study; and nothing is more common now than to see children with large heads whom their parents consider prodigies, but who are in every instance we know of, affected with fits, headaches, vertigos, or other nervous disorders. Often children thus abused become insane; still oftener they die prematurely. Indeed, it has grown into a proverb that a child is "too smart to live." In the public schools of this city and country this over-taxing of children with study prevails to a lamentable extent. We have known tasks to be given to a child, and one too of ordinary ability, which occupied nearly all her time when out of school, to prepare for the ensuing day, leaving little or no leisure for recreation. The fact is, teachers wish to make short cuts to learning; cram where they ought to instruct. If parents knew how the constitutions of their progeny are weakened by such a forcing system, and what a fertile source of ill-health, and unhappiness arising from ill-health is thus laid up for their victims, they would attend more to the physical education of their children, see that they had daily exercise, and not attempt to confine them in school more than four hours a day, until they are ten years old.

LARGE YIELD OF CORN.—The Highland Messenger says:—We are informed by Mr. Alexander Porter, the manager on the farm of Thos. T. Patton, Esq., that an acre of corn was planted on the farm the last season, with which it was designed to contend for the prize offered by the Buncombe County Agricultural Society, and that a few days since the corn was gathered and measured, and the yield was one hundred and thirteen bushels and a half! His farm is on Swannano river.

Here, farmers, is an evidence of what can be done. Had the season been good, Mr. Porter has no doubt the yield would have been one hundred and fifty bushels!

PROSPECTUS,

OF THE

FOURTH VOLUME

OF THE

SOUTHERN CULTIVATOR

A MONTHLY JOURNAL,

Devoted to the Improvement of the Agriculture of the South.

Edited by JAMES CAMAK, of Athens.

In submitting to the Southern Public the Prospectus for the Fourth Volume of the SOUTHERN CULTIVATOR, which may now be regarded as permanently established, the Publishers deem it unnecessary to advert to the high character the Work has attained under the editorial control of Mr. CAMAK, and therefore make a direct appeal to the Planters and Friends of Agriculture throughout the Southern States, to aid them in sustaining a publication devoted exclusively to the cause of Southern Agriculture.

The advantages and benefits resulting from Agricultural Periodicals, have been felt and acknowledged by the intelligent and reflecting Tillers of the Soil in all civilized nations; to be most useful, therefore, they should be extensively circulated among all classes of Agriculturists; if possible, they should be in the hands of every man who tills an acre of land, and to this end we invoke the aid of every one who feels an interest in the improvement of the Agriculture of the South.

The first number of the Fourth Volume will be issued on the 1st of January next. It is published Monthly, in Quarto form; each number contains SIXTEEN PAGES of matter, 9 by 12 inches square. TERMS:

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J. W. & W. S. JONES.

Augusta, Ga., Nov., 1845.

☞ As we desire to regulate our issue by the number of subscribers, all persons who obtain subscribers are requested to send the lists as early as possible to J. W. & W. S. JONES.

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ORIGINAL PAPERS.

SELECTIONS, EXTRACTS, &C.

Notice to Subscribers.

The breaking down of the power press on which this paper is printed, has delayed the issue of the present number of the Cultivator several days beyond its usual day of publication—the first of every month. We trust this apology will be deemed ample for our late appearance this month.

The Southern Cultivator

Is published on the first of every month, at Augusta, Ga,

J. W. & W. S. JONES, PROPRIETORS.

EDITED BY JAMES CAMAK, OF ATHENS, GA

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THE

SOUTHERN CULTIVATOR,

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VOL. IV.

AUGUSTA, GA.:
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1846.

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SOUTHERN CULTIVATOR.

VOL. IV. AUGUSTA, GA., JANUARY, 1846. No. 1.

HORTICULTURAL FESTIVAL AT FANEUIL HALL.

[Abridged from the Boston Journal of Sept. 23.]

The 17th anniversary of that highly utilitarian and most honorable association, the *Massachusetts Horticultural Society*, was celebrated on Friday last, at Faneuil Hall, by a well arranged fete, prepared in beautiful accordance with the occasion—a "feast of fruits," most abundantly showing the *rewards* yielded to the liberal cultivator by that Protecting Power which alone "giveth the increase." Simple confections of attractive display, and very pleasant to the taste, prepared under the direction of Madame Meyer, composed the remainder of the banquet, and *Temperance* held her gay court in the evergreen bower, which was formed in the old Cradle of Liberty. The choicest autumnal gems of the floral kingdom gave a joyous effect to the whole decorations of the gala, and the *coup d'œil* of the hall after the company had assembled, amidst the flood of light thrown upon the scene, was both picturesque and brilliant. The tints of the flowers, vied, in their glowing warmth, with the hues of the various fruits, and the peach outdid the rose in its blushing beauty. There were apples on the laden tables "that rivalled rubies; pears of topaz tint; a whole paraphernalia of plums, some purple as the amethyst, others blue, and brilliant as the sapphire; an emerald here, and now a golden drop, that gleamed like the yellow diamond of Genghis Khan." There were grapes too, exquisite in flavor and beauty, and melons beyond all praise for size and perfection. These rich products of a proud cultivation, made us renewedly to bless the sunshine which seemed the source of the earth's fertility, and we thought that its golden warmth could never again beam upon a barren heart, where there was so much to excite to thankfulness.

The decorations of the Hall were both chaste and pleasing; large trees from the forests filled up the space between the pillars of the galleries, whilst the panels and columns were ornamented with graceful festoons, and tastefully entwined with flowers. At the east end of the gallery, an inscription upon an arch read as follows:

"MASSACHUSETTS HORTICULTURAL SOCIETY,
Seventeenth Annual Exhibition"

On the west end there was suspended from the portraits of Washington and Peter Faneuil, a motto bearing the following appropriate quotation:

"In flowers and blossoms Love is wont to trace
Emblems of Woman's Virtues and her grace."

The panels around the galleries bore the names of the leading botanists and cultivators of foreign lands, as well as of our own—Linnæus, Jussieu, Loudon, Knight, Van Mons, De Candolle, Duhamel, Douglas, Plumier, Lowell, Buel, Fessenden, Manning, Prince and Michaux.

Marshall P. Wilder, Esq., presided on the occasion, being assisted in his arrangements by the indefatigable attention of the gentlemen who had been appointed Marshals. The large assembly occupied the whole floor of the hall, and were extended along thirteen tables, numbering in all about six hundred persons, ladies and gentlemen. On the right of President Wilder sat the venerable widow of Alexander Hamilton, (the daughter of Gen. Philip Schuyler,) and the Rev. Dr. Codman, the officiating clergyman on the occasion. On the rostrum, in front of the President, were seated the following guests:

Hon. Edward Everett, Hon. Daniel Webster, Ex-President Quincy, Hon. R. C. Winthrop, Hon. Caleb Cushing, Hon. J. G Palfrey, His Honor the Mayor, Hon. Jonathan Chapman, Rev. Mr. Choules, Hon. S. H. Walley, jr., Hon. Mr. Maclay, Hon. Mr. Meigs, George S. Hilliard, Esq., George G. Smith, President of the Mechanic Association; Delegates from New York, New Jersey, and Queen's County, Long Island.

The opportune arrival of our late Minister at the Court of St. James, was the exciting event of the occasion, and the hearts of both men and women beat proudly, as they welcomed in Faneuil Hall their honorable and honored ambassador.

The company being comfortably seated, it was announced by the Chief Marshal, that the Committee appointed to wait on His Excellency Edward Everett, and solicit his attendance, had arrived.

As Mr. Everett entered the hall, the President requested the audience to rise. Mr. Everett was then conducted to the rostrum by Messrs. Josiah Bradlee and Stephen Fairbanks, where the former gentleman, with a few appropriate remarks, introduced the distinguished guest to the President.

Mr. Wilder then presented Mr. Everett to the audience with the following remarks:

Ladies and Gentlemen—It is with feelings of high gratification that I am enabled to present to you a distinguished member of our association, who, after an absence of several years of honorable service at the Court of St. James, has this day arrived on the shores of his own New England. I introduce to your cordial greeting —His Excellency Edward Everett!

The announcement of a name so loved and honored, so familiar and so connected with proud associations, made the hall echo with welcomings. Order being again restored, the throne of Grace was invoked by the Rev. Dr. Codman, after which, the *material* part of the banquet was discussed, and the products of a rich horticulture abundantly and most satisfactorily tested. After a reasonable time thus spent, the President arose and addressed the assembly as follows:

Ladies and Gentlemen:—It has been remarked that our country's glory is its cultivated soil.

The tilling of the earth was the first employment given by the Supreme Ruler to the human race—it has ever been the first step to civilization, and those nations that have been the most distinguished for their devotion to this calling, have also been the most celebrated for literature, science and the fine arts.

It is the foundation of all national and individual prosperity and wealth—the basis on which rest commerce, manufactures, and all the various great interests that unite to make up the sum of human happiness, and in the language of our own Washington, whose benign countenance seems, from the canvas, [here the President pointed to Stuart's portrait,] to repeat again—"It is the most healthful, the most useful, and the most noble employment of man."

Horticulture and Floriculture, and their kindred branches, are but higher and more advanced departments of the great science—the arts that teach us to develope and improve the rich fruits and floral beauties that lie treasured in the lap of mother earth, and to adorn and embellish her luxuriant bosom with the endless diversity of her productions as she displays her ever-varying charms, in tree, fruit and flower, from the lofty cedar of Lebanon to the humble lily of the valley.

It were easy to cite a long list of the illustrious men who have bestowed on this pursuit their distinguished approbation; of poets who have sung its praises; the theologians and philosophers who have extolled its virtues and pleasures; of heroes and statesmen, and the master spirits of the world, who, having received all the honor and glory that could be conferred on them by their fellow men, have retired to its calm and peaceful labors, to spend the evening of a busy life in the contemplation of all that is beautiful and sublime in creation, and to enjoy "God's blessings as they spring fresh from the earth."

The recurrence of another anniversary suggests a review of the progress and condition of our institution.

Sixteen years ago, this day, its first exhibition was held in the Exchange Coffee House in this city, and as an illustration of the great success and prosperity that have attended the efforts of its members, I quote from the published Report of the Society.

The number of contributors on that occasion was thirty-two.

The baskets and dishes of fruit less than one hundred, and the amount of premiums offered less than $200.

During the present anniversary, there have been placed on our tables more than *fourteen hundred* dishes of fruits, and the premiums offered by the Society this year, exceed $1,300.

And as a further illustration, I notice by this Report, that the contribution of Robert Manning, the great Pomologist of America, consisted of but one basket of peaches, while at the present exhibition, the family of the lamented man have sent us 240 varieties of the pear. And in a note that I received from him but a short time previous to his decease, he stated that he had gathered into his own collection, from a point of time but a few years antecedent to the formation of this institution, nearly 2,000 varieties of fruits.

Similar advances have been made by other members, and those whose names were not then borne on its roll, and some who had not even commenced the good work, are now amongst its largest contributors, presenting forty, fifty, and an hundred varieties; and the same success and corresponding increase has been attendant on the productions of the floral and vegetable kingdom.

Among the pleasing incidents of the present year, may be noticed the completion and occupancy of our new edifice in School-street; but who would have predicted that ere the present exhibition had closed, there would still exist a demand for further and enlarged accommodations?

I congratulate the Society on the liberal and increasing patronage of the community—on the addition of more than 100 new members to its ranks during the last nine months—on the

continued improvement in the productions exhibited—on the honorable and elevated standing which our institution sustains both at home and abroad—and on the harmony and union that prevails among us.

We have assembled to commemorate its 17th anniversary. We are met in this Temple of Liberty, whose time-honored walls have oft resounded to deeds of patriotism and benevolence, and we too have come up hither for a benevolent object. We have not come to prepare by exciting debate for the political contest, nor for the discussion of those subjects that agitate society to its very centre.

We are not here to share the spoils of party, or to rejoice in the victories of the sword that has poured out the blood of our fellow beings like water on the earth. No, we come for a richer and nobler object. We come to celebrate the peaceful triumphs of Horticulture—to advance a science that tends to the preservation and happiness of our race—that adds to the enjoyments and refinements of life—that administers to the luxuries and comforts of our neighbors—a pursuit that renders home still more lovely and attractive—that invigorates the body, tranquilizes the mind, chastens the affections, elevates the thoughts—and, rightly viewed, should fill the soul with emotions of gratitude and devotion to that bountiful Creator, who

"Sends Nature forth, the daughter of the skies,
To dwell on earth and charm all human eyes."

Amidst the array of beauty, intellect and learning that I witness around me, I have not the presumption to detain you from the rich intellectual repast with which you will be favored in the remarks of others.

I can not conclude, however, without alluding to the grace and elegance bestowed on our feast by woman—to her—who

"Still is fairest found where all is fair"

Ladies! we welcome you with all our hearts. Without the light of your countenances, and the smiles of your approbation, our emulation and enterprise would languish and decline; and we rejoice with gratitude in the beautiful and glorious results that have flowed from your efforts in the cultivation of the mental fruits; in training intellectual plants for honor and usefulness here, and for a habitation in the celestial fields, where may you be rewarded with a crown of never-fading flowers, and a harvest of immortal fruit. Ladies and Gentlemen, I propose for your consideration, as a sentiment,

Cultivation, Manual, Mental and Moral—The three great sources of wealth, fame and happiness.

In the absence of Gov. Briggs, John G. Palfrey, Esq., the Secretary of the Commonwealth was called upon to respond to a toast, and spoke as follows:

Mr. President, and Ladies and Gentlemen—I learn more and more every day, how imprudently I have acted in taking upon me the humble office which has been the occasion of this call upon me. This is not the first time I have suffered in this way. You pay your respects to your Governor, who is rearing quietly, as you so justly say, his crop of esteem in all parts of the State, and, in his absence, you call upon one humble individual, as his representative, to face an audience, which it would require more boldness than he claims as an attribute of his, to meet.

Mr. President, time was, when Massachusetts had a Governor who was on the spot, and accustomed to respond for himself to any call that might be made upon him. Thank God, he is among us again this evening. (Great cheering.) Thank Heaven, that he is here safe and sound to receive again our hearty welcome, and to respond to us in those eloquent tones, to which this hall has so often resounded!

Mr. President, I have seen the time, when I was hard pushed for matter for a discourse. I was glad of a good text. And you have this evening given me a good text in the sentiment which you have offered in compliment to the Chief Magistrate of this Commonwealth. But I will reserve that subject for another occasion, when another audience shall throng the floor and galleries of this venerable hall. I will now speak, not of the Governor of Massachusetts, but of Massachusetts herself. How has Providence blessed us in making us citizens of the good old Commonwealth! With what a profusion of bounty has Providence surrounded us in appointing here our lot! We often speak in admiration of the wonders of art and the triumphs of machinery. What shall we say of that amazing mystery which transforms the brown earth, insipid water, and invisible air, into delicious fruits, and beautiful and fragrant flowers! What shall we say of the delicate machinery of the little seed which gives to the oak its strength, to the flower its beautiful tints, and to the fruit its exquisite flavor!—of that beneficent Power which surrounds us under a Northern star with the gorgeousness of an Asiatic summer! We have heard it said that the only products of Massachusetts are granite and ice—she has been called the state of hard bargains and hard granite, of icy lakes, and—— icy hearts, I will not add, for that has long been an obsolete idea—but I will conclude with giving you a sentiment. * * * * *

The Hon. Edward Everett, in reply to a toast, said:

"*Mr. President, Ladies and Gentlemen:*—I am greatly indebted to you for this cordial reception. I cannot but feel under great obligations to the Massachusetts Horticultural Society, of which I have long had the honor of being a member—though a very unprofitable one—that the first voice of salutation which reached me on returning home, proceeded from them. Our respected fellow-citizens, Messrs. Josiah Bradlee and Stephen Fairbanks, on their morning stroll through East Boston, were good enough, before I had set foot on *terra firma*, to convey to me your kind invitation; and here, fellow-citizens and friends, amidst this attractive display of the bounties and beauties of nature; surrounded by so many of those who most adorn and honor the community; drinking in the breath of sweet flowers and the sweeter breath of friendly voices, I have the happiness, after a long absence, to stand in your presence, and to enjoy the honor of your welcome. (Applause.)

I regret that I am so little able to thank you in a proper manner. I have been so lately rocking upon the Atlantic—whose lullaby is not always of the gentlest—that I am hardly fit for a rocking in the "Old Cradle of Liberty," to which your kind note of this morning invited me. I almost unconsciously catch at the table to steady myself, expecting that the flowers and fruits will fetch way in some lee-lurch; and even the pillars of Old Faneuil Hall—not often found out of the true plumb line—seem to reel over my head. But as I look around and behold so many well-remembered countenances, and as I listen to the friendly cheers with which you are so kind as to receive the announcement of my name, I feel at length that I am indeed at home.

Something of this grateful feeling has been for some days growing upon my mind. We seemed almost to have reached the goal, when we found ourselves a week ago on the edge of the Grand Bank—we were in soundings in American waters, and in the ancient and favorite field of New England industry. The shores of Newfoundland and Nova Scotia, as we coasted along them, seemed to have a claim upon us as a part of our native continent, and made us feel that we had at length crossed the world-dividing deep:—and when about sunrise this morning, after stretching down from Halifax against a stiff southwester, I beheld Cape Ann light-house at a dim and misty distance, I must say that I thought it one of the most beautiful pieces of architecture I ever beheld. I do not know to what particular order it belongs, nor the proportion of the height to the diameter. And as to the ornaments of the capital, Mr. President, whether they are acanthus or lotus, or any other flower in your conservatory, I am quite unable to say; but this I will say, that after seeing many of the finest buildings in the old world and the new, I came to the conclusion, at about six o'clock this morning, that Cape Ann light-house beat them all! (Great applause,)

It would be impossible, sir, to describe the emotions awakened in my mind by the different objects on the well-known coast, as we dashed rapidly up the bay—borne on the iron wings of steam, till at last the welcome sight of Boston burst upon me, as she sits enthroned between her sister heights, presenting to me, as it were, within her family embrace and immediate vicinage, every spot most dear to a man on earth—the place of my birth and the haunts of my childhood, the scenes of my education and early life, the resting place of my fathers—everything, in short, which a tender and dutiful patriotism comprehends in the sacred name of home.

Ladies and gentlemen, I cannot say much to you this evening. I need repose, bodily and mental, and would gladly find it in listening to the eloquent voices of those around me. Some painful feelings crowd upon me. I heard at Halifax the mournful news of an event which has deprived us this evening of the presence of one, whose countenance was the light of every circle he entered; whose death will be felt, not in America alone, as a public calamity; from whose long-tried friendship I had promised myself a cordial welcome on my return. Allow me, sir, the gratification and solace of being a listener; and let me only express the hope, that after more than five years' absence, during which period, time, I dare say, has been doing his work on the outer man, you will find the inner man unchanged in all that you ever honored with your indulgent and friendly regard, and to assure you that I return with no wish or ambition but to engage with you in the performance of the duties of a good citizen; in the hope of sharing with you the enjoyment of the prosperity with which a gracious Providence has been pleased to bless the land in which we live.

The Chair then announced—

The Marshfield Farmer—"All head in counsel, all wisdom in speech"—always ready to defend the soil, and to make the soil more and more worth defending.

The Hon. Daniel Webster then rose and said,

Ladies and Gentlemen—There are far better farmers in Marshfield than I am, but as I see none of them present, I suppose I am bound to take the compliment to myself.

Mr. President, I had the honor of partaking in the origin and organization of this Society, and you will bear me witness that it was then a dear and cherished object to me, and I may add that among those who co operated in that organization, no one was more assiduous or more effective than that great man whose departure has just been so feelingly alluded to. It has so happened that since that time, the circumstances and pursuits of my life have rendered it impossible for me to be present at many of your meetings, yet I have seen with pleasure and delight the continued progress of the institution.

Mr. President, as it has been said from the Chair and in the sentiments around the table, it is our fortune in New England to live beneath a somewhat rugged sky, and till a somewhat hard and unyielding earth; but something of hardness, of unfavorable condition and circumstances, seem necessary to excite human genius, labor and skill, and bring forth the results most useful and honorable to man. I greatly doubt whether all the luxuriance of the tropics and all that grows under the fervid sky of the equator can equal the exhibition of flowers made to-day amid these Northern latitudes. Here, there is all the brilliancy of color and all the gorgeous display of tropical regions—but there the display is made in swamps and jungles abounding in noxious reptiles; it is not the result of cultivation, taste and human labor working on the capacity of Nature.

Sir, I congratulate you that our flowers are not

"born to blush unseen
And waste their sweetness on the desert air."

The botany we cultivate, the production of the business of horticulture, the plants of the garden are cultivated with us, by hands as delicate as their own tendrils, viewed by countenances as spotless and pure as their own petals, and watched by eyes as brilliant and full of lustre as their own beautiful exhibitions of splendor. (Applause.)

Horticulture is one pursuit of natural science in which all sexes, ages and degrees of education and refinement unite. Nothing is too polished to see the beauty of flowers, nothing too rough to be capable of enjoying them. It attracts, gratifies and delights all. It seems to be a common field where every degree of taste and refinement may unite and find opportunities for their gratification,

Mr. President, I will take the occasion to accord to the sentiment of the honorable Secretary of the Commonwealth, and congratulate you on the return of our worthy friend who has just spoken. He finds here no enemy, and in the exhibition of the talent which he possesses, of his classical learning and his popular oratory, he finds only one rival, but a very dangerous rival; if he maintains the competition with that rival he has nothing to fear, and that rival is his own reputation.

Mr. President, we who belong to the class of farmers, are compelled to bring nothing but our applause to those whose taste, condition and position, enable them to contribute these horticultural excellencies which we see around us. But the honor belongs to the State, and I shall not trespass beyond the bounds of reason and justice, if I say that there could nowhere—*nowhere*—be a more perfect and tasteful exhibition of horticultural products that we have witnessed in this town the present week. Let this good work speed. May this useful and good work go on prospering and to prosper. And as we live in a country which produces a race of hard working men, and the most useful fruits of the earth, so let us show every year that it is not less productive of beautiful flowers—as it certainly is not of graceful hands to wreathe and entwine them. (Applause.)

After a song and several toasts, the following was announced:

Harvard University—The flower-bed of the State—the garden that produces plants whose bloom is perennial.

The Hon. Josiah Quincy replied as follows:

Having been told by the chairman that this being a sentiment in honor of Harvard University, it was expected that he should respond to it, he should do it most willingly; although he was no longer officially connected with that institution, and now claimed only the enviable distinction which he had enjoyed for two days, of being a citizen of Boston. He had come, however, to that meeting with no purpose of speaking, but with the sole intention to enjoy. He had attended the exhibition, and while there had exhausted every superlative of honor in the English language, in expressing his gratification and delight. In the Horticultural Hall he had witnessed the wonders wrought by the Florist's hand; he had there seen what man could do by labor and taste to enlarge, beautify and multiply the bounties of nature; he had seen how art and wisely employed capital were permitted by Heaven to improve its own gifts; and had felt how impossible it was by language to express the beauty of fruits and flowers, which nature and art had combined to improve. Nor could he refrain from reflecting that all, all was the work of *well directed industry*. Under the influence of which thought, he asked leave to propose as a sentiment—

The Blessings of well directed Industry.—"The source of every gentle art and all the soft civilities of life."

A song followed, then several toasts, and a short speech by the Rev. Mr. Codman, when the Chair called upon the clergymen present to respond to a previous toast, and the Rev. Mr. CHOULES followed:

He observed that his profession was accustomed to calls—this was one he would decline, but as he was not demanded to speak on probation, he would at the "call" of the chair, offer a few remarks simply to state an historical fact.

Mr. Shepherd, the accomplished conservator of the Botanical Gardens at Liverpool, is the authority for the following anecdote, respecting the introduction of the elegant flowery shrub, the Fuschia, into the green houses of Europe. Old Mr. Lee, a well known Nurseryman and Florist, at Greenwich, near London, about fifty years ago, was one day showing his variegated treasures to a person, who suddenly turned and said, "Well, you have not in your whole collection, so pretty a flower as one I saw to-day in a window at Wapping!" "Indeed, and what was this Phœnix like?" "Why, the plant was beautiful, and the flowers hung down like tassels from the drooping branches, their color was the deepest crimson, and in the centre, a fold of rich purple."

Particular inquiries were made as to the exact whereabouts, and Mr. Lee posted off to the place, where he discovered the object of his pursuit, and immediately pronounced it a *new plant*. He saw and admired.

Entering the humble dwelling, he said, "my good woman, this is a nice plant of yours, I should like to buy it."

"Ah, sir! I couldn't sell it for no money, it was brought me from foreign parts by my husband, who has gone again, and I must keep it for his sake."

"But I must have it."

"No, sir, I can't spare it."

"Here," emptying his pockets, "here is gold, silver and copper," (his stock amounting to more than eight guineas.)

"Well a day, sure this is a power of money."

"'Tis yours, and the plant is mine, my good woman. I'll give you one of the first young ones I rear to keep for your husband's sake. I will indeed."

The bargain was struck, a coach called, in which old Mr. Lee and his apparently dearly purchased flower deposited. On returning home, his first work was to strip off and destroy every blossom and bud; the plant was divided into small cuttings which were forced into bark beds and hot beds, and again subdivided. Every effort was employed to multiply the plant. Mr. Lee became the delighted possessor of 300 fuschias, all giving promise of fine blossom. The two which first expanded were placed in his window. A lady came in, "why, Mr. Lee, my dear Mr. Lee, where did you get this charming flower?"

"'Tis a new thing, my lady—pretty, is it not?"

"Pretty! 'tis lovely! its price?"

"A guinea, your ladyship"—and one of the two plants that evening stood in beauty on her ladyship's table in her boudoir.

"My dear Charlotte! where did you get that elegant flower?"

"Oh, 'tis a new thing, I saw it at old Mr. Lee's; pretty is it not?"

"Pretty! 'tis beautiful, what did it cost?"

"Only a guinea, and there was another left."

The visitor's horses trotted off to the suburb, and a third beauteous plant graced the spot from whence the first had been taken. The second guinea was paid, and the fuschia adorned another drawing room of fashion. This scene was repeated as new calls were made by persons attracted by the beauty of the plant. Two plants graceful and bursting into flower, were constantly seen on the same spot. He gladdened the faithful sailor's wife with the promised flower, and before the season closed, nearly three hundred guineas jingled in his purse, the produce of the single shrub from the window at Wapping, as a reward of old Mr. Lee's taste, skill and decision!

I am happy to be present on this joyous occasion. I wish many of my brethren were here—the place is full of instruction, and is a field for usefulness. Some of my most pleasurable reminiscences are connected with agricultural and horticultural employments. They are in unison with God's plans and human nature. At your last festive occasion, one of the ornaments of our community observed that "he felt delighted when he saw the laboring man walk through the streets of Boston carrying home a potted plant under his arm, because he felt convinced of the love of nature and virtue that was exhibited." Sir, the mechanic cannot come into competition with your rich men's gardens and greenhouses. You have no reward to stimulate such humble skill as belongs to the cultivation of the window plant. I have the pleasure to say that I am authorized by a liberal friend to announce a medal at the disposal of this society, for the best single potted plant produced by the mechanic, female or child at your next exhibition.

The Hon. Robert C. Winthrop replied to a toast as follows:

I am greatly honored, Mr. President, by the sentiment which you have just offered, and I beg the ladies and gentlemen before me to accept my most grateful acknowledgments for the kindness and cordiality with which they have responded to it. I heartily wish that the compliment were better deserved. I wish that even in reference to matters of Horticulture, I had done more to keep up the credit of that old Genealogical Tree. One of your Anniversary Orators told us some years ago, if I remember rightly, that among the earliest records in regard to the production of fruit in this neighborhood, was the account of "a good store of pippins" which was forthcoming upon some occasion from Gov. Winthrop's garden. It would be thought no great things to raise a good store of pippins now-a-days, I suppose. But two hundred years ago it must have been something of an achievement. Our fathers had not many apples to regale themselves with. The fruits to which they were obliged to turn their attention, were of a more substantial and practical character. There is an old song still extant, called "Forefather's Song," supposed to have been written in 1630 or thereabouts, which gives us an amusing insight into the Horticultural labors of those early days, and shows us what products of the soil were mainly relied upon both for refreshment and nourishment. One of the verses is in this wise:

"Instead of pottage and puddings and custards and pies
Our pumpkins and parsnips are common supplies.
We have pumpkins at morning, and pumpkins at noon,
If it was not for pumpkins we should be undone."

Nor did the praises of the pumpkins end here. Our fathers seemed to have found it an ingredient of one of their choicest drinks, as well as the material of so much of their more solid food. They had no grapes from which "to clush the sweet poison of misused wine;" and yet, with all their other virtues, they do not appear to have learned how to carry through a feast, as we are now doing, upon cold water. Another verse of the old song says:

"If barley be wanting to make into malt,
We must be contented and think it no fault;
For we can make liquor to sweeten our lips,
Of pumpkins and parsnips and walnut tree chips."

That must have been a lip-sweetener indeed, Mr. President! We have all heard of bran bread; and even *saw-dust* has not been without its commendations in some quarters as a valuable esculent; but neither the Genius of Temperance nor of Dyspepsia has ever in our time, conceived the idea of extracting an agreeable beverage from pumpkins and parsnips and *walnut tree chips!*

All this, Mr. W. said, went to prove that it was something of a Horticultural exploit on the part of his ancestor, to raise a good store of pippins. It was one at any rate, with which some of the younger branches of the Genealogical Tree had nothing to compare. He could point to no apples of his own raising. He could not even exhibit that variety of apples—

the only sort which the Society had not abundantly furnished to our hand—those "apples of gold set in pictures of silver" which the wise man of old had given us the synonyme of "a word in season;" a synonyme of which he was always reminded, when listening to the golden words and silver tones of the distinguished friend, whom they had just welcomed home from England.

Mr. W. said there was a time when he might have claimed some fellowship with the cultivators of the soil. He had once eaten the produce of his own dairy; but the experiment by no means proved that he knew which side his bread was buttered, and he was glad to fall back on the excellent supplies of his friend Hovey.

He had never cultivated flowers—not even the flowers of rhetoric; and as to the sentimentalities of the subject, Mrs. Caudle had quite exhausted them in a single sentence of one of her last lectures, where she told her husband how "She was born for a garden! There's something about it makes one feel so innocent! My heart always opens and shuts at roses."

Yet though he might not employ either the language of sentiment or of science, Mr. W. thanked heaven that he could feel as deep an admiration for the exquisite productions of Horticulture, as if he were an adept in all the processes and technicalities which belonged to it. It was one of the great glories of such an exhibition that it yielded delight to every eye, and touched a chord in every heart. There was nothing exclusive about Nature. She was no respecter of persons. The rose and the honeysuckle smelt as sweet to the village beggar, as they did to Victoria; and the most scientific cultivator whose name adorned these walls, had no more relish for his luscious clusters, than those of us who hardly knew a Sweetwater from a Black Hamburg.

Nor did these exhibitions appeal only to the eye and to the senses. As he was visiting the new and beautiful rooms of the Society this morning, Mr. W. said he could not help recalling some associations of a time—more years ago than he might care to confess in that presence—when he was climbing the stairways over that spot upon another errand and in a different character—"with satchel and shining morning face, creeping like a snail unwillingly to school." Nor could he forbear regretting at first, that the site should have been diverted from the exalted purpose to which it had been so long devoted. But it needed only for him to enter the hall, and give a moment's time for the moral of the scene to impress itself on his mind, to lose all such regrets; to feel that the Genius of the place had not departed; that *education* was still going on there; education for the heart as well as for the understanding; a moral education, without which the mere learning of the schools would be hardly better than the knowledge which our first parents derived from the forbidden tree.

The day had gone by (Mr. W. said,) when the dissecting knife of the economist could be permitted to make one of its merciless cuts between utility and beauty. If the progress of invention had taught us to see something of beauty in mere utility, the progress of humanity had taught us, also, to find a great deal of utility in mere beauty. No one, at any rate, would dare to disparage the intrinsic value of *beauty*, before such an audience as he was then addressing.

Shakspeare had, indeed, pronounced it to be wasteful and ridiculous excess "to paint the lily or throw a perfume on the violet." And so it would be. Nature had displayed some master works, which man could not improve. The violets had been called "sweet as the lids of Juno's eyes, or Cytherea's breath;" and of the lilies, it had been divinely said, that "Solomon in all his glory, was not arrayed like one of these." Both had already a grace beyond the reach of art. But to multiply the varieties of fruit and flowers; to increase their abundance, and scatter them with a richer profusion along the waysides of life; to improve their quality and coloring, and fragrance, wherever it was possible to do so; this, the great poet of Nature would have been the last person to call wasteful. Its utility would only be questioned by those who counted it useless to extend the range of innocent recreation and virtuous enjoyment; useless, to brighten and strengthen the chain of sympathy which binds man to man; or useless, to excite a fresher or more frequent glow of grateful admiration in the human breast towards the Giver of all good! No one could take an afternoon's ride along any part of our environs, and witness the beautiful lawns and flower gardens which encircle, as with emeralds and rubies, the neck of our beloved city, without feeling that he was inhaling something better than mere fresh air and fragrant perfume, and physical health; nor without mingling with other and holier feelings, a tribute of gratitude to the skilful cultivators by whom these improvements had been carried on.

Mr. W. concluded by offering the following sentiment, which he trusted the late Minister to the Celestial Empire, at his elbow, would not construe into any depreciation of his successful services:

Horticulture—It has done what diplomatic negotiation and desperate valor have attempted in vain—it has penetrated to the very heart of the Central Flowery Kingdom, and brought away its richest spoils. (Great applause.)

The President then gave—

The Central Flowery Nation of China—We welcome the man who has united by closer ties the gardens of the East and the gardens of the West.

The Hon. Caleb Cushing replied as follows:

Mr. President, and Ladies and Gentlemen—I pray you to accept my most hearty acknowledgments for the favor and indulgence with which you have given and received the sentiment just announced—still more for the privilege I have enjoyed of witnessing your beautiful exhibition, and above all, for the opportunity you have afforded me of being present at this intellectual feast, and of joining with you in your cordial and affectionate welcome of our eminent countryman and your fellow-townsman; to whom allow me to embrace this opportunity, the first that has offered, of tendering my warmest thanks for important, and even indispensable services, which in the midst of his own important and almost overwhelming official duties, he found time to extend to me at the antipodes.

I am also, Mr. President, most thankful for the opportunity of gazing on a spectacle like this, on the delicate and beautiful fruits and flowers before us, and on their introduction on an occasion like this. All our associations of beauty and taste are blended with flowers. They are our earliest tokens of affection and regard. They adorn the bridal brow at the wedding—they are woven in garlands around the head of the conqueror—they are strewn on the coffins of the dead. And here is another of their most grateful and beautiful uses—ornamenting the table at a festival, enlivening the scene and enchanting the eye.

In that "Central Flowery Land" this is the case at all festivals—flowers there adorn the table and meet the eye in every direction on all festal occasions. But they are not there accompanied by what we here enjoy. Here alone—here and in Christian lands—woman enchants and beautifies with her presence the festive scene. Woman—our equal—shall I not say our moral superior. It is only here that such a scene can gladden the human eye. I regard this exhibition as a striking proof of the point which education and intellectual refinement have reached in our country—that we have got beyond mere utility, and ceasing to inquire how far it is incompatible with beauty have found that the beautiful is of itself useful. We have learned to admire art—to appreciate painting and sculpture—and to look upon fruits and flowers as models of delicacy and beauty. And although it is said that Massachusetts produces nothing but the ice of her lakes and the granite of her hills, yet we know that she also produces men—free-hearted, high-minded, noble-purposed men and women—the fairest and best. They are also the beautiful growth of our land. It is here that we have the best proof of the intellectual and moral elevation to which our favored State has ascended. And I trust that hereafter, men—natives of our soil, born, bred, living here, enjoying the bracing air, the high qualities, the strength of character, the high privileges, and more than all, the high principles and aspirations after all good things which we so highly prize, may ever be, as now, the indigenous product of the soil of Massachusetts.

After further proceedings Mr. Webster rose and said:

Ladies and Gentlemen:—I have obtained leave of the President to remind this company that a venerable lady honors this occasion with her presence. She is the daughter of Gen. Philip Schuyler, of the Revolutionary army, and the widow of Alexander Hamilton. [Loud and continued cheering.] And, ladies and gentlemen, while devoted revolutionary services shall be remembered, and while great administrative talent finds a voice to sound its praises in our republic, neither one nor the other of these great names will be forgotten, nor can she cease to be held in the grateful remembrance of this republic, who was the daughter of one and the bosom companion of the other of them. I propose to you

The health, prosperity and long life of Mrs. Hamilton. (Renewed applause.)

The President said that he was requested by Mrs. Hamilton to return thanks for the cordial manner in which she had been received, and to wish those present all health, happiness and prosperity.

The President then announced the following volunteer toast:

The youngest officer that ever presided over our city affairs.—A *Chap* caught young, but a true *man* for efficiency. He can make a hundred speeches a day, and ought to speak on this occasion.

Hon. Jonathan Chapman was called upon to respond to this sentiment. He said: If I am the *boy*, Mr. President, to whom you intend to apply that compliment, which is so luxuriant, that I think it must have been raised by *guano*—there are two ways in which I might answer it. One is to get upon stilts, put myself upon my dignity, and gravely defend myself. But if I should attempt that, you might follow me up in the words, or nearly the words of the old song of "The King and the Countryman:"

'What! be that an 'Old Mayor' that I see there!
Why, I've seen a *Chap* at our village fair,
Look more like an 'Old Mayor' than that *Chap* there"

The other mode, and the one which on the whole I prefer, is, to 'confess and avoid.' And therefore, if you will apply to me such epithets as those of your toast, I have only to say, in the language of another quite old piece of poetry:

"You'd scarce expect one of my age
To speak in public on the stage: (laughter.)
And if I chance to fall below
Demosthenes or Cicero,"

[As Mr. Chapman pronounced this line, and indicated by a gesture two of the orators of the evening as those whom he alluded to, the whole meeting greeted him with shouts of amusement and applause. And, continued he,]

"Don't view me with a critic's eye,
But pass my imperfections by."

And, sir, whether as man or boy, in office or out, here or elsewhere, I stand so much in need of the charity invoked in those two last lines, that I repeat them from the bottom of my heart,

"Don't view me with a critic's eye,
But pass my imperfections by."

Your toast, however, concludes with a requisition upon me for a speech. Oh, sir, that you could realize the enormity of that requisition, in a position like mine. It is said, sir, and I

have no doubt with truth, that the process of being hung is a very uncomfortable one. But though a person in that situation has nothing to stand upon, he has the relief of something to hold him up. But to rise here upon an occasion like the present, before such an audience, after such gentlemen have gone before me, I feel as if I had no support either from top or bottom.

The venerable President of Harvard College in his remarks this evening, said "that he came here to enjoy, and not to"---and as he paused at that point, I felt as if he was going to say---"and not to *suffer*." He actually said, however, "and not to speak." Verily, I think the two words to be quite synonymous.

It is not for want of will, that I thus decline to make a speech. Indeed it is one of the difficulties—nay, it is one of the severest trials of our frail human nature, that our desires, our aspirations, so far outrun our abilities.

I want to make a speech, and my aspirations prompt me to make a good one. Even with the knowledge that such gentlemen as have already spoken, were to be here, I have dared to aspire to making a speech as good as theirs. I cannot tell you how I have been exercised upon this matter, ever since I rose this morning, to say nothing of my sleeplessness last night, how I should rejoice to warm and stir and enkindle this audience. But the moment of action has come, and yet, I am powerless. Truly, sir, my spirit is willing, but alas the flesh is weak.

And then the topic to appropriate to the occasion--what chance is there for anything new? There is the garden of Eden--a capital theme in its primeval state. But such hosts of invaders have taken possession of it, that its guardian angel must have slept upon his post, and there is no room for another settler. Fruits and flowers have been so thoroughly sung, that they have almost withered before the quantity of wind that has been blown upon them. And as for woman, she has been so often toasted, that, as some wag once remarked, our directory would soon contain no other name than that of Brown.

I heard a story the other day, which, as it illustrates this difficulty, and is a short one, permit me to repeat it. It was of an unmarried man, who, though he pretended he was not married, because he had never tried, was yet known to have made more propositions, and received more rejections than probably any man living. He was in the habit, too, of making his propositions after a very short acquaintance.

Upon one occasion, he met with a lady in a railroad car, who particularly struck his fancy. He procured an introduction to her, and set about his usual attentions. The lady, having been informed of his habit, humored the matter through the day. As they approached the end of the day's journey, the gentleman made his usual proposition of marriage. The lady replied with great seriousness—that the subject which he had proposed was a very important one, and ought not to be hastily decided- that she would take a little time to consider it, and if he would call at her house in the morning, she would give him an answer, as in the meantime *she could consult her husband.*

He had actually offered himself, Mr. President, to a married lady! Just such, sir, has been my fate all day, in seeking a subject for a speech to-night. Every one I applied to has turned out to be either engaged or married to somebody else--and heaven forbid that I should break off any match.

Beset by all these difficulties, sir, I repeat I cannot make a speech to-night, and as a memento of my sufferings all day, I give you as a sentiment---

The misery of table public speaking—Equalled only by that of seeking a wife *in vain.*

Many other toasts were given and speeches spoken, for which we have not room; and the amount of the whole affair in the Boston Journal is concluded thus:

Such were the thoughts advanced on this bright festal occasion, and uttered in the presence of a vast assembly of brilliant women who graced the celebration by their presence, the whole commemoration fully justifying the sentiment of the Hon. Mr. Walley, who gave, "The trio of this Festival, Flora, Pomona, and the daughters of Eve." As an entertainment it gave the highest satisfaction, and it passed off like similar events, on the wings of time in rapid fleetness, leaving, however, a very pleasant memory on the minds of ever participator. We trust that the next triennial celebration of the Society may be equally successful, and with this, our hearty wish, we add a volunteer sentiment of "Health, prosperity, and long life to the Massachusetts Horticultural Society."

ADDRESS OF R. P. SASNETT, Esq.

A MEMBER OF THE CLUB.

Delivered before the Planters' Club of Hancock, at their Annual Fair in Sparta, 1st November, 1845.

Mr. President and Gentlemen of the Planters' Club of Hancock:—We have assembled to-day to celebrate the fourth anniversary of our Club. Four years have elapsed since a few ardent and enthusiastic votaries of agriculture, actuated by a spirit of improvement, and a zeal for the agricultural prosperity of our country, met under much embarrassment, encountering the sneers of some, and the ridicule of others, and organized this association.

It may not be unprofitable or inappropriate to the occasion, here to inquire what practical utility has resulted to the people of this county from the formation of this club. Has it been instrumental in materially improving the agriculture of this county in any of its departments? Has it caused one bushel of corn, or one pound of cotton more to be raised than would otherwise have been produced without its existence? I answer emphatically and unequivocally, it has. The institution of this club has been of incalculable service to the people of this county; for no man of common discernment, previously acquainted with the agricultural condition of Hancock, can fail to perceive in travelling over the county, that there has been a manifest improvement within the last four or five years in the husbandry and rural management of our farmers.

But it may be inquired, what are the particular benefits which this association has conferred, and the mode by which it has been accomplished?

To its instrumentality the dissemination of agricultural periodicals is to be chiefly ascribed, which is the first great preparative step to improvement. Its frequent discussions of agricultural subjects has excited a spirit of inquiry and investigation among its members. By its annual fairs, exhibitions of stock, and reports on premium crops, the farmer's pride has been aroused, his ambition stimulated, and he has gone away from these exhibitions with a more elevated conception of his vocation. The pursuits of agriculture have become not a mere business of dollars and cents—not a mere means, in popular parlance, of getting a living, but a business of pleasure. In this way a degree of fixedness and stability has been imparted to our before restless and roving population, never before enjoyed by this community. By the agency of this club, a spirit of improvement has been excited, from which has resulted almost an entire abatement of that mania for emigration with which our people a few years ago were afflicted. For, previous to 1840, there flowed from this county, one continued stream of emigrants to the west. Hancock was parting, year after year, with many of her best and intelligent citizens, who carried with them much of her wealth and influence. Since that time, not only has emigration almost entirely ceased, but she has had large accessions to her population and aggregate wealth. As an evidence of this fact, her voting population has increased more than one hundred and twenty in four years. At the Presidential election in November, 1840, Hancock polled 723; at the Presidential election in 1844, she polled 845. It is but just to presume that this was a fair test of the voting population of our county at both periods; and it is believed that her black population has even increased in a much greater ratio.

Again, by reference to the tax books of the county, it will be seen that the aggregate increase in amount of State tax, within the last two years, commencing from the time the late tax law went into effect, is upwards of $650, showing a gradual increase also in the taxable property in the county.

But there are other facts which demonstrate more conclusively the benefits resulting from this association of farmers. It is universally admitted, that this has been one of the most trying years to the farmer which we have had since the memorable year 1818. Indeed, I have been informed by gentlemen older than myself, who recollect well the disasters of that year, that the drought this year exceeded the drought of that year; that it commenced earlier, and continued longer, and that, altogether, much more rain fell during the spring and summer of 1818, than in those seasons of 1845, and yet though the county was then comparatively fresh, and the land much stronger, there was far less made, and the alarm of scarcity much more general. Corn sold in the fall of 1818, as I have been credibly informed, from $1.75 to $2 per bushel at the pile, and could not have been bought even at those prices, had not the quantity in market been augmented by the selling out and emigrating of several of the wealthiest planters in the county; whereas, corn has been offered for seventy cents per bushel delivered in this town, and met no purchase, and actual sales made at sixty-two and a half cents.

But, gentlemen, we need not refer to other times for proof of the benefits resulting from the organization of this club. We have incontestible evidence of its usefulness in the superiority of our system of agriculture over that of other counties in the State in which a sense of the importance of agricultural associations and of agricultural reformation has not been experienced—for whilst counties which have been settled long since Hancock, whose lands are much fresher and equally fertile naturally, have made almost an entire failure—and whose inhabitants are compelled to seek elsewhere for corn and other breadstuffs, Hancock, it is believed, has raised an ample sufficiency to support with reasonable economy an increased population—together with two-thirds of an average crop of cotton. I have conversed freely with a number of gentlemen of this and other counties, who have travelled extensively over the State, and all agree, that the crops of Hancock are decidedly better in the aggregate, than those of other counties in the State through which they have passed.

Now, results are the best tests of the practicability of such institutions. Bacon says, that philosophy is best which is the philosophy of fruit. These statistical and other facts, the results of my investigation, I have laid before you, gentlemen, not for the purpose of boasting, not that we might assume to ourselves merit beyond that which we deserve; for I am one of those who never think much has been done, whilst so much remains to be done. So far from adducing these facts for purposes of this kind, I am convinced that the agriculture of Hancock has abroad far higher reputation than it deserves; and I have, in my intercourse with citizens of other sections of Georgia, often been put to the blush at the unmerited encomiums passed upon Hancock farming.

At all events, gentlemen, it is abundantly evident, that increased exertion is requisite, if we would sustain our characters as farmers and, which is of far more consequence to us, to continue the advancement already made in this the noblest and most useful of all vocations, and it is with the view of urging and impressing the importance of keeping in being and perpetuating this association, this combination of effort, this concentration of mind and means, to the advancement of agricultural improvement, that I have so far departed from be-

coming delicacy as to have become the trumpeter of our own fame. It has been done that, by the contemplation of the benefits our association has already conferred, and its enlarged resources and capabilities for good, we might become alive to its true dignity and the usefulness of its proper aims, and in future be encouraged to extend its operations and exert its powers on a more ample scale in the accomplishment of its objects. I have deemed it the more excusable too, in view of the fact, that many of the staunchest friends, even many of the most zealous members of this club, have become discouraged at the prospect before us. Great fears have been entertained that the fair this year would be a failure; that owing to the failure of the premium crops, consequent upon the dryness of the year, the general belief that there would be no exhibition of stock, the display of our fair must necessarily fall short of the past, and that discouragement ensuing, our club must in consequence cease to live.—Our enemies, too, have been busy—those croakers who are ever ready to presage evil to every laudable undertaking—they being too wise themselves to improve, or, as that inimitable writer, Sam Slick, more happily expresses it, "too set in their ways to larn," and too selfish to allow others to do so—have been prophesying for years, that our club would flourish whilst it possessed the charm of novelty; but when divested of this, or an unfavorable year occurs in which there was a failure of premium crops, and farmers had not corn to throw away in fattening stock for our fair, the Planters' Club of Hancock would die and be numbered with the things that were. There is another class of farmers, though I am happy to say they are neither so numerous nor helpless as the one I have just mentioned, who nevertheless serve to clog and impede the march of improvement. They are those who are never able to do anything. Go to them when you will and ask them to give you a dollar and to take the Cultivator, and they will tell you they believe the Cultivator to be a very good sort of a thing, very useful and all that, but they are not able to take it, haven't the money to spare; ask them to pay their dollar and become members of the Planters' Club, and they give you the same answer. All such clodhoppers (for they don't deserve the dignified appellation of farmer,) forcibly remind me of the anecdote of the man "who held the sixpence so close, that he could not see a dollar at arm's length. With all such I have nothing to do, upon "the present occasion; for verily they are too set in their ways" to improve.

But I put it to the sober wisdom and enlightened patriotism of the members of this Club, and to the community generally to determine, whether they will allow an association to be dissolved which has exerted, as I think I have shown, such a satisfactory influence in elevating and improving the agriculture of this county.

No, gentlemen, for myself I have no fears that such will be the fate of this club. Your patriotism, your character, your pride, your interest all forbid it. You are too deeply imbued with the spirit of the age to permit your zeal in the cause of agricultural improvement to abate. The power of an association and concentration of effort to the accomplishment of this great end, has been too deeply felt, and is too highly appreciated by you, to allow you again to relapse into that apathy and careless indifference, which has too long characterised the farmers of Georgia.

There is, perhaps, no instrumentality ever yet employed either by God or man, which has exerted such a wonderful influence over the destinies of the world, as this power of association. It is this principle of association which distinguishes the present from all other ages of the world; it is this which has done so much to humanize and christianize the world—which has sent that blessed book, the Bible, the best of all God's gifts to man, into every land and country—which has planted the standard of the Redeemer's Cross in the remotest isles of the sea, and raised men, in thousands of instances, from that state of ignorance and moral degradation which is "of the earth earthy," and pointed his soul to a higher and brighter immortality beyond the grave. It has stricken down the thrones of tyrants, and is at this time shaking to their foundations some of the old dynasties of Europe. It has dragged science from the secret chambers of the scholar, and made it subservient to the common business purposes of life. It has stripped art of its empiricism, and is fast hurrying man on to that state of perfection which is to be his ultimate destiny. The agricultural classes, though they are the most important, the most useful, and the most numerous in all countries, seem to have been the last to perceive and apply this principle. A brighter day has at last, however, dawned upon the farmer.

Scotland, the first to perceive and apply this powerful agency to the improvement of her agriculture, has acted as a pioneer, and now leads the van in the march of improvement; England soon followed in her wake—and our more sagacious and industrious countrymen, the Yankees, have not been slow to imitate their example. Among these the States of New York and Massachusetts stand pre-eminent. Through their agricultural associations they have succeeded in arousing and diffusing a spirit of improvement which has been felt and attended with the best results in every part of those States.

These societies have wrung from their legislatures large appropriations of money for agricultural purposes. And it is believed, and has been confidently asserted, that the State of New York has been amply remunerated for every dollar thus expended, in the increased amount of revenue which has flowed into her treasury from the tolls on her canals, turnpikes and railroads, to say nothing of the increased amount of revenue from taxation, consequent upon her increased wealth. This State is still moving on with a firm and steady step, and with unabated ardour, in the great business of agricultural improvement. The editor of the Albany Cultivator, in the last number of that valuable paper, says that the extraordinary interest which for a few years past has attended the agricultural fairs of that State was fully kept up at the exhibition of the State Agricultural Society at Utica in September, that there were no less than forty thousand persons in attendance—that nearly seven hundred head of domestic animals, all choice specimens of their kind, were brought upon the ground to be shown for premiums - that the collection of domestic fabrics, specimens of the mechanic arts, agricultural implements, &c., were no less numerous; all going to show the immense interest which the people of that State taken in the business of agriculture, and the immense influence which has been brought to bear upon its improvement.

With these examples before our eyes, gentlemen, what is to prevent Georgia from doing likewise. The people are ready and ripe for it. No more decisive evidence can be offered that agriculture, in its effects and consequences, is beginning to be better appreciated and understood, and the means of advancing it more fully realized in Georgia, than the number of new societies which have sprung up in almost every section of the State within the present year.

The establishment too, of that excellent periodical, the Southern Cultivator, and its extensive circulation among our farmers, has already aroused a spirit of improvement which only requires to be fostered and sustained to make Georgia what indeed she can and ought to be, one of the first agricultural States in the Union.

All that is now wanting is for the State to aid in this business. A law similar in character to the law passed by the Legislature of New York in 1841, enacted at the next session of the Legislature of Georgia, appropriating some ten or twelve thousand dollars to be divided according to population, among the several counties of the State, upon condition that each county should regularly organize an agricultural society, and raise a sum equal to the amount appropriated by the State, would give an impetus to agriculture which could not fail to do for Georgia what it has done for every other State whose Legislatures have had the wisdom and sagacity to adopt this policy.

Such a law would be worth all the eighty thousand dollar appropriations to Monroe Rail Roads, and the thousand other appropriations to sustain and keep up the credit of rotten banks which the Legislature could enact from now till doomsday. I regard the passage of such a law as particularly needed, and specially called for in the present juncture of the agricultural history of Georgia. As before remarked, quite a number of the counties of the State have recently formed agricultural societies. It does not require the gift of prophecy to foretell that many of these Societies must perish and go by the board, if left to rely alone upon the liberality of individual contributions to sustain them: but if they could receive a small donation from the State, of from one to two hundred dollars, it would serve as a nucleus, which could hardly fail to render these societies permanent, and at the same time to extend the sphere of their usefulness. To illustrate this more forcibly, gentlemen, suppose the proposition was made to you to-day, that the State would place in the hands of the officers of this club, the sum of $250, to be distributed in premiums, as the club in its discretion might think proper to direct—provided a like sum should be raised by the citizens of this county, and placed in their hands, to be disposed of in like manner. Think you there would be any difficulty in raising this amount, or in keeping the soul and body of the Planters' Club together? I suppose not; for I think you would plank it up, every dollar of it, before leaving this house. Now these two sums, when added together, would make the sum of $500; a handsome sum to be applied to this purpose, and soon that would be made to tell most immediately, effectually and powerfully on the prosperity of the people of this county. There used to be an old adage which was very common before Temperance Societies came about, that "a spur in the head was worth two in the heel." This, I think, would place a spur in the head, heels and hands of every farmer in old Hancock.

I am aware that the opinion prevails with many, and is used as an argument, that private cupidity and individual interest will prompt men to this, without taxing the community to furnish artificial stimulants to incite them to do that which it is obviously to their interest to do without such incentives. Now what a practical refutation of this argument does the every day conduct and practices of men furnish. I will only mention one among the thousands of such instances that might be named.

It is clearly to the interest of every farmer in this county to prevent his land from washing away. It is generally admitted by the best practical farmers in the county that this can be easily and effectually done at a very trifling cost of labor, by means of hillside ditches and horizontal cultivation. And yet how few plantations are there in this county that have been thoroughly and effectually ditched. Now, suppose this club had the ability to offer a standing yearly premium for five years of $50 for the best hillside ditched plantation in the county, with such conditions and restrictions as would admit of the greatest possible number of competitors, what would be the effect? Why there would soon be miles of hill-side ditches cut, where there are not now rods.

In five years time there would scarcely be a plantation in the county that would not have the requisite number of drains judiciously arranged and constructed, with such strict conformity to hydrostatic principles as effectually to prevent the land from being injured by heavy rains. It seems to me, then, that every consideration of public policy and enlightened patriotism should prompt the State at the ensuing session of the Legislature to lend its aid in eleva-

ting and improving this too long neglected branch of industry. With these remarks, gentlemen, lest I weary your patience, I leave this part of my subject. I do so the more cheerfully from the fact that you have already intrusted it to abler hands. At a very full meeting in July last, this club unanimously passed resolutions declaratory of its views upon this subject. A committee was also appointed to wait upon and petition the Legislature to make an appropriation for this purpose. That committee, I am happy to say, is composed of gentlemen every way qualified to discharge this important duty; and I have no doubt they will place this subject in such a light before the Legislature as will secure for it that careful consideration which its importance demands.

The greatest obstacle now in the way of improvement of land in this county, is the unaccountable pertinacity with which our people continue to grow cotton at the present low prices, to the utter neglect of almost all other crops.

There is nothing clearer than that the growing of large crops of cotton is incompatible with the improvement of land. The amount of labor requisite to prepare the land, plant, cultivate and save a full crop of cotton to the hand, is so great as to leave no time to devote to making and applying manure, without which there can be no permanent improvement.

That any system of agriculture which imposes upon the people of a country the necessity of buying a large portion of the necessaries of life, will finally lead to impoverishment and ruin seems to be so plain and self-evident a proposition, as not to need demonstration. The policy therefore of being dependent upon other States for any portion of our pork, flour, horses, mules, and many other articles which we might easily and profitably raise ourselves, becomes doubly doubtful, when we consider the low price of cotton, and the vast amount of labor it takes to raise a sufficient amount of this commodity to purchase these articles. Now, it we can so diversify the agricultural labor of the county as to raise an ample sufficiency of these indispensable necessaries to supply the county, and could realize in the way of saving what we should lose by cutting down the crop of cotton, it would be a great gain to the county, because it would enable us to substitute a system of cultivation which, so far from exhausting and wearing out our lands, would give us ample opportunity to improve them. It behooves us, therefore, to weigh well the propriety of curtailing our crops of cotton; to rely as much as possible upon our own resources, to live within ourselves, and to raise enough and to spare of everything in the way of necessaries, which can be profitably raised on our farms.

One of the most mischievous and mistaken notions which has ever taken hold of the minds of the farming community, is the idea that good farming consists in the greatest number of cotton bags produced to the hand. This is not true; for it is too often the case, that this is done at the expense of everything else. Good farming is the very opposite of this. It consists in a steady, progressive improvement of land, negroes, stock, farm buildings, fences, and everything that pertains to farm economy, combined with fair remunerating profits from the proceeds of crops. This principle is clearly exemplified in a majority of instances, by those who have accumulated fortunes in this county by farming.

One of the greatest defects in our mode of farming is the want of a proper system of rotation of crops. The practice of planting land in corn or cotton for a series of years in succession, cannot be too highly condemned or too readily discarded on every well regulated farm. The better plan would be to divide the farm into four fields, and to plant one-fourth in corn, one-fourth in cotton, sow one-fourth in small grain, and let the remaining fourth lie at rest, and by alternating so as to plant cotton and small grain after corn, combined with a judicious system of manuring, our land so far from wearing out and becoming poor, would gradually improve and become rich. This system, whilst it would tend to diminish the cotton crop, would more than make up for the deficiency in the surplus of small grain, and the increased facility it would afford in producing pork, cattle and horses—a surplus of which could always be sold at prices corresponding to the price of cotton.

Whilst we cannot appreciate too highly the importance of the wheat crop, and the propriety of extending its cultivation and improving its quality, yet it is upon the corn crop that we must mainly rely for our breadstuffs, and to furnish food for our stock. This has become to us of the older parts of this country, the greatest and most valuable of all crops. There is probably nothing within the whole range of agriculture of such vital importance to our farmers as a proper understanding of the best modes of planting and cultivating this crop. I cannot, therefore, better improve this occasion than by directing your attention to a few practical suggestions, the result of my own experience in relation to the cultivation of this important crop.

My plan, whenever it is practicable, is to plant corn after cotton, sow small grain after corn, and to plant corn after stubble. I prefer the drill system for corn; I think it has many advantages over the old method of hill cultivation. I endeavor to have all my upland—and especially if it is rolling—well fortified against that greatest of all scourges in this Southern climate, heavy washing rains, by cutting the proper number of guard drains, or hillside ditches in every field. I then lay off my rows horizontally, and as near upon a level as I can get them. This I accomplish by first laying off a guide row with a level; and by this guide row a smart, active plowman, with the aid of a guide stick, commences the business of laying off the field into rows. It will be seen, that every subsequent row serves as a guide row; but where the field is very undulating, having a number of saddlebacks and nobs, it is impossible to keep on a level without laying off with the level again, at frequent intervals, other guides, and filling in between the old and new guides with short rows. This plan should invariably be followed by farmers just commencing this system. A better mode, however—one which is attended with much less trouble and loss of time, and is sufficiently accurate for all practical purposes—when you are varying from a level too much, instead of laying off a new guide row, is to commence on or near the highest part of your row, if you are descending the hillside; and if ascending, on the lowest part, and run on, or butt up short rows until you again bring your rows upon a level. This may be done, in most instances, by the eye, without the use of the level. This, however, should not be attempted unless by an experienced and practiced eye, as there is nothing about which one is more liable to be deceived than in levelling and grading by the eye alone. The guide stick is a very simple though a very useful implement in this business. It is nothing more than a reed or hickory switch, which serves as a measure by which to regulate the width of the rows, which the plowman should keep constantly in his hand, and at the end of every row should lay it down as he would a stake to measure the next row. He should stop frequently while laying off rows, and measure to see that he is keeping his rows the proper distance apart, especially at the ends and curves. By paying strict attention to this at first, he will soon become so expert as to lay off his rows more uniformly of the same width, and have fewer wide and narrow places in them, than by the ordinary method of laying off with stakes.

But it may be asked, where is the advantage to be gained by all this trouble of laying off guide rows—running rows upon a level—having so many short rows, and so much turning and twisting. I answer that twelve years experience and observation has convinced me that it is the only practicable method in this climate, and with our system of cultivation, whereby our deeds can be made to hold our arable uplands.

It has been handed down to me as a maxim, that land was the safest and surest property which a man could hold in this country; that it did not eat or drink, and that it never dies nor runs away. Now, this may be true so far as the land in the forest is concerned, but I am sure it does not hold good when applied to broken arable land; for there is no species of property with which I am acquainted, that requires more, and that pays better for high feeding. And most farmers in Georgia, I apprehend, especially those who did not plow deep and prepare well, have been made to feel this year that drink is indispensable. As to the running away part, I know to my cost, that it is the easiest thing in nature to run away, and the hardest thing in nature to bring back again. I therefore conclude that the old maxim which says that an ounce of prevention is worth a pound of cure, is a much truer and safer maxim to be observed. Six years experience and observation has also convinced me that it is perfectly practicable by cultivating land according to this method, to prevent it from losing but very little of its original fertility, other than that which results from our exhausting system of cultivation, viz: excessive cropping and no manuring.

But hill-side ditches and horizontal rows are objected to by some, on account of their taking up and causing too great a waste of land. Now these objectors seem to forget that a ditch takes up much less land than a gully; and they need only travel over some of the counties in the middle parts of Georgia, to be convinced that on many plantations the gullies have appropriated by far the largest share of the land to themselves; whereas, the ditches would have been perfectly content to have occupied the space of a few corn rows. I am certain that so far as taste and beauty are concerned, all will agree that the gentle curvature of a ditch is a far more comely sight than the yawning chasm of a gully.

Where a field has been ditched, the rows must not be so laid off as to make it necessary to plow across the ditches; because, by going across, the ditches are continually liable to be filled up by the horses walking over them; careless negroes suffering their plows to drag across them, tearing the embankments to pieces, thereby making them liable, in heavy rains, to break over and ruin the land below. The better plan is to lay off the rows between the ditches, as though each ditch was the boundary of the field; and by running the rows upon a level, there will be no more turning than in any other way; for if there are more short rows, there will also be more long ones. The whole philosophy of guard drains and horizontal cultivation consists in this; each row is intended to hold its own water, which it will do in ordinary rains, where due care has been taken to keep the rows upon a level by throwing up high beds and by keeping the water furrows in each row well open. But to guard against excessive floods of rain, such as would fill the water furrows and break over the beds, guard drains are cut at proper distances on each hillside, to intercept the water and carry it off gradually before it can accumulate in such quantities as to do serious damage to the land. But there are other advantages independent of these, which I think would go very far towards recommending this system of cultivating upland to the favorable consideration of every farmer in Hancock, who has not already adopted it. I give it as my deliberate opinion, founded on several years' practical experience, that broken lands which have been well ditched and cultivated upon the horizontal plan, will yield from 20 to 25 per cent. more in the way of crops, than when cultivated according to the old method of planting in hills, and up and down hill plowing. This, I think, I can demonstrate to the satisfaction of every gentleman present, as clearly in theory, as I have demonstrated it in practice on my own farm to my own satisfaction.

In the first place, the plow work upon a arm can be much more thoroughly and effect-

ually done, when a level line is pursued: every farmer knows who has ever followed the plow, that it is much more difficult to do good plowing when plowing upland down a hill, especially if the hill is at all steep, than it is on a level surface. That the plow is much more difficult to guide; that the land cannot be as deeply and as thoroughly broken up, and that it is far more laborious and fatigueing to both man and horse. I therefore conclude that the chances for a deep and thorough pulverization of the soil—for a smooth, clean, close cultivation of the crop, (indispensable requisites in good cultivation,)---are greatly in favor of horizontal, over up-hill and down-hill plowing.

Secondly, a crop planted upon broken land which has been well ditched, having the rows upon a level, will stand a drought better, and will be less liable to be injured from protracted spells of dry weather, for the reason that all the rain that falls upon the land during such seasons is made available by not being permitted to run off and escape out of the field. Each row is made into a kind of reservoir for retaining water, which is gradually absorbed and taken into the beds to nourish the growing crop; whereas, when land is plowed up and down the hill, when there comes a heavy, dashing shower, as most frequently happens during dry summers, the water would run off the beds into the middle furrows and dash down the hills with the velocity of water in a millfall, carrying along with it the humus and fine particles of the soil.

From the foregoing facts and observations, I think I am fairly warranted in drawing the following conclusions:

1st. That, under this system, broken lands are less liable to wash, and will consequently last longer.

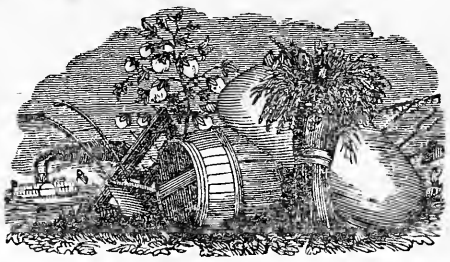
2d. That land can be more thoroughly prepared for a crop—that the crop can be more effectually and advantageously cultivated, and with much greater ease to both man and horse.

3d. That it will stand a drought much better; and lastly, that it will yield from 20 to 25 per cent. more than when planted and cultivated in hills in the old way.

I have dwelt upon this subject more minutely than I otherwise should, from a conviction of its importance to the farmers of Georgia; for I should rejoice to see the day when the old barbarian Indian method of hill culture, and up and down hill plowing will be scouted and driven from every corn field in Georgia, except upon rich level bottom lands, and even then, I think the cultivation of corn in drills decidedly preferable.

The system thus recommended will cause our crops to yield a richer abundance; encouragement will thus be given to a direction of attention away from the exhausting system now pursued, to such crops and to such objects in husbandry as will allow of the most enlarged, permanent improvement of our agricultural interests, which, indeed, is the legitimate design of our association. Let us aim at this, and always remember that it is our business, by the influence of both precept and example to recommend and establish that system which, while it secures fair remunerating profits, furnishes the greatest facilities for the permanent improvement, as well of our lands, as of our modes of cultivation.

I cannot permit this occasion to pass without congratulating this association, whose organ I am to-day, on the encouraging interest which the ladies of our county have, from the commencement, manifested, as well in its objects as in its success. The very large part they continue to take in our fairs—the very great extent to which they have always contributed to the interest and profit of these occasions, by such exhibitions as pertain to their peculiar department of domestic economy; and their presence to-day in so large a number, evince that their interest is yet unabated; and whilst it assures us that ours is an elevated and noble cause, furnishes an ample guarantee, that if faithful to our own high trust, we shall not be deprived of the powerful aid of their influence and patronage.



The Southern Cultivator.

AUGUSTA, GA.

VOL. IV., NO. 1.....JANUARY, 1846.

To Editors.—The Editors of miscellaneous and political papers with whom we exchange in the South, are respectfully requested to notice the reception of this number of the "Southern Cultivator," and call the attention of their readers to the work.

Reader!—whether you be a Cultivator of the Soil, a Mechanic, Laborer, Clergyman, Physician, Lawyer, Merchant or Statesman—we ask you to give heed while we address a few words to you, in reference to a subject which pertains to your interests as well as our own. It is equally your duty as ours, to endeavor to promote the well being of society, and to this end should our energies be exerted. Regarding this a high moral obligation, we are seeking to promote the great interests of society by the publication of an Agricultural Journal, whereby we may improve the Agriculture of the South, and increase the happiness and prosperity of the people. In this you are all interested, either directly or indirectly; for as Agriculture is the basis which sustains all other pursuits, so when it flourishes all other business feels its influence and is alike prosperous—and on the contrary, when it is depressed, no class of society escapes its influence. You are all and each of you, every man, of whatever business or pursuit, interested in the success of Agriculture. Our object therefore is to ask you to do good, not only to those around you and society in general, but to do good to yourselves, by using some exertion to extend the circulation of the "Southern Cultivator." All of you have neighbors and friends, whom you can persuade and influence to become patrons of the work. See them, and endeavor to induce them to unite in sustaining a work which the most intelligent men of the country think is destined to exercise an important influence upon the prosperity and happiness of the people of the South. The cost is a very small sum, only One Dollar a year, an amount which every man can afford to pay.

Reader! you can certainly obtain for us one subscriber—perhaps ten, twenty, or one hundred—and if our remarks be founded in truth, it is your interest to make the effort. Will you do it? Will you see your neighbors and friends and persuade them to unite with you in a common effort to sustain a work—the objects of which are so laudable? If so, you will not only be engaged in a good cause, but you will deserve and receive the thanks of The Publishers.

Solon Robinson.

This gentleman, so well known by his writings, to those who have been in the habit of reading agricultural papers, is now on a tour of observation through Indiana, Ohio, Maryland, Virginia, and so South as far as Alabama, along the Atlantic coast. He is acting as Agent for the *American Agriculturist*; and, in reference to that agency, the editor asks for Mr. Robinson such attentions upon his travels, as will tend to make them agreeable, and further the objects of his tour.—It will be Mr. Robinson's study, the editor says, to make himself useful wherever he goes, and he may be emphatically styled the Agricultural Missionary of the land. He has travelled over most of the United States, and possesses a large fund of information to communicate, as well as disposition to acquire more. We are persuaded, the editor continues, that Mr. Robinson's reconnoissance will be particularly agreeable at the South; for upon the subject of which Southerners are somewhat jealous of interference, we can assure them that they will be pleased to communicate with him.

Charcoal on Wheat.

We have heard of several of our subscribers who are trying what effect the application of charcoal will have on their wheat. We hope we shall have from them in due season, an account of the result of their experiment, whatever it may be; for practical men are often as much benefitted by an account of the failure of an experiment, as of its success.

In the meantime, for the encouragement of those who are still disposed to try the same experiment, we copy from the Genesee Farmer an account of the result of an experiment in the application of charcoal to wheat in Ohio.

"To prevent rust, Mr. Haywood, of Buffalo, has used charcoal with signal success. Mr. H. is the owner of a tract of splendid wheat land near Sandusky, Ohio, where he has two flouring mills. He has kindly furnished us with a plot of seven wheat fields, taken for experiments this season, with the results, which follow:

No. 1. 20 acres. Applied 50 bushels of coal, ground fine, per acre. Yield, 25 bushels of wheat per acre.
No. 2. 4 acres. No coal applied. Wheat badly rusted. Yield, 5 bushels per acre.
No. 3. 15 acres. Coal as in No 1. Yield, 25 bushels.
No. 4 25 acres Coal as in No. 1. Yield, 35 bushels per acre. *Note.*—No. 4 was seeded with *old wheat.*
No 5. 15 acres. Coal. Yield, 25 bushels per acre.
No. 6. 8 acres. No coal. Yield, 5 bushels per acre.
No. 7. 6 acres. No coal. Yield, 3 bushels per acre.

"The soil, culture, &c., precisely alike except the use of 50 bushels of coal per acre as designated—sown in April and May. The soil abounds in lime and organic matter.

"Mr. Haywood will apply 10,000 bushels of coal to the fields to be sown in wheat this autumn. It costs him $30 per 1000 bushels. He grinds it in a common bark mill used by tanners."

Southern Independence.

Nothing pleases us so much as to be able to record any evidence, however slight, of a determination on the part of the South to rescue herself from the miserable habit of depending on others for what we ought to make ourselves.—Such evidence is furnished by a late number of the *Wetumpka Argus*, and we copy it with very great pleasure indeed.

We would like very much to be able to inform our readers what Messrs. Cooper & Stroup are doing in the same line, in Cass county, Georgia.—Will not Mr. Cooper give us the means of informing our readers on the subject?

"Alabama Castings.—That load of fine castings, which was left at the store of Messrs. A. P

& J. C. Langdon, last Monday, was *Alabama manufacture*. It was from the furnace of Mr. John M. Moore, in Benton county. It is said by those who profess to be judges, to be a first rate article—superior to Eastern or Western castings for toughness and standing the fire. We believe it to be a superior article—cheap, too, as it can be bought anywhere; and we trust that Alabamians will buy this ware in preference to that which is imported. We say, give the preference always to Home Manufactures—encourage those of our fellow-citizens who are engaged in those undertakings, come what may. It is our true policy—interest, as well as State pride, should influence us.

"Mr. Moore is now making *six thousand* pounds of castings a day, and can make more if the demand requires it. He has a large supply on hand, and is preparing boats to take large quantities to Mobile, as soon as the river rises. He thinks he can sell as low, and lower,—and give a better article too,—than the Northern and Western manufacturers can; and if so, we really hope our Mobile dealers will give him the preference We think he may claim a fair trial at their hands."

Dogs.

Things will come right after a while here in the South. As to the intolerable nuisance of dogs to wool-growers, we did hope that there would have been boldness enough found in the Legislature of some Southern State to make a movement towards its suppression. We have been disappointed in this very reasonable hope, so far as Georgia is concerned, it is true; but in South Carolina the ice has been broken. Yet even in that State, it seems that those making the movement, at last hesitated, and "agreed to keep the matter under consideration." —The correspondent of the Greenville Mountaineer, writing from Columbia, on the 8th of December, says:

"The Committee on Finance and Banks have had under consideration a long memorial from the State Agricultural Society, asking for a Tax to be levied on all *Dogs*, for the protection of the Sheep-growing interests of the State. Mr. Boyce moved in Committee to lay a Tax of one dollar on every Dog in the State. The Chairman suggested that such a tax in Greenville would raise a greater revenue than the whole property of the District otherwise paid. Messrs. Felder and Arnold were in favor of the motion. Mr. Boyce concluded to reduce the tax to *fifty cents*—then it was proposed to allow every housekeeper to have one Dog, and pay a tax on all over that number. Finally, it was agreed to keep the matter under consideration."

We are not singular in having to endure this horrible nuisance. See how matters stand in Kentucky. A Frankfort paper, says:

"A few nights ago, we learn, sixty-three choice ewes, selected for breeders on account of the fineness of their wool, owned by our friend Capt. John A. Holton, of Franklin county, were killed by dogs. The destruction of sheep by dogs has long been a sore evil to the farmers of Kentucky. From the best information we have—and we have devoted much inquiry to the point—we calculate that there are annually about 10,000 sheep destroyed by dogs in the State of Kentucky.—The destruction of 100 sheep in each county would give this grievous total. We know one excellent farmer, in another county, who alone has lost 600 sheep in years past, killed by dogs."

Just across the Ohio river, in the State of Ohio, such depredations are not allowed. There, our foolish southern notions of personal independence are not indulged in. Every man considers his personal interest identified with the interest of the whole community. Whatever destroys the property of his neighbor is considered as injuring himself, as it diminishes the aggregate of the property of the county. Hence, they are not only ridding the country of dogs, but also passing laws to make the stealing of fruit and the destruction of ornamental trees and shrubbery something more than a mere trespass.

Useful Measures.

We find under the head, "Valuable Table," an article in many of our exchange papers, professing to give the dimensions of certain measures of capacity, in every day use among planters. It was prepared by James M. Garnett, of Essex county, Virginia, and was first published in Mr. Ruffin's *Farmer's Register*. Wherever we have seen it recently, it is full of errors—so much so, that if any one shall have made his boxes according to the table, and used them, he will have very much wronged either himself or his neighbor.

We have corrected the figures, and the reader may now depend on having it, as Mr. Garnett made it, accurate within a small fraction of a cubic inch.

The standard English Corn, or Winchester, bushel contains 2,150 2-5 cubic inches, for the dimensions of the Winchester bushel are, by statute, 8 inches deep, and 18 1-2 inches in diameter.

Remembering this, every man may easily verify the dimensions in the table.

MR. GARNETT'S TABLE.

A box 24 inches long, 16 inches wide, and 28 inches deep, will contain a barrel, or 10 752 cubic inches.
A box 24 inches long, 16 inches wide, and 14 inches deep, will contain a half barrel, or 5,376 inches.
A box 16 8-10 inches long, 16 inches wide, and 8 inches deep, will contain a bushel, or 2,150 4-10 cubic inches.
A box 12 inches long, 11 2-10 inches wide, and 8 inches deep, will contain a half bushel, or 1,075 2 10 cubic inches.
A box 8 4 10 inches long, 8 inches wide, and 8 inches deep, will contain one peck, or 537 6-10 cubic inches.
A box 8 inches long, 8 inches wide, and 4 2-10 inches deep, will contain one half peck, or 268 8 10 cubic inches.
A box 7 inches long, 4 inches wide, and 4 8-10 inches deep, will contain one half gallon, or 134 4-10. cubic inches
A box 4 inches long, 4 inches wide, and 4 2-10 inches deep, will contain one quart, or 67 2 10 cubic inches.

This is the form Mr. Garnett gives his table. But for convenient reference by those who want to use it, would not the form following suit better?

Length.	*Width*	*Depth.*	*Contents.*	*Contents.*
Inches.	*Inches.*	*Inches*	*Cub. inch.*	*By name.*
24	16	28	10,752.	One barrel.
21	16	14	5,376	Half "
16.8	16	8	2,150 4	One bushel.
12	11.2	8	1,075 2	Half "
8.4	8	8	537.6	One peck.
8	8	4.2	268.8	Half peck.
7	4	4.8	134.4	Half gallon.
4	4	4.2	67.2	One quart.

In connection with these measures it may be useful to have a simple and easy rule to find the contents of a crib—corn being often sold by the bulk in this way.

Rule.—Make the corn in the crib level. Take the length, width and depth of the pile. Multiply them together. Multiply their product by 8, and divide that product by 10. The result is bushels and tenths. To the result add one-half bushel for every hundred in the said result, and you have the true contents of the pile of corn within a small fraction of a bushel—supposing it to be shelled.

Example.—In a pile of Corn 12 feet long, 11 feet broad and 6 feet deep—

12×11×6×8=6,336.

Divide 6.336 by 10, and we have.....633.6 bushels.
Add one-half bushel for every 100..... 3.

Contents in shelled corn.....636.6 bushels.
If the Corn be in the ear, the content is..318.3 "

Agricultural Fair in DeKalb.—The annual Fair of the "DeKalb county Agricultural Society" took place on Tuesday, December 3. It was its first appearance in that capacity, and it could not, therefore, be expected that the exhibition would be either very extensive, or interesting. The meeting was very thinly attended, and even many of those attending, were unprepared to make any exhibit of their advances, or success in agriculture.

Respect for Labor.

There is no mistaking the signs of the times; and these signs plainly indicate, all over the United States, that the day is well nigh gone by, when labor was considered disreputable.—Look, for instance, to the State of New York;—and see the increasing interest, every year, taken by the people, in the State Fairs. The last was held in Poughkeepsie, and is thus described in one of our exchange papers:

"The Late New York State Fair—Agricultural Enthusiasm—Increasing Respect for Labor.—To those who have attended the successive State Fairs of N. York, comparisons between the past and the present will be at once suggested. Not only the absolute change which is so clearly manifest, but *the spirit* at work strikes the mind with pleasureable wonder and pride.

"Four years since, when the first State Fair was called at Albany, it was considered a matter of doubt whether the great experiment would succeed. It was deemed more than questionable whether even a sufficient number of visitors could be induced to come there, to pay the expense in getting up these Farmers' Festivals. That Fair was held, and it succeeded beyond the most sanguine expectation. It was found to be a most attractive place to visit. Those who went, messenger-like, soon spread the news in their several localities, and those who neglected to go, afterwards regretted that they had lost so much pleasure. The next State Fair was held at Syracuse. The gathering was large, and the exhibition fine. The next at Rochester, where Western New York poured out her richest treasures and thousands and tens of thousands of people. In 1844, it was given to the Hudson River Counties at Poughkeepsie, and most nobly did Eastern New York repay that honor, by an exhibition worthy of her past reputation, while the people gathered there not by thousands, but tens of thousands, to celebrate this great annual holyday. In 1845 the Fair was awarded to Central New York at Utica, from which so many thousands have recently returned to their homes, and where the exhibition in the really useful has surpassed that of any previous year.

"At every successive Fair there has been an increasing interest evinced, until now the enthusiasm has become so wide-spread among all classes, that the question is not, Have you been there? but rather, *Have you not* been there?

"One of the best evidences of this deepening and pervading interest is the increased attendance of ladies, whose presence is thus calculated to dignify and adorn *the useful* in the Farmer's life. Four years ago their attendance was limited. The number has increased from year to year, until at the late Festival at Utica at least one-half the visitors were ladies: many from distant parts of the state, and of a class too, who do not usually attend these exhibitions. They came there with their fathers, brothers and mothers to commemorate the great Harvest Home of New York. We allude to this circumstance because nothing can be more calculated to render agricultural exhibitions popular with our people, who are noted for the respect they entertain for the fair sex. Their influence in forming the tone of public opinion is of inconceivable moment, and therefore, we hail their presence upon such occasions, not only as calculated to enhance the pleasures of the hour, but as tending to give interest to the occupation of the farmer, and to elevate the life of manual labor to that position which it should occupy in the minds of the rising generation of our republic.

"It requires but little perception to see that farming is becoming fashionable in this country. Young men of position, wealth and education, now pride themselves upon having a finely managed farm, and a superior breed of stock. At the late fair we met young men of fortune and finished education scarcely in their majority, who have become farmers, and who pointed with peculiar pride to the articles they had raised for exhibition. The influence of such examples is scarcely to be estimated. Ten years since such was the diseased state of public opinion in relation to farming, they would have been almost ashamed to acknowledge that they were farmers. But those days of sickly sentimentality have passed, and a healthier and sounder tone is infused throughout the State, and we may hope

throughout the Union. The cultivation of the soil is now regarded with a real pride. The toil, hardened hand and the sun-burnt face are no longer esteemed a reproach. Labor is approaching the true dignity of its position, while the devotees of indolence begin to be estimated as they should be, in a republican country like ours.

"Though much has been done, much remains to be done. IMPROVEMENT should be the constant watchword in al *the details* of farming. When anything is to be done, it may be as well done well, as shabbily done, and frequently too with no more expense, and trouble. The great point in all farming should be to get the full worth of the labor and money expended. The experience of every one will at once call to mind how much is wasted. The comparison and observation of every farmer will constantly suggest something better. When alterations or repairs are to be made, common sense would at once say that these should be done in an improved style."

We are happy, too, in being able to produce evidence of increasing respect for labor in our own section of the Union. Heretofore, if we mistake not, agriculture was not deemed worthy of more than a casual remark, in our Governor's Messages, connecting it, in some general observation, with commerce and manufactures. Now, however, we find whole paragraphs devoted to the subject.

Extract from Gov. Crawford's Message, to the Legislature of Georgia.

"In view of the depressed condition of the agriculture of the State, I respectfully submit to your consideration the propriety and necessity of adopting some plan which will give the promise of plenty in the land. The first step will doubtless be to restore fertility to the fields and procure grains and grasses adapted to the climate. Every experiment faithfully and fairly made will require improved implements of husbandry; and if reliable as a guide for the future, a closeness and accuracy of observation which shall mark its progress and end. For this purpose I earnestly recommend that an appropriation of a limited sum be annually expended in the purchase of the varieties of grains and grasses, and gratuitously distributed to the several agricultural societies of the State which are now or may be hereafter formed. The object is to concentrate individual experiments, deduce general results, and thereby give to this primitive and indispensable occupation that strength which system always imparts."

Extract from the Message of Gov. Aiken to the Legislature of South Carolina.

"Of all these, our agriculture demands the first and greatest consideration. It is the great interest of the State—to which all others are but secondary. Its food is the support of all, and its staples sustain Commerce and Manufactures. On its extension and improvement, depend more interests than on all the rest. It bears the chief burdens of the State taxation, and it has received less of State favor and assistance than any other. Possessing the power of the State, the Agricultural interest seems rather to have opposed than to have sought for the aid of the State, when that aid might have legitimately been extended to it. There is no School of instruction, no department of the College, where this oldest and noblest of the Arts of civilization is taught. The only boon they have asked and received, has been the partial, hurried and imperfect examination of the State by the unfinished Agricultural or Geological Survey. Many there are, who underrate and depreciate the value of this work. It is hoped and believed, however, that this spirit is passing away; and a more enlightened estimate of the importance of the measure prevails. South Carolina has the honor of leading the way before all her sister States in this department of improvement. But unfortunately, though she began first, she paused in the work. Others seeing its immense advantages, adopted it. Connecticut, with a territory scarcely equal in extent to one seventh of our State, has employed an able and successful gentleman for a series of years, at great expense, who has just completed a survey of that State. Massachusetts, Maine, New York, Virginia, and others have also completed or now have in progress, similar surveys. Of those which have been finished, several of the States have had ample reports, accompanied by admirable Maps, indicating the localities of valuable Mines, and Minerals, published at the public expense. The survey of our State, if made with the same leisure and minuteness, could not fail to be attended with advantages fully balancing all possible expenditure. The scientific examination of our soils, their analysis, and an explanation of their derivation and nature, the exposure of the substances existing amongst us, suited to the improvement of those soils, especially the Marl of the Lower country and the Limestone of the Upper, the discovery of the rich Mines of precious and useful Metals, which abound in our hills and mountain lands, are advantages not unworthy of the highest appreciation. I therefore recommend the continuance of the survey for such time, and on such terms, as will insure its being completed in a manner adapted to its importance, and the character of the State."

Original Communications.

The Scuppernong Grape for the South.

MR. CAMAK:—As your useful periodical is calculated particularly to enlighten the farming community in the South of our country, I transmit you for insertion, some observations, and an extract of a letter of mine on the peculiar Southern advantages of the Scuppernong Grape. I once was doubtful on this point, from an observation in a letter I had from the late excellent Mr. N. Herbemont, of Columbia, S. C. But I now consider his mistake was in not gathering the ripe grapes at intervals of ripening. But now, from various information, I can assure you that the Scuppernong is the finest of grapes South. Mr. Noyes, of Natchez, Miss., who remitted to me for a set of those vines two years since, and got them by way of New Orleans, and so up the Mississippi, informs me by letter, that they did finely, bore well, matured well, and were the finest of fruit from the middle till the end of August in his location. And the wine I presented him in the box of vines was pronounced by the best judges of wine at Natchez, first-rate Scuppernong Champagne. He has lately remitted me a bill by letter, and an order for more Scuppernong vines. Mr. Noyes sent late in February for his vines, and when arriving, they were by late arrival so sprouted and injured, he thought they would not grow. But I quote an extract of his letter to me in April last:

"With regard to success, I have exceeded my expectations, seeing their condition on being unpacked. Of the Scuppernong, I have lost only ten, and they do so well, as yet, that I am induced to think they will exceed all other grapes in this climate. They open out late in the spring, thereby escaping the attacks of our late frosts that are so injurious to all the earlier kinds; in fact, these vines look so well (nearly all now in blossom,) that they give me more satisfaction than any vines I have imported."

Mr. Noyes, under date of September 29th, writes as follows:

"I received your reply, dated June 6th, to my former letter, and the Natchez paper, and as you expressed some surprise at my Scuppernong being in blossom, (as early as April, when in N. Carolina not until June in blossoming,) and wished to know whether the fruit matured or not at the proper season, I inform you that all the vines that were two years old when I had them from you, (1844) have borne this year, (1845,) and matured the fruit well, shedding scarcely any at all. They blossomed in April. I gathered the first ripe fruit from them on the 13th of August, and the last ripe on the 30th of the same month. Some of the berries were three inches round, (several here have measured 3½ inches in circumference.) This grape has been almost the only one this season that has borne, as it has been the worst year for the grape, and almost all other fruit, I have ever known in this country. Have the goodness in your next to inform me a little as to your method of wine making. You will find inclosed $10, for which you will please send me forty two-year old, well rooted Scuppernong vines, packed the same as the last, and direct to J. Noyes, Hollywood, Natchez, Miss., care of Burke, Watt & Co., New Orleans."

Mr. Noyes names in the above quotation a Natchez paper, to explain which, I quote again from his other letter of April 30th, viz:

"Last Wednesday, I had a good opportunity of opening the bottle of wine you presented me. About 30 members of the St. George's Society dined with me, and among them are some good judges of a glass of wine. The "Natchez Courier" of the 25th inst., which I have forwarded, will show you the compliment we consider due both you and the wine."

As to Mr. N.'s inquiry about wine making, I will answer him as I inform you, that straining the juice of any ripe grape through folds of woollen blankets, as it comes from the press, and putting in immediately (and shaking well the mixture,) at least one-fourth good spirits, or at least two pounds of sugar per gallon, will make an excellent safe-keeping wine, that will be ready for use or market in a few months, (instead of years as by European modes of long fermentation;) and if a sweet as well as strong wine, that will not spoil in almost any situation, is desirable, after the fourth of brandy, to the strained juice add also one pound of sugar per gallon, and shake the contents of the cask well before putting it away. And I add, if the most palatable and healthful cordial be wanted, to the juice well strained as above directed, add one-third spirits and two pounds of sugar per gallon, and double refined sugar if you wish your cordial to excel any of the foreign in market. And I again add, that as to injured wine, not too acid, it may be recovered and made good by putting therein some sugar or good spirits, or both, and letting it stand awhile.

But as an encouragement for others to persevere in the vineyard enterprise as I have done, I name here as the *result of my past vintage*, that I have made about twenty barrels of wine in all the modes above suggested, and from examination I do not calculate to lose a gallon by spoiling, but think all will prove excellent wine in a few months (instead of years if servilely following European modes of making) fit for market, and realize me as that heretofore made, from 75 cents to $1.50 per gallon. I calculated, from former ratio of increase, on forty barrels the past season; but having advertised the sale of grapes at 40 cents per gallon, and entrance into my vineyard to partake of the fruit at 20 cents a person, and commutation for companies, and scarcely any other fruit in this region, I had constant abstractions of grapes for about two months—sometimes large numbers of visitors per day, as 30, 60, and at one time 100. And as an evidence of the prolific nature of a Southern vineyard, well managed, I will here state that the 100 mostly partook or plucked grapes for themselves, (by standing on benches and other fixtures, and thus reaching the grapes hanging on the canopies above,) within the space of about a quarter of an acre, (my vineyard is about six acres, the largest, I believe, in North Carolina,) and that some, after retiring, returned to notice the altered appearance of the canopies, and reported, that they could not miss the grapes!

As a sample of the appearance of a vineyard, after a few years' culture, according to "*my* American System of Vine Culture," I will describe the view presented to the eye when approaching said quarter. Nothing is seen for six or eight feet high but posts, ten feet apart, to support the scaffolding above, and the stems or trunks of the vines; or, no straggling, down-hanging branches to impede the passage of wind, persons, or teams. The trunks of the Scuppernong vines, at least twenty feet apart, and of other kinds, (mostly Weller's Halifax, Norton's Virginia Seedling, and Cunningham,) ten feet. For although I have more than one hundred varieties in bearing, I cultivate but few on one space of ground; and, of the one hundred or more kinds, I consider but a dozen or so good in every respect, so as to be

profitable in a vineyard: though it is well, for the sake of variety and contrast, to try all good grapes you can procure in our country. I say our country, for foreign kinds I find not worth cultivating; or, as well as some natives, will only tantalize your hopes by rotting ere they mature.

I add here, that the Scuppernong will not succeed from cuttings. But to propagate, layers are to be rooted from parent vines, and thence put into the nursery, and afterwards into the vineyard. Trimming in summer, young vines; the old, never. In haste, yours, &c.,

SIDNEY WELLER.

Brinkleyville, Halifax county, N. C., Nov. 29, 1845.

Practice of Agriculture.

MR. CAMAK:—Having promised my brother farmers who read the CULTIVATOR, some account of my farming operations, I will now give them, through the columns of that invaluable work, a sketch of such matters as I can embrace in a letter. Now this is complying with your views. At page 72 of the present volume will be found your request, that the farmers on the Savannah river set down and compare notes with the farmers on the Chattahoochee, and *vice versa*. In the same piece you requested them not to get on stilts and get the dictionary and go to hunting for big words, but to take their pen and put down on paper precisely what they would say, were they telling over their operations when they met. Now, Mr. Editor, I consider the advice so good, that I, for one, will try to take it: and permit me here to say, that I am astonished to find so few farmers came forward in the columns of the CULTIVATOR with their own operations, for, as you very properly say, it is by comparing notes that we are enabled to know what each one is doing, and also learn many important and useful things that would forever lie buried. But I promised you some account of my farm, though indeed it is hardly worth talking about; but, such as it is, it is the best I have got, and it becomes me to make the best of it I can. My farm embraces 360 acres of poor pine land, lying on both sides of the Barbour creek, four miles from the beautiful town of Eufaula. The creek about divides the farm. One side of the creek the land is extremely broken, the other side perfectly level.

It is often profitable to compare years in agriculture. This can only be done by keeping a farming memorandum or diary. I will therefore give you a short account of the operations of 1844 and 1845, taken from my farming book or diary, to wit:

ON THE 1ST PAGE FOR 1844.

Say, 360 acres poor pine land at $6 per acre		$2,160 00
13 hands, mostly boys and women, counted at 10 good hands		5,800 00
Five mules		375 00
One yoke of steers		50 00
Carts, tools, &c.		115 00
Capital invested		$8,500 00
I find the interest at 8 per cent	$680 00	
Overseer's wages, including board	300 00	
Bagging and rope	100 00	
Various other expenses	100 00	1,180 00

The following is the division of the farm for 1844, as to cultivation: say, in

Corn	acres 100	Potatoes, rice, &c.	acres 5
Cotton	100		
Oats	50	Total acres	255

The following is the production:

Corn and meat on the farm sufficient for the farm as well as for the family in town. 59 bales cotton made averaging about 500 pounds to the bale.		
The gross sale of 47 bales sold in the city of New York	$2,119 63	
Expenses on 47 bales to New York	271 74	$1,837 89
12 bales of inferior cotton sold in Apalachicola	$232 80	
Expenses on 12 bales	20 00	$212 80
Total		$2,050 69
Deduct entire expenses for 1844		500 00
Leaving a profit of		$1,550 69

The above calculation, taken from my farming memorandum, I think is about correct. A large portion of my cotton sold in New York, brought over 10 cents per lb. The manner of preparing my cotton for market will be found at page 145 of the second volume of the SOUTHERN CULTIVATOR. It will be seen by the above calculation, the interest made on my farm and the amount invested in it.

OPERATIONS FOR 1845.

The value of property set down on the first day of January, 1845, the same as the first day of January, 1844, viz: $8,500 00

The following alteration as to land cultivated, to wit: No. acres in

Corn	acres 120	Potatoes, rice, &c.	acres 8
Cotton	80		
Oats	50	Total acres	258

The corn crop has been considerably increased over 1844. There will be considerable falling off in the cotton crop. I see on page 30 of this year's farming memorandum, that we hauled out 275 cart loads of compost manure, prepared with the blue marl of this region, and pine straw, about equal parts, and the treading of cattle. But the severe drouth of July and August, so severe always on pine or sandy land, caused the cotton to cast its squares and young bolls, and instead of fifty bales, which was the crop I planted for, I will not make more than thirty-five. We will this year have no inferior cotton, as our cotton was all made early in the season and picked out early; indeed, we have picked out no cotton this year in October, our small crop having been picked out before last of September, as we picked it out as it opened; and now taking the pains with it that we are, having so little to manage, we are making a fancy article, and expect to obtain 12 cents per pound for it; for, it is generally known that where a farmer keeps entirely out of debt, and is not compelled to force his cotton on the market, and makes an extra fine article, he can generally put his own price on it, and nine times out of ten, he will get it. I priced, last year, all my extra fine cotton at 10 cents per lb., when most of the cotton was going at 5 cents, and 26 bales of it brought in July 10¼ cents. The cotton of the present year is altogether superior to the cotton of last year, for the reason, that we have had it in our power to bestow much more labor and pains on its preparation, and we obtained a seed that produces a longer and finer staple. Hence, we now price it at 12 cents. There are other advantages growing out of a short crop. I find, at page 180 of this year's farming memorandum, that up to Saturday, the 8th of this month, we had been 38 days hauling marl into our lot—that to make our compost manure, the marl being within fifty steps of the lot, we hauled with two hands and a yoke of steers, 30 loads per day, averaging ten bushels to the load.

We set down the labor of two men and a cart and steers at $2 per day	$76 00
I find at the above page that we had been 24 days hauling pine straw into the above lot where we prepare our compost. There being five hands engaged in collecting and hauling the straw, we set it down at $3 per day	72 00
	$148 00

We propose continuing until the close of the year hauling in the blue marl and the straw in the lot where our cattle, to the number of forty, are penned every night. I would here remark that our manure lot is dug in the centre and raised all round, so that the urine of the cattle and all is saved.

Now, I have said something of the advantages of a short crop.

I find at page 162 of our diary, that up to Saturday, the 18th of October, we had finished sowing our oats; for in this climate we can sow oats with safety in the fall, as they will stand the winter.

I find on page 167, that up to Saturday, the 25th of October, we had rolled our logs on the stubble land, and had it turned over for a crop of corn for 1846. Thus, by turning the green grass completely under, it will rot and be much better prepared to make a crop the ensuing year. We hope to make two thousand cart loads of compost manure. Should we succeed, we will be able to manure all our level land. As the making a compost manure out of the blue marl and pine straw is rather an experiment, I will, if spared, give the result at a future time.

Now, Mr. Editor, in conclusion, I have only to say, that I was delighted to find that the Governor of Georgia, in his message to the Legislature of my native State, had so earnestly recommended to the Legislature to make a move in favor of agriculture. Your friend,

ALEXANDER MCDONALD.

Eufaula, Barbour Co., Ala., Nov. 15, 1845.

The True Policy for Georgia.

MR. CAMAK:—The *cacoethes scribendi* is not upon me in the agricultural line, and after this monition to my countrymen, I would take leave for some time of a train of reasoning, where theories accumulate like blackberries and practice has so little to do; especially as I have seen, by the rejection of certain articles, that the SOUTHERN CULTIVATOR will not indulge ideas peculiar with me or totally original. The great question with the plantation Georgians is not so much how to cultivate, or what to rear, as what is the *most frugal or economical plan of living*; and you will please let me talk as I please, though my expressions may be neoteric or novel.

A writer in the last SOUTHERN CULTIVATOR, "N.," holds this language: "Trivial experiments in trivial farming *has* been the dead weight which has overburthened almost every agricultural paper and eventually created a disrelish which has condemned them to failure." How unphilosophic? "N." certainly made this *profound calculation* without his host! for the deductions I drew from Socrates' reasoning were worthy of the gravest contemplation. But examine with me, "N," the *philosophy* of the matter contained in periodical publications on farming. Everything that may be written, based upon actual experiment, with answering results, if not hitherto conceived, is valuable to the inexperienced, and the enterprising is aided by each successive light; provided, always, *he experiment on them in faithful succession.* The chief difficulty with this kind of periodicals, is, that they contain so many novel directions, and ever accumulate new, while the first practice on either be not put in motion: and without any operation men grow weary of reading theories, and then *flagrantly* abandon the paper: and thus it fails—not from trivial suggestions, for they cannot be "trivial," but from lethargy, when those suggestions, however trifling, have never once been practiced upon by the rejectors.

If "N." had been well read in metaphysics—a deep drinker of that Pierian fount—he would easily see the absurdity of his *hit* against agricultural papers, in this view: that atoms ultimately form the mountain, drops of water the river, and rills the ocean; hence, trivial suggestions for trifling experiments, in the aggregate, comprise the inestimable value of agricultural operations. Thus, his endorsement of the article of Jethro—a first-rate one—on sheep raising, would, before shepherds with their thousand flocks can fill our land, have to descend to much of that *minutiæ* he haughtily condemns. The sheep-tender must have his trivial directions about the diseases peculiar to his flock and their healments—he must have a trifling dissertation on dogs—a homily on the *hoof* disease! and other minute particularities that compose the library of the best sheep raisers and wool growers in other lands.

I do not believe this *generalizing majesty* as exhibited by "N." is good for the South just now. Far from it. Georgians are too full of it already, and hence, deeming the policy of the thrifty Yankees—their pains-taking minutiæ—their rigid frugality, etc.—*trivial*, they never advance one step in the career of beneficial innovation.

Even this trumpet-sounding raising of sheep, is sillier than the animal itself, so long as this

spirit against *triviality* prevails, as it is a sort of multicaulis anticipation, destined to an oblivion as singular, with none to regrettully pay it obsequies. All is high sounding theory—lofty speculation—fantastical discourse—a thing so peculiar with idle, well educated Southern men who have nothing to do, and who are above trivialities. And since the attempt may not be actually made, or, if tried, successful, we had better stick the closer, to day, to "our trivial experiments in trivial farming." Is Dame Nature herself a fool when she descends to such inconceivable trifling, as to propel the juice up the minute pores of so many trivial items of corn, cotton, wheat or oat stalk?

This is what I want to admonish my countrymen: to descend, "coats off and sleeves rolled up," *a la* John Randolph, of Roanoke, to trivial duties, and the result would tell in stupendous generalities, as so many rain drops and small gushing springs make the amazing body of waters—to buy less foreign and Northern broadcloths, and cassimeres and bombazines, each man, for self and sons—and infinitely less gossamery silks and cotton and woollen habiliments for wife and daughters—to go it coolly and determinedly for Georgia manufactured investitures—both sexes—for Georgia luxuries in preference to others, or rather hard and hale old Georgia fare, discarding all foreign and Northern superfluities that feed vanity without imparting health or the approval of one's sober conscience; in short, I go for a State or National *costume*, elaborating from our devotional meditations, or unthinking genuflections, the tailors, milliners and haberdashers of London, Paris and New York, and dismissing them. Then, and not till *then*, would every Southern man's now lean pockets have a plethora of purses—and know not "collapse"—and each purse as it be drawn out by stalwart hands that know not gloves of a summer day! show gold, in the glad language of once hopeful politicians, "glittering through the interstices!"

Why not hasten—first by humility!—to avail of the manifold blessings of Almighty God upon our then to be flourishing and much loved Georgia. Adopt our fathers' example, when they cherished, nourished and introduced cotton from these shores into Europe—picked it patiently with the hand, as was the custom during our remembered schoolboy days—or if the gin gave them an impetus, availed of and followed that impetus with momentum! How much does good indigo sell for? How much a good silk shirt? How much merino wool? Behold them the effect of the patient, pains taking labor of the Italian, the French and the Spanish peasants, who never abandon trivial occupations to attend grog-shops and talk trashy politics—who dole out upon a task day by day, and support an opulent royal house and nobility, when we support only ourselves. Imitate them, Georgians! and claim, in fact, your social as well as political independence.

Dec. 1845. J. J. Flournoy.

Cotton Manufactures.

Mr. Camak:—Some twelve months since our country was alive to agricultural meetings. The principal object was, to see if we could not devise some plan whereby we might divide our labor, and thereby make it profitable to the farming interest, instead of the ruinous policy of all endeavoring to see who could raise the most cotton, thereby ruining their lands, without receiving a proper compensation for it. I then advocated the diversification of labor, particularly in this section of country, where we possess greater advantages than any other country (within my knowledge,) can boast of. Here we can raise all the different varieties of grain: wheat, corn, oats, barley and rye, in abundance—all fruits that are valuable, either North or South—and more cotton than we ought to raise, though it paid double the price that we realize at the present time. With a healthy region, a plenty of timber, and water power not surpassed any where; with all these advantages, why should we complain of hard times, while the remedy is within our grasp? But the difficulty is the want of energy in our Southerners—they have been raised in the cotton field, and they do not believe any other place will be so congenial with their habits as that. For an example, (and no doubt you have found many such,) I will give you a specimen of Georgia character in the way of an anecdote that occurred not long since:

I was travelling in the western part of this State, and believed I could go a nearer route than the one I had been accustomed to travelling. I met a brother traveller, of whom I made some inquiries in regard to the way. I found he was acquainted, and told me of several places to inquire for on the way. I got on for some 12 or 15 miles very well to one of the places; a man, by-the-by, who was well acquainted with the country—I inquired if he knew a certain man some fifteen or sixteen miles from there? He told me he did, but I would find it much farther than that, and undertook to direct me a distance of twenty-seven miles to get there. This, I suppose, was 2 o'clock, P. M. I asked him if there was not a nearer way? He told me there was, but it was mountainous and very rough. I informed him that was the kind of road I had been travelling all my life, and expected to pursue it during the balance. I took the rough road and reached my place of destination about dark. I could here state a good deal more in regard to it, but the above is sufficient for my purpose. Now, if I had been afraid to encounter small obstacles, I could not have reached my place of destination that night. So we should compare our lives to a day.

Now, I must confess, I have strayed some distance from the point I had in view, when I commenced this epistle, though I do not know that the digression is much out of place. My object is to show, if possible, how hard it is to stimulate men to action, if the road is rough over which they may have to travel. As I before stated, last winter I endeavored to show the necessity of diversifying our pursuits, and, among others, recommended the erection of cotton factories as one of the most profitable investments that could be made. I undertook to show from observation, that Southern factories, at that time, when properly managed, could not be realising less than 20 per cent. on their capital, and no doubt, a great deal more. That was fine, even though they had to lay out of the use of their money for three years before they could realize on it. Numbers were willing to go in with me in the erection of one, but I have found, in this, like most other cases, men that are the quickest to lay hold, are not particular when they do take hold, and it very frequently fails them. So it turned out with my factory. All backed out but one. He was of the right grit, if he would have ventured far enough. But his subscription was too small to be much aid. Yet, I feel determined to persevere. My course is onward, though I may never be able to make it profitable. My water power is sufficient, and my works shall be sufficient for $50,000 worth of machinery, though I may never be able to put one-fifth of that amount of machinery in it. I have offered to give equal rights in the premises and water power, with all my services, to any persons that would join me in the enterprise.

This I believe to be the true policy of the South. If we feel the tariff a burthen let us realize the benefit. If we manufacture our own cotton, we enhance the value three or four fold thereby, greatly increasing the profit by reducing the expenses of transportation; and on all we consume, we not only save the commissions and freights one way, but both. Besides, we give employment to many who are at present a burthen to our country. It also opens a home market for every kind of surplus produce raised among us, and must eventually tend to reduce the quantity of cotton raised among us. Is there any person prepared to believe that Georgia is determined to look to the North for all her manufactured articles, and pay for them with cotton from three to six cents per lb. Yet, judging the future by the past, we would be compelled to admit it; yes, sir, if we still content ourselves to travel the old road, (because we know it best,) when we see the great disparity between the profits of the producer and manufacturer of cotton, our children and grand children may live to see the day when our country will be filled with manufactories owned by Northerners, and they the operatives.

Now, sir, when I sat down, my intention was to give you some of my thoughts in regard to the Cultivator, yet I have gone on until I scarcely have any room left. I have made some inquiry among my neighbors, and they are pretty much like my man in my anecdote; they prefer the old way—do not know whether it does any good or not. We have had a dry year and made nothing, and of a wet year we make plenty, and I fear they feel but little desire for improvement. Men scarcely ever know the value of education until they feel the want of it. Yours, very truly, John Webb.

Newton Co., Ga., Nov. 15, 1845.

Irrigation.

Mr. Camak:—The late extremely dry summer, causing, in many instances, a failure, and in others a very light crop, shows the necessity of improved modes in agriculture. No section of the southern country has so many natural advantages to improve land, and consequently increase the product by irrigation.

All that tract of country in South Carolina and Georgia above the sandy country, such as is based on clay, would be advantaged by irrigation. Where the rivulets and streams run out of elevated situations, if, instead of permitting them to seek their natural level, by falling over precipices and shoals, these streams were conveyed in ditches on a level with the point at which they were taken out of their usual channel, the lands, below the ditch thus made, would be immensely improved and the production astonishingly increased by the moisture that would make its way through the porous earth. And all of what is called the up-country, where there is a considerable descent in the small streams is susceptible of such advantages.

It will appear to many, this is practicable; but making the ditches they will view as too expensive, presuming they must be dug out with mattocks and shovels. Ditches may be made that will answer every purpose with a plow. They need not be deep if kept on a proper level, even through lands covered with trees.

When the level is marked, a coulter plow with two strong horses or oxen, if run three times on the line, having an axe ready to cut roots out of the way of the coulter, and then followed with a turning plow, will open out the ditch very soon and with but little labor. The turning plow should be followed with a shovel to throw out loose earth that has not been thrown out by the plow. Three hands with the proper plows should open a ditch ready to receive the water, even where many roots would have to be cut, of a quarter of a mile in length per day.

The ditch is best not to be deep. The water running near the surface will have its outlets along roots and between the topsoil and clay bottom, moistening both, and thus increasing the attractive powers of the clay, so as to take (what kind nature is willing to bestow) in nitre to the grasping but invigorated soil, which in that state is gaping with open mouth for this natural aid. The soil, it wanted for grass, soon presents a green sward which resists the scorching rays of the sun; so soon as that is done then the deposit of nitrous matter is abundant and enriching.

To reap the earliest benefit from irrigation in producing, is to have the water running in the ditches during the winter. Frost aids very much in fertilizing, and in the absence of a hot sun, nothing extracted by heat, only the genial warmth of the earth in receiving the deposits extracted from the atmosphere and deposited by the water, which is kindly and provi-

dentially held in reserve by the kind earth to produce the next summer.

In plowing lands that have thus been under the influence of irrigation, it is astonishing to see the amount of the rich deposit in many places under ground. It will look as if a large quantity of manure had been placed there, all of which had been deposited in almost imperceptible particles with the many bubbles floating in the stream. But when we think these mites in the course of one hour are innumerable, the accumulation of a winter of five or six months will make these millions of mites into large and valuable deposits, enriching the soil and presenting an increased and improved product.

This would appear as if it were designed only to produce grass. I will, at some time, show my experience in improving lands by irrigation, and the astonishing effect in producing corn, if I should have time to devote to writing. As I have filled my sheet I shall present nothing more at this time.

Irrigation will make parts of South Carolina productive beyond the conception of the most extravagant. The water will thus be taken from where there is too much so as to do injury, and placed where it is wanted, increasing the product of both. Yours, sincerely,

D REINHARDT.

Greenville, So. Ca., Oct. 27, 1845.

Improving Soil.

MR. CAMAK:—Your correspondent, Mr. C. D. DAVIS, has given his proposed plan of improving the soil, and wishes the readers of the SOUTHERN CULTIVATOR to point out defects, &c. I will not presume to point out defects, but will give some of my notions, which I hope will be received, as they are offered, in a spirit of kindness.

In the first place, I would like to have the land broke as deep as possible with a good turning plow, drawn by at least two, if not four horses: I would like for a good subsoil plow to follow in the same furrow immediately after the turning plow, and for this plow to be drawn as deep as possible, and by as strong a team as the first plow. Some of the subsoil clay I would like to have mixed with the surface sand. This would give the soil a better body, it would retain moisture better, and the growing crop would not suffer so much from the droughts of summers. After this plowing, I would pass a heavy iron tooth harrow over the field to pulverize and level the surface. This done, I would sow one bushel of rye per acre, and harrow in the seeds.

If Mr. Davis sows his corn and peas as he speaks of doing, and then plows sufficiently deep to cover the rye well, I think he will be very apt to see but little of his corn or peas thereafter. They would, in my opinion, be covered too deep. I would prefer to roll the rye down with a heavy roller, and plow in with a two horse turning plow, the plow going the same way the roller had gone; then harrow once, sow one-half bushel Tory peas per acre, harrow them in and roll. In September, plow in the peas, and again harrow in one bushel rye per acre. In February, roll down the rye and plow it well in; harrow at least twice and roll well. Some two or three weeks thereafter plant corn. In the after cultivation use no plow except the cultivator or sweeper, run shallow, so as not to interrupt the sod. After turning in each green crop, I would like to have some ten or twenty bushels of lime sown on each acre to correct acidity and hasten decomposition.

Like Mr. Davis, I wish to obtain information. Will Mr. Camak or some of the readers of the SOUTHERN CULTIVATOR correct my defects? CLODHOPPER.

P. S. Give my respects to my friend Bucket, and say to him I am anxious to learn how to feed Berkshires to profit. C.

Pride goeth before destruction, and a haughty spirit before a fall.

Plantation Economy.

MR. CAMAK:—It is probably known to you that I have been something of a correspondent for the SOUTHERN CULTIVATOR. Having made no communication for it the present year, you may perhaps conclude that I have lost my former relish for its success; if so, let me say to you that I am far from that; so much so, that I felt mortified at the commencement of its third volume, that I had such poor luck in getting my neighbors to subscribe for it. I hope neither you or the publishers will despair of making the CULTIVATOR profitable to yourselves, as it must and will be both profitable and instructive to the greater part of its readers.

It is known to you that we had an uncommon drouth through this section of country the last summer. The wheat crop was short, on account of the worm and fly. The oat crop was uncommonly short, on account of a dry spring. The corn crop is about two-thirds of an average one. The cotton crop from a half to two-thirds, compared with last year's crop. The potatoe crop is quite indifferent. The pea crop almost a complete failure. On the back of all this, the army worm, or a kind of caterpillar, took possession of our fields and pastures about the first of September, and made a complete sweep of our grass.

The above named circumstances have put us in a proper frame to study and practice economy. I now propose to give you and the readers of the CULTIVATOR a sketch of my management under present circumstances, having no doubt but I shall find such management and economy profitable in the most plentiful times. I have one of Mr. Rowe's patent Crushers in operation. I have corn ground with the shuck taken off for my pork hogs, and have a boiler made by the description given by Mr. A. Greene, of Greene county, in the first volume of the Southern Cultivator, dated July 19th, 1843. There is some six or eight of those boilers in use in this neighborhood, which answer an excellent purpose for boiling food for stock. The benefit arising from the use of these boilers, so far as we are concerned, must be placed to the credit of Mr. Greene, through the instrumentality of the CULTIVATOR, as we should have known nothing of the value of so cheap an article had the CULTIVATOR never been published. I have (alternately) boiled for my hogs, collards, turnips, pumpkins, potatoes and artichokes, a certain portion of corn and cob meal in every boiling, using salt freely. By the use of four bushels of this corn and cob meal added per day to the other articles above named, I find that forty-four hogs of good size are fattening very kindly. I have my corn ground with the shuck on for my mules, horses and work steers. The cobs from which the grain is taken for bread, we have ground and boiled for our milch cows. My mules and horses are doing well on the kind of feed above spoken of. I am of the opinion that my crusher will save me at least $100 in the way of corn in twelve months.

I planted about three fourths of an acre of very highly manured land, both last year and this, in a kind of corn called (about here) Texan Corn, which afforded more feed for my stock than any five acres I had in common corn. We commenced feeding with it the first of August, by cutting down at the ground, filling up a large trough twice a day. If the mules left any of the stalks, they were thrown out for the hogs, which seemed to delight in having them to chew on. When we first began to cut the corn a second crop came on in the way of sprouts or suckers, which got to be some six feet high. It grows as thick as a canebrake, has thick and soft feeling fodder. The grain comes on the top of the stalks in a branch, which is excellent feed for fowls or any kind of stock. I have had some of it ground and bolted, which flour makes tolerable good batter cakes or fritters.

I spoke of a large trough; let me describe one, as it is worth any planter's attention: It is made with four pieces of hewn timber, any length desired, 18 or 20 inches wide, 6 inches thick; two blocks of a suitable size, say 6 feet long; the blocks are placed on the ground, two of the pieces laid on these blocks, the other two are set up, one on each side, and the whole clamped together. This is done by boring four holes with a large auger, and putting in a pin in each hole with a shoulder outside, one in each end of those blocks, and wedges drove to clamp the timbers which form the trough, which is done when the heads are pinned on. My trough is 20 feet long and has a shelter built over it.

I forgot to name in its proper place that the kind of corn herein spoken of, remains green till frost, and continues to grow. We have cut the last of ours this week. It has been in this settlement for three years, I believe. The seed was brought from Alabama.

Mr. Pitts, in his communication some time since on the subject of Berkshire Hogs, is considered to be extravagant, though I have to confess that there has been something of the multicaulis about them with some men, and that they are not what they have been cracked up to be. They are not the hogs for planters, especially those that do not allow more than a bushel of corn per day to something like a hundred head.

I am, dear sir, yours respectfully,

JOHN FARRAR.

Putnam Co., Ga., Nov. 15, 1845.

Agricultural Meetings.

STATE AGRICULTURAL SOCIETY.

REPORT

Of the Committee on the Agriculture of Georgia.

The Committee on the Agriculture of Georgia, conscious of their inability to meet the expectations of the Association, will yet endeavor to discharge the duty assigned them. For the purpose of enabling them to do so, they have addressed several scientific and practical agriculturists: they have also consulted the pages of that valuable periodical, "The Southern Cultivator." Entertaining but little hope of presenting new truths, the Committee regret that they will be compelled to pass over many old ones that would be interesting.

From one or two of the gentlemen addressed by them they have received communications: from one or two others they had still hoped to receive them. The communication from Mr. Jas Camak, is so pertinent and yet so concise, that it will be made the foundation of this report. From the communications of other gentlemen, had they been received, we might have derived aid by way of quotation or appendix. Mr. Camak reads—

"*Athens, Sept.* 16, 1845.

"*Mr. Turner, Dear Sir:* I have been prevented by bad health from answering your letter of the 15th ult. until now.

"You ask for hints as to the report of your Committee to the Agricultural Association of the State. I can only make suggestions as to the plan of your report.

"1. Take a survey of the present condition of the Agriculture of Georgia, and of the practices which have led to it.

"2. Show how we are to remedy the errors of the past and better our condition.

"Among the causes which have brought Georgia to what she is, I would dwell emphatically on the partial action of the General Government as one of the chief of these causes: taking care, however, not to meddle with party politics.

"Among the remedies, I would insist on the Legislature enabling our State University to give a complete course of instruction in Agricultural Chemistry and Geology.

"You may thus make a report that will command attention, *provided* cotton don't get up to *ten* cents. If that takes place, everything like improvement stops at once.

"Very truly, yours, JAMES CAMAK."

Assuming these suggestions as the basis of our report, we will endeavor,

1. To take a survey of the present condition

of the Agriculture of Georgia, and of the practices which have led to it.

The present condition of the Agriculture of Georgia;—who does not perceive that it is deplorable indeed? Who is not pained with the view of the exhausted fields, the dilapidated houses, the decayed fences, the deserted farms, that so often present themselves? Who is not aware of the diminished products and profits of Agriculture, and the embarrassments of Agriculturists?

The practices which have led to these results are obvious. The unremitted cultivation of our fields, the neglect of a proper rotation of crops, the failure to restore fertilizing properties by means of manure, the continual washings consequent upon injudicious methods of cultivation, the neglect of judicious ditching and horizontal plowing—these are the practices, or causes, which have exhausted our fields, and impoverished our farmers. Hence, decayed houses, deserted plantations, and depopulated neighborhoods. Hence, the pecuniary embarrassment of the agricultural community.

But there are other causes of the evils of which we complain. "Taking care not to meddle with party politics, we would," as advised by Mr. Camak, "dwell emphatically on the partial action of the General Government, as one of the chief of these causes." We do this the more readily, as we conceive, with him, that there is an immense difference between party politics and political economy; and that, while weighty considerations require us to keep aloof from the former, the best interests of the community require us to heed the lessons of the latter.

We turn, then, to the unequal action of the General Government. Leaving out of view all mere party denunciation, let us candidly inquire whether the action of the general agent has been impartial and equal, or impartial and unequal? Has it been equally serviceable to all the great interests, and all the various sections of the country; or has it promoted the welfare of some at the expense of others? Has the General Government afforded equal protection and encouragement to all the great interests of the country—to East, West, North, South and interior? Have taxes and duties been so levied as to bear equitably on all the various interests and sections? Have the revenues of the Government been expended with a single eye to the general good; or have sectional and partial considerations largely influenced public exactions and public expenditures? Have the public lands been managed for the equal benefit of all?

The Committee will not attempt to answer these questions; they will not attempt to occupy the wide field before them. The condition of different sections, and different classes, will answer these inquiries; the records of the country will answer them; the recollections of our fellow-citizens will answer them. All know the efforts which have been made to sustain some of the great interests of the country; all know the favors which have been extended to the new States; all know the unequal expenditures of the public money in different sections; all know the difference in the actual condition of different sections of the country.—Nor can a difference in local situations, local institutions, and local habits, fully account for the prosperity which is manifest in the condition of some, and the adversity which is manifest in the condition of others. The committee are constrained to insist on the partial, unequal and injurious action of the General Government as one of the chief causes of this state of things.

We will now endeavor,

2. To "show how we are to remedy the errors of the past, and better our condition."

The method is obvious. We must provide suitable accommodations for man and brute.—We must repair our fences, ditch and drain our lands, and restore our soil. We must cultivate habits of economy and industry. We must confine both the General and the State Government to the judicious provisions of the State and Federal Constitutions, and to the legitimate purposes of government. These truths require no proof.

The errors of government, however, are not to be corrected by violent denunciation; they are more effectually prevented by temperate discussion.

To answer any valuable purpose at the present time, our habits of industry and economy must be of a very high character.

Our soil is to be restored by a proper rotation of crops, an extensive application of manure, a judicious use of the plow, and occasional rest.

In a proper rotation of crops, the ground is left by each succeeding crop, either in a better condition for the cultivation, or for the production of its successor.

The preparation of manure requires enclosures for different kinds of stock, the judicious arrangement of stables, and the collection of all those substances which may be elaborated into manure. Cornstalks are important for this use.

The judicious use of the plow, includes deep plowing, horizontal plowing, and subsoiling.

The importance of occasional rest to our lands will at once be admitted.

Much valuable land may be reclaimed by draining. Much valuable soil may be retained by merely horizontal ditching and plowing.

It behooves us to begin to think of some substitute for the common rail fence; in some sections rail timber is becoming scarce. An adequate substitute consists in two ditches of proper width and depth, with the dirt from them thrown into a bank between them, of proper dimensions, surmounted by a straight fence of 4 or 5 rails height. Instead of rails, the bank might be surmounted by rocks of which there are considerable quantities on some plantations. Col. Moughton of Jones county, has, it is believed, demonstrated the practicability and utility of the double ditch, and intermediate bank.

Proper enclosures and shelters should, by all means, be provided for all kinds of stock. Both the humanity and the interest of the farmer is involved in this matter. With the increased comfort of stock, their value is increased. The additional quantity of manure saved by this course, would repay the trouble involved. It is clearly the interest and the duty of the farmer to provide better for the neglected cow; and well was an agricultural meeting which took place in Milledgeville, in the early part of the year, called upon in the public papers, to "heed the plaintive moanings of the neglected cow." If it is both the duty and the interest of the farmer to provide shelter for the brute, how much more is it his interest and duty to provide comfortable lodgings for the man? If crops and stock suffer and waste for the want of proper shelter, men suffer and die from the same cause. The laborer as well as the master, imperiously requires suitable food, clothing and lodging.

But among the means of remedying past errors, and bettering our condition, we would, by no means overlook Mr. Camak's suggestion concerning a recommendation to the legislature, to "enable our State University to give a complete course of instruction in Agricultural chemistry and geology." It would be obviously calculated to promote the interest of Agriculture, and is, we think, sanctioned by the example of several of the States. The plan of carrying agricultural instruction into common schools by means of suitable school books, seems altogether feasible.

Nor should we be deterred from any of these plans by the common objection against "Book Farming." Our books and periodicals should contain practical knowledge, and then the objection would not apply. There is no reason why practical knowledge may not be imparted by books, in agriculture, as well as in medicine, mechanics, &c.

Having said thus much in pursuance of the plan suggested by Mr. Camak, we pass from it with the remark, that as cotton has not advanced to "ten cents," we trust that some of our views may receive attention.

But in regard to the more immediate wants of agriculture, we find in the Cultivator for May, a few remarks so appropriate that we must be allowed to copy them:

"What we want now," says the editor, "is a plain account of the experiments of men of plain common sense. There are now but few persons engaged in tilling the soil who do not believe that all processes may be varied, with certain benefit to the crop, and profit to the owner: and thus believing, they are very apt to make experiments of some sort or other, and note the results. When they meet their neighbors on public occasions, these experiments and their results are the subject of conversation, unless party politics should happen to exclude every thing else. It would not be much trouble of a long winter night, or a rainy day, to write out an account of these experiments for publication in the Cultivator. Now, this is just what we want: that our planters should enlarge the sphere of their conversation, and besides talking with their immediate neighbors, shall talk through the pages of the Cultivator, with men engaged in the same pursuit, one hundred miles distant; that the planter on the Savannah river shall talk and compare notes with the planter on the Chattahoochee, and he of the mountains with him of the seacoast, without leaving their own firesides. But you say you can't write. You can talk though; and all you have to do is to banish the idea, so prevalent, that when you take pen in hand, you must get on stilts and go hunting big words in the dictionary, wherewith to construct high sounding sentences; thus trying to write in a style and manner altogether different from that you use when talking to your neighbor. Banish this notion altogether. Take your pen and put down on paper just *what* you would say to your neighbor, just *as* you would say it when speaking of your experiments, and you will then succeed to a certainty. [A pretty good method, the committee would say, for all writers and speakers.] If there should be some errors in spelling and grammar, never mind that; we will take care to have every thing right in that respect."

Thus far the "Cultivator."

In addition to the means indicated for correcting the errors of the past, and bettering our condition, others might be mentioned, and especially a due diversity in the objects of agricultural operations, a proper adjustment of the claims of different objects, and an extensive association of men engaged in agricultural pursuits. All other classes of men unite to promote their interests, why not agriculturists? But it is time to draw to a close, and in doing so, we desire to present for consideration, the views of the Hon. Thomas Spalding, as contained in an extract from his letter, dated

"Sapelo Island, Sept. 2d, 1845.

"Under these circumstances, I must be shorter in my communication to you than I otherwise should have been.

"A National Agricultural Association at New-York, has associated my name among their consulting members. In return for the compliment, I have promised at my leisure, to prepare a paper upon the agricultural capabilities of Georgia. And, in doing so, I have intended to divide the State into three agricultural zones: the first extending from the sea coast to the granite range at Augusta, Milledgeville, Macon and Columbus. This region is, in general, sandy, based upon clay, covered with pine or fir timber; adapted with the tidal range of waters, to the production of rice, and of long stapled cotton; from thence to the termination at the granite falls, to the production of short stapled cotton, and its native growth, our pines, found no where growing so well in the United States but from North Carolina to the Alabama river. And let no one undervalue this production; for the pine clad hills of Sweden and of Norway have given more to their people and their government than the rich plains that border the Danube and the Vistula in Europe.—And this, too, will be the case in America when we shall be filled up with people.

"From the granite range to where the rivers again break from Athens across the country, is emphatically a farming country. I have known it for fifty years: and in no country, in Europe or America, have I seen any region so admirably adapted to the production of wheat and barley and roots of every variety. And they should ever go together; carrots and beets and turnips should precede the wheat crops, if great results are expected. Turnips are supposed to have given to England more than any other plant that ever was introduced into it, and carrots and beets are still better. In this climate, these are all winter crops; they would be plucked from the field to be fed to the stock; they would give great return in manure to the land, which, reposing during the summer, and free from the action of the plow, would improve yearly in fertility, instead of being wasted away in a few years and destroyed by the corn culture. There are streams all around to manufacture your wheat, and well fed teams would cart their products to a shipping point upon their rivers, instead of being dependent upon monopolizing associations.

"The red lands of Georgia resemble, in every point, the red lands of Morocco, in Africa; the climate is precisely the same; and John Gray Jackson, who resided at Mogadore, as Consul General, for twelve years, says, that a crop of wheat would feed the entire people for seven years; but the government of Morocco does not permit exportation, except as a special favor; and thousands and tens of thousands of acres, when there is a good season, are left unreaped upon the fields.

"Our third zone, extending from Franklin county to the line, is, in all points, the finest grazing country in America, and should be covered with flocks and herds. The hills are sufficiently elevated to be verdant at all seasons; the vallies are sufficiently moist and fertile to give maize or corn crops, and hay to winter stock of every kind, and lucerne should be cultivated in every valley.

"Arthur Young found that in the vicinity of Barcelona, lucerne cultivated in the valley lands, gave forty tons to the acre, of rich food, in five cuttings. And the climate of Barcelona and the soils of their vallies greatly resemble the climate and soil of our Cherokee country.

"In closing my observations upon this zone, I cannot hesitate to say, that the State, or our friend, Col. Carter, or some other person that could afford to do so, should expend $1,000 in procuring from Liverpool, where they can be procured, ten Alpaca or Peruvian sheep.—They have done well in England in a quarter where the mountains are about the same elevation of the Cherokee mountains. Their fleeces have been improved in quality and increased in weight, and the Earl of Derby in Lancashire has multiplied them. An application, either by the Legislature, or by a respectable individual, transmitted through the medium of our present minister, Lewis McLane, would, no doubt, procure them at twenty pounds sterling a head. Or they might be procured at a much lower rate, by an application, on the part of the Legislature, to the Secretary of the Navy, Mr. Bancroft, from Peru direct, by our returning ships of war.

"In cultivating wheat we should abandon the dirty little white wheat and return to the yellow lammas, which grew forty and fifty years ago well in the upper country, and gave wheat that weighed seventy pounds to the bushel. We should sow our wheat crop in the last of September, as Dr. Pallas says they are obliged to do in the Cromire, to guard against rust; and we should, if we sow broad-cast, sow four bushels to the acre, as they do in England."

Although the letters from Mr. Camak and Mr. Spalding were not intended for publication, yet we are confident they will excuse the use we have made of their communications. We regret that we have not received other interesting communications from gentlemen from whom we hoped to receive them.

Nov. 10, 1845. WM. TURNER, Chairman.

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1844, *and arranged to suit the Southern States.*

CALENDAR FOR JANUARY.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months. This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

The first and most important thing that demands attention is the care of the stock. All the cattle, horses, and swine should be housed at night and during storms, and the sheep, though usually considered a more hardy animal and better adapted to exposure and inclemency, will yield more wool, and consume less hay, and be less subject to disease, if furnished with snug shelter at night, and during the coldest weather. They require a free ventilation of their sheds, which all stables should also have. But this does not imply that they should be so open to the rude winds, that a good sized calf can jump through the sides of the buildings anywhere. They may be close and warm, but not filthy, damp and unwholesome; on the contrary, they should be kept clean and at all times well aired. If fodder is short with you, be the more economical with it, not by starving your cattle, but by taking more care that none of it be wasted. There is great saving in cutting fodder, which should always be done, when the price of labor is not too high in proportion to its value. Where this is practised, cattle eat all the hay clean; and straw and corn-stalks, when cut up fine, with the addition of some light grain or roots, will keep stock well through the winter, if properly housed. Sheep should never be suffered to run under the hay-mow or stack, as the seeds and parts of the hay sift into the wool, and diminish its value materially. Water should, if possible, be supplied in the farm-yard, and wherever practicable, from a living spring, or running stream. This gives fresh, sweet water, and by having a supply always at hand, animals never drink to excess or overload their stomachs with cold water, which often produces cramp or cholic. If the hauling is good, or the ground well frozen, all the transportation for the year that can possibly be done, should be attended to. All the wood required for the year may now be drawn. This ought to have been cut in the preceding autumn or summer, as it is more solid and durable cut at that time, and it has moreover an opportunity to get well dried. The logs should be drawn to the saw-mill, by which a supply of boards and timber can be in readiness for future use. All the products remaining on hand, should be taken to market, if the prices are favorable. Heaps of manure may be removed to the fields where wanted. Peat and swamp muck, if before thrown into heaps and drained, may be hauled home, or into the fields where they are to be used. If manure can be had of any one unwise enough to part with it, let it now be drawn home and stored, and not allowed to ferment unless well covered with earth and gypsum, to absorb the gases that would otherwise escape. During the winter months, all the tools should be put in order, and any old difficulties remedied, and new improvements added to them. The children should all be at school, and their studies well looked after. Their head-work in winter, is of more consequence than their hand-work in summer; and you cannot expect to make good or efficient men and women out of ignoramuses. Let the grown folks look well to the manner of spending their own long winter evenings. Especially, see to it, that you carefully look over your agricultural books and periodicals, read attentively all they contain relative to your own business, and note carefully how far your own experience corresponds with, or differs from, the information there detailed. If you have any valuable facts to add to the general stock of knowledge, prepare and send them for publication, as a partial return for the advantage you have received from others on similar subjects.

Improve all the clear frosty weather this month to break out hemp. Have a care of the tobacco, and if the weather be open, continue plowing.

Kitchen Garden.—Hot beds should now be made by those desirous of having very early vegetables. This may be done with a layer of horse manure two feet deep, well settled together, over which place a few inches of garden mould, intermixed with sand, unless there is enough in the soil. Around this is placed a frame to keep the manure and soil in their place, and over it glass frames inclining about 25 deg. toward the south. The seeds of all such vegetables as are required for early use, may then be sown, such as cabbages, cauliflowers, radishes, lettuce, tomatoes, &c. The surface should be kept sufficiently moist, and during the middle of the day in very warm weather, the glass may be withdrawn so as to let the sun in upon the plants. As much air should be admitted as can safely be done without injury to the plant from reducing the temperature too greatly, as the growing vegetables soon change the air and render it unfit for nutrition. A great many little comforts may be procured by some attention to a hot bed; and if you live near a market, enough may be sold from your early vegetables to remunerate you for all trouble and expense thrice over. If the ground is frozen, continue preparing for spring, as directed in December.

Fruit Garden and Orchard.—Examine your orchards and cut off all dead limbs close to their trunks or branches; scrape off the moss, &c. General pruning should be left until summer.

Flour Garden and Pleasure Grounds.—The directions of December will also apply to this month. At your leisure hours prepare labels for flowers next season, and get everything in order for the work in the spring.

Plantation.—Let it be remembered that the florist, the gardener, and the agriculturist, have no remission from labor; for there is something to be done in every week in the year—something to attend to, which will add to wealth, amuse and instruct the mind, interest the imagination, and benefit the general tone of mental and physical health.

"Persevere against discouragement—keep your temper—employ leisure in study, and always have some work on hand—be punctual and methodical in business, and never procrastinate—never be in a hurry—preserve self-possession, and not be talked into conviction—rise early and be an economist of the time—maintain dignity without the appearance of pride—manner is something with everybody, and everything with some—be guarded in discourse, attentive and slow to speak—never acquiesce in immoral or pernicious opinions—be not forward to assign reasons to those who have no right to ask—think nothing in conduct unimportant and indifferent—rather set than follow example—practice strict temperance, and in all your transactions remember the final account."

In the early part of this month, if it has not been done in December, select a spot of ground, prepare the necessary beds, and sow your tobacco seed. Make the beds, if possible, on land newly cleared, or, at all events, on land which has not been seeded with grass. Break up the ground properly, grub up the small stumps, dig out the roots, and carefully remove them with the hand. Make the beds from three to four inches high, of a reasonable length, and from three to three and a half feet broad, so as to enable the fingers, at arm's length, to weed out the tender plants from both sides of the bed. Before the seed is sown, take some dry trash, and burn it off upon the beds, to destroy insects and grass seeds. Take one ounce of tobacco seed, mix it with a quart of dry ashes, so as to separate it as much as possible, and sow it broad-cast. After it has been thus sown, slightly rake the surface, tread it down with your whole weight, that the ground may at once closely adhere to the seed; and sprinkle with rain or river water. Should the beds become dry, from blighting winds or other causes, watering should be constantly repeated until the young plants

METEOROLOGICAL JOURNAL

FOR THE YEAR 1845, KEPT AT ATHENS, GA., BY PROFESSOR McCAY, OF THE UNIVERSITY OF GEORGIA.

Latitude, 33° 58′ N. : Longitude, 5h. 34m. W. : Elevation, about 870 feet.

OCTOBER.

Days Mo.	Barometer. Sunrise.	Barometer. 3 o'clk P. M.	Thermometer. Sunrise.	Thermometer. 3 o'k P. M.	Clearness of sky f'm 10 to 0. Sunrise.	Clearness of sky f'm 10 to 0. 3 o'clk P. M.	Course & strength of wind.* Sunrise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·27	29·33	60	74	5	10	NW 2	0	
2	·37	·44	45	73	4	5	N. 2	0	
3	·51	·52	60	70	0	0	N. 1	NE. 2	0·03
4	·39	·38	61	66	0	0	NE 2	NE. 3	1·88
5	·32	·31	61	64	7	9	W. 2	W. 3	0·05
6	·42	·41	43	68	9	2	NE. 1	NE. 3	
7	·46	·46	54	71	0	0	NE 1	NE. 2	0·30
8	·37	·34	68	83	0	1	SE. 1	SW 3	0·84
9	·38	·37	67	79	0	5	0	SW 1	0·10
10	·26	·24	68	72	0	0	E. 1	E. 2	3·62
11	·18	·15	64	68	1	0	E. 1	W. 2	0·22
12	·14	·25	41	57	10	9	W. 2	W. 4	
13	·50	·54	35	61	10	10	E. 1	E. 1	
14	·61	·60	39	66	10	9	N. 1	SE. 1	
15	·56	·56	44	72	7	5	NE. 1	W. 3	
16	·62	·68	40	55	10	10	NE. 3	NE. 3	
17	·65	·59	44	63	9	3	NE. 3	E. 2	
18	·60	·59	42	65	4	5	N. 2	E. 1	
19	·59	·54	55	74	2	1	NE. 1	E. 2	
20	·42	·40	60	64	0	0	NE. 2	NE. 3	1·76
21	·37	·43	57	68	8	0	NE. 1	NE. 5	0·10
22	·62	·60	39	53	9	10	NE. 5	NE. 5	
23	·64	·61	39	60	1	7	E. 2	NE. 2	
24	·59	·57	39	66	4	3	NE. 1	NE. 1	
25	·55	·59	52	63	2	8	SE. 1	0	
26	·62	·63	36	66	7	5	0	E. 1	
27	·56	·65	38	64	9	9	N. 1	0	
28	·62	·59	40	67	3	8	N. 1	NE. 1	
29	·55	·54	39	67	5	7	0	N. 1	
30	·47	·44	43	72	4	5	0	0	
31	·48	·44	50	74	6	7	0	SW 2	
	29·47	29·47	49	67	average.		Tot'l rain		8·90

NOVEMBER.

Days Mo.	Barometer. Sunrise.	Barometer. 3 o'clk P. M.	Thermometer. Sunrise.	Thermometer. 3 o'k P. M.	Clearness of sky f'm 10 to 0. Sunrise.	Clearness of sky f'm 10 to 0. 3 o'clk P. M.	Course & strength of wind.* Sunrise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1	29·36	29·25	57	69	1	0	sw 1	sw 6	0·52
2	·04	28·98	62	62	8	2	sw 3	w. 6	0·05
3	·02	29·07	45	51	5	4	NW 3	NW 6	
4	·08	·15	36	51	10	10	NW 2	NW 1	
5	·10	·20	36	57	0	0	w 1	sw 1	0·04
6	·27	·31	58	66	0	8	sw 3	w. 3	
7	·33	·25	46	65	0	1	0	w. 3	
8	·09	·09	52	59	0	5	NE. 1	NW 5	
9	·25	·31	36	49	10	10	NW 2	NW 5	
10	·35	·35	32	56	8	6	NW 1	sw 2	
11	···	···	32	51	..	..	.....	.....	
12	···	···	36	56	..	..	.....	.....	
13	···	···	35	60	..	..	.....	.....	
14	···	···	37	64	..	..	.....	.....	
15	···	···	49	64	..	..	.....	.....	
16	···	···	35	63	..	..	.....	.....	
17	···	···	41	64	..	..	.....	.....	
18	···	···	46	70	..	..	.....	.....	
19	···	···	47	61	..	..	.....	.....	
20	···	···	36	69	..	..	.....	.....	
21	···	···	43	63	..	..	.....	.....	
22	···	···	42	62	..	..	.....	.....	
23	···	···	53	57	..	..	.....	.....	
24	···	···	27	47	..	..	.....	.....	
25	···	···	27	50	..	..	.....	.....	
26	···	···	33	53	..	..	.....	.....	
27	···	···	45	47	..	..	.....	.....	
28	···	···	16	30	..	..	.....	.....	
29	···	···	24	34	..	..	.....	.....	
30	···	···	30	45	..	..	.....	.....	0.10
	·19	·20	36	56	average.		Tot'l rain		·71

DECEMBER.

Days Mo	Barometer. Sunrise.	Barometer. 3 o'clk P. M.	Thermometer. Sunrise.	Thermometer. 3 o'k P. M.	Clearness of sky f'm 10 to 0. Sunrise.	Clearness of sky f'm 10 to 0. 3 o'clk P. M.	Course & strength of wind.* Sunrise.	Course & strength of wind.* 3 o'k P. M.	Rain Inches.
1			35	45					1·20
2			18	32					
3	29·20	29·26	28	39	0	0	NE 2	NE 2	
4	·16	·26	32	40	0	0	NE 3	N. 1	0·06
5	·20	·34	28	45	10	1	N. 2	W. 2	
6	·46	·50	25	44	10	10	N. 2	NW 2	
7	·58	·60	26	52	10	0	NE 2	E. 3	
8	·39	·26	42	50	0	0	NE 2	0	2·02
9	·16	·25	60	56	0	0	sw 1	NW 1	0·18
10	·18	·23	39	51	0	1	W. 1	NW 1	
11	·27	·28	30	43	7	0	N. 1	E. 3	
12	·35	·38	37	46	0	1	NE 3	NE 2	
13	·44	·42	32	45	0	0	N. 2	NE 3	0·10
14	·26	·17	37	40	0	0	N. 2	0	0·64
15	28·87	28·89	42	42	0	1	sw 3	W. 9	0·18
16	29·17	29·28	30	48	10	10	N. 1	W. 2	
17	·33	·31	35	51	7	1	NE 1	sw 2	0·05
18	·20	·21	46	50	0	7	sw 1	W. 4	0·15
19	·15	·16	27	33	7	1	W. 2	NW 4	
20	·14	·18	11	19	10	10	NW 3	N. 5	
21	·30	·33	5	25	10	10	W. 1	W. 4	
22	·30	·32	15	43	9	8	sw 1	sw 2	
23	·34	·39	25	51	9	1	N. 1	0	
24	·35	·27	36	42	0	0	NE. 2	NE. 2	0·35
25	·30	·31	43	50	1	1	s. 2	NW 3	
26	·32	·39	23	38	5	9	NW 2	N. 2	
27	·44	·42	19	39	8	8	NW 1	W. 2	
28	·35	·44	20	52	10	10	NW 1	W. 3	
29	·32	·32	36	57	8	8	W. 1	W. 2	
30	·27	·39	42	60	4	10	NW 1	W. 2	
31	·36	·39	36	57	10	4	NW 1	sw 2	
	29·27	29·29	31	45	average.		Tot'l rain		4·93

AVERAGE FOR THE YEAR.—*Barometer*, at sunrise, 29·37; 3 o'clock, P. M. 29·37—*Thermometer*, sunrise, 52; 3 P. M. 70—*Total Rain*, inches, 27·39.

* NOTE.—Course and strength of wind, from 10 to 0—0 being least and 10 the strongest. In clearness of sky, 0 represents most cloudy, and 10 perfect clearness.

☞ NOTE —In consequence of the absence of Professor McCAY, and the sickness of the person having charge of the observations, part of November is incomplete.

are large enough to set out. Keep the surface of the beds in a moist state, well stirred, and the plants clear of weeds.

Finish planting sugar-cane, if the season requires it, covering the canes to the depth of about three inches. Do not grind the cane any faster than it matures, for the sake of finishing your harvest. When the cuticle of the cane becomes dry, smooth and brittle, the pith grayish approaching to brown, the juice sweet and glutinous, and when cut crosswise with a sharp knife without appearing soft and moist like a turnip, then it is in a fit state to cut.

Plant all kinds of evergreens, either from slips or roots. Sow peas and beans, summer cabbage, and parsely. Sow spinach for seed in a bed of rich mould. Set out your artichokes, which will bear in the fall. Transplant rosebushes, all kinds of flowering shrubs, and trees for fruit and ornament, except the orange tribe, which should not be removed before spring.

PROSPECTUS

OF THE FOURTH VOLUME OF THE

SOUTHERN CULTIVATOR,

A MONTHLY JOURNAL,

Devoted to the Improvement of Southern Agriculture,

Edited by JAMES CAMAK, of Athens.

IN submitting to the Southern Public the Prospectus for the FOURTH VOLUME of the SOUTHERN CULTIVATOR, which may now be regarded as permanently established, the Publishers deem it unnecessary to advert to the high character the Work has attained under the editorial control of Mr. CAMAK, and therefore make a direct appeal to the Planters and Friends of Agriculture throughout the Southern States, to aid them in sustaining a publication devoted exclusively to the cause of Southern Agriculture.

The advantages and benefits resulting from Agricultural Periodicals, have been felt and acknowledged by the intelligent and reflecting Tillers of the Soil in all civilized nations; to be most useful, therefore, they should be extensively circulated among all classes of Agriculturists; if possible, they should be in the hands of every man who tills an acre of land, and to this end we invoke the aid of every one who feels an interest in the improvement of the Agriculture of the South.

The first number of the Fourth Volume will be issued on the 1st of January next. It is published Monthly, in Quarto form; each number contains SIXTEEN PAGES of matter, 9 by 12 inches square.

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AUGUSTA, GA., Nov., 1845.

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The Southern Cultivator

Is published on the first of every month, at Augusta, Ga.

J. W. & W. S. JONES, PROPRIETORS.

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SOUTHERN CULTIVATOR.

VOL. IV. AUGUSTA, GA., FEBRUARY, 1846. No. 2.

Agricultural Meetings.

STATE AGRICULTURAL SOCIETY.

Report of the Committee on Grain.

The Committee appointed to report on Grain, have had the subject under consideration, but are at some loss whether the report was intended by the Society to be of a statistical character, or to refer more particularly to the value and variety of the various grain crops of the State, and the relative proportion they bear to each other in value. The latter is forced on your Committee from the fact, that Georgia has no statistics by which the amount of the various grain crops could be ascertained—*the Legislature not deeming such statistics worthy their attention in taking the census of the State.* Under this view of the subject, your Committee will proceed to lay before you such opinions as may suggest themselves from their experience and observation, and facts within their reach.

The principal grain crop of the State is corn; next in importance, is wheat; then follows oats, rye and barley—the two latter of which are very limitedly cultivated.

Corn is the principal grain crop not only for bread, but for raising and sustaining our stock and fattening our pork; and if by drought, or any other cause, it partially fails, a *panic* is felt throughout the country; when if more attention was paid to the other grain crops, in such a case of failure we might have substitutes nearly, if not quite equal, to corn. The custom of the country has contributed much to this mischief, and the object of your Committee will be to suggest, before they close this report, at least a partial remedy.

It is obvious that Georgia does not raise a sufficient supply of grain for her purposes; and the fact is fully proven by the large importations of flour, pork, horses and mules every year made into the State. But your Committee doubts whether the amount of corn now raised on the average, would not be sufficient for all the wants of the State, if it received the necessary aid by the increased culture of wheat, oats, rye and barley, and at a less cost to the farmer than if the whole supply was made up of corn. Again—your Committee are of opinion that 25 per cent. more of corn might be raised with the same labor than is raised, by an improved method of culture, on the same land, which would make a vast difference in the results of the State.

When Georgia was first settled, the circumstances that surrounded the inhabitants necessarily induced a slovenly culture, but the virgin and fertile condition of the soil bountifully repaid the labors of the husbandman. This slovenly custom grew up with, and was imbibed by the succeeding generation, and so strong are old prejudices that you find it exceedingly difficult to make a man that is over forty years old, believe that any other plan is better than his father's.

Men seem to forget that the earth has been shorn of her virgin fertility by the withering hand of time under the scourgings of the kill and cripple system—that she, like animals, must have the necessary amount of food to enable her to make a yearly return equivalent to what she did when young, healthy, vigorous and strong. Place her back where she was in her virgin days, and then call on her with an improved system of culture and she will respond in a precise ratio to the science and skill applied. Although she now seems to be worn out and exhausted with old age, and fit only to be abandoned to the miserable fate of raising broomsedge and old field pines, you have but to feed her plentifully and she will again rise in her native majesty and fill to overflowing the lap of those who thus act in accordance with the laws of nature. But to the subject, taking it for granted that the deficiency in the average corn crop might be supplied at a less cost by increasing the crop of wheat, oats, rye and barley, and that 25 per cent. more of corn might be raised by improved cultivation, yet we are left to conjecture what increase in the grain crop would be sufficient to enable Georgia to be perfectly independent of other States for those supplies which she would have if she raised an abundance of grain.

Corn, the grain relied on in the State for bread, has become a less certain crop than formerly, being more liable to be cut off by drought and bad culture in consequence of the exhausted state of the soil, and is also prejudiced in its culture by the great staple of the country, which not unfrequently causes it to bring a price far above its true value, compared with the staple article. The labor necessary to produce the cotton to purchase corn, if applied directly to the culture of corn, would produce more corn than the money arising from the cotton would purchase.

It is therefore clear that so indispensable an article should have applied to its culture the necessary amount of labor to secure a full supply for all the purposes for which it is used, and then the balance may be safely applied to cotton.

Every farmer knows, without a sufficient supply of corn his stock must decrease in value, and the necessary consequence is, that a portion of the money received for this cotton must go to supply the deficiency created by the want of corn.

Your Committee therefore consider corn of the first and greatest importance of the various grains of the South, and would recommend an extension and improvement in its culture. Although your Committee are not restricted in their report, agreeable to the words of the resolution directing their appointment, it might be considered as travelling out of their limits to speak of the best method of preparing the land for the culture of corn, therefore they will simply suggest to their brethren the importance of thorough preparation and culture, with a liberal use of manure.

Next in order is wheat; and in the opinion of your Committee, of quite as much importance as the corn crop in its place, having entered much more largely than formerly in forming the principal bread of a large portion of the inhabitants, and especially when we consider its entire adaptation to all the various uses made of the Indian corn, even the fattening of stock.

It is unfortunate that this crop is held in such low repute by our farmers in consequence of the alleged uncertainty, and interfering with the cotton crop both in the time of its sowing and harvesting. It is true that the time for the sowing of wheat happens at an important time for picking cotton, and the harvesting at an equally important time for working the cotton, but your Committee will not admit that it is a more uncertain crop than either of the grain crops raised in the State. True, it is attacked by rust, smut or blast, and the yield not unfrequently a very poor one; but when you trace the causes, they may, in almost every instance, be accounted for. Your Committee hesitate not to say from experience, that success may be as certainly calculated on in wheat as in the corn crop, the necessary pains being taken in selecting the seed, the preparation of the land, and the putting in of the grain, reference being had also to the time of sowing, which should, in every instance, be early in the season for the variety sown. The *rust* which has never yet been satisfactorily accounted for—consequently no remedy has been prescribed—in every case has been escaped by wheat that ripens very early; therefore, let the cause be what it may, you have only to select the early varieties, and sow early for the particular variety, and you escape the rust. The cause for the blast or smut has, by the light of scientific research, been discovered to be a fungus formed on the seed, which germinates and communicates through the growing stalk to the grain and rots it in the milky state. For this disease a remedy has been discovered which has proved effectual, viz: soaking the seed from twelve to sixteen hours in a strong decoction of blue-stone and liming it just before sowing. If your Committee are correct, of which they have no doubt from experience, two of the objections that were considered formidable and insurmountable are overcome. The third objection, that of a poor yield, can as easily be disposed of, for no man calculates on a full crop of corn when he half prepares and half cultivates the land; and for the same reason he should not calculate to make a crop of wheat with a scratching for a plowing, and only one at that, which practice is too frequent in this country. Your Committee are of opinion that the method of sowing wheat in this country is radically wrong,—though aware they run the risk of being hooted for their suggestion of a better method, because of its innovation on the long established custom of plowing it in, and that many contend the failures are owing to its not having been plowed in deep enough. Notwithstanding, they are of opinion from experience and observation as well as good reasoning, that neither wheat nor any other small grain should be plowed in.

They would suggest as the best method, a thorough preparation of the soil by deep plowing and thorough pulverization; the wheat sown on the land thus prepared, harrowed in and followed by a roller to mash the clods and compress the surface, that germination may take place at once, and a vigorous and healthy growth be promoted in the plant thereby. It is obvious to every thinking mind, that wheat, oats, rye and barley, are all surface plants; that they do not send their roots deep into the earth, like many of the other plants, and as a proof of the fact, a grain of wheat that germinates at the depth of three inches will have a hard struggle to get through the earth, and when it does, it will remain a weak and sickly plant until the lateral roots are thrown out from the first joint near the surface, within the influence of atmospheric air, and the genial influence of the sun's rays; then it changes its appearance and puts forth its foliage with more vigor. It is, however, not unfrequent for an unhealthy condition to

be imparted to the plant, because of the long and lingering existence it had to undergo before it could reach that point which was favorable for it, and which nature intended for it. None of these difficulties happen to wheat sown on a well pulverized surface, harrowed and rolled, because it is immediately within the reach of the atmospheric air and the sun's rays, and having the earth compressed about it by the roller, germination takes place at once, and a healthy plant springs up and grows vigorously, because it is just in the element that nature intended it for; its position in every respect being favorable, the young roots run out vigorously in search of food for the support of the plant, and necessarily, a healthy and vigorous plant is the result, by which the chances are greatly increased for a favorable result in the crop.

Your Committee are therefore of opinion, that the wheat crop is quite as certain as corn, and for the labor necessary to raise and save the two crops, decidedly a cheaper crop to the farmer, and that its yield per acre, though not so many bushels, when you compare the labor and the value of the two grains, is fully compensated for. It is true that the saving and harvesting of a wheat crop is very much in the way of the cotton crop, and so is the corn crop, and many other things that are absolutely necessary which contribute to the happiness and comfort of a people; and if the cotton was made to yield to these very necessary things, we would not have to complain of the low price it bears, and the scarcity of corn, wheat and pork in the land. Your Committee would therefore urge the necessity of increasing the quantity of wheat, not only because it enters largely into the bread stuff of the country, and is a cheap crop and equally certain as corn, but because in a year like the present, when the earth has been parched with drought, and the usual supply of corn failed to be raised, it comes in as a most valuable substitute. And last, though not least, to keep our money at home paid out yearly for the article of flour that we can raise cheaper than to purchase it.

Next in order is oats; and your Committee regret that this crop is not so extensively raised as in former years. The reason alleged is the uncertainty of the crop and its exhausting quality to the land. It is admitted that the oat crop sown in the spring is precarious, because of drought in the spring which frequently occurs, and when sown at that time, may be a greater exhauster than other small grain crops; but they have not seen the evidences of its exhausting quality, neither are they willing to admit either of the objections as well founded, if the crop is sown at the proper time and in the proper way. Although it is considered a spring grain, there are several varieties that stand the winter well, and even the little black oat, the tenderest of them all, will, nine years out of ten, go through our winters unhurt. The experience of your Committee is, that oats sown from the 15th of November to the 1st of January, nine years out of ten, go through the winter unhurt, is very slightly affected by the spring droughts, and most generally makes a fair crop for the land, and if the winter and spring are favorable, a very abundant one. Therefore, taking the casualties of the fall sowing, and then of the spring, and the difference of the product in favor of the fall sowing, and the average is greatly in favor of the fall sowing.

Your Committee have no facts at hand by which they can show that the crop of oats sown in the fall does not exhaust land as much as those sown in the spring, but from the greater length of time that the one has to grow and mature than the other, the fall preparation of the land for the reception of seed, thereby admitting the gasses of the fall and winter months, forces on us the conclusion, that the fall crop is not as great an exhauster as the spring; and from actual experience they can state that the chances for quantity is fifty per cent. in favor of the fall. Admitting then, only for the sake of argument, that the crop is an exhausting one, the question to be determined is, whether the exhaustion of the land is equivalent to the crop, and whether the land is not more restored from the crop of weeds that spring up after the crop of oats is taken off, and the preventing of the washing of the land through the summer months, than it would be if a crop of corn had been grown on it.

This position none, we think, will doubt.—Then, if we are correct, that oats sown in the fall do not exhaust the land equal to a corn crop—that the crop sown at that time succeeds well, nine times out of ten—that the crop is much less expensive to the farmer than corn—that it is capital food for horses, mules and cattle, and affords good gleaning to the farm stock after the crop is taken from the field—that it materially aids a short crop of corn in the way of food for horses and mules while engaged in the culture of the crop, are facts which your Committee deem sufficiently established. Therefore, they can see no good reason why this particular crop should not be extended, that in the event of a short crop of corn, help may be at hand.

Rye, the next grain in order, is very limitedly grown in the State, and so far as your Committee are informed, less now than in years past. We are aware that this grain is considered of great value in some countries as food for horses, as being better adapted to their health and vigor than corn; that horses fed on this grain, by cutting the straw and sprinkling the ground rye meal over it, are capable of performing better service, and far less subject to the various diseases common to them when fed on corn. It is known to your Committee to be a hardy grain, grows well on their land, and is well adapted to winter grazing for mares and colts, cattle, sheep, and sows and pigs; and if your Committee are correctly informed relative to its quality as food for horses, they cannot too strongly recommend it to the notice of farmers, especially when they take into the account its adaptation to, and luxuriant growth on poor land, and the great return that it makes to the land, in straw and stubble.

Last, though not least, is barley. Your Committee have very little hope of being able to arrest the attention of farmers, and place this important grain before them in such a light as its merits will justify. For grazing, nothing is its equal; all animals are fond of it, from the horse down to the hog; for soiling purposes it has no superior; when the grain is formed and the straw begins to yellow, it is not equalled as food for horses; and when ripe and the grain threshed out, it stands unrivalled as food for horses, giving them a finer and more glossy coat than any other grain, and as for production per acre, no grain equals it, save corn. It may be objected to, on the ground that it requires very rich land to produce it profitably, either for grazing or quantity, which objection is valid; but your Committee contend that any farmer can afford to make land rich when he can have an assurance of raising seventy-five to one hundred bushels of good grain from one acre that he makes rich and sows in barley, as one of your Committee has fully proven, aside from the advantage that he will receive by winter grazing from the same land. Your Committee therefore cannot too highly recommend it to the attention of farmers.

Having gone through with what your Committee intended on each of the particular grain crops of the State, they would again remark, that corn is very properly considered the most important grain. Notwithstanding, if more importance was attached to the other grains, so that corn would not have to be resorted to as the food for men and animals so entirely as it is, all may be supplied at a cheaper rate, for no one will contend that it costs as much labor to raise a bushel of wheat or oats as it does corn; and as for barley, there is no comparison. As for the casualties attending the various grain crops, your Committee consider them about equal, and are of opinion that the cause of failure is more frequently the fault of the operator or manager than otherwise.

Your Committee, in conclusion, regret that Georgia has no statistics by which they can arrive at anything like the yearly deficiency of the grain crop in the State, therefore they can only assume as the probable deficiency, the amount that the money expended for flour, pork, mules and horses, would purchase in grain, taking it for granted that said amount, if applied to the rearing of those things, would be fully adequate to supply the deficiency. What amount this would decrease the cotton crop is impossible to tell unless we knew the amount expended, but certain it is, that the amount would be sufficiently great if extended to all the cotton growing region, to so diminish the quantity as materially to affect the price. Although Georgia cannot expect to exert such influence as to effect anything beyond yer own border, save by example, may she not materially benefit herself by adopting such a policy as will raise her own consumptions in those articles which she has been in the habit of purchasing from other States In the opinion of your Committee, she can, and the principle will not only hold good in a State, but in an individual. For which opinion, they offer but one simple and plain reason, viz: he who makes everything he consumes, and sells all that he has to spare, never fails to be prosperous. Respectfully submitted,

R. S. HARDWICK, Chairman.

Report of the Committee on Stock.

The Committee appointed by the Agricultural Association of Georgia, to which was referred the subject "what kind of plantation stock would be most conducive to the interest of Georgians to cultivate, and the best mode of improving the same," have had the same under consideration, and beg leave to submit the following as their report:

It cannot be expected that the report will contain much valuable information, when it is considered that the quality of farm or plantation stock has heretofore depended entirely on individual judgment—or it may be, caprice of the farmer or planter. There have been few public exhibitions of stock by which comparative values might be determined, and the Committee, thus confined to the immediate range of neighborhood observation, are not qualified to make an enlightened report on the varieties of plantation stock which are to be found in different parts of the State. The Committee in this report, have confined their observations to six kinds of stock, which they believe the most common, and certainly the most valuable. And contrary to the general opinion in regard to value, they begin with

The Cow—which they consider as of superior importance to the horse. This humble beast, (the cow,) which contributes so largely to the comforts and necessities of civilized man, in its wild or native state, seems to have a wide range of existence. Some one of the eight varieties has been found in the frozen regions of the North, as well as the tropical regions of India, America and Africa; and thus it appears that the genus Bos, (or Ox,) stretches across all climates, and with an exception or two, is reduced to universal slavery or domestication.

Of the Horse.—This noble animal, so called, probably, from his qualities—so befitting war, and which is in truth sagacious and generous, is admitted universally to be native in Asia, somewhere about Lake Aral and the Caspian Sea; he is found there now in the wild state, and especially in the desert regions of Tartary, also in the extensive uncultivated parts of South America—the latter are no doubt descendants of the Andalusian horses used by the Spaniards in the conquest of that country. The wild horses of Tartary and South America are said to have larger heads, longer ears, longer and thicker legs proportionally, coarse wavy hair, and in South America of diminished size, compared with the original Andalusian. There are no black or pied horses in Tartary, and in South America the number of chestnut bays are abut 90 per cent.—scarcely a black in 2,000, and few of any other color; it is therefore believed that chestnut bay is the natural color, and here it may be stated as a remarkable fact, that the wild

horse of Asia can never be tamed if not captured when young, and that the same animal in South America, at any age, surrenders himself in a few days to his captor and is domesticated. It is believed that in regard to the South American, the animal has not yet lost the effect of his early civilization, (if the word may be allowed.)

The Ass.—The native country of this animal is the same as the horse, but while the latter extends as far north as 56 degrees of latitude, the former does not voluntarily pass the 45th degree, but descends south to the Persian Gulf and the southern extremity of Hindostan; he is therefore fitted by nature to warm latitudes. The ancients were well acquainted with him, and valued him as well for his grave good nature as his strength, and for his easy means of subsistence.. Job says of him—"whose house I have made the wilderness, and the barren land his dwelling, the range of the mountains is his pasture, and he seeketh after every green thing."

The Hog.—The wild boar from which our domestic breed is supposed to be derived, occurs in many parts of Europe, Asia and Africa, in the South Sea Islands and in the Chinese dominions, but is not a native of America. In a wild state he is exceedingly fierce and savage. It is deemed needless to descant on the value of this animal, which, notwithstanding his uncouth appearance and filthy habits, constitutes in his improved and domestic state, one of our most valuable quadrupeds. The fecundity of the race—the omnivorous character of his food—readiness with which he takes on fat, and the delicacy and healthiness of his flesh, are everywhere highly valued.

The Sheep.—This valuable animal, like the cow, is found in its native wildness in both the old and new world—and in both, in that state, was rather a hairy than a woolly animal. It may be remarked of this creature, that he is recorded as the first who owned the dominion of man—"and Abel was a keeper of sheep, and Cain was a tiller of the ground." The gentleness of his temper, the excellence of his flesh for food, and above all, the abundance and warmth of his fleece, make him to man of inestimable, almost indispensible value. The varieties are numerous, adapted to every climate, and the wonder seems to be that so little attention is now bestowed on him by the people of Georgia. One of the Committee has a specimen of the fine wool used at Lowell for broadcloth, and another of wool raised in the pine woods of Sumter; the last is considered by many as the finest. How easy to multiply in our fine climate this valuable animal, which, most of the year, would require no other care but to be protected from worthless curs.

This short and imperfect history of the animals from which our domestic breeds have originated, is not deemed by the Committee of any value except to show the effect of domestication and the modifying and meliorating influence produced by the hand of man. The tame animal is a very different being from the wild, not only in the perfection of his form and his size, but still more remarkable in his temper and disposition. It may be said without violence to language, that the savage has been civilized. The animals of the cow kind in their native state, are fierce and dangerous, and ready for battle; the horse of indomitable temper and vicious; the hog not less wild and ferocious than the wolf; the sheep inhabiting mountain regions, fleet and timid, and covered with hair instead of wool. The great difference in the original and the domesticated animal, is to be attributed to the skill and care which have been bestowed on them by man in selecting and preserving the most perfect specimens, by crossing the different varieties, and by food and shelter. To illustrate this, let a comparison be made between the wild horse of Asia, or mustang of South America, and the thorough bred British races. Compare the buffalo, the wild animals of India or Europe, of the ox kind, with the Durhams, or Herefords, or Devons of England Observe the difference between the wild boar, wherever found, and the fat, good natured Berkshire. And finally, compare the hairy sheep of the mountains with the merinos of Spain. It would seem therefore clear that the best mode of improving the breed of the stock of Georgia, would be to pursue the same system which has been pursued by all enlightened nations, and which have produced such remarkable results. This system is careful breeding, good and plentiful food. This will be done by the Georgians when they get willing to make less cotton and more grain and grass.

The animal that remains to be spoken of, (and none is more worthy,) is

The Mule.—He is seldom found in a state of nature, and it has been supposed by some to be a violation of the laws of nature to produce him. This however, is a mistake; for we find it written—"and these are the children of Zibeon, both Ajah and Anak; this was that Anak that found the mules in the wilderness as he fed the asses of Zibeon his father." The Committee are quite persuaded that there is not only no objection to the production of mules, but that it should be extended and the breed improved. The mules of Spain are said to be very superior to those of any other country, being much larger and more beautiful—so much so, that they are used chiefly for travelling, carriages and stage coaches. The fine Andalusian horse is used for parade and for war; for our purposes of agriculture, the plow and wagon, they are believed to be decidedly superior to horses. The remarkable condensation of bone, muscle and tendon, give them great strength. His thriftiness, his love of coarse food—in other words, his easy keep gives him surpassing value; besides this, he is exceedingly sagacious, and seldom makes but one difficulty with his master, and that is, when first subjected to labor; he does not like to surrender his liberty, but when he has been compelled to do it he goes to work, and like a sensible creature, never after refuses to do his duty—pity it is that the same thing cannot always be said of his master—independent of his strength, his long life, his docility and hardiness. The Committee believe from the history above stated of the jackass, that he is particularly adapted to Southern latitudes, and hence the value, in part at least, of his descendant. For purposes of the saddle or pleasure carriage, the mule is not considered, as he is found in this country, suitable.

In these particulars the horse is everything that is needed. The variety of this animal best suited to the Southern States, is half or three quarters thorough bred, and the Committee are of opinion, that large horses are less hardy than those of medium size. Perhaps the range in height might be from 4 feet 10 inches to 5 feet 2 inches. It has been ascertained by chemical analysis, that the bones of the Arabian or thorough bred horse are more compact or harder than those of the larger variety or dray breed; the muscles and tendons are more elastic, the chest deeper, and therefore more room for the lungs, and hence the power of long continued action and better wind. The Committee are of opinion that the same rule will hold good in regard to cattle; large coarse animals have less muscular activity, require more food, and seem to endure heat with more difficulty. They would therefore recommend short legged cattle of compact forms and clean small bones. They are usually better milkers, and it is thought that their flesh is more delicate for table use. They are therefore inclined to the opinion that the Devon, or other small cattle, are better suited to Georgia, than the Durhams.

Of hogs, the Committee believe that the rule should be, to obtain the greatest quantity of meat for the least food. And here the same rule seems to hold. The very large breed of swine are not so thrifty, or so readily fatted. It may be that the Berkshire is near the mark of the best hog, especially where there is much pasture land; besides, it is believed that he fattens more readily and certainly when put up for that purpose.

In regard to sheep, the Committee are of opinion, that for common coarse clothing, the common sheep of the country, with a cross of the Cotswold, or Leicester, would be the best; it would give them increased size and heavier fleeces. The Cotswold are said to yield from 8 to 12 pounds of good wool at a shearing. For fine wool, the Saxony, or Merino, or a cross between them would no doubt do well, and make a good return for the capital invested, as both varieties are known to do well in Georgia, better indeed than in colder climates, where the Saxony is found to be a delicate animal.

In regard to the improvement and value of all domestic animals, the Committee are entirely convinced that a plentiful supply of good food and kind treatment are indispensable, and that in this particular, the planters and farmers of Georgia are signally deficient: many of them are hardly exempt from the charge of cruelty, in the permitted poverty and suffering to which their domestic animals are subjected, and in behalf of the dumb beasts, they will put into their mouths this saying, worthy of all acceptation—"a merciful man is merciful to his beast."

Reports on Manures.

The Committee appointed on manures, knowing the great diversity of opinion existing upon this important subject, seeing the opposition which any object of improvement meets with from many agriculturists, and feeling the responsibility which rests upon them, approach this duty with diffidence; but deploring the ruinous system of culture which has been pursued by our citizens for many years past, and acknowledging the advantages which would result from reform, beg leave to make the following as their report:

Cotton seed, in the opinion of your Committee, is regarded as one of the best manures within reach of the planter. The ease with which it may be carried on the farm, the facility with which it may be distributed, together with its astonishing effects, particularly upon grain crops, have long since brought it into general use as a manure; and yet your Committee believe, that for want of a proper understanding of its valuable properties, it has been in many instances improperly applied and wasted. For instance, most farmers believe that less than a quart of cotton seed to a hill of corn, will be of no use, and is consequently thrown away; while your Committee believe that where the land is thin a half pint is as much as ought to be applied. The quality of our land should regulate the quantity. When the land is capable of producing two and a half or three barrels of corn to the acre without the assistance of manure, a pint of seed to the hill of corn is admissible, but on a poorer soil much less must be applied. This opinion of your Committee is the result of experience, and they feel safe in recommending it to public notice. We would also suggest the propriety of forming compost of cotton seed by banking it in alternate layers with swamp muck or alluvium. By this means the quality of the manure is decidedly improved, the quantity increased, better results are obtained in the crops, and the soil is more permanently benefited. It is a well ascertained fact, that all grasses and grain require large quantities of silicate of potash, and it is an equally certain fact, that the reeds and species of cane which thrive so luxuriantly on marshy grounds contain large quantities of silicious earth. The potash evidently exists in all ground of this character, and is furnished with dissolved silica continually by the change of water; hence we cannot recommend too strongly the general use of these substances—peat, swamp muck, or alluvium, in the formation of all manures.—A compost formed of either of these substances and one third animal manure, contains most of the fertilizing salts and gasses which the ordinary crops of our country require for their development and maturity. With a compost of this kind, a free use of pulverized charcoal would be highly beneficial, as it fixes and retains permanently the volatile gasses for

the future nourishment of the plant, which would otherwise escape and be lost. We are also of opinion, that the importance of these substances combined with ashes, leached or unleached, or with lime, is not duly appreciated. It is stated by one of our celebrated chemists, (Dana,) and his assertion is corroborated by actual experiment, that one cord of a compost made of ashes and muck, in the proportion of one part of ashes to three of muck, is fully equal to a cord of the best cow manure. This muck manure, in some one of its forms, is at the command of every one.

We would also recommend to our brother farmers the necessity of constructing lots and establishing a regular system of saving and making animal manures. For this purpose, we would advise a more extensive cultivation of grain, particularly of wheat. Wheat straw, as an article of food for stock, in our country is considered almost valueless, while as a litter for well constructed stock pens, it is of the greatest importance. We will not attempt to enter into a detail of its properties or account for its peculiar action upon vegetation; but for the purpose of making manures, we give it a decided preference over all other light materials we have used for that purpose. We consider materials abundant. All refuse substances are fit ingredients in a manure pen. Some are fine absorbents—some, unknown to the plain farmer, possess important chemical properties, and all add to the quantity. We are aware that chemical and foreign manures are highly lauded in all the agricultural prints of the day, and while we are far from objecting to any experiments which may be made in relation to this important subject, we would still rely upon our own resources, as, under good management, being fully sufficient for the purpose of restoring fertility to our exhausted soils and of securing permanent comfort and independence to our people. I. P. Whitehead, of Hancock,

One of the Committee.

BY ANOTHER OF THE COMMITTEE ON MANURES.

Your Committee to whom was referred the subject of investigating and reporting on the best mode of raising and applying manures, acknowledge that their experience is so limited that they are entirely incapable of doing justice to that important branch of agriculture, notwithstanding, we beg leave to report—

1st. That to succeed in raising manure, we should find out what are the different compositions that will ferment and decompose in the shortest time and in the best manner; and our limited experience is this: to haul upon our farm yards corn and cotton stalks, leaves from the woods, rotten wood, &c., and spread them upon the yard, and then cover them with muck or dirt from a pond; after they have been sufficiently trod, dunged and urinated upon, which time must be regulated by the season of the year, it should be thrown into a pit prepared for the purpose, or in pens, taking care, after your heap is completed, to cover it well with muck or pond dirt, to prevent evaporation. Your stables should be filled up with the same kind of litter, except the muck, and cleaned out once a week; this system would make it more comfortable for your horses, and prevent the loss of a great quantity of urine. The quantity of litter to be placed upon the barn yards must differ in the different seasons of the year. In the spring they should be six inches deep, the muck or pond dirt, one inch deep. In the summer the coat or layer of litter and muck should not be so thick, and trod not exceeding four weeks, then raked up and thrown into the pit or pen. The reason for cleaning up in so short a time is obvious; it prevents the long hot summer days sun from burning it up, or killing the droppings or dung of the cattle, and the evaporation of the urine, which we believe to be no little item. As the season moderates, the layers of litter and muck should be deeper and longer trod. We are of opinion that the above preparation may be continued for cotton until the last of February successfully.

Your Committee beg leave now to report upon the application of manures. In the first place, we recommend that the manure be placed in the hill or drill, as deep, if possible, as the clay or subsoil, immediately under the corn or cotton, or any other article, and covered with dirt previous to planting. If for corn, a very small quantity of dirt should be placed upon the manure; if for cotton, it should be bedded upon until the manure is covered from four to six inches deep. The reason that we recommend placing manure in the hill or drill is owing to the small quantity that we have. If we had a sufficient quantity, by all means the system of throwing it broadcast is the true agricultural system. All seeds should be planted immediately subsequent to the application of the manures. In treating upon the subject of manures, cotton seed comes into the account, as it is known to be a great fertilizer. There seems, however, to be as many conflicting opinions and modes in the application of cotton seed as manure as any other article of manure, if not more. Some contend, (and all say from experience,) that the proper mode is to put the seed in the bottom of the furrow, after the ground is laid off, and then throw a small quantity of dirt upon the seed, then drop the corn and cover in the common way, say with a plow or hoe. Others contend that the seed should be dropped upon the hill immediately after the corn is planted—some say not until the corn is up, and then they should be placed round the corn and covered with a hoe, which is a weeding or hilling to the corn. Now, it follows of course, that all these modes cannot be right; and to know the proper mode of applying them, it is necessary first to know the fertilizing properties the seed possess. This, your Committee believe, all will concede, is mostly contained in their oily substances; if so the matter is at once settled, for this reason: oil is lighter than water, consequently in a wet time, or when the earth is full of water, the oil will rise, being lighter than water, and in its rising it has to work its way through to the surface, and in this process the roots of the corn receive its nourishment, consequently it should be placed deep enough to be below the roots of the corn.

Your Committee not being acquainted with the principles of chemistry, nor that of analyzing, defers any reference to them, but believes them connected with agriculture, and do not believe that the true system of agriculture can be carried out without a knowledge of them.

Your Committee believe the practice of heating cotton seed in pens or heaps as is the custom of the country, entirely at variance with the true mode of preparing seed for manure, as it is conceded that oil is the fertilizing property contained in the seed. You readily discover that heating the seed destroys a goodly quantity of the oil. To remedy this, we recommend that the seed be kept dry under shelter until they are wanted for use, and then with some simple machinery the seed be so mashed as not to sprout after they are applied as manure, and be applied in the green state.

All of which is respectfully submitted for the consideration of the Association.

John W. Moody, *one of the Committee.*

South Carolina State Agricultural Society.

[*From the Charleston Mercury*]

Dear Sir:—Business has heretofore prevented me from giving you some account of the proceedings of the State Agricultural Society. It held three meetings, and adjourned on Thursday night. Among other papers presented to it was a valuable communication from Mr. Ruffin, entitled, "Marling Facts and Estimates," designed by him as a continuation of his essay on that subject, submitted to the Society in December last. It would thus appear, and I rejoice to mention the fact, Mr. R. still feels a deep interest in the prosperity of South Carolina. A communication from the Russian Economical Association of St. Petersburg, soliciting an interchange of information on agricultural topics, accompanied by two volumes of its transactions, in the German language, was read by the President. This evidence of kindness and courtesy on the part of a foreign co-laborer, and the present of books received at different times from the State Societies of the Union, have induced us to ask of the Legislature an appropriation of $500, to enable the Society to disseminate the mass of useful matter collected from its organization. If successful, we shall have it in our power not only to prove to our immediate friends, but to the agricultural community of the world, that the State Society of South Carolina is in the faithful and zealous discharge of its duties.

Mr. James Rhett's motion to request the Chairman of the Committee to adopt proper measures, by which to secure the introduction of Manilla Rice, was adopted. Capt. Wilkes, I think, mentions that on that island there are eight varieties, of which five are well adapted to high lands. To extend the culture of this valuable grain, is a matter of great importance.

A copy of the report of the Committee appointed to ascertain the quantity of Corn necessary to supply the wants of the suffering portions of the community, I forwarded to you on Saturday.

The specimens of domestic fabrics exhibited were numerous and beautiful. Premiums were awarded to several ladies. A few bottles of the juice of the grape, and one of the bene oil, from a "fair constituent," were presented by Mr. Simms, of Barnwell. He embraced the occasion of giving free vent to his opinions, in a manner, too, highly felicitous, of the influence of the female sex in society, and especially in times of danger and distress, and added that the President, in his appeal to the patriotism and sympathies of the audience, had wholly omitted to apply to the only source whence aid at all periods and under all circumstances was certain of being rendered—the heart of woman. It was a very neat and appropriate effort on the part of the gifted novelist, and I scarcely need say that the ladies were gratified.

The audience, on Thursday night, was the largest I ever witnessed in the Hall of the House of Representatives—a large number of gentlemen were obliged to stand up until a late hour. The ladies were accommodated with seats on the floor. Much was expected of the orator, and we were not disappointed. In manner and matter, Mr. Poinsett was eminently successful. At present, I will only say, that in my judgment, when the address itself is spread before the public, the reputation of the author, as a man of useful and extensive information, will be greatly increased.

The Representative chamber was, as usual, decorated with fruit, plants and flowers—the most of which were from the garden of Mr. Russell, a public spirited citizen of this place.

The next semi-annual meeting will be held at Aiken, on the third Wednesday in July. The Orator—the Hon. R. P. W. Allston.

Our distinguished Statesman and practical Agriculturist, John C. Calhoun, will be the Society's Orator in December, 1846.

It had nearly escaped me to state that the Society have instructed the Executive Committee to invite as many State Societies as they may deem advisable, to attend, by delegation, our next anniversary meeting—the delegates to come with written answers to such interrogatories in relation to the progress of Agriculture in their respective States as may be propounded by the Committee. Respectfully, yours,

Whitemarsh B. Seabrook.

Columbia, December, 1845.

Hint to Makers of Candles.—Take two pounds of alum for every ten pounds of tallow, dissolve it in water before the tallow is put in, and then melt the tallow in the alum water; with the frequent stirring it will clarify and harden the tallow so as to make a most beautiful article for either winter or summer use, almost equal to sperm.

THE GRAPE CULTURE.

[From the North Carolina Farmer.]

THE VINE NURSERY, PREPARATORY TO BEGINNING A VINEYARD.

Mr. Lemay:—To start well is of the first importance in any business, and of agriculture especially. In most treatises on vine culture it is recommended to begin a vineyard by planting out cuttings, and not unfrequently this plan is attended with much unavailing labor and discouragement. After all the preparation of ground and the like, many of the cuttings often do not vegetate, and, if a dry season ensue, those that sprout frequently die. At least this was my experience some seventeen years since. And out of 300 Scuppernong cuttings that sprouted well in the spring, but bare one was alive in the fall. I had not then the knowledge that this kind of grape very rarely succeeds by cuttings in any sort of season. The way of propagating the Scuppernong is by layers, or that of burying some of the sprouts grown from the lowest part of the vine. The spring is the best time, so soon as sprouts start say a foot or so long. Cover with earth so as to leave the end of the sprout out a few inches. In the fall they will be found to have small roots attached; and with any roots, however small, a Scuppernong vine will surely grow, if transplanted with proper care. But my plan, to prepare them for making a bearing vineyard speedily, is to cultivate them in the nursery, say one, two or three years after detaching them from the parent stocks. Vines thus prepared for a vineyard, if properly transplanted and cultivated with common care, bear some the first season in the vineyard, and pretty well the second. So my own experience, and so that of others, as I am informed by purchasers in different parts of the country whither sent. I propagate other sorts of vines by layers also. But my usual mode with others or most others is by cuttings, as follows:

In ground previously put in order, I run deep furrows three feet apart, and therein, slantwise, I place cuttings a foot or so long, and a few inches only apart in the furrow. After the cuttings thus placed and one end stuck into the bottom of the furrow a little, and the other end left so high as not to be quite covered, I run a furrow along side to cover them nearly. And, with a little adjusting with a hoe perhaps, the planting is finished. The after culture is, to keep the ground clean and loose. If the above be done in the fall most of the cuttings sprout and live; but if some die, there are still enough generally to have a well set nursery. If found too thick, some, or say every other one, may be removed after the first season's culture. But from my nursery I keep thinning out to suit the call of customers. For, as my price varies, say from 15 to 75 cents each, according to age, size and number taken by one remittance and order, different persons choose small as well as large rooted vines; and I add, others take cuttings only at their low rate to make their own nursery as preparatory for a vineyard.

As American vines are perfectly hardy, no need of any such trouble as laid down in European treatises; such as covering and uncovering buds in the spring for fear of frosts and the like. In short, I have revealed my secret of vine nursery business, for as many to rival me therein as choose. And for the encouragement for others to do this, I name that I have reason to be grateful to a generous public for patronage in my nursery business generally and vines in particular. Most in my vicinity have small vineyards through my means. One near neighbor, for instance, from two Scuppernong vines only put in the edge of the garden some years since, and thence spreading branches over trees in a grove, has abundance of grape fruit. Another neighbor from a few vines made 100 gallons of wine last season at my presses. I box up vines with damp saw dust or moss and send them with entire success to all parts of the United States. For instance, by Norfolk and New Orleans, I sent winter before last, a box to Natches, State of Mississippi, and the gentleman remitting for them wrote to me they did finely; and added, that a bottle or so of my Scuppernong Champaigne wine, as he called it, (sent with the vines,) was pronounced first-rate by good judges of wine there.

I am aware, M. Editor, that the foregoing are very desultory observations; but perhaps not the worse on that account, *if* clearly unfolding the ideas intended. Indeed, I would say to fellow agriculturists, inclined to throw in their mite of experience and information as I do for your useful print, to write just as their thoughts flow, and not be discouraged, because they had not time or perhaps scholarship to make a polished style of it; and if any bad grammar or bad spelling occurs, why you are the very one to make all correct, as far as requisite, by your long thorough experience as an Editor.

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OUTLINE OF AN AMERICAN VINEYARD FROM ITS BEGINNING.

The following brief outline is the result of much reading on the subject and some years of observation and experience. If it proves of any service to you in your praiseworthy object of raising the standard of Agriculture in our State, and to any readers of the "Farmer" to enable them to speedily have a vineyard to their entire satisfaction, my object is attained in penning it.

1. Reject all kinds of foreign vines as well as all servile imitation of foreign modes of culture and wine making.

2. Thus untrammelled with foreign treatises on vine culture, as that of cutting down to so many joints annually and keeping the vines humble and the like; you must also reject, in your choice of American or native vines, all not pretty thoroughly tested by experience to be free from the tantalizing propensity (whether young or old,) to rot or the like, as do foreign ones.

3. Of kinds known to be excellent in most or all respects, take those well rooted, or of some two or three years standing in the nursery, if you wish your vineyard to forthwith begin to bear and go ahead in expanding its branches over scaffolding American fashion.

4. As to soil, site, or the like, (so much dwelt upon in some treatises on vine culture,) I consider them unimportant, if the situation be dry enough and not too rich. More danger as to vines not bearing well from the ground being too rich than too poor. Any kind of soil I find will do, if properly managed. My vineyards all flourish and bear well, though on six acres of diverse description, as from the hard clayey to the very light sandy soil. If land will bring good corn it will do well for vines.

5. But you must have the site of your intended vineyard in good clean order. Then in the fall or spring excavate with the plow, or otherwise, holes say every 20 feet each way for Scuppernong, and 10 for other vines, and plant as you would fruit trees, with a stake north side a few inches from each vine. If the ground be sufficiently rich, surface earth alone thrown into the hole, say half full of two feet deep, ere planting the vine, will do; otherwise, partly filled with manure and earth on top of that to prevent the roots coming in contact with the manure, and consequent danger of vines dying by dry weather the first season.

6. Trim in summer or fall merely to train one or two main stems (without laterals and unchecked as to length,) to the stakes for, say two or three seasons, or till time to put in posts of oak or lightwood every 10 feet to support the rails or scantling for the canopy over which the vines to expand, ever after untrimmed, except as to any straggling lateral branches that might prevent a free passage of air or team; or say all clear beneath, except the posts, for 6 or 8 feet high under the canopies.

7. No part of the year are weeds or grass to appear in your vineyard, if you wish it to flourish and bear well. But especially just before and after hard frosts in the fall, must the ground underneath the canopies be well scarified, that, according to native plan of fertilizing the woods, no leaves or other litter may blow or wash away, but all be incorporated with the soil, as the very best substitute for other manuring. However, instead of thus doing, in some parts of my vineyards, I cover underneath the canopies with a thick coating of pine straw to prevent all undergrowth.

8. Some small matters, and I have done this off-hand piece, in plain, if not rough style, now longer than at first intended.

1. As to posts, they should be charred or burnt as to part in and a little above the earth, and put into the ground with the little end down or inverted as to the part upwards in the tree, to cause them to last longer; the squared end of the upper part of the post to have a clete or shingle nailed on each side to keep the scantling fast.

2. As to mode of inserting posts, I do it in a wet time, with what we call a *jobber*, or piece of wood, say three feet long, sharpened at one end and near the other square end a round stick or piece of iron put through a large auger hole, with which and by a crowbar or strong stake, the jobber may be raised out of the ground after having been driven in by a maul or beetle. Some jobbers have long handles (or drawn off at one end,) to enlarge the holes, if necessary, ere the posts are inserted.

3. As to inserting other posts, when first put are giving way, or becoming too short by letting down after the end in the ground rotting off, it may be done at any time by forking up the scaffolding.

4. As to ties for fastening up the vines to the stakes when young, nothing better than strips of elm bark I find. The elm bark may be got in the spring, and at any time in summer; when soaked an hour or two, is fit for use. The strips of this bark will outlast any strings I have ever tried, and are very convenient.

5. For thin strips of wood to lay on the rails or scantling for supporting the canopy branches of vines, any lasting wood will do; but cypress or cedar, as light, is best, when conveniently procured. In fact, after the vine branches are well spread, very little support other than the scantling (10 feet apart) is required.

In haste, yours, &c, with all due respect,

Sidney Weller.

Brinkleyville, Halifax Co., N. C, Sept. 25, 1845.

From the Eufaula Shield.

Fine Cotton.

We publish the following letter for the purpose of showing the spirit of rivalry which exists among our planting friends in the production of fine cotton. We were shown the sample alluded to below, and so far as we are capable of judging, it is hard to beat.

Valley Farm, Nov. 27, 1845.

C. R. Woods, Esq.—Dear Sir.—Your letter of the 26th, with New Orleans price current, of the 19th, has been received, for the same accept my thanks. With this, I send a sample of my best Cottons, although the sample is not as good as one I put up for Mr. Young, which I requested should be shown you, as it was taken from the top of the cotton, as in bulk; I think, though, in a few more days ginning, I can better each of these samples. Please let me know under what classification it will come on the same board with my friend's, Col. McDonald. I will put up about thirty bales of this kind. There is something in preparing a sample of cotton for exhibition, to make it appear extra, which I do not understand. These are wrapped up, without any pressing, &c. as taken from the gin, in order that they may be a fair sample of what is in the bale.

For all this pains in cotton, and really the improvement is very great, we are indebted to Col. McD. It will, in the end, I trust, make our port rank with Mobile.

Respectfully, yours, &c. John H. Dent.

There are 140 different species of oak in the world--70 of which are found in America and 30 in Europe. The oak will live 600 years.

TOBACCO CULTURE.

MODE OF CULTIVATING IN MASON COUNTY, KY., AND IN CONNECTICUT.

By request we republish below an article on the cultivation of tobacco in Connecticut, and a communication from Judge Beatty on the cultivation of tobacco in Mason county. Though the soil in these two regions is as different as possible, the tobacco is very nearly of the same kind, fine segar leaf, and the inference is strong that thick planting is the secret of the similarity of the product. It will be observed that in Connecticut the rows are but three feet apart, while Judge Beatty states the distance in Mason at three and a half feet. Another coincidence in the mode of culture in the two places is high topping.—*Dol. Far.*

[From the Albany Cultivator.]

Messrs. Gaylord and Tucker:—We grow in this town annually about three hundred tons of tobacco, and in the valley of the Connecticut about five hundred tons are grown annually. The yield the last year (1843) was less than usual, fifteen hundred pounds being about the average per acre. The price of tobacco, the last season, of a fair growth, was seven cents a pound, and most of the crop was sold before housed and cured. We have two varieties of the weed, the broad leaf and narrow leaf—the latter is about two weeks the earliest.

It seems our tobacco is of a peculiar species, or our soil and climate are peculiarly adapted for the production of a superior article.

The soil that produces our best tobacco is a light sandy loam. We prepare our beds for the seed as early in April as possible—select the richest or best land in the garden or on the farm, moist but not wet—manure and prepare it as we do for the cultivation of cabbage or any delicate plant for transplanting—pulverize and make the bed as fine and smooth as possible; then sow the seed broadcast about as thick as we do cabbage seed: then roll or tread down the bed thoroughly, that the seed may be *pressed* into the soil. The bed is kept clean of weeds. In a common season the plants will be large enough for transplanting by the 10th of June. The land for the crop should be well manured, and plowed at least twice before the time of transplanting, and harrowed and rolled, or bushed, and left as smooth as possible. We mark the rows three feet apart and straight; on the rows we make small hills for the reception of the plants, two feet to two feet six inches apart. We have our land all prepared by the time the plants are large enough for transplanting. If raining at the time, we take the advantage of it and get all our plants out; if not, we set and water. After this, the field is examined several times, and where plants are dry, or injured by worms, others are set in. As soon as they stand well, they are carefully hoed and vacant places filled with new plants; after this the cultivator is used between the rows and the crop kept clean with the hoe. The plants are frequently and thoroughly examined for the tobacco worms, and they must be destroyed, if not the crop is sure to be. When in blossom, and before the formation of seed, it is topped about thirty-two inches from the ground, leaving from sixteen to twenty leaves on each stalk. After this the suckers at each leaf are broken off, and the plants kept clean till cut. When ripe, the time of cutting, the leaf is spotted, thick, and will crack when pressed between thumb and finger. It is cut any time in the day after the dew is off, left in the row till wilted, then turned, and if there is a hot sun it is often turned to prevent burning; after wilted it is put into small heaps of six or eight plants, then carted to the tobacco sheds for hanging. We usually use poles or rails about twelve feet long; hang with twine about forty plants on each rail—twenty each side, by crossing the twine from the plants one side to the plants the other, the rails about twelve inches apart. It hangs from six to ten weeks to get perfectly cured, which is known by the stem of the leaf being thoroughly dried. It is then, in a damp time, when the leaves will not crumble, taken from the poles and placed in large piles by letting the tops of the plants lap each other, leaving the butts of the plants out. It remains in these heaps from three to ten days before it is stripped, depending on the state of the weather, but must not be allowed to heat.

When stripped it is made into small hands; the small and broken leaves should be kept by themselves. It is then, by the purchaser, packed in boxes of about four hundred pounds, and marked *seed leaf tobacco.* The most of our last crop has been shipped to Bremen.

I think we can cultivate one acre of tobacco with the same labor and expense that we can two acres of corn that produces sixty bushels to the acre, and the manure required is about the same as for the corn crop, and I do not think it exhausts the land as much as the corn crop, for it is not allowed to seed.

East Windsor, Jan. 1844. HENRY WATSON.

—

PROSPECT HILL, April 26, 1844.

Dear Sir:—Your favor, of the 26th of March, was duly received, and would have been sooner answered, but that I desired to obtain some information on the subject of your inquiry, from some of my friends in the tobacco growing region of Mason county. I had occasion to take a ride through that part of the country, two days since, and met with some intelligent tobacco-growers, with whom I conversed freely on the subject. I was formerly engaged in the tobacco culture, but have, for a number of years, discontinued its culture, and was, therefore, desirous of availing myself of any late improvements which might have been made. For the general mode of treating the tobacco crop, from the sowing of the seed till it is prepared for prising, I refer you to my essay on that subject, published in the Kentucky Farmer, in March, 1841, and which will be republished in a volume of agricultural essays, now in press, and which will be ready for delivery in about two months, a copy of which I will do myself the pleasure of sending you. In this letter I shall attempt to give you such additional information as may be useful in producing the fine tobacco cultivated for cigar wrappers.

1. With respect to the kinds of tobacco cultivated for the above purpose: There are the Summerville and light Burley—some prefer the former and some the latter. I do not understand that either has a decided preference.

2. As to the soil suitable for its growth fine tobacco is found to succeed best on light rich soil, having a portion of sand mixed with it. New or fresh land is better than old; and pretty steep hillsides, provided they are light and rich, are better adapted to producing fine tobacco than level land. Hillsides, facing the Ohio river, and the numerous small branches emptying into it, when the land is newly cleared, and sufficiently rich, are well adapted to produce fine tobacco. I have seen these in cultivation, having an elevation of from twenty to thirty degrees. But level lands, or those nearly so, if new, and especially if the soil have a mixture of sand, are also well adapted to produce fine cigar tobacco.

3. As to the mode of cultivation: This, perhaps, is the most important point in producing fine cigar tobacco. The ground should be well prepared, and rendered as light and as finely pulverized as possible. In laying off for planting, I would advise the use of a single horse plow, throwing the ground into ridges, three and a half feet from centre to centre, and then crossing, at right angles, with single furrows, at the distance of two feet from centre to centre, and make the hills, so as to be as near a true line as possible, three feet and a half from centre to centre one way, and two the other. I recommend the use of a one horse plow, in laying off, because, in this way, the ridges will be but little trodden down, and the ground will be left in a light condition. The difference in the width of the rows is to facilitate the working of the tobacco, after it attains some size.

Close planting is found to be essentially necessary in raising fine tobacco. In the above mode of planting, each plant occupies seven square feet, and six thousand two hundred and twenty-three plants will stand upon an acre, if none be missing; and, allowing four plants to make a pound, the yield will be one thousand five hundred and fifty-five pounds per acre. I have heard of instances in which the product has been at the rate of a pound for three plants, or more than two thousand pounds per acre. But to produce this extraordinary crop, the season must be very favorable, and everything be managed in the most particular and skilful manner.

To make fine tobacco, it is very important to plant *early*, so that the tobacco may be cured at that season of the year when the weather is warm and dry. To this end, plant beds should be sown very early and in situations where they have a good southeastern exposure. They should be lightly covered with brush to keep them moist until the plants get up, and a little while longer, if there is danger of hard frosts. New ground is best for plant beds. The hills for planting should be made as recently before the plants are ready as possible. These may be set out when very small, if the operation be skilfully managed, and thus the crop will be brought forward in good time. The plants should be topped to about sixteen leaves, exclusive of the ground leaves, which should be broken off. The top leaves will, of course, not make fine tobacco, and must be separated when stripping, but high topping is important to improve the quality of the first ten or twelve leaves on each plant.

It is the practice, in Mason, to cure tobacco without firing, except in damp rainy weather, when fire is applied to guard against what is called *house burning*, the danger of which is always increased in rainy weather, especially where tobacco is hung close. The almost universal mode of building tobacco houses, in Mason, is to erect a four square pen of logs, hewed or round, with large open spaces between them, and then to construct a shed all around, about twelve feet wide, by planting posts in the ground, (locust if to be had,) and slip lapping scantling on these, at proper distances, from which poles are extended to the cracks of the log pen. The shed should be planked, up and down, to protect the tobacco from the weather. For the benefit of air, small interstices may be left between the planks, and it would be advantageous to have some broad planks, hung on hinges, on every side of the shed, which might be opened in dry weather for the purpose of ventilation. It is now too late to sow tobacco seed, but if you wish it, I will procure and send you some in time for next year.

I have given, in answer to your inquiry, what seemed to me to be necessary. If you wish farther information on any particular points, it will afford me pleasure, at all times, to comply with your wishes. Yours, cordially and sincerely, A. BEATTY.

To George W. Weissinger, Esq.

Planting and Vegetating of Garden Seeds.

[*From the Columbus (Ga.) Enquirer,*]

Messrs. Editors:—As the season now approaches for gardening, and very few seem to properly understand the most suitable time and method of planting the different kinds of garden seeds, I thought you would confer a favor on a portion of your readers to publish a statement of the most proper time to plant, and the vegetating powers of those kinds of seeds which suit our climate, and are in general use amongst us. The directions which follow are for open culture, and not for hot beds. Green Globe Artichokes, plant first of March in drills one inch deep, and eight or ten inches apart, in rich earth, and transplant two feet apart when the plant is six inches high. Asparagus, plant in February and March, in drills twelve inches apart, cover the seeds about one inch, when the plants are up, keep them clear of weeds and the earth mellow around them, they will be fit to transplant when one year old; transplant into a rich com-

post well rotted, about ten inches each way, the third year the buds will be eatable. Beans, English Dwarf the climate is too hot for; Kidney or Snap cannot be safely planted until April, as a slight frost will kill them; plant in hills 12 inches apart and three in the drills. Pole Beans may be planted the same time, poles should be about four feet apart and four or five beans around a pole. Beets may be planted from February to April, they are slow in germinating and should be soaked in water thirty-six hours before planting; let the ground be mellow and plant in drills 12 inches apart and 3 inches in the drill; cover the seed about an inch, when the plants are up three or four inches, thin them out to eight inches. Brussel Sprouts and common Kail may be sown broadcast any time from April to May, and transplanted the last of July two feet apart each way. Brocoli and Cauliflower, need only to be known to be extensively cultivated here; Brocoli is only a purple variety of Cauliflower, perfectly hardy; early Cauliflowers rarely ever come to anything here, but the late kind, with the Brocoli, may be sown broadcast any time from April to May and transplanted in July or August two feet apart each way, they will produce their rich pulpy heads all winter. Cabbage, early varieties may be sown broadcast from January to March, and transplanted as soon as the plants will bear moving; the late kinds from March to June, transplant the last of July, putting the entire stock in the ground up to the leaf, which will cause it to head large and firm. Carrot is rather slow in germinating and should be soaked twenty-four hours before planting, plant in drills 12 inches apart, as thin as possible in the drills, thin out to five inches. Celery may be made very fine by sowing in rich ground and not transplanting; plant in March, drills three feet apart, sow as thin as possible in the drill, and knoll or trample the seed in, when up to three or four inches, thin out to eight inches, as the plant increases in size draw the earth to it in clear dry weather. Cucumbers, Squashes and Melons, are not safe to plant before April. Egg Plant is very tender and should not be planted before April, plant in drills and transplant as soon as the plant is three inches high, two feet apart. Early Corn may be planted the last of February, in hills four feet apart each way, three kernels in a hill; some kinds will be eatable in six weeks from planting. Leek is hardy, and may be sown in drills 12 inches apart, in February. Lettuce may be sown broadcast or in drills, any time from January to April, transplant as soon as the plants bear moving. Okra is tender and may be planted about the first of April, in drills three feet apart and six or eight inches in the drill. Onion hardy, but difficult to vegetate, unless soaked twenty-four hours before planting, sow in drills 12 inches apart, three inches in the drills, about the middle of February, let the ground be rich and mellow, and trample the seed in, or stamp a board along the drills after planting; there are no finer Onions made in the United States, than are made here from seed. Parsley is hardy, slow in vegetating, and should be soaked thirty-six hours before planting; it may be sown in drills or on borders, in February. Parsnip is hardy, may be sown in drills in February 12 inches apart, thin out to five inches in the drill. Peppers are tender, should not be planted until April, plant in drills 12 inches apart, and transplant as the plant will bear it. English Peas, the early kinds may be planted in January, February and March, the latter kinds in March and April, plant in drills two feet apart, drop the peas thick in the drill, cover about one inch, keep the ground mellow, and when the peas are six inches high stick them; the early Dwarf kind need no sticking; for Fall Peas, plant the early kinds in August, and shade with straw. Radishes and Salsify are hardy, and may be planted in February and March, in drills 12 inches apart, and four in the drills; Salsify remains good in the ground all winter. Spinnage is hardy, may be planted in February in drills eighteen inches apart, in rich ground, and thin out to ten inches in the drill. Tomatoes may be planted the last of March, plant in drills eighteen inches apart, and thin out to eighteen inches in the drill, they can also be transplanted. Turnips, early kind may be planted in drills in February and March, twelve inches apart, thin out to 6 inches in the drill; late kinds in July, August and September, broadcast, except Rutabaga's, which should be sowed in drills three feet apart, and thin out to ten inches in the drill. Button Onions, Onion Sets, Garlic, Shallots, &c., may be put in the ground any time from October to April.

The above directions are what my own experience has proved to suit this climate, and if they are followed with ordinary seasons there will be few failures in Gardening.

Truly yours, CHAS. A. PEABODY.

Plantation Garden for the South.

BY T. AFFLECK.

These directions for the management of the Plantation Garden, being prepared for the latitude of Natchez, Miss., can very easily be adapted to a degree or two farther north or south.

The garden is a primary object on every plantation. Much is saved by it; and much added to the health and comfort of the laborers. Wholesome, well-cooked vegetables are preferable to anything else, during hot weather. The garden must be proportioned in extent to the number to be supplied from it. For one of some size, instead of a spot laid off in small beds, to be cultivated exclusively with the spade and hoe, select a piece of good ground, no matter what the exposure. Shape, if possible, an oblong square; run one main center walk or road lengthwise; and such others as may be thought requisite; and enclose the whole with a good and sufficient fence. Even though naturally very rich, add a coat of well-rotted manure, as early as practicable in the winter; and immediately turn it under, by running two good plows in the furrow, one behind the other—thus plowing it to the depth of ten inches, or as deep as the soil will admit of, even turning up a little of the subsoil, if not positively bad. When in this rough state even a slight freezing is of great advantage. As the ground is needed for planting, give a top-dressing of manure or rich compost, turning it under with a light plow; and if at all cloddy, run the harrow over it.

As more correct and particular directions can be given, and with less repetition, where each variety of vegetables is treated of separately, that plan is here adopted, in preference to giving a monthly calendar.

Potatoes.—The sweet and the Irish potatoe are vegetables of great importance. They are cultivated here in the same manner as in the middle states, and should be planted as early as March or April.

Turnips are sown from the 20th of July to last of September—sowing three or four separate patches, at as many different times. They are usually sown broad-cast, but would pay well for the trouble of drilling and tending. The turnip patch is most commonly enriched by penning the cows on the spot intended for it---but a piece of newly cleared ground is better, producing sweeter roots and fewer weeds.

Cabbages are produced abundantly in the south, if properly managed, and are the favorite vegetable on a plantation. They head best on old land enriched with stable manure. For early spring use, make several sowings of seed from the middle of August to first of October, of early York, sugar loaf, &c. During very cold weather, protect the young plants with pine boughs, or magnolia leaves; or with stiff brush laid between the rows and covered with corn stalks and other litter. Plant out early in February. For summer use, sow in January, protecting as above; plant out when large enough. For winter use, sow drumhead or other large sorts, in April; let them stand in the nursery beds all summer, when they will run up a tall stem; during the rains in August, set them out in rich ground, laying their long stems in so deep as just to leave their heads out of the ground. If planted out sooner they will rot; if sowed much later than April they will not head; and the roots being placed tolerably deep in the ground, enables the plants to stand the autumnal drought. Plants from seeds grown in the South will not head.

Okra.—A large mess of okra soup (called gumbo) should be served on every plantation at least four days in the week, while the vegetable is in season. The pods are gathered while still tender enough to be cut with the thumb nail; cut into thin slices, and with tomatoes, pepper, &c., added to the rations of meat, forms a rich mucilaginous soup. It is planted about the first of March, in drills four feet apart, leaving a plant every two and a half or three feet, if the ground is rich, which it should be.

Peas.—Although the dwarf, marrowfat, charlton, &c., are occasionally grown in sufficient quantity for plantation use, it is but rarely. They would form an excellent and wholesome addition to the rations. The crowder and common cow peas being of easy culture, requiring no sticks, being great bearers, and lasting all summer, are indispensable. In winter the ripe peas form a fine variety. They are planted at any time from the 1st of February to the last of July, either among the corn or alone, in drills three feet apart, leaving a plant at every foot.

Beans.—Kidney or snap beans are planted in succession during March, April and May, either in hills two and a half feet apart, or in rows three feet apart, leaving a plant every four inches. The little white bunch bean sent from the North in such quantities, can be raised in the South as easily as any other sort.

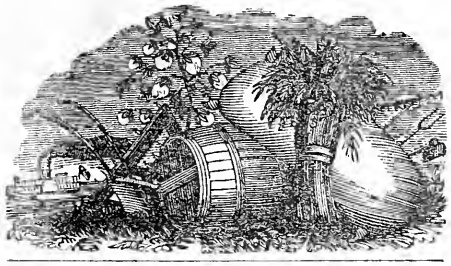
Lima Beans, or butter beans, are grown in hills four feet apart, first planting a stout pole in the hill; plant first of April; leave three to four plants; or they are drilled along the walks, first forming a rough arbor of stakes or of canes for them to run on. They are easily cultivated—procuring and planting the stakes being the principal labor---and are very productive and nutritious.

Tomatoes are indispensable. Sow the seed in a bed that can be protected, early in February. Plant out as soon as there is no longer danger of frost, in rows four feet apart, a plant every two and a half feet. A few seeds may be sown about last of April, and again about last of May, to bear until frost; the early plantings will cease to bear by August.

Onions and Scallions ought to be cultivated in considerable quantity. They are of easy culture and favorites with the people. Bunches of scallions may be divided and set out in rows at any time from September to March. Onion seed is sown in drills during the fall or early winter, and are drawn while young and used as scallions—leaving enough of plants to occupy the ground, where they will bulb.

Squash.—Of this there are two sorts, with many sub-varieties—the summer bush and the running squash. The former will produce the greatest number on the smallest space of ground—the latter, however, continue longer in bearing. Plant toward the end of March, and again about the middle of April; the bush sorts in hills three feet apart, leaving one plant in a hill; the running squash in hills seven feet apart, leaving two plants. The Kentucky cushaw, a large, striped, crook-necked sort, can be kept, with a slight protection, all winter. A good supply of squash is desirable, as a wholesome and favorite vegetable; it will moreover prevent your people using young, green pumpkins, which are very unwholesome. As the squash become fit for use, they must be picked off for use, or the plants will soon cease to bear.

Mustard, which may be sown broadcast, and tolerably thin, the seed being very small, in October or November, on a piece of good ground. Mustard makes a wholesome and favorite dish all winter, and early in the spring, boiled with a piece of pickled pork. Like turnips, when sown for the same purpose, it requires no cultivation, if the ground is tolerably clean,



The Southern Cultivator.

AUGUSTA, GA.

VOL. IV., NO. 2.....FEBRUARY, 1846.

To Subscribers.—Persons sending money for Subscriptions to the Southern Cultivator, are particularly requested to send it to the *Publishers* at *Augusta*, and not to the Editor at Athens. By sending to Athens, the necessity is imposed on the Editor of writing to the Publishers, enclosing the money, and incurring the expense of postage; and the Subscriber loses time in getting his paper. All this may just as well be avoided. —— The Editor.

***We received Mr. Hammond's Anniversary Oration before the Burke County Central Agricultural Society, after our arrangements for the February Number of the Cultivator, had gone too far to be conveniently altered. It must, therefore, lie over for March.

***We have received from the Author, a copy of "An Essay upon the *Wheat-fly*, and some species allied to it," by Asa Fitch, M. D., of Salem, N. Y. It is a reprint of the article in No. 2, Vol. II., of the American Quarterly Journal of Agriculture and Science.

***We are indebted to Dr. Joseph E Muse, of Maryland, for a copy of his "Address to the Agricultural Society of Newcastle, Delaware, at their tenth Annual Meeting, Sept. 16, 1845."

***In reply to a request made some time ago, that we would publish in the Cultivator, Judge Butler's Address to the South Carolina State Agricultural Society at Newberry Court House, last fall, we have to say, that we have not been able to get a copy of it. Indeed, we do not believe it has been published in South Carolina yet.

Tobacco.

There are two articles in this paper that will be interesting to those who are engaged in the culture of Tobacco: one a letter from Connecticut, another concerning the culture of that article in Mason county, Kentucky. Two thousand pounds per acre are said to be raised in Connecticut. It is planted there very thick—two feet one way, by thirty to thirty-three inches the other—and by the way, this close planting is said to be a very important secret in the production of good segar leaf. The knowledge of it was taken by some Tobacco buyers from Connecticut to Mason county, Kentucky; and it is said that to the knowledge of this secret, Mason county, Kentucky, owes the celebrity of its tobacco. Those who are engaged in the culture of tobacco in the Southern States would do well to remember this.

New England Liberality.

The Rhode Island Society for the encouragement of Domestic Industry, recently paid to the editor of the New England Farmer, *one hundred and fifty dollars* for copies of that paper to be distributed as Agricultural premiums. Is it any wonder that both agriculture and agricultural papers thrive where people act thus? Herein we have one of the reasons why New England looks, almost everywhere, like a well tilled garden.

The Orange Tree Insect.

Our friends on the seacoast of Georgia and in Florida, are doubtless aware that a specific against the scaly insect, that has wrought such devastation among the far-famed orange groves of St. Augustine, has been discovered in England. Has it been tried in this country? Or is the American insect the same that infests orange trees in England? Mr. Downing, in his "Fruits and Fruit Trees of America," page 543, says:—The orange plantations of Florida have suffered very severely within a few years, from the attack of the scale insect (*Coccus Hisperidum.*) which in some cases has spread over whole plantations and gradually destroyed all the trees. It is the same small, oval, brownish insect so common in our green-houses, which adheres closely to the bark and underside of the leaves. All efforts to subdue it in Florida have been nearly unavailing.

A specific, however, Mr. D. says, against this insect has lately been discovered in England. It is the use of the common *Chamomile*. It is stated that merely hanging up bunches of fresh chamomile herb in the branches, destroys the scaled insect, and that cultivating the plants at the roots of the trees, is an effectual preventive to the attacks of this insect. Where the bark and leaves are much infested, we recommend the stem and branches to be well washed with an infusion of fresh chamomile in water, and the foliage to be well syringed with the same. Repeating this once or twice, will probably effectually rid the trees of the scaled insect.

Wooden Shoes.

Is not the suggestion contained in the following article, which we find in the *S. C. Temperance Advocate*, a very important one? Every one who has seen negroes standing all day on damp ground, in winter time, gathering cotton, must have been impressed with the necessity of something more than leather between the feet and the cold earth, for the health and comfort of the laborer.

"We all know that the diseases to which our negroes are most exposed originate from careless exposure to wet and cold; besides that, every farmer, all the world over, is subject to rheumatic afflictions, owing chiefly to the necessity of working on wet ground. Now, all through the North of the European continent, from the river Weser to the Atlantic, the people wear *wooden shoes*. Young and old, men and women, in town or country, walk and work in this shoe, which unites the acceptable qualities of cheapness, warmth and dryness. It is not because the people are poor that they wear the wooden shoes. The most substantial farmer, the industrious burgher of the town, the manufacturer, wear it as well as the poorest day-laborer, and if you were to ask them whether they would prefer the leather shoe, they would laugh at you. Why then should we not introduce this useful article among our negroes? We have the best wood for it, and could easily train a hand or two on every large plantation to make them. A pair of wooden shoes, if in constant use, will last on hard ground and pavement, full three months, if made of common European pine wood, which is softer than ours. But we have better wood for the purpose than pine. I allow that at first the negroes would be prejudiced against them, as all illiterate people object to every thing new; but by the offer of premiums, their reluctance might be easily overcome. I make no doubt but that many pulmonary diseases can be prevented by the wooden shoe. The trial ought to be made, for the matter is of an elementary importance. A dozen or two of wooden shoes can be easily imported from France, to have the necessary patterns. Columbiensis."

The Clergy and Agriculture.

Most heartily do we wish that every clergyman in the Southern States was of the same mind with the Rev. Mr. Choules on the subject of Agriculture and Horticulture. If they were, and would exert their influence among their people, in this direction, a very few years would suffice to work a thorough change in the whole face of the country. And why should they not use their very powerful influence in producing a result so very desirable? They must be, one and all of them, fully aware of the effect of a prevalence of the love of trees, flowers and landscape gardening, not only on the physical aspect of the country, but also on the moral sentiments of the people who inhabit it:—for it is a common remark that oil and water will as soon commingle freely, as that pure selfishness, misanthropy and wickedness shall exist in the same bosom with a love of flowers and trees. How manifold and how appropriate are the illustrations of the great truths which it is their mission to teach that are furnished by scientific agriculture. Every blade of grass, every flower, fruit, shrub and tree—seed time and harvest, the ever changing seasons—what are they but manifestations of Supreme goodness and wisdom?

The Jesuits understood all this perfectly; and hence the extreme care with which the choicest flowers, shrubs and ornamental trees were cultivated around all their establishments. Nor was the useful neglected in their devotion to the ornamental. Their fruits were famous, both for kind and quality. To them Europe is indebted for the introduction of the silk worm—Louisiana, for the sugar cane. Following the bloody steps of the conquerors of Mexico and Peru, the Catholic Priests planted the choicest fruits and flowers of Europe and Asia. In modern times all their establishments bear testimony to the importance attached by them to the moral influence of ornamental gardening. Look, for example, at the grounds about St. Mary's College, Baltimore, and their College at Georgetown. With however much dislike, as suggested by Mr. Choules, the faith of these people may be regarded by the reformed Church, still we think the ministry of the latter might find their account in imitating the former in the good work of disseminating the principles of sound taste and inculcating the practice of good husbandry for which they were so conspicuous; and thus imbue the people committed to their teaching with that spirit which

"Finds tongues in trees—books in running brooks,
Sermons in stones—and good in everything."

THE CLERGY.

Their opportunities and power to improve the public taste for Agriculture and Horticulture. Letter from Rev. J. O. Choules.

Jamaica Plain, August, 1845.

My Dear Sir:—I have for several days past been trying to get time tell you how very much I have been gratified with your capital No. 1 of the Farmers' Library, &c. The conception of the work is precisely (I think) what it should be, and the execution of the Magazine very satisfactory. I entertain no doubt respecting its success. I wish it could find its way into the hands of our Clergy; they are of all men possessed of the best opportunities to improve the taste and science of the farmers of our land. Had I the time, I would gladly write an article for your pages, pointing out the claims of Agriculture and Horticulture on the Ministry. I know some of my brethren who feel this subject in all its magnitude; they aim to diffuse correct opinions, cultivate good taste, make *men happier*,

and places prettier, because they have lived in the region; and verily they have their reward. For my own part, I would rather get the population of a village all out to plant trees, and beautify the walks and avenues of the hamlet, than convene them to argue upon abstract notions of no possible practical utility We may learn a great deal that is good from the example of men who went before us. If we dislike the faith, at all events we may admire the taste, of the Churchmen of other days, whose abbeys and cloisters all testify to a sound taste, and whose noble avenues and orchards proclaim good husbandry.

I wish I could set hundreds of men planting trees who seem to delight in worse labors. I do love trees, and I love the men who planted the Elms of New Haven, Newark, and those of the sweet village I live in. Why does not every man plant out a tree—many trees? In Providence there are some noble Elms which I saw planted only twenty years ago! A man *may see* the result of his labors, and his children would be proud to point out the trees, "the old ancestral trees," of his forefather's planting. Men may rail at the world as much as they please, but *it is a beautiful one*, and if we are only cheerful and active in it, it will become yet more beautiful. Nearly all the beauty of a residence, a village, a country town, arises from its trees; and not only should every man carefully adorn his own habitation, but men should club together to beautify their vicinage. The strong attachment felt by men in England to homesteads arises in no small degree from the pains which have been taken to adorn and enrich them by a previous generation. * * * * * *

Wishing you all success in your important undertaking.

I am, dear sir, yours, very faithfully,

To J. S. Skinner, Esq JNO C. CHOULES.

Domestic Port Wine.

The *Columbus Enquirer*, of a recent date, contains the following article:

PORT WINE.—*Messrs. Editors*—With the compliments of the season, please accept a specimen of Port Wine, made from the Black Uchee, a native grape. It is the pure juice; there is not a drop of any kind of spirits or coloring matter in it. I flatter myself it resembles Port Wine in its purity. CHAS. A. PEABODY.

The foregoing note announced an exceedingly agreeable fact—and we are sorry to say, that the excellent and delicious Port has by some unaccountable process, escaped from the once well filled bottle—perhaps by evaporation. But it matters not how—it is gone, and he who may have tasted of our friend Peabody's Wine, will not think it strange that we regret we have not many such bottles. It is really an excellent article, as all hands in our office are willing to testify, from devil *doun*.

The editors of the Enquirer say it is really an excellent article; and we have no doubt of it, as they say so; for they used to be good judges of such things in "days o' auld lang syne," when we were all flourishing together in Milledgeville.

Besides aiding in extending the knowledge of Mr. P.'s wine, our object is to suggest whether it would not be well for Southern wine-drinkers to encourage enterprise which takes this direction. It appears to us they should do so if they want a good and pure article, instead of the horrible rot-gut stuff that is too often sold as foreign wines for the whole of the sand-hill region of the Southern States is admirably suited to the production of the grape, as was proved years ago by McCALL, HERBEMONT, BOYKIN and others, and as may be proved any day by any one who will try it. Indeed, our whole domestic consumption, and large quantities for export, might be produced in a few years without any very great expenditure of effort.

It is an enjoyment which we think the most rigid temperance man need not find fault with, to taste a glass of such wine as used to be made by HERBEMONT, of So. Ca., McCALL, BOYKIN, GORDON, ALEXANDER and HARRIS, of Georgia, or such as is now made by SIDNEY WELLER, of N. C., and Dr. NEICLER, of Ga.; pure juice of the grape, without any admixture of poisonous drugs, and without a drop of alcohol, more than results naturally from the decomposition of the sugar. But such stuff as is often sold to the unsuspecting South, for genuine foreign wine—faugh!—what a villainous compound of abominable drugs. Some years ago we saw a statement that at Trenton, New Jersey, there was an establishment in which one hundred laborers were employed in making champaigne baskets, in which champaigne wine, manufactured out of Newark Cider, was packed, and shipped off for sale in these same blessed Southern States. And in the article of Port Wine, especially, is the swindling of the South impudent and audacious. We have seen it offered confidently as genuine, when it was really not much better than hatters' dye tinctured with brandy. And even if we were to get the real foreign stuff, we would not be much better off, except that we would have filth instead of poison. How exquisitely delightful it must be to quaff a glass of an article manufactured after the following most delectable process:

[From Kingston's Lusitanian Sketches.]

HOW THEY MAKE PORT WINE.—The time at which the vintage commences, varies in different years about a month—from the early part of September to the middle of October. At that period there are 20,000 Gallegos employed in the district, and about 10,000 Portuguese men, women and children. As soon as the vintage is over, the Spaniards return to their own homes, each man with from 20 to 30 shillings in his pocket, which he has received in wages. When once the vintage has commenced, time is invaluable. The vineyards are crowded with persons, some plucking the sound grapes, and filling large hampers with them, others separating the rotten or dry bunches, while the Gallegos are employed in carrying the baskets down the steep sides of the hills, on their backs. The presses are stone tanks, raised high from the floor, about two or three feet deep and from twenty to thirty square. A boy stands in the centre, and rakes the grapes as they are thrown in so as to form an even surface; when full, twenty to thirty men, with bare feet and legs, jump in, and, to the sound of guitars, pipes, fiddles, and of their own voices, continue dancing, or rather treading, from forty to fifty hours, with six hours intervening between every eighteen, till the juice is completely expressed, and the skin perfectly bruised, so as to extract every particle of color. It is found necessary to leave in the stalks, in order to impart that astringent quality so much admired in port wine, as well as to aid fermentation. After the men are withdrawn, the juice, the husks and stalks are allowed to ferment together from two to six days; the husks and stalks then rise to the top, and form a complete cake. By this means the color is still further extracted from the skin.

Lest the lovers of foreign Madeira, after this delicious development of the sweets of foreign Port, may go to crowing over the lovers of the latter, we may as well nip the rising exultation in the bud, by giving an account of some of the delightfully neat and clean arrangements about the manufacture of Madeira. And, if our opinion in such matters be worth anything, we think the Madeira has decidedly the advantage over the Port, from the delicious tincture it must have, of the perspirations and the scrapings of the legs of the laborers. Here is Lieut. WILKES's account of the matter. We copy from vol. 1, page 21, of the Narrative of the U. S. Exploring Expedition:

"A friend of our Consul was obliging enough to show us his works, and the machinery for expressing the juice from the grape. It was in a rude sort of shed. On our approach we heard a sort of song, with a continued thumping, and on entering, saw six men stamping violently in a vat of 6 feet square by 2 feet deep, three on each side of a huge lever beam, their legs bare up to the thighs. On our entrance they redoubled their exertions till the perspiration fairly poured from them; the vat had been filled with grapes, and by their exertions we were enabled to see the whole process. After the grapes had been sufficiently stamped, and the men's legs well scraped, the pulp was made into the shape of a large beehive," &c. &c.

Anticipations.

We take the following extract from the *Westminster Review* of September last, as going to show what sober, matter-of-fact Englishmen anticipate from the application of science to agriculture. Only think of a proposition, made in sober earnest, to warm the ground by means of steam or hot water! And next, to enrich it by filling the pores of the soil, by means of machinery, with the essence of those manures that are known to be the best sustainers of vegetable life. The whole proposition savors so strongly of extravagance, that we would not have ventured to mention it to our readers, had we not as authority for it, so respectable a work as the *Westminster Review*.

Unless a succession of bad harvests intervene to check prosperity, the year 1850 will behold the extinction of horses as a moving power in England, for the purposes of pecuniary gain in the public transport of passengers and goods Every new street, every village, every farm will have its railway, and stationary power will have become so common in its numerous applications, that it will be turned on and off for the purposes of handage as easily as gas jets for the purpose of lighting. And the modes of its application will be manifold. Beyond the mere purposes of traction, there are other important problems to work out. There is an important process to be achieved in English agriculture, which seems not yet to have entered into the imagination of any of our improvers. The reason seems to be that our chemists are not mechanicians, nor are our mechanicians chemists; but be it as it may, we have never yet seen the matter proposed, and possibly may run the risk of being deemed mere visionary enthusiasts for propounding it.

Yet in sober earnestness we propose to convey artificial heat beneath the earth, on open land, so as to maintain the temperature suited to the growth and development of the vegetable tribes, by means of pipes of metal or earthenware; circulating steam, or hot water, or air, from a close boiler or stove. These pipes are to be laid at depths of from four to five feet, in the manner of deep draining. Also, by a similar process to inject the ground with gaseous manure, as ammonia and carbon, so that the heat and gases may be constantly ascending towards the surface, and thus be absorbed by the roots of the plants.

By our calculations the consumption of two tons of coals per acre per annum will supply heat for the production of green crops throughout the year, and probably coal will be delivered along lines of railway at an average of eight shillings per ton. Along lines of atmospheric railway the stationary engines would supply the steam or hot water, and we shall yet see the time when rails will be laid along the surface of our fields, whereon cylinder harrows will traverse, driven by the same stationary power, to break the soil into fragments fit for the growth of plants. Nor is this artificial warming of the subsoil a mere theory. In some parts of Saxony the heat arising from burning coal mines below so tempers the soil above that snow never lies upon it, and crops are produced through the whole winter.

We have no doubt that, by the process we have described, the germinating of spring crops might be hastened, gardens preserved in verdure during winter, and crops of grass and vegetables furnished throughout the year.

The Hon. J C CALHOUN, has been appointed to deliver the next Annual Address before the South Carolina State Agricultural Society,

Dog Traps.

When government fails to discharge the duties for which it was instituted—especially in the protection of men in the pursuits of honest industry—those who are thus neglected are always perfectly justifiable in resorting to measures to protect themselves. Here in the southern States, there are very many men, who, seeing the extreme folly of a whole people depending on a single article—Cotton—for their income, would gladly introduce other staples. They would invest capital in the business of wool-growing, and would thus add millions to the wealth of the country, if they could be protected by law from the ravages of worthless dogs. But such is found to be the miserable fear of responsibility in our public agents, that the nuisance goes unabated, capital remains crowded into the production of cotton, the production of wool is not undertaken, and the people are compelled to buy from their wiser and more thrifty neighbors of the free States, a large portion of their woolen clothes, and the country is thus drained of treasure that ought to be kept in it. It would be a matter of curious calculation to ascertain how much is annually paid by the South to other States for woolen goods that ought to be made here, at home, among ourselves:—and would be, but for the foolish southern notion, that the privilege of injuring your neighbor by keeping as many worthless curs as one chooses, is one of the privileges our fathers shed their blood for. Why, if a man were to hint at such an idea, in Vermont for example, or indeed anywhere but in this same doomed South, he would be compelled to seek shelter somewhere else, from the storm of indignation and contempt that would be raised around him. They understand these things perfectly in the free States, and laugh heartily, no doubt, in secret, at us poor devils for holding to such notions, when we ought to see, even if we had but one eye, that by doing so, we are allowing them to keep our nose to the grindstone, and press it harder and harder, until we shall have no more nose left to be ground off.

Then as to the means of self protection, which we are forced to resort to by the miserable delinquency of our legislatures, one of the best would be to use very freely on all occasions the same medicine, the use of which made Dr. Bonaparte so famous, the world over—and that is the blue pill—if it were not that the ravages among our sheep are committed in the dark when we are asleep. If, however, you can find one of the depredators prowling about, give him, at once, a good dose of blue pill of the size of about 100 to the pound, and you may sleep soundly without fear of being disturbed by him again. There is wonderful efficacy in that same blue pill, when properly administered, as the whole practice of Bonaparte proved, and as every one will find very soon after he tries it.

In Tennessee, they have, perhaps, a better way than this. They first catch the dog in a trap, and then give him the pill. This saves the trouble of sitting up at night to watch. We find the following description of the Dog Trap, and of the manner of using it, in the *Tennessee Agriculturist*. We hope it will be brought into use at once all over the country.

Dog Trap.—*Gentlemen*:—Some years ago I learned from your paper how to make a dog pen, to catch sheep-killing dogs; which was to make it with rails, similar to a partridge trap, drawing in every round until it gets about six feet high, leaving a hole at the top about two feet square—I had occasion to try that plan; some few dogs would climb to the top and go in, I saved a few dogs that way. But necessity is said to be the art of invention, and the dogs made such havoc among the sheep in my neighborhood, that I invented a trap door, which is really a nice and complete way to coop them.

I sawed out a door at the bottom, about eight or ten inches square, more would not hurt; I then drove a stake down in the ground inside of the pen on the opposite side from the door; at the upper end of the stake I made a notch and fixed triggers, like those of a bird trap, and tied a piece of sheep meat to one of the triggers, (when the sheep is gone any other meat will do;) I then got a small puncheon, about two feet long, and tied a rope in the upper end of it, suspending it immediately over the door, and tied the upper end of the rope to the top or middle trigger, passing over the top of the pen; when the dog gets hold of the meat it pulls the trigger, and down they come, letting the puncheon door-shutter fall at the same instant. Then he is fast. When a dog catches a sheep and leaves it, he is sure to come back the next night, and if you have a trap around the sheep you are sure to have him; next morning, right soon, go and shoot him and drag him off. You may get one nearly every morning, until you get all the runabout or sheep-killing dogs. I have tried it, and tried it successfully, and some of my neighbors have taken pattern by my pen, and have saved their sheep.

Physiology, Health, &c.

Without health and strength, a farmer cannot accomplish much. These blessings depend so much on the kind and quality and quantity of our daily food that the following tables must be interesting to those who desire to know something of the matter.

The first table shows the comparative nutriment contained in 1000 parts of the various articles of food generally used. We find it in the "*Anglo American*," in a review of a book by John Smith, entitled "*Frui's and Farinacea. the Proper Food of Man.*"

Bones	510	Pork	240
Mutton	290	Blood	215
Chicken	270	Codfish	210
Beef	260	Sole	210
Veal	250	Brain	200
Haddock	180	Grapes	270
White of Egg	140	Apricots	260
Milk	72	Potatoes	260
Wheat	950	Cherries	250
Nuts	930	Peaches	200
Peas (dry)	930	Goosberries	190
Barley	920	Apples	170
Morels	896	Pears	160
Beans (dry)	890	Beet Root	148
Rice	880	Strawberries	120
Bread	800	Carrots	98
Rye	792	Cabbage	73
Oats	742	Turnips	42
Almonds	650	Melons	30
Tamarinds	840	Cucumber	25
Plums	290		

Another element of health, says the Reviewer, and consequently of strength, is the facility of digestion. From Dr. Beaumont's Tables it appears that the following articles were converted into chyle, viz: digested, in the times indicated:

	H.	M.
Rice, boiled soft	1	0
Apples, sweet and ripe	1	30
Sago, boiled	1	45
Tapioca, barley, stale bread, Cabbage, with Vinegar, raw, boiled Milk and Bread and Milk, cold.	2	0
Potatoes, roasted, and Parsnips, boiled	2	30
Baked Custard	2	45
Apple Dumpling	3	0
Bread Corn, baked; and Carrots, boiled	3	15
Potatoes and Turnips, boiled; Butter and Cheese	3	30
Tripe and Pigs' feet	1	0
Venison	1	35
Oysters, undressed; and Eggs, raw	2	3
Turkey and Goose	2	30
Eggs, soft boiled, Beef and Mutton, roasted or boiled	3	0
Boiled Pork, stewed Oysters, Eggs, hard boiled or fried	3	30
Domestic Fowls	4	0
Wild Fowls; Pork, salted and boiled; Suet	4	30
Veal, roasted; Pork, and salted Beef	5	30

Both the preceding tables are instructive, and deserving of attention.

We have already observed (he continues,) that food may be too nutritive for health. Innumerable instances might be adduced in support of this fact. Take one or two in regard to inferior animals:

"The dog fed by Majendie on white bread and water, died in the course of seven weeks; but another fed by him on brown soldier's bread, (pain de munition,) did not suffer. When dogs were fed on sugar and water, they died in a month; but if a considerable portion of saw-dust be mixed with the sugar, their health will not be affected by it, although they are naturally carnivorous animals. It was also shown that an ass fed on rice died in fifteen days; but if a large quantity of chopped straw had been mixed with the rice, he would have continued to live and be well. 'Horses fed exclusively on meal or grain, will die in a short time; but mix their meal or grain with a suitable proportion of cut straw or wood shavings, and they will thrive and become fat. And it is an interesting fact, that if horses be fed on grain alone, with the exception of water, for a number of days, they will instinctively gnaw the boards, or whatever woody substance is within their reach.'"

We cannot close this article better, made up as it is of extracts, than by copying the following rules about diet, eating, &c. Dr. Beaumont of the U. S. Army, gives the following important rules:

1. Bulk, or food possessing a due proportion of innutricious matter, is best calculated to preserve the permanent welfare of the organs of digestion, and the general health of the system
2. The food should be plainly and simply prepared, with no other seasoning than a little salt, or occasionally a very little vinegar
3. Full and deliberate mastication, or chewing, is of great importance.
4. Swallowing the food slowly, or in small quantities, and at short intervals, is very necessary.
5. A quantity not exceeding the real wants of economy, is of prime importance to health.
6. Solid aliment, thoroughly masticated, is far more salutary than soups, broth, &c.
7. Fat meat, butter, and oily substances of every kind are difficult of digestion, offensive to the stomach, and tend to derange that organ and induce disease.
8. Spices, pepper, stimulating and heating condiments of every kind, retard digestion and injure the stomach.
9. Coffee and tea debilitate the stomach, and impair digestion.

Agricultural Papers.

It is evident to every one, that the numerous papers devoted to Agriculture, now published, are slowly, though surely, making an impression on the public mind. It will take time, and a good long time too, to make the revolution complete. But that it will be, in the end, no one can doubt. Even the political papers see this; and hence their frequent editorial articles on the subject of late. The *Floridian* of December 20th, says:

"Too little attention is paid by our planters generally, in becoming acquainted with the best method of producing the largest crops with the least possible labor—or of so diversifying the crop as to produce the greatest income. The old mode of our forefathers is most generally pursued. When the land becomes poor and exhausted, the cry is, throw by the old and open new land, or remove to a new country. This has been done to a great extent, but happily, some of our citizens, of late, have discovered a new method of cultivation. Experience is the best of teachers, as has been proven in a few instances in Florida. A few years since the idea of book-farming, as it was called, was completely ridiculed. The book man was regarded as a *theorist*—possessing no *practical* knowledge. 'Place him on a plantation,' would be said, 'and he will admit that he cannot produce good crops on old land; and he may talk till doomsday of manuring—it is far more easy to open new land, and it can be done at less expense.' We have heard such notions advanced often, for the last ten years in Florida. Recently, however, we hear otherwise. The numerous agricultural works published in various portions of the Union, have some of them found their way into Florida, and a few of our most intelligent planters have practised upon their suggestions with great advantage. Their neighbors have observ-

ed this, and we hope soon to see an entire change in the old method of planting. By the process recommended in these agricultural publications, for cultivating, manuring, deep plowing instead of scratching, those who have practised it have found to their perfect satisfaction, that by the cultivation of less land, they raise larger crops of all kinds, have a greater supply of all the necessary articles for plantation use, work less hands, use less agricultural implements and plantation stock and make more money. All this may be traced, directly or indirectly, to the circulation of agricultural periodicals."

A Farmer's Life.

Our readers no doubt remember the speech of the the Rev. Mr. CHOULES, at the anniversary of the Massachusetts Horticultural Society. They will notice, also, his letter, in another column of this paper, on the duty of the clergy in connection with agriculture. We have the pleasure now to make an extract from a speech of this gentleman, on another occasion, which is worthy of a l commendation :

"I wish I could see (he says,) in all our farmers a disposition to magnify their calling; but I have been grieved in many a farm-house, to listen to lamentations over what they term their 'hard lot.' I have heard the residents upon a noble farm, all paid for, talk about drudgery, and never having their work done, and few or no opportunities for the children; and I have especially been sorry to hear the females lament over the hard fate of some promising youth of seventeen or eighteen, who was admirably filling up his duties, and training himself for extensive usefulness and influence. They have made comparison between his situation, coarsely clad and working hard, and coming in fatigued, with some college cousin, or young man who *clerked* it in a store, till at length the boy has become dissatisfied, and begged off from his true interests and happiness.

"I am conversant with no truer scenes of enjoyment than I have witnessed in American farm-houses, and even log-cabins, where the father, under the influence of enlightened Christianity, and sound views of life, has gone with his family, as the world have termed it, into the woods. The land is his own, and he has every inducement to improve it; he finds a healthy employment for himself and family, and is never at a loss for materials to occupy his mind. I do not think the physician has more occasion for research than the farmer; the proper food of vegetables and animals will alone constitute a wide and lasting field of investigation. The daily journal of a farmer is a source of much interest to himself and others. The record of his labors, the expression of his hopes, the nature of his fears, the opinions of his neighbors, the results of his experiments, the entire sum total of his operations, will prove a deep source of pleasure to any thinking man. If the establishment of agricultural societies, and the cattle shows of our country, should have the effect of stimulating one farmer in every town to manage his land and stock upon the best principles of husbandry, there would be a wonderful and speedy alteration in the products of the earth, because comparison would force itself upon his friends and neighbors; and his example would be certainly beneficial, for prejudice itself will give way to profit."

Great Yield of Corn.

When, last year, we spoke of the production of 96½ bushels of corn from an acre by Mrs. LEWIS, of Hancock, and expressed our confidence that 150 bushels might, and would ere long, be raised on an acre, in the Southern States, some persons charged us with making a very extravagant prediction. Extravagant as it may have appeared, it is in a very fair way to be fulfilled.

"We are informed," says the Highland Messenger of the 28th ult., "by Mr. Alexander Porter, the manager on the farm of Thomas T. Patton, Esq, that an acre of corn was planted on the farm the last season with which it was designed to contend for the prize offered by the Buncombe County Agricultural Society, and that a few days since the corn was gathered and measured, and the yield was one hundred and thirteen bushels and a half! Mr. Patton will no doubt take the prize. His farm is on Swannano river.

"Here farmers, is an evidence of what *can* be done. Had the season been good, Mr. Porter has no doubt the yield would have been one hundred and fifty bushels!

"To show what industry and management can accomplish, we take the liberty of stating a fact related to us by Mr. Porter. He says that from three-fourths of an acre of land he produced and sold $55.43 worth of *Watermelons!* besides a large number consumed on the place. We state this as an inducement to others to use their *heads* as well as *hands*, and to show them that what they might despise as a small business, may be made a source of no inconsiderable profit."

Horses.

One of the editors of the *Dollar Farmer* spent part of last summer in Vermont, and while there collected a good deal of information about the famous Morgan Horse. In one of his letters, he says :

"I find that the breeding of horses in the last few years has been much neglected. I have conversed with some of the best judges of horses and some of the most experienced breeders and dealers in the State. There is no doubt whatever of this—that the breed of the Morgan horse was, and is now, in the few instances where it can be found, far the best breed of horses for general service that ever was in the U. States—probably the best in the world; and it is remarkable that this breed was and is now known by many striking peculiarities, common to nearly every individual. They have a full, heavy, wavy mane and tail, good head and neck, small well shaped ears, are broad between the eyes, legs broad and short with large tendons, bodies rather thick set; but their most striking peculiarity is in their carriage, legs well under, trot quick, short, and springy, fore-legs bending remarkably, the very reverse of the slow, slouchy movement of the race horse in a trot. They are likewise exceedingly hardy and well tempered.

The great demand for this breed caused all at first to turn their attention to it. Great numbers were bred and the price fell. In the meantime the price of wool rose and everybody went into the wool business. But the fame of Vermont horses spread abroad, and those that were left were nearly all bought up and sent off, including most of the finest mares. The people of New York came over in great numbers with their horses and swapped them off for the Morgan horses. The result is that now there are twenty common horses to one Morgan. But still you do find an occasional Morgan horse, and when you do there is no mistaking him for any other breed. I saw the celebrated Sherman Morgan, Black Hawk, at Bridport, and I think he deserves all the praise that has been bestowed upon him. He is the finest stallion I ever saw. His legs are flat and broad, shoulders well set back, loin and backbone very strong, length of hip beyond anything I ever saw, as quick in breaking as the bullet from the rifle, head and neck faultless; in motion mouth open, crest sublime, legs carried finely under him, square and even, and fore-legs bending beautifully.

Mr. Cotterel, of this place, who is as well acquainted with horses as any man in Vermont, says there is not the slightest doubt that the original Morgan was got by a Canada horse. He says the most probable account of his origin is this: A man by the name of Smith, at Plainfield, N. H., had a fine imported mare. He rode this mare to Canada on a courting expedition, and while there his mare got in foal. Smith regretted the accident, and setting no value upon the colt, he sold it to Morgan, a singing master, who, when the colt was grown, rode him about on his singing circuit. When the colts from Morgan's horse grew up they proved fine, and this gave him celebrity. He was a fleet runner at short distances, and this originally induced the people to try him. Of the old Morgan's progeny three became famous as stallions, viz: the Sherman Morgan, the Woodbury, or Burbank, and the Chelsea. Of these the Sherman Morgan was greatly the most distinguished. I have ascertained to a certainty that he died in the winter of 1835. Black Hawk was sired by him. The Chelsea Morgan is the only one of the three yet alive. He is said to be yet full of vigor.

"Such is the family likeness between the Canada horse and the Morgan, that I find that some horse dealers here believe that the old Morgan was a genuine Canada. Certainly the evidence is clear that his valuable and characteristic qualities were derived from the broad-legged Canada breed. Mr. Cotterel believes that the Morgan horse would be a fine cross for the Kentucky horse, but he says he would prefer the Canada horse. He recommends that Canada mares as well as horses should be taken to Kentucky. A great many Canada horses are imported and sold in Boston. Some of them are very fleet trotters and command from $300 to $700. Mr. C. saw last winter a large drove of Kentucky horses at Baltimore. He considered them much inferior to the Vermont horses, and he says that the prices asked for them were greatly less than the prices got for the Vermont horses at Boston. The best place to purchase Canadian horses is some distance around Montreal and in the neighborhood of Quebec. Just around Montreal they are much purchased up. The best of them can be purchased for $150. The pacing horse of Canada is said to have proceeded from the Narraganset pacers rode over to Canada by fugitives from New England. Very truly yours, G. W. W.

In another letter, speaking of the horses used in the wagons on the road from Cumberland to Wheeling, he says:

Such road draft-horses are nowhere else to be found on the earth. They are as large and as strong as the English cart horse, with greatly better limbs and more action. Of hundreds that I saw it would be difficult to match the meanest in Kentucky, where there has been so much racing "to improve the breed." This breed of horses is known, I believe, as Badgers. They are found in Pennsylvania and the northern part of Maryland. I hope some enterprising breeders in Kentucky will import some of them to cross our stock. Racing improves the breed of race horses, but the less racing blood the better for everything but the turf. No two animals of the same species could well be more unlike in form than the Morgan or Canada horse and the racer, and nothing could be more manifest than the superiority of the former over the latter as fast moving roadsters, with or without heavy weights. We have the racer, (enough for sport, and they are fit for nothing else unless it be for an express mail); let us breed off from the racer with the Morgan and Canadian and the Conestoga. Some people have an idea that the more race blood the better for all purposes. The idea is refuted by experience in all countries. No racer is equal to the London cart-horse or the Conestoga for the dray or wagon. None are equal to the English hunter for hunting. None equal to the Canada pacer for pacing. None equal to the Canada, Vermont or New York trotter for trotting. None equal to the English Cleveland bay for coaches. In England they have distinct breeds for every use—amblers for ladies' riding horses, hunters for fox-hunting, cart-horses for carting, Cleveland bays for carriages, and race horses for the turf. It should be ordered in the same way here.

Very truly, yours, G. W. W.

Good—Excellent—Infallible.

Cow-ology.

The last number of the *Farmers' Library* brings us acquainted with a very curious book on a very curious subject. The title of the book is "*A Treatise on Milch Cows: whereby the quality and quantity of milk which any cow will give, may be accurately determined, by observing natural marks or external indications alone, the length of time she will continue to give milk, &c.* By M. Francis Guenon, France. And the object of the book is to propose a system, by which, in addition to what is specified in the title, on examination of a calf a few months old, its future milking qualities may be predicted. Strange as this may appear, it is, nevertheless, maintained to be true by members of the highest character of the Agricultural section of the French Academy of Sciences. And in the *Journal d'Agriculture Pratique*, as quoted by the Farmers' Library, it is stated that, Monsieur Guenon, a farmer of Libourne, having discovered an infallible method of ascertaining the lactiferous qualities of cows, by means of certain invariable signs, easily to be found on these animals, invited a rigid investigation of his theory, by the Agricultural Society of Toulouse. A committee was accordingly appointed by that Society, who reported:

"We conducted Mr Guenon into seven cow-stables with which he was entirely unacquainted. Here forty-six cows were submitted to his inspection. In twenty-two instances he named the *exact number of pints given by each cow*; in fourteen he came within a pint, and in ten within two or three pints.

"Exact precision as to number of pints, however is deemed as of little importance, as the quantity of milk is liable to vary, with many circumstances, as food, temperature, date of calving, &c. But the main fact of the discovery we *consider as established*, as Monsieur Guenon invariably distinguishes the good from the bad milkers.

Highly respectable as are these foreign authorities, we should still have some suspicion that there might possibly be some mistake in the matter, were it not that one of our own citizens has prepared a translation of Monsieur Guenon's book for American readers.

N. P. Trist, formerly U. S. Consul at Havana, now engaged in the department of State at Washington City, is the translator. His name is a sufficient guarantee that there is no humbug in the business. Here is what he says about it in his preface:

TREATISE ON MILCH COWS.
The Translator to the Reader.

Nonsense! Who can believe any such thing? What! by merely looking at a cow, to be able to tell how much milk she is capable of being made to yield; and, also, how long she can continue to give milk after being got with calf!—to be able thus to ascertain, not only what are the qualities of a full grown cow, but what are to be the qualities of any heifer-calf, by looking at her while yet but two or three months old! Surely, if ever there was a humbug, this is one.

Softly, Mr. Reader! You are very incredulous, no doubt, but I defy you to be more so than I was when in your present position. What is more, I defy you to cling to your skepticism more than an hour or so. However strong and firm it may be at this moment, it will, in a little while, have vanished into nothing; and its place will be filled by another solid proof in addition to the many that you have already stored up, that

"There are more things in heaven and earth —,
Than are dreamt of in your philosophy."

When this discovery was first mentioned to me, as one which had recently been published in France, I smiled at the credulity of some people. My informant perceiving what effect the announcement had upon me, said, "It is so, however;" and then, nothing but politeness towards a stranger, for the first time under my roof, prevented my replying, "You do not really believe this to be possible."

He offered to send me the book; and, though I had not the least idea of throwing away my time in reading it, civility would not allow me to decline. It came, and I opened it with the intention merely of looking into it sufficiently to say that I had done so. When, however, in turning the pages over, I saw that this piece of quackery, as I felt very sure the pretended discovery must be, had engaged the attention of distinguished Agricultural Societies in France, and had earned "Gold Medals" for its author in a country where they are not prone to be lavish of such substantial marks of approbation, my curiosity was awakened, and I had soon read enough to bring home to me once more, for the thousandth time, that homely old truth, "We live to learn."

Since then, many things have occurred to strengthen my confidence in the reality of this discovery, and in its high practical value to all interested in the preservation and improvement of milk stock—and who is it that is not interested in its productiveness? The most recent of these incidents is as follows:

A friend to whom I had lent the translation accompanied with the plates which are requisite to make it intelligible, showed it to a man from the country whose calling had rendered him quite conversant with the subject of cattle. This person's curiosity was so far awakened, that, beside attending to the explanations made to him, he took a sketch of some of the *escutcheons* — After an absence of some weeks, he returned to the city where this had happened, and came to see my friend. "That thing (said he) is as true as a book. There is no mistake about the matter. Since I was here, I have looked at more cows than ever you saw, and I am perfectly satisfied that the thing is just as the Frenchman says. I have become convinced, too, of another thing: that our breeds of cattle are by no means the great things they are cracked up to be."

N. P. T.

Original Communications.

To the Editor of the Southern Cultivator:

Mr. Camak:—The business of the day is over, and I have finished saving the December numbers of the Southern Cultivator, the Albany Cultivator, and the American Agriculturist, making the file for 1845 complete for these three excellent works; and the November number of the Tennessee Agriculturist is also sewed on. While engaged in the above pleasant business of preserving the above works, so that they may answer the double purpose of consultation and reference while I live, and be handed down to those who will come after me when I am no more, my mind naturally turned to my friends while thus employed. I at once determined to take up my pen and say something to the farmers. I am the more stimulated to do this as our post office law has been changed, and it will only cost five cents to tell you something of the day's business now the year is coming to a close. I say the day's business. Now, Mr. Editor, you know I live down South in the land of flowers in the spring, and evergreens in the winter. In the early part of the day I have been engaged in digging up the young Magnolia, and, by the-by, I was more fortunate in finding them on yesterday than ever I was before, that is, in procuring small ones, for it is unnecessary to attempt to raise those that are of any size. The Ivy, the two varieties of the Boys, the Rhododendron, the Yellow Jasmin, the Dark Hydrangea, the Holly, I am collecting together with many other evergreens, to send to Mr. S. B. Parsons, of Long Island. While visiting that kind gentleman the past summer, we agreed to enter into an exchange of trees, shrubbery, &c. He has promptly complied, and has sent me out a variety of fruit and ornamental trees, and now I am making an effort to comply.

Perhaps some of my old friends in my native State, Georgia, will say to themselves, you had better be employed in something else. In answer, I must say, we can beautify our residences, and do something else too. After getting through the trees, I went to the farm, four miles distant, to see how things were getting on there, as I visit my farm every day, and as the close of the year and the commencement of the new year is, if possible, more important than any other season. This is the time that the farmer should close his old book for 1845, and commence a new one for 1846. Now, Mr. Editor, I mean precisely what I say. Every farmer should keep a weekly and daily diary of all his operations. Mine is a small farm, and I close at page 204, and have commenced my book for 1846. We commenced on yesterday morning hauling out our compost manure with two yoke of steers and two carts, the distance to haul not great. The carts hauled out on yesterday 22 loads each. On an average, 20 loads a day will be as much as they will be able to haul. Each cart hauls 15 bushels to the load, making daily 600 bushels, and it will take 50 days to haul it out, which will be thirty thousand bushels of manure. Now, Mr Editor, it has taken much labor to prepare this manure, and still I have no doubt but that we will be well paid in the end.

We have refused nine cents per pound for our cotton, within four miles of where it was raised; we expect 12 cents per lb. in New Orleans and New York, as we will this year send some to each place. So, Mr. Editor, the reading of Agricultural papers is not such a bad business after all. Your friend,

Alexander McDonald.

Enfaula, Ala. Dec. 30, 1845.

Agricultural Experiments—Be Careful in Making.

Mr. Camak:—It is usual when a letter is addressed to an editor for publication, that his name be annexed thereto. I oppose the plan, from the fact, that private or public exposure does not taste well; and another reason is, that a communication for agricultural purposes is different from that of a political one, and there could scarcely originate a cause for offence, and particularly too, when it is intended for our mutual benefit; but at the same time, if necessary, the author should give his name in full.

My object for writing is, to know why there exist such a difference of opinion upon agriculture, not only in things of an abstruse nature, but of the most plain and simple operations connected with the farming business. One man will tell you, that manure should be applied to the surface; another will tell you, that it should be covered, and that if put upon the top of the earth, there will be a serious loss both by washing and evaporation. Some will tell you that this should be done, another will say, that this should be done, thereby causing conflicting opinions and much confusion. It does seem to me that we have too many scientific and practical agriculturists in the South for so much skepticism to exist long, and it must be rooted out if we ever expect to be worthy of the name of agriculturists. Let us follow Crockett's advice, "Be certain that you are right, then go ahead." Such would I say to all agricultural correspondents. Don't submit your farming notions to a careless examination or a partial experiment, but probe, probe, probe, until there is nothing left to probe, then have your knowledge of these things published for the benefit of your brother farmers Respectfully, B. B.

Cassville, Dec. 16, 1845.

Plantation Economy.

Mr. Camak:—I had a pretty good beef slaughtered on the last day of December. Perhaps you and the readers of the Cultivator will not think it amiss for me to give a statement of my manner of fattening, and his value when taken from service, and what I considered his value when slaughtered, worth of feed, &c. I do not think his weight anything to brag of, but shall make the following statement to show what a man may gain by a little attention and trifling expense: This beef was an old broken down ox, some 14 or 15 years old, taken from the yoke the first of last March, and had common pasturage from then till harvest. His fare was then pretty good till the first of September. About that time the army worm made a sweep of our grass. From that time till pulling corn he was on the decline. I put him in a pen of about a quarter of an acre about the 15th of October, expecting to fatten him on corn and cob meal, which he ate kindly at first. There being some hogs in the same pen which were fed on boiled food, the ox soon began to taste of the hogs' food, and after a while refused the feed in his trough, preferring the boiled feed, such as turnips, collards, pumpkins and artichokes, with a portion of corn and cob meal intermixed. He had no other feed after his choice was fully made, except occasionally a raw pumpkin chopped up and raw sweet potatoes. I do not think he could have been sold for more than $5 when he was taken from the yoke. I further think that it would be doing injustice to make a charge of more than $15 for his feed and attendance. I now give the statement of his weight, value, &c:

Nett beef, including suet fat, 704 lbs. at 4½ cents.	$31 68
Tallow, 78 pounds at 10 cents.	7 80
Hide, 86 " " 5 "	4 30
Head, haslet, tripe and feet.	1 50
Total proceeds.	$45 28
Value when taken from work.	$25
Feed, attendance, &c.	15—20 00
Clear gain.	$25 28

As I have paper and time to spare, I will give you a few lines on another subject which is drawn out by a remark of Mr. McDonald, of Eufaula, in the last Cultivator, viz: the advantages of a short crop. What is meant by this is, that an industrious planter can save what he has made and find time to do many other things about his plantation that he would have to let go undone if he had a full crop to save. I am in hopes that I shall be able to reap some of the benefits of my labor spent since my last crop came in. I went to work, at the first spare moment, on a large branch which runs through my plantation; having cleared it on both sides for at least three-fourths of a mile, shall have in cultivation the present year near 20 acres of good branch land; have done two-thirds of the ditching. There is one place of five or six acres in a body. The work I have done on that part I set down to be worth $15 per acre, and now completed, I price the land at $30 per acre. The work I have done on this part of the branch consists in clearing, ditching and hauling the dirt thrown out, (which is mostly alluvial soil,) to fill the washed places, sicks, &c. My ditch to convey the branch, is twelve feet wide, and I have some small ditches for draining, &c. The last dry summer has caused many planters to commence clearing up and preparing their branch land for a crop the coming spring, which under proper management will always pay them well for their labor. I had about five acres of branch land in corn last year that made more corn per acre than any land I ever had—in all, about 40 barrels. I am, dear sir, yours respectfully, John Farrar.

P. S. I do beg of those gentlemen writing communications for the Southern Cultivator, that they will give their State, county and post office. When I read a piece in the Cultivator, whether I am pleased with it or not, I wish to know where the writer lives.

Stanfordville, Putnam Co., January 16, 1846.

Agricultural Emulation—The Right Spirit.

To the Hon. Charles Dougherty, Athens:

Dear Sir:—I have the pleasure to acknowledge the receipt of your letter, enclosing a Prospectus of the Southern Cultivator. At the moment I received it I was in the post office urging some of my agricultural friends to subscribe for it. A company of ten have subscribed and forwarded their names by last mail from this county. I have been a subscriber for the work during the last two years, and it has been of great value to me in my agricultural pursuits. Notwithstanding I am a lawyer by profession, all my earnings are invested in land and negroes. The question to be settled with me was, whether I should emigrate to the West or improve my plantation, and consider my location permanent. I have determined to remain, and have every confidence in ten years from this time (should I live so long,) my land will be in a better condition for cultivation than it now is. My ambition will not be satisfied until I shall have the *best improved* farm in the county. Two years ago I commenced hill-side ditching, and have now about two hundred and fifty acres ditched, and shall continue the process until every foot of land I cultivate shall be protected against the washing rains. Ditching, subsoil plowing and manuring, will not only renovate worn out lands, but amply compensate us with increased production for the labor bestowed.

The pages of the Cultivator have furnished me with many valuable suggestions which I have successfully put in practice. My overseer has lived with me six years, and is now engaged for the seventh at $325 per annum, the highest wages paid in the county; but he is a good farmer, and is capable and willing to carry out my views in the management of my business. Those of my neighbors who were disposed to laugh at me when I commenced ditching, are now following my plan. I have hauled out of the swamp this Fall more than a hundred loads of manure.

I shall plant but little cotton the next year, for the sole reason that a full crop will prevent me from making such improvements as I desire. I confidently expect the time will come when I shall not plant a single hill of corn or cotton without manuring it. Being a professional man, I knew it would not do to advance my *theory* of farming as gleaned from agricultural papers to my neighbors, but so soon as my own mind was satisfied, I commenced making practical experiments, not only for my own benefit, but theirs also, and I am happy to inform you there is a growing interest felt in this neighborhood on the subject of improving lands, and which I have not the least doubt will continue to increase. My faith is strong, that the old habits of our people in the cultivation of their lands will be abandoned, and a more enlightened and judicious mode of culture will be adopted, and he who contributes most to accomplish so desirable an object will deserve the lasting gratitude of his countrymen. I find I have written a long letter, but it is on a subject in which I feel a deep interest, and will close by saying, I will use my best exertions to extend the circulation of the Cultivator, and sincerely hope Mr. Camak will continue his editorial labors, if not for his own benefit, for the benefit of the country.

Very respectfully, yours truly.

Greenville, Dec. 1845.

Improving Soil—An Experiment.

To the Publishers of the Southern Cultivator:

Gentlemen:—As a plain, hard-fisted farmer, I sit down to offer yourselves and our old friend at Athens, my best thanks for having entertained us so well and instructed us so ably during the year 1845. Long may you all live to carry on this noble work of reform.

It is a matter of some concern and regret to me that I have not received the February and November numbers of the Cultivator. What shall I do? I am anxious to bind and preserve them all, as I have done the first two volumes, as well as the entire series of the Albany Cultivator. Can you send them to me?

Enclosed you have a P. M.'s receipt which shows that I wish to cultivate a farther acquaintance. I think I sent you seven new subscribers for the present year, all whom I presume will continue. If they do not send their dollar, I will stir them up; and in the mean time, if opportunity offers, I will extend your list a little.

If I were addressing the *Editor* instead of the *Publishers*, I would offer a suggestion or two. But as this is not the case, I will acquaint you (as friends to Agricultural improvement) with the result of a little experiment, conducted by myself the present year. Having a small lot of very poor land convenient to my house, I determined to make an effort to improve it a little. But, in arranging my plans, it was not convenient to manure this piece as I wished, so I manured it as I could. This lot is a very stiff clay, partially covered by a soil varying in depth from 0 to 4 inches. After repeated plowings with a good team and coulter, I hauled on to a measured acre one thousand bushels (I say nothing of loads) of chips, which had accumulated about my wood pile, and which were in various stages of decomposition. These chips being evenly spread over the surface, we turned them under to the depth of 3½ or 4 inches. We then laid off shallow furrows for planting corn, four feet apart each way, and planted the lot in corn and early table peas. This was all done after we had finished planting our cotton crop, and of course was late. I should also have stated that the acre had previously been planted in peach trees, and had 134 trees of one year's growth on it. The after culture was intended merely to keep the surface loose and to free it from weeds and grass and was performed with the sweep and hoe, keeping the surface as smooth as possible. This crop was so late that it did not have as good seasons as the balance of my crop, as it had no rain at all, while earing, and was seriously injured by the rank growth of pea-vines. Well, now for the figures: cost of manuring, twenty two dollars, including board, hire and wear and tear, &c. Product of the acre in corn, 26 bushels. The peas in the green state were fed upon daily for about two months by a family of twenty persons, and we housed 12 bushels of clean dry peas for winter use and planting. The young peach trees also made a vigorous growth.

For this extraordinary crop (extraordinary only when the land and seasons are taken into the account) I think that I am indebted—1st, to the thorough breaking up of the land,—2dly, to the physical and chemical action of the chips,—3dly, to the shallow and level culture. Others, I am aware, will say that it was not cultivated right; but I am sure that the common mode of cultivation would not have produced one fourth of the crop that I gathered, that is, on the same land with the same seasons.

It may be thought, too, that $22 per acre, is a large sum to spend for the crop that I gathered. So it is. But let it be remembered that I expect to see and feel the benefit of the application for several years to come. Your well wisher,

Joel Hurt.

Crawford, Russell Co., Ala., Dec 2, 1845.

Remedy for Colic in Horses.—Take two quarts of cold water in a hand basin, add with your fire-shovel say a pint of hot wood ashes or embers, and stir. Cut off an inch and a half from a common hand of tobacco and shred in the mixture—stir all up and let it stand fifteen minutes and settle. Pour off a common black bottle full of the fluid and drench your horse—in half an hour he will be well.

Butter.—Practice has proved that 62° is the best temperature for cream at the time of churning. If below this, pour in hot water; if above it, cold, until it is brought to the required point. This point is ascertained of course by a thermometer.

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1811, and arranged to suit the Southern States.

CALENDAR FOR FEBRUARY.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months. This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

Continue to look well after your stock. This and the following are the trying months for animals, and if carried well through these, you may more safely trust them afterwards. As all animals are accustomed to green food throughout a great part of the year, such as are now kept on dry should have their condition carefully observed, and their food varied to suit their wants. *Roots* ought always to be provided for an occasional change. Potatoes, sugar beet, mangel-wurzel, ruta baga, carrots or parsnips, may be given, as they can be most profitably raised by the farmer. According to Davy the order of their nutritious properties, pound for pound, stands thus: 1. potatoes; 2. sugar beet; 3. mangel-wurzel; 4. parsnip and carrot; 5. ruta baga; 6. and by far behind all others, the common turnip. We are of opinion that the carrot and parsnip are equal to the sugar beet, and the better varieties, perhaps, would stand second only to potatoes. Chaff, grain, bran, &c., may also occasionally be given, and for working animals, grain invariably at all times. If you expect hens to lay during the winter they must have a warm room, and plenty of suitable food. A stone, brick, or what is better than either, a clay house, impervious to wind and cold, with a supply of oats, shrunk wheat, barley, and even corn, with some animal food added, in addition to a supply of gravel and old mortar or lime, and water, will give you a constant supply of fresh eggs all winter.

Finish threshing your grain, and have it stored beyond the reach of rat, mouse or weevil. Scions may be cut during this and the two succeeding months, for grafting, and carefully laid away in a cool, damp place, till required for use. If the roots have not been assorted when stored for the winter, the best should now be selected for seed and use, and the remainder fed out to the stock previous to a growth of green food in the spring. The young animals, lambs, calves, &c., should be carefully protected from cold and have an abundant supply of food. When it is intended to raise animals on the farm, it is better to have them dropped from the latter part of March to the middle of May. The weather is then warmer and fresh feed abundant, and the young can be reared with half the expense and risk that attends them during severe weather. But such as are near a market, and wish to send in early calves and lambs, may find an advantage in having them come much earlier in the season; but all the hopes of the farmer will be disappointed, by neglecting the proper means of protection. Such cattle as have been suffered to get poor, will probably be found to have lice, which at this season collect around the roots of their horns. They may be destroyed by a strong decoction of tobacco juice, or scotch snuff, lard, fish oil or soft soap, applied on the top of the head, and along the back to the root of the tail; also, spirits of turpentine, mercurial ointment and corrosive sublimate, are effectual remedies, but dangerous when cattle can lick the part where they are applied, both being a deadly poison. After the cattle are once rid of lice, keep them in good condition, and they will be little exposed to a renewal of the disease. Prepare for making maple sugar the last of this month.

Endeavor to finish breaking hemp this month, as March will be a much more busy one. If the weather be open continue plowing.

Kitchen Garden.—Sow early cucumbers and melons in hot beds. If well managed, the cucumbers sown early in this month will produce fruit in April. Celery can be sown in a warm border and will be ready to vegetate the first mild weather. The directions for last month will apply equally to this.

Fruit Garden and Orchard.—Gooseberries, currants and raspberries, may now be pruned if the weather be tolerably mild. Fruit trees that grow too luxuriantly and do not bear, should be pruned in the roots. Cut away the wood in grape vines that have borne fruit the preceding season, and leave the wood formed that season to bear fruit the ensuing year. If grape pruning is left until the sap begins to rise, the vines will bleed profusely and suffer much injury. It is said that the first bud on a shoot will not produce fruit. Consequently a second or third should be left in pruning.

Flower Garden and Pleasure Grounds.—See directions for December and January. Finish pruning hardy flowering shrubs. Cut off all dead wood and straggling or interfering branches close to the body or limbs. Keep the gravel walks clean, and roll them after the winter frost.

Plantation.—In the beginning of this month repair all your fences, and employ your men in cutting up and rolling logs—and your women and children in knocking down cotton-stalks, when not too large, with a stick, cutting corn-stalks, firing log-heaps, and burning chunks and the brush that may have fallen from trees, clearing up hollows, &c., and be in readiness to commence plowing your cotton fields as soon as the season will admit. By the latter end of the month, if the weather be favorable, keep as many plows running as is convenient when the earth is in proper condition. By keeping busy at this season of the year it will enable you to control your crop, and give you time to do your work effectually, which is one half of the battle.

If your land was in corn or cotton last year, run off the rows in the old water furrow with a short plow this year, using two horses and running deep. Then, with a turning plow, throw to this two furrows, one from each side, in order to reverse the last beds. Leave the ground in this condition until a day or two before you wish to plant, and then break out the entire surface between the rows—the baulk. Prepare your ground and sow your tobacco seed, if you have not done it before.

Give to your cows boiled cotton seed, with a little chopped corn added. It will give the butter a rich flavor and fine yellow color. The seed must be well cooked, which will require but a few minutes.

Mark off your sweet potatoe ground some time in this month with a double horse plow, and let it lie until it becomes well settled by two or three rains.

If you have a good grape vine, take care of it, and propagate others from it by cuttings and layers, and its fruit will repay your labor. If you have not, buy one, and plant it the present spring. The second year after planting it will produce you fruit, which will increase every year as the plant enlarges. The fruit will be found to be wholesome and grateful, and you will realize the pleasure of "*sitting under your own vine*" during the intense heat of summer. The native varieties most worthy of cultivation, are the Isabella, Winne and Catawba. If you wish foreign fruit, the Sweet Water, Chasselas, Black Cluster and Burgundy, are to be preferred. A little experience will make you familiar with their management.

As soon as the black frosts are over, which usually occur by the last of the month, and the ground becomes sufficiently dry, the covering of the cane that was planted in autumn or early winter, should be reduced to one or two inches, by scraping with hoes the earth from the top of the drills, towards the centres of the spaces between the rows. After this, the hoes followed by the plows, should be passed through the fields about every ten days, in order to keep down the grass and weeds.

Should the season have been so backward as to have prevented you from finishing planting your sugar cane, it can be done at the close of this month. Do not cover it at a depth exceeding two inches.

Sow all kinds of early melons, cucumbers, kidney beans, squashes, asparagus, radishes, lettuce and garden cresses for seed. Sow late dwarf peas and onion seed, carrots, parsnips and red beets. Sow tomatoes in hot beds, or in boxes in the house, if the season is backward; the egg tomatoe and the golden drop are the best kinds. A compost of pigeon dung and earth will give them an early start.

This month is proper for grafting the cleft. If your trees have not been pruned, do it at once. Set out fig trees—plant hop roots and all kind of aromatic herbs. Set out cabbages, lettuces, carrots, parsnips, turnips, &c., designed for next year's seed. Sow oats, plant Indian corn and early Irish potatoes.

Planters' Club of Hancock.

The Planters' Club of Hancock County offer the following premiums to be awarded at their next Annual Fair:

For the best acre of upland corn, a silver cup, value $10	3d, 4th and 5th best. honors
2d best 5	Best cow, having regard to blood $5
3d best 3	2d best 3
4th and 5th best. ... honors	3d, 4th and 5th best. honors
For the best acre of low-ground corn, without manure $5	For best young bulls and heifers under 2yrs honors
2d best 3	Best Ram $2
3d best 2	2d best 1
4th and 5th best. ... honors	3d, 4th and 5th best. honors
Best acre of Wheat on upland, a silver cup, value $10	Best Ewe $2
2d best 5	2d best 1
3d best 3	3d, 4th and 5th best. honors
4th and 5th best. ... honors	Best boar $3
Best acre upland Cotton, silver cup, value $10	2d best 2
2d best 5	3d, 4th and 5th best. honors
3d best 3	Best sow $3
4th and 5th best. ... honors	2d best 2
Best acre of upland $3	3d, 4th and 5th best. honors
2d best 2	For the heaviest fat hog, agreeable to age $5
3d, 4th and 5th best. honors	2d do do 3
Best acre of potatoes ... $3	3d do do 2
2d best 2	4th and 5 h do do. honors
3d, 4th and 5th best. honors	For the heaviest fat pig, agreeable to age, from 6 to 12 months old ... $5
Best acre Turnips $3	2d do do 3
2d best 2	3d do do 2
Best Jack $5	4th and 5th do do. honors
2d best 3	For best piece of home-spun, (8 yards,) gentlemens' wear $3
Best Georgia raised Mule $3	2d best 2
2d best 2	3d best 1
Best Mule colt 3	4th, 5th, 6th and 7th best ..... honors
2d best 2	Best counterpane $3
3d, 4th and 5th best. honors	2d best 2
Best Stallion 4 years old and upward $5	3d, 4th, 5th and 6th best ..... honors
2d best 3	For best piece domestic silk $5
3d, 4th and 5th best. honors	2d best 3
Best 3 year old colt or filley $2	3d best 2
2d best 1	4th, 5th and 6th best. honors
3d, 4th and 5th best. honors	For the best article of negro cloth, 10 yards .. $3
Best brood mare with or without colt $5	2d best 2
2d best 2	3d, 4th, 5th and 6th best ..... honors
3d, 4th and 5th best. honors	For the best article for negro blankets $2
Best bull $3	2d best 1
2d best 2	3d, 4th, 5th and 6th best ..... honors
3d, 4th and 5th best. honors	
Best milch cow, without regard to blood $5	
2d best 3	

The Club sets apart $20 to be awarded by their Committee on articles manufactured by ladies and not embraced in the above list.

By order Executive Committee.

T. H. Audas, Secretary.

Sparta, January 21, 1846.

☞ Editors friendly to agriculture will please copy the above.

Fruit and Fruit Trees.

[From the Dollar Farmer.]

Downing's Fruits and Fruit Trees of America.—We proceed now to redeem our pledge as to this work, and as soon as we are done with it we shall proceed to the new and valuable work on sheep husbandry by Morrell. We have no idea of attempting to supersede the necessity of purchasing these works so far as those are concerned who can afford to purchase them. All such, as a matter of course, ought to have the works complete. But with regard to those of a different class, we do not despair of giving them what is most material, or of placing them very nearly on a footing with their

wealthier neighbors who enjoy the luxury of the books themselves. We shall confine ourselves mostly to extracts, giving only such remarks as we may deem of importance.

Instead of taking the work in regular order, we shall first give our author's select lists of the different fruits, in order to enable the reader to use them in giving orders for trees.

APPLES.—*Select list of apples for a small garden, to ripen in succession:*

Summer.
Early Harvest.
Red Astrachan.
Early Strawberry.
Drap d'Or.
Early Red Margaret.
Williams' Favorite.

Autumn.
Porter.
Fall Pippin.
Ross Nonpareil.
Maiden's Blush.
Jersey Sweet.
Fall Harvey.
Gravenstein.
Summer Sweet Paradise.
Golden Sweet
Rambo.

Winter.
Newtown Pippin.
Dutch Mignonne.
Esopus Spitzenburgh.
Baldwin.
Ladies' Sweeting.
Northern Spy.
Swaar.
Boston Russet.
Rhode Island Greening.
Yellow Belle-Fleur.
American Golden Russet.
Lady Apple.
Peck's Pleasant.
Herefordshire Pearmain.

Apples of fine quality, suitable to a cold, northern climate.—Fameuse, Canada Reinette, Pomme de Neige, Rhode Island Greening, Boston Russet, Porter, Baldwin, Swaar, Red Astrachan, Ladies' Sweeting, Northern Spy, Golden Ball.

Apples of fine quality, suited to a southern climate.—Early Red Margaret, Large Yellow Bough, English Golden Pippin, Sheep Nose, Lady Apple, Maiden's Blush, Grevenstein, Golden Reinette, Green Newtown Pippin, English Russet, Mal Carle, Yellow Belle-Fleur, Wine Apple, Roman Stem.

A number of native varieties, which have originated at the extreme South, are found to succeed better there than most of our Northern apples. Among these are the Horse Apple, Mountain Pippin, Father Abram, etc. These are not fine at the North, but are well adapted to the climate of Georgia, Alabama, &c.

The names in the nurseries in the East differ materially from those of the West, but there are several apples famous among us that are not in this list. The Prior Red stands first of all among us. The Golden Russet and White Belle-Fleur, of Western nurseries, are distinct and very popular. The Carolina is a good apple with us for the New Orleans and West India markets, though for all else valueless. The Waxen apple, (Belmont of Hendrick,) is very highly esteemed in Ohio as an early winter apple, under the name of Gate Apple and White Apple. The Red Streak Jane, of some of our nurseries, is believed to be the same as Prince's Harvest. The Blackburn, of our nurseries, is an apple of high repute, but we do not know its synonyms. The Newtown Pippin, so highly esteemed in the East, is said by some not to succeed well in the West. This is, however, a mistake. This apple requires everywhere to be well manured whenever it shows signs of failure. In Mr. Orr's collection there is an apple which he calls the Yellow Prior, but which in Indiana is called Yellow Russet. It is an apple of extra large size, red, streaked with yellow, very showy and attractive. Its exterior resembles the Prior Red, and its flesh in color and flavor is as nearly as possible the same. It is, however, much larger, and the growth of the trees different, and much more luxuriant. It may be a seedling of the Prior. It cannot possibly be surpassed.

APRICOTS—*Selection of Apricots for a small Garden.*—Large Early, Breda, Peach, Moorpark.

Selection for a cold, or Northern climate.—Red Masculine, Roman, Breda.

As the Apricot blooms early, it is very liable to be killed by frost, but every one should try them. They may be had with certainty under glass, and trained to a wall they are easily protected, while in bloom, by means of matting or straw. Planted in an exposed situation they often fruit in this climate without protection. It is a most delicious fruit. It should always be grafted on the plum—never on the peach if plum stocks can be procured.

CHERRIES.—*Selection of Cherries for a small Garden.*—Early Purple Guigne, Baumann's Early, Knight's Early Black, Mayduke, Bigarrean, Tartarian, Downer's Late, Elton, Tradescant's Black, Belle de Choisey, Sweet Montmorency, Kentish, Morello.

The hardiest cherries are the Kentish, (or Virginian May,) the Morello, and the Mayduke. These succeed well at the farthest limits, both north and south, in which the cherry can be raised, and when all other varieties fail, they may be depended on for regular crops. Next to these, in this respect, are the Black Heart, Downer's Late, Downton, and Elton.

CURRANTS.—The White and Red Dutch are recommended as far superior to the common Red and the common White. Knight's Large Red is a third larger than the Red Dutch. Knight's Early Red has the merit of ripening ten days earlier than the other sorts. May's Victoria, a new English sort, is said to be very large.

GOOSEBERRIES.—*Selection of sorts for a very small Garden.—Red:* Red Warrington, Keen's Seedling, Crown Bob. *Yellow:* Early Sulphur, Yellow Ball. *White:* Woodward's Whitesmith, Early White, Taylor's Bright Venus, White Honey. *Green:* Pitmaston, Green Gage, Green Walnut, Parkinson's Laurel.

GRAPES.—*Selection of foreign Grapes for hardy culture.*—Royal Muscadine, Early Black, July Early, White Malvaiso, Black Prince.

Selection of foreign Grapes for a vinery.—Black Hamburgh, White Muscat of Alexandria, White Frontignan, Royal Muscadine, West's St. Peters, Red Frontignan.

Selection of native Gapes for a small Garden.—Catawba, Bland, Ohio, Lenoir, Isabella.

PLUMS.—*Selection of choice varieties for a small Garden.*—Royal Hative, Hudson Gage, Green Gage, Jefferson, Lawrence's Favorite, Huling's Superb, Purple Favorite, Purple Gage, Coe's Golden Drop.

Plums that will bear well in light soils, and generally withstand the Curculio.—Lombard, Cruger's, Blue Gage, Roe's Autumn Gage, Red Gage, Long Scarlet, Bleecker's Gage, Coe's Golden Drop, and all the Damsons.

Plums suitable for a cold Northern climate.—Smith's Orleans, Bleecker's Gage, Denniston's Superb, Corse's Nota Bene, Orleans, Cruger's Scarlet, Washington, Duane's Purple.

Plums suitable for a Southern climate.—Bingham, Imperial Gage, Washington, Large Long Blue, Hulling's Superb, Coe's Late Red, Coe's Golden Drop.

Selection of choice Pears for a small garden, to ripen in succession from July to April.—Madeleine, Bloodgood, Dearborn's Seedling, Bartlett, or William's Bon Chretien, Andrews, Summer Franc Real, White Doyenne, Seckel, Fondante d'Automme, Surpasse Virgalieu, Urbaniste, Dunmore, Marie Louise, Van Mons Leon le Clerc, Beurre Bose, Dix, Columbian, Winter Nelis, Beurre d'Aremberg, Knight's Monarch, and (for deep warm soil,) Beurre de Ranz.

Selection of very hardy and good Pears for a cold climate.—Fulton, Bloodgood, Seckel, Stevens's Genesee, Hazel, Marie Louise, Beurre Bose, Dix, Hacon's Incomparable, Buffum, Beurre Capiaumont, Andrews, Bartlett, Washington, White Doyenne, Beurre Diel, Winter Nelis, Beurre d'Aremberg, Pince's St. Germain.

Almost all the varieties do well in the interior; the old French sorts usually better than with us, and the following sorts are generally finer in a warmer climate, say that of Maryland, than here; Beurre de Ranz, Glout Morceau, Easter Beurre, Ne Plus Meuris, St. Germain, &c.

Perry Pears.—These are little attended to in this country; Perry being made from the most common varieties. The best English Perry pears are the following: Oldfield, Barland, Longland, and Teinton Squash.

PEACHES.—The names of these differ so much in the different parts of the country that any list is of little value. The Tippecanoe, the Baltimore Beauty, and Belle de Vitry, are highly prized in New Jersey and Delaware. The following is Mr. Downing's list:

Selection of choice Peaches for a small garden, to furnish in succession.—Freestones: Early Tillotson, White Imperial, Early Newington Freestone, Royal George, Grosse Mignonne, George IV., Crawford's Early, Bergen's Yellow, Noblesse, Brevoort, Malta, Late Red Rareripe, Druid Hill. *Clingstones:* Large White Clingstone, Oldmixon, and Heath.

Selection of hardy and excellent sorts for a Northern latitude.—George IV., Yellow Rareripe, Early York, Morris Red Rareripe, Grosse Mignonne, Noblesse, White Imperial, Crawford's Early, Favorite, Bellegarde, Brevoort, Cooledge's Favorite, Morris's, White Rareripe, Large White Clingstone.

The best varieties for forcing, are the Grosse Mignonne, Noblesse, Bellegard, Royal George, White Imperial, Royal Charlotte, and Barrington.

NECTARINES.—*Selection of choice hardy Nectarines, for a small garden.*—Early Violet, Elruge, Hardwicke Seedling, Hunt's Tawny, Boston, Roman, New White.

THE QUINCE.—The apple-shaped is the most popular variety. It bears large round fruit, resembling the apple in shape, of fine flavor when cooked. The Portugal is considered superior to all others in flavor. Its flesh becomes deep crimson when cooked. It is a shy bearer.

RASPBERRIES.—The Yellow Antwerp and the Red Antwerp are the best of the old varieties. The Red Antwerp is very different from the common red which goes by that name. It is rather tender. Of the new kinds tried in this country the Franconia and Fastolff are highly esteemed. The Ohio Ever-bearing is recommended as deserving a place in every garden. The Victoria is a new kind, not tried fully in this country, said to equal the Red Antwerp in flavor, and to bear freely from July to December.

Subsoil Plowing.

From the Southern Planter.

Amongst the agricultural discoveries of modern times, none perhaps deserves to rank higher than the invention of the subsoil plow. The value of this implement will, it is true, vary much with the nature of the earth to which it is applied, but in most situations we believe it to be one of the cheapest and most efficient means of improving the soil. It is a happy expedient, by which all the old opposition to deep plowing is at once removed. By this means, the earth can be stirred and mellowed to a great depth, whilst the shallow mould upon the surface is kept where it is most desirable to retain it. If any farmer is so *green* as to ask, what is the use of breaking up the soil below, we answer, that it is only pulverized earth that attracts and retains moisture. If, a few inches below the surface, you have a compact clay, into which the roots of plants can never penetrate, when the exhausting heat of the summer sun has evaporated the moisture, as it will do for several inches, what is to support the plant? Oh! then we have a *drought*, as it is called; but if you will permit the roots to penetrate 15 to 20 inches into your subsoil, (and they will gladly avail themselves of the opportunity, they will then find inexhaustible supplies of moisture in which they may revel, secure from the withering rays of the fiery sun, which seek in vain to penetrate their store house.

But the prevention of drought is by no means all the benefit to be derived from subsoil plowing. Beneath that portion of the earth's surface which has been subjected to cultivation, lies a virgin soil, possessed of different but unexhausted, and frequently very valuable mineral properties. It sometimes happens that this soil in its primitive state is very inimical to vegetation, but when freely operated upon by the atmosphere, it undergoes chemical changes that assimilate it to the most productive of the virgin soils that are found upon the surface. To this operation of the atmosphere, these slumbering stores of fertilization are exposed by the breakening and loosening effect of the subsoil plow.

After the subsoil has been thus regenerated by the admission of the atmosphere into its bosom, it may be turned up with the greatest advantage, and gradually converted from *sub* to surface soil. In this way, not only will valuable mineral ingredients be eventually brought to the surface, where without injury they may be exposed still farther to the meliorating influence of the atmosphere, but it also not unfrequently happens that into this subsoil has been filtered the salts of manure applied to the surface.

This is a very pretty theory, says the practical farmer, but what are the facts? The facts are numerous and incontrovertible. From time to time, we have recorded the most authentic statements of the wonderful effect of this process, and yet how few, comparatively, have adopted it. We remember last year we saw at the farm of Mr. Joseph Sinton, near this city, one of the finest crops of turnips we ever beheld. Mr. Sinton estimated that it would yield him double as much as he had ever gathered from the same quantity of land before, and this excess he attributed solely to a small subsoil plow that he had used in their cultivation; and a few days since we heard him declare, that if he could not get another, he would not take fifty dollars for his little implement.

Curious Experiments.

[From the Tennessee Agriculturist.]

MR. FALL:—Having noticed in the last No. of your valuable paper, under the caption, "A Curious Fact for Physiologists," a statement by Mr. Wattles, in confirmation of some experiments that have attracted considerable attention in France, and believing that the work in which they are contained is not generally known, I have concluded to send you the following extract. It is taken from Becklard's Physiology. The learned author observes, that the experiments were made by an eminent physician. These experiments seem to establish the fact "of the difference of the seed in the right and left testicle;" and it is one, certainly, that should be generally known, as it will prove of great utility to breeders of farm stock.

Experiment 1. Having bought two castrated boars, one of which lost by castration only the right testis, he proposed to convince himself whether there was any foundation in the ancient doctrine about the difference of the seed in the right and left testicle. He therefore purchased a young sow, whom he carefully inclosed in the month of August, and after finding her pregnant, he got in December 8 female pigs.

Ex. 2. In March, the same sow was impregnated by the same boar, and delivered in July of eleven female pigs.

Ex. 3. He had three dogs castrated of the right testicle, and enclosed each of them, after being perfectly cured of the operation, with a bitch, and obtained of the first 8, of the second 7, and of the third 4 female whelps.

Ex. 4. He repeated, with two of the above mentioned dogs and bitches, the experiment, and got again of the one five, and of the other seven female whelps.

Ex. 5. He castrated three rabbits of the right testis, and after being cured, shut them up with females; he then got through the summer, every five or six weeks, young rabbits all of the female kind.

Ex. 6. He deprived two dogs of the left testis, and provided them with bitches carefully inclosed, from one of whom he obtained six, and from the other eight male whelps.

Ex. 7. The same experiment was made with rabbits, whose left testicles were cut out, and with the same result.

Ex. 8. He cut out the right tuble and ovaria from several bitches—of bitches thus castrated only two survived, who after being inclosed with a dog whose right testicle had been previously cut out, were impregnated, and brought forward, the one five and the other seven little bitches.

Ex. 9. One of the above bitches was afterwards locked up with a perfect dog, and she brought only female whelps. The other was inclosed with a dog who was previously deprived of the left testicle, but she never became pregnant.

The author observes, that "each of the above experiments has been many times repeated, and has never once been known to fail in producing the same results." A gentleman of this county and myself, design soon to make some similar experiments—and if deemed necessary, you shall be informed of the result.

Very respectfully, D. SHELBY.

Madison Co., Ala., Nov. 1845.

Special Notice.

We request Postmasters and others who remit us money, to adopt the practice of enclosing the cash in preference to forwarding the Postmaster's drafts on the Postmaster in Augusta.

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PROSPECTUS

OF THE FOURTH VOLUME OF THE

SOUTHERN CULTIVATOR,

A MONTHLY JOURNAL,

Devoted to the Improvement of Southern Agriculture,

Edited by JAMES CAMAK, of Athens.

IN submitting to the Southern Public the Prospectus for the FOURTH VOLUME of the SOUTHERN CULTIVATOR, which may now be regarded as permanently established, the Publishers deem it unnecessary to advert to the high character the Work has attained under the editorial control of Mr. CAMAK, and therefore make a direct appeal to the Planters and Friends of Agriculture throughout the Southern States, to aid them in sustaining a publication devoted exclusively to the cause of Southern Agriculture.

The advantages and benefits resulting from Agricultural Periodicals, have been felt and acknowledged by the intelligent and reflecting Tillers of the Soil in all civilized nations; to be most useful, therefore, they should be extensively circulated among all classes of Agriculturists; if possible, they should be in the hands of every man who tills an acre of land, and to this end we invoke the aid of every one who feels an interest in the improvement of the Agriculture of the South.

The first number of the Fourth Volume will be issued on the 1st of January next. It is published Monthly, in Quarto form; each number contains SIXTEEN PAGES of matter, 9 by 12 inches square. TERMS:

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AUGUSTA, GA., Nov., 1845.

☞ As we desire to regulate our issue by the number of subscribers, all persons who obtain subscribers are requested to send the lists as early as possible to J. W. & W. S. JONES.

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SOUTHERN CULTIVATOR.

VOL. IV. AUGUSTA, GA., MARCH, 1846. No. 3.

ANNIVERSARY ORATION,

BY M. C. M. HAMMOND,

Delivered before the Burke County Central Agricultural Society, January 13, 1846.

We have arrived at an era in Agriculture. To the planters in this region, it is one of the deepest interest and importance. Certainly not in our time, probably not in that of our fathers, and I am inclined to think, not since the settlement of this country, has there been any period so critical to the whole agricultural class, and which demanded of them such earnest attention, such mature reflection, and such vigorous exertion.

From the time that our vast forests resounded with the axe of the settler, great staple productions have been introduced, one after another, and each has poured its golden tribute into the lap of Industry. Rice, Tobacco, Indigo and Cotton, have in turns, yielded rich rewards to moderate labor and ordinary foresight and economy.

Those who have preceded us as tillers of the soil have occupied themselves almost altogether in opening fresh lands and procuring more labor, certain that the amplest profits would repay their efforts, and enable them still to continue clearing more land and purchasing more slaves for the further increase of their fortune. The time has at length arrived when the entire aspect of affairs is changed. It has fallen upon us to extract from an exhausted soil, a staple, the production of which scarcely affords to the most skillful, industrious cultivator of the most fertile lands, the lowest rate of interest on the capital invested. The supply of cotton exceeds the demand, and stringent regulations of government everywhere increase the evil, by checking consumption. While these, the essential causes of our condition, continue to last, and they are likely to do so, at least for our day, there can be no prospect of permanent relief. Flattering hopes from temporary advances are delusive. It may be truly asserted, that the culture of cotton is yet in its infancy—that it has just attracted the civilized world to its consumption, while it is destined to clothe the naked barbarians of the lower latitudes, to supersede linen, silk, and perhaps all other fabrics in use among the myriads of the globe, and in the course of time, to be applied to a thousand purposes of which we have now no conception. And the means operating to accomplish these results, may likewise be apparent to all. Commerce, nourished by this great civilizing product, has at length penetrated the markets of our antipodes, and promises to dissipate their prejudices and awaken their interest, while it promotes our own. The power of steam multiplies the facilities of communication, and the grand Railroad, projected to connect the two oceans, and which, gigantic as it may appear, will surely be constructed, and possibly in our time, will bring the "golden Indies" to our very doors, tributary to the producer of cotton.

But these broad streams of consumption are not the birth of a season nor of a generation. They spring up gradually and will swell with the growth of time and the enterprise and energy of man.

Our great consumer, England, at this moment has nearly a year's consumption on hand, while one-half the new crop is yet at home. The crop has been almost stationary in amount for several years past, and still, the least apprehension of an increase depresses the market. On the contrary, the slightest advance of price, and numerous temporary causes, may occasion such fluctuation, that the hopes of the planter are excited. Thousands of laborers are diverted from other channels into this, and consumption is again surfeited. Besides, the Southwest, including the vast domain of Texas, contains millions of fertile acres, with all their drawbacks of disease and insect, freshets and tornadoes, much more productive than ours. It is blessed with a genial clime for the maturity of the plant, and is rapidly filling up with population from its own increase and by emigration. It will soon be competent, therefore, to supply the whole world with cotton, at rates which must banish the competition of the East Indies and Eastern Islands, and indeed, that of all other cotton regions, our own it is to be feared included. Thus production can outstrip consumption, at any period we may anticipate, and thus, without great change among us, is our doom as cotton growers sealed forever.

This is indeed an agricultural era, most trying to us now, and exciting the deepest anxiety for the future. We have no hope of discovering a new staple which shall be necessary to the existence or comfort of mankind, the cultivation of which we can monopolize long enough to restore our fortunes, and throw it upon future generations, to struggle through that revolution in agriculture, which, however protracted, must come at last. There are, indeed, virgin soils still open to us in the West, to which I have already alluded, where we might shun the work which would inevitably await our children here. But if we have no attachment to the graves of our fathers, and the scenes of our childhood—if the family mansion, the broad fields, the lofty forest, the familiar stream, all of which has been HOME to us from our first recollections, possess no charm to bind us here, we may well doubt whether the difficulties we should have to contend with, as adventurers among adventurers, in a strange, wild, and for the most part unhealthy region, might not be at least equal to those which surround us here—and whether it is not the manlier part to struggle with the ills of Fate upon the spot where God has placed us, than to attempt to shun his visitations by inglorious flight. To many, the most of us, however, even this alternative is not left. We cannot well go. Whatever betides, whether from compulsion or choice, far the larger part must remain where we are.

The question then, is, what are we to do? The answer might be given in the words of the Sacred Book, "that which our hands find to do," and do it with all our might. Let the intelligent planter survey his own premises alone, and it will bring ample conviction of the work which is allotted him. Let him look around upon the plains with their scanty herbage and compacted soil—upon the red hills with their skinless backs and skeleton sides ribbed with gullies! The first thing to be done is, to restore all these to their original fertility, and to carry them indeed beyond it, as has been done a thousand times in as many different countries by people far behind us in intelligence and energy. The next thing will be, so to diversify their productions as to gratify more human wants, and avoid, as far as possible, the over-supply of any. And lastly, we must so change our habits of life that we shall become as we should be, a simple, home-loving, pains-taking, hard-working people, as wise and polished as we can be, and as becomes our age and country. Here is what we have to achieve, and it must be accomplished, or we are a ruined people, impoverished, fallen, degraded, ready to succumb to the first tyrant who waves his strong arm over us—to sink into the degeneracy of modern Italy and Greece, or rush into the wild anarchy of South American mobocracies.

No candid and intelligent mind can fail to see the work we have to perform, and no one, I trust, will want courage to address himself vigorously to the task before him. Yet, the means of its accomplishment are various, and many honest and earnest differences of opinion in relation to them may exist. *How are we to restore our exhausted lands? How are we to diversify our productions?* These are the points I propose to consider. How we shall alter our modes of life so imperiously demanded by our altered circumstances, is a question I shall refer to the good sense of each individual to answer for himself.

The renovation of exhausted land is a matter which has occupied the minds of men from the earliest periods of which we have any account, for profane history does not carry us back to a point when the earth, kind and generous as she is to all her sons, did not demand of them a filial regard for her own wants. The Chaldeans irrigated at vast labor and expense. The Egyptians used machines to insure the full benefit of the waters of the "blessed Nile." The Chinese, models for the agriculturist, for a thousand years planted no land not highly enriched; and industrious in collecting and preserving all nutriment to vegetation, were so sensible of its value, as to have passed laws anciently against the waste of manure. In periods more recent, the Flemish have reclaimed and fertilized a barren waste. The English within our day, have nearly doubled the produce of their land, by draining, improved plowing, and immense contributions of manures, some of which were transported thousands of miles across the deep. And our Northern fellow-citizens also, struggling with a bleak climate, and gravelly, and for the most part poverty stricken soil, are performing great things in the improvement of land and in agriculture generally. Modern chemists are now turning their attention to the subject, with a zeal which promises the grandest results, and we may feel sure, that Science, which has accomplished wonders for agriculture in the last few years, will achieve for us as much in the long run as she has done for all the other practical professions of mankind. It is of primary importance that we should not turn a deaf ear to her kind and salutary admonitions. In this intelligent community, let the man be scouted, who, resorting to the hackneied ultraisms of an age gone by, presumes to ridicule or denounce "book learning" among planters. Conceited ignorance, hastening to its own ruin, may indulge in grimace when scientific ideas are advanced, which are entirely beyond its comprehension, but the man of sense is not only weak, but criminal, who does not look with contempt upon the jibes of clodpoles, who, though they may have walked their three score years and ten, upon the bosom of the earth, know nothing of the history of its formation, its elements, its wants, or even its capacity. The same system of labor taught us by our fathers, if pursued by

us and transmitted to our children, would insure their starvation; we must therefore turn our attention to scientific and useful books; we must strive to know all that the collected experience of the world, from the earliest ages, can inform us, of what has been done and can be done again; we must take agricultural papers and learn what the practical men all over the country, having in view the same great objects as ourselves, have done, and are now doing; and having inwardly digested these things, we must exercise our best judgment in appropriating the results to our own use. We must try carefully and thoroughly every experiment from which we have any reasonable hope of advantage. Ninety-nine of them may utterly fail us, yet the hundredth may remunerate all our trouble, and fix our fortunes on a sure and enduring foundation. The Chinese, who have carried agriculture to its greatest perfection, did indeed arrive at all their knowledge by the slow process of experiment, unaided by scientific principles. How much more rapid should be our progress and more sure our success, blessed as we are, with the incalculable benefit of acquaintance with the physical sciences and especially with the grand revelations of modern chemistry.

In reclaiming lands we must make the best use of the resources which nature offers us, and has deposited most conveniently for our purpose. With manure made in our stables, cow and hog pens, all of us are familiar. I propose to suggest the means of greatly increasing and judiciously using them.

The most extensively employed in other countries and the most valuable of all materials for improving land, is lime. For ages past it has been regarded as the "basis of all good husbandry." It is an essential element of a good soil. Spread upon the land, its mechanical effects, at least they are yet regarded as mechanical, are to loosen and make porous stiff soils and give adhesiveness to sandy ores, and it gives valuable aid in restoring "galls" and preventing washes. Applied in its caustic state, it combines with free acids, which check decay and converts them sometimes into fertilizing substances, as in the formation of gypsum. It has an important solvent action upon certain inorganic compounds, and largely absorbs carbonic acid from the atmosphere, which it gives up to the roots of plants, and is thus highly beneficial even when applied to calcareous soils. But its greatest advantage is in hastening the decomposition of vegetable matter, such as weeds, roots, &c., uniting with their elements, rendering them soluble in water, and yielding them, when required, to growing plants. In this respect, it is the best of all materials for reducing our compost heaps; yet as it expels ammonia, the Promethean spark of putrescent manures, care must be taken to cover the heaps with absorbents, in order to arrest the gases as they are evolved. Lime is burnt near the mouth of Briar Creek, and was sold last year at 12 cents a bushel.

On account of its destructive action on the texture of plants, when applied to the growing crop, it has been superseded, when convenient, by the use of marl. Professor Johnston asserts, "that a larger surface of the cropped land of Europe, is improved by calcareous marls, than by the aid of lime and farm yard manure put together." Though producing, with pure lime, *ultimately*, the same general effects upon the soil, it has the advantages of acting beneficially at all periods, of supplying carbonic acid, the grand principle of nutriment, and of sometimes adding to land animal and saline matters of great value. And while promoting temporary fertility, this substance, caustic or as a carbonate, has a tendency likewise, with the addition of vegetable materials, to give durable and increasing strength to the soil by awakening with the earthy compounds a beautiful play of chemical affinities. Marl has been found in various parts of this county, and if diligently sought, I have little doubt, may be discovered within the reach of all who desire its aid. Uncertain experiment need not be apprehended, as its value has been amply tested in Virginia and in Carolina. The quantity to be applied depends altogether on the strength of the land, for which rules may be easily formed.

For specific purposes, plaster or gypsum has been applied with great effect in other countries and in our own. The increased luxuriance of vegetation which it produces everywhere, demonstrates clearly its fertilizing influence. It is a disinfector, and thrown over our manure piles, absorbs the gases which arise from fermentation injurious to health, and concentrates and preserves them for the legitimate purpose of enriching the ground. It has a peculiar affinity for ammonia, the gas encountered in our stables and known by its pungent and offensive smell. Scattered in these nauseous places, it renders them as sweet and the air as pure as in our parlors, while it fixes and saves to us this ammonia, the vital essence of manure. Thus is the health of our negroes and work animals essentially promoted, by the very means which improves so materially the quality of our manure. Plaster is not found among us that I know of, but it can be procured at the North on reasonable terms. After plaster, peat is probably most useful in our stables and pens. Though not a disinfector, it absorbs largely and combines with ammonia. It has been applied to soils in the different forms of ashes, compost, and in its natural state, and where a deficiency of vegetable matter exists, is highly serviceable in all. But it is preferable to us as in compost, as it is scarcely abundant enough to supply the desired quantity of ashes, and requires a long period for decay in its natural condition. Swamp mud or muck, when well dried, is in many respects superior to peat, as it is more finely divided, more soluble, contains a larger proportion of earthy salts, and absorbs equally as well. We possess rich mines of this material, which it becomes us to work as early as practicable. It should be dug out and piled to dry at least six months before it is used for any purpose.

Red clay has an affinity for ammonia, and dried, absorbs remarkably, while in its burnt state or reduced to ashes, which is done on a grand scale in other countries, it resembles lime in its mechanical effects, and supplies various salts essential to vegetation, and which are rendered soluble by the burning. Leaves and straw, in proportion to their weight, furnish a large amount of alkaline salts, and absorb freely the liquids of the farm yard. They are abundant about us and in general use. Cornstalks are not only excellent absorbents for our heaps, but, containing a large proportion of silicate of potash, an essential manure, should be carefully preserved. Marl, in addition to its other advantages, is likewise an excellent material for our compost heaps and stables; when it begins to operate it stimulates powerfully the process of decomposition, and also absorbs noxious gases, since experience proves, that it renders stables more healthy for animals.

In some parts of this county Bommer's patent system of making manure has been adopted with eminent success. This method should not have been patented, and it is not certain that the patent is valid. The plan was systemized by Jauffret in France, but has been more or less practiced in all ages and countries. It is simply a mode of composting, a little more expensive and laborious than those in common use, by which the raw material is much more rapidly carried through the process of fermentation. There is no magic about it, but still it merits attention, and perhaps is worth the reduced price now asked for it. On small plantations it can certainly be employed with great effect, and possibly on large ones. Yet, as time and labor cannot always be conveniently spared to collect *at once* the large quantity of materials required—without counting the money cost of some of them—while our ordinary compost heaps may be built up by gradual additions during the year; it is a question, whether we could not excite fermentation sufficiently by pouring into the heaps the liquids of the yard and stable, mixed with marl or plaster, and loosening the piles to admit the air, at the same time render the manure good enough for all practical purposes.

But if we are at length convinced, and the times ought at least to have induced this conviction, that it is cheaper to raise our own meat than to bring it across the mountains, and have fully resolved to make the trial, our hog and other pens will supply the most considerable portion of our manure, and of the most valuable kinds that are known. From this source we have heretofore derived little or no benefit. The few hogs reared among us, with some exceptions, are usually turned into a scanty range, with scarce food enough to preserve life, until shortly before killing. They are then allowed the run of pea fields, often picked over, and an increased supply of corn to give a streak of fat. Excepting the straw for bedding, which absorbs something by accident, no manure whatever is collected. And under such treatment a hog rarely weighs 150 lbs. at a year old. The plan should be changed; we should pen all our hogs and feed them regularly the year round. This course has been adopted successfully at the North and partially practiced with profit by certain planters in both our adjoining States. Thus enclosed and attended, hogs have been known to exceed 500 lbs. at a year old, and to increase for short periods as rapidly as 3 lbs. per day, while each hog, when amply supplied with straw, peat, rotten wood or charcoal and other raw materials, has manufactured in the year as much as two cords or over 200 bushels of excellent manure. Thus, the manure alone would pay for the feeding, and the increase of flesh over the ordinary accumulation from the means I have described, would be nett gain. Taken from our range, hogs will consume more in fattening too, than they would under judicious treatment in pens, during the whole year; and by enclosing they would be kept out of mischief to ourselves and our neighbors, would multiply more rapidly, occupy less time in attending to them, and be less liable to be stolen or destroyed by wild animals. From the heat of our summers and the liability to mange and lice, our pens should not be too confined, and free access should be had to running or fresh water. Houses are built for hogs at the North, where they are removed from their element and pampered in the second and sometimes even as high as the third story from the ground. We may not obtain immediately such results here as at the North, though an approximation to them has been made recently in Alabama; yet, with a good choice of breeds—among which I should by no means recommend the Berkshire—an abundant growth of turnips, artichokes, peas, potatoes and corn, and with our mild winters, there is no reason why we should not surpass them.

By enclosing likewise our cattle, even greater advantages would result to us. After providing our negroes amply with milk, the increase of meat and butter would repay the trouble and expense incurred, while vast quantities of manure would be collected nearly equal in quality to that from our stables.

A grand benefit that would accrue from the enclosing all our stock, if universally practised among us, would be the ability to dispense altogether with fencing, except for these enclosures. Few taxes are heavier than keeping up the infinite line of fences and cross-fences, not only upon our time and labor, but also on our forests, which will soon be consumed without a change of system. It has been estimated by an enlightened planter of South Carolina, that there are at least 100,000 miles of rail fence in that State, requiring 8 or 9,000 rails per mile, valued at $50, which gives for the value of all their fences, the enormous amount of five millions of dollars! And the State interest being 7 per cent., and the annual decay of such fences being 13 per cent., or their duration only seven years, the annual interest on the sum thus invested, is 20 per cent., or one million of dollars. The calculation for this State would be

much larger. And our proportion of this immense outlay of capital is incurred solely to allow our stock the benefit of a proverbially poor range. The amount thus invested in fences equals perhaps the full value of our stock; and if the labor of splitting rails and repairing fences were withdrawn and applied to the crop, it would increase it sufficiently to purchase the larger part of the meat for the entire plantation consumption, while, if the necessity of keeping up extensive fences no longer existed, we might dispense with our immense reservations of lands lying idle, otherwise than to supply timber for rails.

In addition to the above sources of manure, I must not fail to allude to night-soil as the most valuable of them all, and which might be more readily collected and applied to use by planters than is generally supposed. It is nearly as good as guano, without costing as that article does the transportation of 5,000 miles. Prejudice, I know, will preclude its general use among us for a while, but when we fairly begin the scheme of manuring, and acquire, as we certainly will do, a sort of enthusiasm in the accumulation and preservation of all fertilizers, and learn that this one is universally saved and applied with the greatest results, in the best agricultural countries, I am sure that it will be as carefully kept, and be far more highly appreciated than stable manure is now.

But besides manuring, other means must be employed in order to loosen and lighten up the soil on our level lands, packed down by tillage and the tread of man and beast for a series of years. Marl or lime will answer this purpose on the surface, but to stir it to a proper depth we must resort to the subsoil plow. This plow, counted the great discovery of modern agriculture, was invented in England many years ago, but revived in Scotland recently, to serve the double purpose of loosening stiff soils from 12 to 20 inches deep, and to drain off their surface, which in this kind of land, especially in cold climates, retains too much moisture. Its success has been complete, both there and at the North, and in some instances a double and even triple yield, has followed a single application. We have a good deal of clay land, damp and consequently sour, cold, and comparatively unproductive, and this is the implement required to drain it. All lands, those the most worn especially, would be vastly benefitted by the use of this plow. From what I have observed, I am inclined to think our lightest sandy soils would amply repay its use. If there are any on which it will fail in the long run, they are perhaps only the most compact and the finest pipe clay, which would run together again at the first heavy rain. By making it porous and light, we would permit air and heat to penetrate and warm and fertilize the land, while the loosened soil would enable the roots to extend wider and deeper in search of nutriment. The subsoil, lso, as asserted by high authority, contains an inexhaustible quantity of earthy salts, used by plants, locked in the embrace of chemical affinity, which would be realized by exposure to the pulverizing and decomposing action of the elements. An application of manure to these soils afterwards, and judicious treatment subsequently, would insure and prolong their restoration.

On our rolling land, looking hideous with its deformities of naked ridges and gullies, the latter of which have carried away so much fertility and threaten to extend far into the plains, we must resort to hill-side ditching. It has been practiced in the up-country with decided advantage, and at whatever cost, rules should be procured for its use here before our broken lands are utterly destroyed. Common sense has governed some in the invention of a successful method, but if we lack energy to think for ourselves, or patience to experiment until crowned with success, let a special committee be named to examine and report, or a premium be offered for an essay on the best plan of operation.

We have extensive swamps and countless ponds in our county, most of them vastly rich. The period has arrived when our attention should be seriously directed to their drainage. For the most part this may be done with ease, the fall and outlets being abundantly sufficient; the commonest levelling instrument will answer to regulate our operations, and with some instruction, our slaves will ditch faster than white men, which will greatly diminish the expense to us. Instead of requiring manure, these swamp soils could furnish a large amount of peat and mud for our poorer land, and retain afterwards a thickness of vegetable matter which ages of proper culture could not exhaust. They are equal, large portions of them, to the best lands of Louisiana and Texas, and their yield on the *second year's* cultivation would repay all the labor of draining and clearing.

[CONCLUDED IN OUR NEXT.]

Little Things.

From the North Carolina Farmer.

MR. EDITOR: In travelling through N. C., I am frequently amused at such expressions as—"Mr. A. is one of our greatest farmers; he owns 1000 acres of good farm land, and runs 20 plows." Now go around Mr. A.'s fence, look at his farm; you would say instantly that an intelligent man had nothing to do with that farm. The fence is out of repair—the land about half plowed—the stock in bad order, the corn uneven, the plows good for nothing, the horses poor and galded—bushes growing on the ditch bank, in the middle of the field and all about the fence—the negroes are ragged and filthy—the master going like a madman all over the premises, complaining of the disorder here, there and every where. And now, what is the matter? All the difficulties grow out of the want of a little more contrivance in "Master's head." He wants to cultivate too much land for his force; wants the land to improve itself without his trouble; is mad with the hogs because they won't fatten with less food; and nothing goes right. Now, the difficulty lies here; Mr. A. thinks that good farming consists in the number of plows a man has, the number of horses, hands, stock, &c. He never once thought about attending to *little things*. This is the crying sin of farmers generally. A want of system, and attention to the smaller circumstances of the farm. They forget that the great Architect of the world has made himself as great in minuteness as in magnitude, since the legs of a fly have been fitted up with all the perfection of an air-pump, and this too, done by that hand that formed those vast globes of light that float in wide fields of immeasurable space. A friend called on Michael Angelo, who was finishing a statue; some time afterwards he called again; the sculptor was still at his work; looking at the figure, his friend exclaimed. "Have you been idle since I saw you last?" "By no means," replied Angelo, "I have retouched this part and polished that; I have softened this feature and brought out that muscle; I have given more expression to this lip, and more energy to that limb." "Well, well," said his friend, "all these are trifles." "*It may be so*," replied Angelo, "*but recollect trifles make perfection, and that perfection is no trifle.*" Let farmers think of that. How much happier our farmers would be to restrict their labours to a smaller space, and bring that space to perfection. There would be much pleasure in looking at the scene—more real profit in the end—and less aggravation in attending to the labourers. Then, let no farmer think it a trifle to have all the weeds carefully wed from about the yard, and thrown into the hog-pen—have the milch cows curry-combed, the horses well rubbed, the ditch banks trimmed down, the clearings of the ditches hauled into the lot for manure, shrubs cut from about the fences, pig pens daily supplied with trash for manure, all the ashes carefully saved, soap-suds all poured on the manure pile, manure piles kept shaded as much as possible, see that the menure is spread the minute it is carried into the field, &c. &c.; always remembering, "that, *trifles make perfection, and that perfection is no trifle.*"

Bladen County, N. C. BY THE WAY.

From the American Farmer.

To the Young Farmers of Maryland, on Practical Agriculture.

Six teeth out of my threshing machine, and the consequent delay in my operations, enables me to devote a few moments to a subject, on which I have long contemplated addressing you, but until the present, prevented by various causes—that of *Practical Farming*—more especially as applying to *young Maryland Farmers*, like myself on old lands.

The recent change in the form of our venerable and useful agricultural journal, keeping pace as it does, with the "lights" as they are discovered beaming above the mists of by-gone ignorance, has suggested the spirit of these papers; or, if you will dignify them with the term, essays—and it is my special aim, so far as consistent with fact, to avoid all the technology of pedantry; the 'schools,' and the metaphysical theorist.

Succeeding the management of an old estate, at a period when mercantile pursuits presented more pecuniary attraction than agricultural, my first experiment in the latter, was to let my farm on shares, by the advice of my friends, to a *working* man; the consequence was, that at the end of two years, I was heartily glad to rid myself of a vampyre, who exhausted what little 'blood' there was left in the old 'turnip'—his last boast on quitting me, being that '*he had skinned my place in two years*,' and thought by rushing it, (a favorite phrase of his,) to be able to do the same, where he was going. Hence, you can readily imagine the condition in which I found matters, on assuming sway in person.

My first efforts at restoration were, to repair and have made several hundred pannels of outfencing; discarding entirely, and using the materials on it, all inner or cross lines, save a good sized, paled barn-yard; a five rail feeding and milking yard, and a poultry yard—designing to pursue the soiling and excise system, and study the economy of manure, of which, more anon.

Of course the eyes of all our old neighborhood were upon me, and their aged wives spoke wonderously wise as to what 'I would *not* do,' not what I *would*—'to make a living off *that old* place.' 'Your meadows have all *run out*,' quoth one; 'you'll have to spend many a dollar to repair your houses,' quotha—and so on, until at last, had I not at least possessed the negative merit of obstinacy, I should have beaten any plowshare into a sword, and taken the road to Texas for a livelihood!

'It's a pity,' said a person who was burning blue lime, 'you do not lime that *bare-looking field*; why, it won't raise *dog's hair*.' Now gentlemen, with your leave, it is of that very field I intend treating in this, my first agricultural paper. My *on shares* working man, not leaving until late in November, no time could be found to flush a piece of sod for my corn, having to sow my wheat, some as late as 25th November; so, the only spot '*clean enough*' the next spring was 'that bare looking field.' Now, by the order of retrospect, you shall have the history of this field. A neighbor had it some six years ago on a lease; his last cropping was wheat, to bind which, he was compelled to haul out old straw, its own being too short to tie around a sheaf. My brother then worked it in corn, manured in the hills; the crop was scarcely worth saving; his wheat succeeding that, no yield; next, my working man planted it in corn, partially manured in the hills, and then neglected—so that you will perceive the only place I had for this voracious crop, had been planted in it the previous year. After having it plowed, harrowed and rolled in March, I had it cross-plowed, harrowed twice and rolled in April; marked off in checks 3 feet by 4, without spaces, running north and south, or nearly so—hauled out two hundred one horse cart loads of wood-pile stuff, and sand and mortar, from an old wall, composted, about equal parts, putting two shovels full in each hill. Now thesoil naturally, is what we term a white oak, clay bottom, with a few traces of iron ore, in particles

—a stiff unmanageable soil if plowed when wet, and impossible to be worked when dry.

The season, you will remember, was very dry; notwithstanding this, after the hoeing, I ordered the cultivator to be passed through it in both directions, until countermanded. I was assured by all the old hands, 'it will all fire, sir.' I persisted, however; laid it up about the 21st of July, with a small one horse plow, plowing about four inches deep; cultivated it down level again; cut it off down to the ground on the 15th of September, and hauled off to shuck, a fair yield of heavy corn. The next day I put in a Wiley 56 plow, (a good implement where there is no sod,) cross-plowing the last spring furrow, and following it with a Sinclair & Co. No. 8 subsoil plow, obtaining by this a depth of 16 inches, 9 of old and 7 of new soil—the subsoil retained in its original bed, but pulverized and lightened up, so that an addition of some inches to the general surface was apparent, besides securing a deposit for the absorption of all surplus moisture, if a wet, or in a dry season, a reservoir of water to be evaporated by the sun, through the pores of the superstratum of old earth; thus gradually incorporating the whole mass, which is completed by a deep plowing with the ordinary plow, when next broken up, and nourishing the crop. But, to return, having finished plowing and harrowing, it was seeded in wheat on the 15th of September, the soil appearing to be a mellow, finely pulverized loam—the rain falling in torrents before we finished, prevented the lands from being opened, the water furrows marked off or being rolled in; yet we succeeded in getting the timothy seed sown, depending upon the rain to set it. The ground began to clog and betray symptoms of the "old leaven"—nor did it dry till the April following—one acre was harrowed in with 100 bushels of old leached ashes, two acres were broadcast with the same quantity, one in February, while frozen, and one in April; the other (there being four in all,) remained unaided—25 bushels the first yielded; 15 the second; 20 the third, and about 14 the fourth, now threshed and measured.

The timothy now looks green amid the stubble, and stands so thickly, that, I think, "ill weeds" dare not usurp its place, and promises a fair swarth of full mowing for corn hay.

Yours sincerely, CINCINNATUS.

Baltimore Co., July 5th, 1845.

Georgia Clay.

At a meeting of the New York Brooklyn Institute, on the evening of the 12th ult, Mr. Bailey, to whom was referred a specimen of Clay from the soil of this State, made the following report:

This specimen of Clay was brought by a Mr. Hardee from Georgia, and handed to Mr. Partridge to ascertain whether it was Fuller's Earth and what was its probable value. Mr. P. tested it and found it was not Fuller's Earth.—He showed it to me, and I immediately found it was good China Clay, very little (if any) inferior to the Devonshire Clay used in making the best earthen ware in the Staffordshire Potteries. I divided it into two pieces, and submitted it to a strong heat, sufficient to calcine or bake it into (what the Potters term) the biscuit state, as it appears in the unglazed piece, which is the state in which the pattern is always put upon earthern-ware. I then took the other piece (which was in the biscuit state) and dipped it into potters' glaze, and submitted it to a sufficient heat to vitrify it, as it appears in the piece that is glazed. I was under the necessity of using the common yellow glaze that is used by the manufacturers of stone ware here; but if it had been glazed with fine, white glaze, such as is used for glazing the best kind of earthen ware, it would have been quite white, instead of yellow—the white glaze for earthenware is composed of dry white lead, decomposed granite or Cornish stone, silex, and glass.

I consider the discovery of this China Clay to be very important, for it has hitherto been thought that a fine description of earthen-ware could not be made in the United States for want of proper clay; but this proves that clay sufficiently good can be found, if potteries were established for making it into earthen-ware.

From the North Carolina Farmer.

To make Poor old Land Good, and the good Better.

Mr. Editor:—Having had near twenty years' experience in doing here as above stated, with a good degree of success, I have concluded to offer an outline thereof for the "North Carolina Farmer."

I premise, however, that without both skill and industry, the above cannot be done; or, as you stated lately, in the piece on "book farming," knowledge is power in farming, full as much, at least, as in any other business of life. And without knowledge there can be no skill; and let any one be ever so knowing and skilful, industry is indispensable to crown all with complete success. But how, I ask, is the farmer to acquire enlarged practical knowledge of his pursuit? All but the ignorant and prejudiced must acknowledge that *reading* on the subject of agriculture is one excellent and principal means of acquiring particular as well as general knowledge of farming business. For instance, of what avail to the lawyer and physician to inform themselves generally on professional subjects, without also an intimate knowledge of *particular* instances or cases, gained also by reading. But without pursuing general reading to prove the great utility of book or reading knowledge in regard to skilfulness in *healing mother earth* of the sterility of worn-out soil, I go at once to stubborn facts, which speak volumes on the subject. And one grand fact, that none but the ill-informed will dispute, is, that wherever in our own or other countries great improvements in productiveness of old lands have been made, the reading and diffusion of agricultural periodicals have been intimately connected therewith. True, agricultural societies and other means often contributed thereto; but the spirit of improvement has ever been got up and kept up by agricultural reading. By gradual improvements, through the above stated means, old, unproductive lands, both in Europe and America, have become abundant in yield, and very profitable; indeed, garden spots, compared to former yield; and whole sections of country greatly and more permanently productive than newly cleared lands. And it may be said, in given instances at least, this improvement has been made at less expense or outlay than that of clearing the forests of the wilderness, or that of felling and clearing away heavy timbers and the like. O! that our State, in view of such facts, Mr. Editor, would wake up from her Rip Van Winkle agricultural sleep! and, for her own best interests, would become a reader and extensive patronizer of the North Carolina Farmer and other agricultural periodicals! From experience and information, I, for one, am bound to say, that thereby a surprising renovation of soil would ere long be manifest, and far fewer of the sons and daughters of the good old North State would be forced, by a wretched system of wearing out old lands, to pull up stakes and remove west from the home of their fathers.

When I purchased here, the farm was proverbially poor, and considered worn out, and was dear at a dollar and a half an acre. But it is now quite productive, and, not to speak of some acres of vineyard yielding 30 or 40 barrels of wine, other improved land is worth more than quadruple per acre. But I began improvement by taking the American Farmer, (the pioneer of American agricultural periodicals,) at FIVE dollars a year. But while diligent in acquiring the requisite information, both to guard against errors and to gain the power of knowledge, as to agriculture, or to obtain the *science* of the most important of all arts, I by no means neglected the attention to details and manual labor, to crown all with desired success. For instance, while some, at the leisure season, after crops laid by, were spending their time, (as precious as money,) in attending election treats, fish-fries and the like, to listen to artful demagogues talking about hard times, while helping to make such times through encouragement of idleness and dissipation, I was taking the pains to make a crop of ruta baga, at the rate of 600 bushels per acre, as I communicated to the American Farmer. The first steps, then, I consider, to make poor old lands good, and the good better, are *reading*, information and *industry*. Several other steps to this most important end I would fain detail here, but the limits of a single essay forbid. At present I close with some general remarks.

1. As husbanding and judicious application of manures are of the utmost importance towards improvement of old lands, I by no means neglected attention thereto. The horse and cow stables well littered; the hog-pen, the trash reservoir near the kitchen, and the like, were all put in requisition to accumulate manure as the farmer's gold mine or secret of wealth. For eight years past I have applied manure in such way as to always do good, and never harm. It is that of burying it a due depth in the drills and never disturbing it, or the principal roots of plants therein, by after culture. For instance, corn drilled 7 feet wide, the manure taken fresh from the stable and buried by plowing each side, in a large and deep furrow. Corn, so soon as up, cultered deep each side of the drill, and afterwards worked by plow or cultivator. Peas drilled between the rows, and in the fall or winter deep furrows made where peas grew, and corn stalks pulled up and laid in the furrows, and covered slightly by the plow, as part of manure for next year's crop, and peas to alternate where corn had stood, and so on, if a field be improved in this way by a continued corn crop.

2. But unless as an exception, as above stated, a judicious rotation of crops I have found of very great importance. An anecdote here I cannot forbear relating: Some years since, in obtaining subscribers for the "Albany Cultivator," I solicited a gentleman farmer to take it. His reply of rejection was, that he had as much knowledge as he wished on agriculture. A few minutes after we walked out together to view his farm, and he showed me a field he had ruined as to fertility by sowing oats thereon several years in succession. I observed that if he had only had the knowledge the "Cultivator" imparted, as to the injury of successive crops of small grain, he might have saved in this single instance the damage of a number of dollars. He had nothing to reply as self-convicted of the loss by ignorance in that particular at least.

It may be remarked here, that the *reading* knowledge of farming, like that of religion through the Bible, and the acquisition, by reading, of any knowledge in the range of the Arts and Sciences, can be duly appreciated only as to the nameless advantages by those who first try and experience the benefits. The ignorant, commonly cavil, because they know nothing thereof, and are too proud to learn even what may be for their best good

3. Once more, I observe ere I close, that one most effectual means, as I have found by years' experience, to make land *better*, is that of covering small grain immediately after sowing (but if wheat, when up and at leisure in winter) with pine leaves or straw, from the old field or woods, an inch or so deep, spread over evenly. I have frequently doubled my crops of oats, wheat and rye in this way. Or that part of a field thus covered and shaded at least twice as good as the part not covered. Besides, the ground by the after decomposition of that vegetable matter is gradually improved. And one grand advantage of this covering of small grain is, that even sandy land, (if sufficiently rich, at least,) may have a clover crop thereon sown with or after the small grain (if wheat, in spring after covering in winter,) without the usual danger of being burnt out by the hot sun and dry wea-

ther of summer. Indeed, I have found such repeated covering equivalent to marl, and less trouble of putting it on. Where pine straw is not to be had, wheat straw (or other litter) an equivalent, and perhaps better for wheat, on the principle lately discovered, that the straw or litter of any kind of plant makes the best manure for the same. Hence, corn stalks are the best litter for corn, if managed as before stated.

I earnestly request my brother farmers, reading this, to effectually try the aforesaid plan of covering and shading small grain. Some, in this region and elsewhere, at my recommendation, have adopted it with the happiest effects as to improvement of both crops and lands.

I should like to go more into detail as to the subject in hand, but my intended limits now exceeded, I must desist at present.

In haste, yours, &c., with all due respect,

SIDNEY WELLER.

Brinkleyville, Halifax Co., N. C., July 29, '45.

From the New Genesee Farmer.

Purchasing Butter.

"Is your butter good?" said I to the farmer.

"Good! my wife has made butter these twenty years, and I should think she ought to know how to make good butter by this time!"

He was evidently offended.

"Well, let us examine it." The cover was taken off the tub, the clean white cloth (which had been wet in brine,) rolled up, and the yellow treasure revealed. It certainly did look good.

"It tastes sweet, but how very salt it is."

"We always make our butter salt, to have it keep at this season."

"Let us see if the buttermilk is as well worked out as the salt is in."

Some of the rolls were pressed down with the ladle.

"Now my friend, if your wife *has* made butter these twenty years, she does not know how to make good; for no butter can be good until the buttermilk is worked out. If that is done, you need not salt it so bad to have it keep well in any place. A very little care and labor would have made this excellent butter; lacking that little, it is only a second quality, as you shall acknowledge when I show you a sample of *good butter.*"

We went in, and I took up a roll from a crock of first-rate butter. It was smooth, clear and handsome; the hand of woman had not been on it from the time it had left the churn until now; all the work had been done with the ladle.

"If you get a drop of buttermilk from that butter, you shall have the whole free."

"Now, taste this, and your own, and say honestly, if you would not give a higher price for this than for your own. Look at it—see how clear and transparent these minute globules are and how intimately they are blended with the mass. Until these all disappear the butter will keep sweet, and no butter will keep long when they are ever so slightly colored by the milk."

The farmer simply remarked that there was a difference in all butter, and left to find a less critical and more ready customer.

It is strange that when everybody loves good butter, and are willing to pay for it, our farmer's wives and daughters do not take pains to make a better article. It is the women's fault that we have poor butter generally, and we shall hold them responsible.

It is perfectly easy to made good butter. The only requisite is care. Good butter will always command a good price in the dullest market, while poor butter is a drug at any price.

When any of my lady readers make butter again, just let them imagine that I am to have a nice bit of bread and butter with them, and that I shall detect the least particle of milk, and that I am not fond of too much salt.

THE BEST BOOK.—The best book for a farmer is the Bible; and the next best works, are those devoted to Agriculture.

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1841, and arranged to suit the Southern States.

CALENDAR FOR MARCH.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months. This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

Maple Sugar should now be made by all who have trees suitable for it. The business may commence at the first running of the sap, whether in February or March, and continue as long as the nights freeze.

It is estimated that the State of Vermont, with a population of less than 300,000, made over 6,000,000 lbs. of maple sugar, in 1842, besides the syrup. This is a large item in the productive industry of a single State. If properly tapped, the trees are not injured. This may be done with a 1¼ inch auger, slanting the hole downwards to the depth of 1½ inches, so as to form a cup; or a square hole may be made with a chisel and mallet. Another hole should be bored with a spike gimblet, slanting upwards, so as to draw off the sap from the cup formed above, and into this hole a tube of elder or other kind must be closely fitted. From one to three holes may be made according to the size of the tree; though no trees ought to be tapped of less than twelve or eighteen inches diameter. Many practice boring their holes with a ¾ inch auger, slanting upwards, and fitting an elder tube, from which the pith has been removed, of the full size of the hole. All the vessels used for the sap should be perfectly clean. As soon as drawn from the trees, strain the sap and boil in sheet-iron boilers, containing about five pails each, reducing twenty of sap to one of syrup. Then add the white of two eggs to three gallons of syrup, and stir till it boils. After the scum is collected, strain through flannel, and again boil it till it will rope an inch, then pour into pans till it grains. After this place it in wooden drains filled with gimblet holes and tapering to the bottom. To make into cakes it must be boiled till it will stir dry in a spoon. Care must be taken to prevent scorching during any part of the process.

Prepare ground now for hemp, tobacco, sweet potatoes, and castor beans. If any hemp remain unbroke, it should be dressed with all possible despatch.

Cattle must be closely looked after, and not allowed to wander in the roads or fields, dragging themselves through the mud and poaching on meadows, without any benefit to themselves. Still keep them sheltered and dry, and if they get well through this month they will be safe enough on pasture thereafter. Look well to the animals with young, especially such as are near their time, and give them a little extra feed, good hay, roots or meal. This helps them along over their troubles very much, and enables the young to get on their feet at once. Immediately on dropping the young, let the bag of the dam be well drawn, which, if not done by the offspring, should be done by the hand. Light food, and in small quantities, should be given for three or four days, when the animal may be gradually put on its full rations.

Grass Seeds may now be sown, not in the stinted way too often practiced, but *liberally.* Many fields produce but half a crop for the sole want of plants enough to draw up the nourishment they could otherwise furnish, and weeds come in to supply the place of what ought to have been occupied by grass. Many practice sowing on the snow, which settles away and leaves the seed to occupy the ground which has been well prepared by the operation of the frost. For permanent meadows, several kinds of grass should be sown on the same field. Save your own clover, herds grass, &c. You can then afford to seed more plentifully. Get out all the manure to the fields that can be done, and spread it broadcast. Nothing is lost by this method; it warms the earth and decomposes rapidly, and is particularly beneficial to meadow lands.

Kitchen Garden.—Continue the directions given in January and February. Transplant into new hot beds the cucumbers and melons that were sown last month. Cauliflower plants raised from seed sown last month, as soon as they are three or four inches high, should be pricked into a new hot bed Cabbage plants should be gradually inured to the open air, and as soon as the weather is sufficiently favorable they can be planted in the open ground for heading. Seeds of cabbage, cauliflower, radishes, &c., can be sown in a warm border on the south side of a stone wall or close fence, as soon as the frost is entirely out of the ground, and mild weather has fairly set in. At the same time, sow a full crop of peas, kidney beans, spinach, parsnips, carrots, beets, onions, turnips, parsley, potatoes for early use, lettuce, &c. Transplant into the open ground the lettuce from the hot beds. Sow in hot beds seeds of the red pepper, tomato and egg plant, to be planted in the open ground early in May.

The asparagus bed should now be forked and dressed, and new plantations can be made. In making plantations of this, as also of all other vegetables, the beds should be plentifully manured; and it should be constantly borne in mind, that superior vegetables cannot be obtained unless the soil is highly fertilized by abundant and repeated applications of manure.

Fruit Garden and Orchard.—When the weather is open, fruit trees may be planted any time in the month. Gooseberries, currants and raspberries, can still be pruned when it has not been before done. The former should be well manured and cultivated. If not done previously, strawberry beds should now be uncovered, hoed and cleaned. New beds can also be planted out, although they will not bear as well as those planted the fall previous. It should be borne in mind that the fruit as well as the vegetable garden, will afford much superior produce when it is well cultivated and highly manured. The cultivator will be amply remunerated for any extra trouble or expense.

Flower Garden and Pleasure Grounds.—As soon as the bulbs begin to break the ground, take off the litter carefully, and also uncover the shrubs and flower borders. Sow in hot beds a general assortment of annuals for early blooming. Dig up and put in order the flower borders that they may appear neat, and be ready to receive annual and other plants from the hot bed. In the latter part of the month, transplant biennials and perennials. Dig around the trees and shrubberies. They will grow better with cultivation. Plant deciduous ornamental trees and shrubs. Let the trees have plenty of room; it is a great error in planting to allow the trees so little space, that when they become large they must necessarily be spindling. Plant box edging and hedges, hoe and clean the flower garden throughout. Roll the lawn and put the gravel walks in order, trim the edges of the turf, and give it a top-dressing of lime or ashes when it is necessary.

Plantation.—In the early part of this month, if the season has not required it before, select your ground for your tobacco crop. It should be a rich sandy loam, capable of retaining moisture, and the more level the better. Plow or dig up the surface at least twice before planting, and level well each time. As soon as the young plants acquire a leaf the size of a dollar, take the advantage of the first wet or cloudy day, and commence setting them out in rows about three feet apart from north to south, and two and a half feet apart from east to west. In taking the plants up from the nursery, the ground should be first loosened with a flat piece of wood or iron, about an inch broad: then carefully holding the leaves closed in the hand, draw them up and place them in a basket to receive them for planting. The evening is the best time for setting out plants, but it can also be done in the morning. Those set out in the morning, unless it be cloudy or rainy, should be covered during the day with palmetto leaves

or other substances. Water the plants morning and evening until they have taken root. Fill up all vacancies where the plants die, with new ones.

The first fine weather after the 20th of this month, commence planting your cotton seed. Put in one-half of your crop ten days before the remainder, in order that you will not be too much driven in your harvest. Moisten your seed, and roll it with ashes and earth, and it will vegetate earlier, and will require a less quantity per acre.

After your ground is well plowed and prepared by dykes and ditches for inundation, sow your *low-land rice* broadcast, at the rate of a bushel or a bushel and a half to an acre, and harrow it with a light harrow, having many teeth. Immediately after sowing, inundate the ground with water for three or four days, or until the rice begins to swell, and then shut it off. As soon as the young rice is about three inches high, let the water in again so as to leave their tops just above the surface and let it remain until ten days or a fortnight previous to harvest, when it should be drawn off.

Plant Indian corn if it was not done last month. Harrow and weed it, as soon as it is large enough. Attend to the sugar cane, hoe and keep it clear of weeds.

Bed out sweet potatoes as early as the season will permit. Place them on the level of the ground previously dug up and raked even, as near as you can without touching; then cover them three or four inches, out of a trench dug all around the bed; this trench keeps the superabundance of water drained off, and therefore, the bed warmer. A bed 40 feet long and 5 wide, will plant 15 or 20 bushels of potatoes. When there is no danger of frost, scrape off part of the covering; and thus enable them to vegetate earlier. Give the ground a liberal coat of manure. Have coops in readiness for young chickens—early ones are best.

What was delayed last month may be successfully done in this. Set out your plants from your hot beds—plant French beans—all kinds of melons, cucumbers and tomato seeds, red peppers for pickling—celery seed for next winter, which must be set out when at a proper size, and let grow all summer, when it must be blanched. Transplant aromatic herbs, trim lemon and orange trees, procure the Brazilian variety of navel orange from St. John's river, East Florida, if possible. Sow millet-grass about the 20th of this month, manure the ground well, and you will be repaid for the trouble. Hoe the cabbages and lettuce which were transplanted last month, every ten days.

The Model Farm of Ohio.

From the Ohio Cultivator.

The model farm of this State contains 100 acres, 75 of which are well cleared, and the whole under fence. 60 acres are embraced in one enclosure, and this includes all the arable and meadow land upon the farm. The buildings are all of stone, neat, durable and commodious. The dwelling is not large, but capacious enough for use of the family and a room and a bed or two for an occasional friend. The kitchen and stables are supplied with water from the same spring. No stock but hogs and sheep are permitted to graze. The cattle and horses are constantly kept in their stalls, and are always in good order. The cows are at all times fat enough for the butchers, and the growing stock at two years old attain the weight of ordinary steers at four. During the summer they are soiled, with green food, consequently, 20 acres in grass is sufficient to keep four horses and ten cows with their offspring until the young stock are ready for the market at three or four years old, when they average him $30 per head. Of these he makes it a point to sell ten head a year. For his stock he raises about one acre of roots, sugar beets, mangel-wurtzel and turnips each year, which yields him, on an average about 1500 bushels. Of corn he cultivates five acres a year, which, by proper culture and judicious rotation, yields him 500 bushels. Five acres in wheat gives him yearly 150 bushels. Five acres of oats, 300 bushels.

He has an orchard of eight acres, in which he has 200 apple trees, 25 pear, 25 plum, 100 peach, and 50 cherry trees. This is divided into four compartments of two acres each. Two of these he plows up every year, and in the spring plants them in Jerusalem Artichokes. Here he keeps his hogs. In the two that are not plowed, he has a clover and orchard grass ley, in which the swine feed from the middle of May to the first of August, when they are let into one of the artichoke yards and range at will into the two grass yards and this till winter, when they are passed into the second artichoke yard, where they are kept till the grass has sufficiently advanced in one of the fields to turn them into that. Thus upon grass, roots and fruit the swine are kept so thrifty, that a few bushels of grain are sufficient to make them ready for the butcher. In this way he manages to kill thirty hogs a year, which will average 400 lbs. each. He gives them beet wintering.

His sheep range principally in the woods, with a small pasture of five acres. He keeps 75 head, which yield him 300 pounds of wool a year.

As this farmer has raised a large family, and raised them all well, having given each child a good practical education, I was curious to look into his affairs, and as he keeps a regular account current of his transactions, it gave him no trouble to inform me of the result of his mode of proceeding, which is briefly as follows:

Product of the farm—

10 beef cattle, average $30 per head	$300
25 hogs at $12 per head	300
200 bushels Corn at 25 cents per bushel	50
Product of Sheep	100
do. Diary	200
do. Orchard	300
Other and smaller crops	100
Total	$1,350
His hired labor cost him on an av. per annum	300
Nett proceeds	$1,050

Thus, from 100 acres of land, even in Ohio, this man has been able to lay by, and invest at interest, on an average, $500 a year for the last 12 years. He has now some eight or ten thousand dollars at interest, and his home is a home indeed. Who does better on a farm of 1000 acres? Or who has improved his condition by going west, more than he has by staying here? Of course, like others, he has suffered somewhat from unfavorable seasons, in some of his crops, but his correct system of culture and intelligent management generally obviates every difficulty which springs from this source, and as his crops are always better than his neighbors' the advance in price more than makes up the deficiency. His system of saving and making manures, turns everything into the improvement of his soil, weeds, ashes, the offal of his stock, soap suds, bones, and everything that will tend to enrich it, are carefully saved and properly applied.

The history of this man is brief, but, to the farmer, interesting. He began with the patrimony of good sense, sound health and industrious habits. Excellent so far. In 1830 he had six children and $3,000. He bought his farm in a state of nature in 1830, for which he paid $400. He expended $400 more in clearing his land, in addition to his own labor. He first put up a temporary cabin in which he moved his family. $1000 he put out at a permanent annual interest, and the remaining $1,200 with the earlier profits of his farm, he appropriated to the erection of his buildings, which were complete in 1834. In the selection of his fruit, he sought for the best varieties which always gave him preference in the market. So of his stock. In this he avoided the mania of high prices, and has made up in judicious crossing and breeding, what others seek at great cost in foreign countries. Everything he does is done well. Everything he sends to the market commands the highest price, because it is of the best kind. In his parlor is a well selected library of some 300 volumes, and these books are read. He takes one political, one religious and two agricultural papers, and the N. A. Review; refuses all offices, is, with his family, a regular attendant at church, and is a pious, upright and conscientious man. He is the peacemaker in his neighborhood, and the chosen arbiter in all their disputes; he loans his money at 6 per cent., and will take no more.

He says he wants no more land for his own use than he can cultivate well—no more stock than he can keep well—more land will increase his taxes, his labor and expenses will be less profitable.

Here is a model of a man and of a farmer, and the model of a farm. Who will be happy and follow his example? AGRICOLA.

Agriculture.

The United States owe their great principle of power and duration to that spirit of honest industry and that God-reverencing feeling which filled and elevated their forefathers. They came from the old world to this new one, (to plow, harrow, and hoe it,) looking to God alone for his blessing upon their endeavors to obey his great command, of earning their living by the sweat of their brows.

Spain sent out Cortez and Pizarro to gather the gold of Peru and Mexico. They did gather it. Spain dropped her spade, her plow, and her hoe. She revelled in the pride which thirty millions of American dollars a year for a period did sustain. She lost the will, and of course the power, to continue that beautiful culture of the splendid peninsula in which her lot was cast. The hidalgo was too proud to work; Grenada ceased to be what it once was—before the voyage of Columbus—a paradise in its gardens; Spain has for forty years past almost ceased to be heard of, exeept in her misfortunes. In that period of time, by the sweat of her brow, this Union has more than doubled the population of poor Spain, and grown so rich that the gold of the mines of Peru, gathered for twenty years, will not pay for the produce of our industry in one year, nor for that of England of last year for six months; for, by the Parliamentary returns, the product of British agriculture in 1844 was $3,000,000,000!

There is no lesson in all history like that of the great fountain of Roman power. Cato said, "Meet the arduous labor of the farm as you would the enemies of your country in battle. Summon all your forces, and the earth will reward you with all her gifts. Neglect her, and you perish."

Such was the enthusiasm which gave that powerful people the first stand among the nations. When they became rich, built cities, herded in luxurious masses, crowded their amphitheatres, lounged about their magnificent baths, trying to alleviate the horrors of the demon of idleness! bawling at every corner of the streets to passers by, "*Quid Novarum! Quid Novarum!*" what's the news? they fell a wretched prey before the Goth and the Vandal, who lived a hardy life.

It is hardly practicable to find between the Aroostook and the Rio Grande a sound man who idles his years away. All are impelled by the spirit of industry which old Cato would clap his hands to behold. Onward! onward! is the national, heartfelt cry. Labor with invincible perseverance. No disappointment can check his progress. The axe prostrates the forests of ages; on comes the plow; and then the cradle, which gathers in the glorious grain to feed all ours, and half another nation besides, if necessary.

In the eagerness of cultivation, we have not yet had time to think of the necessary exhaustion of our vexed fields. Now in our older fields we begin to see that in our excessive haste we have overdrawn our bank. Science and care must be consulted to restore that vegetable power which has been too profligately squeezed from the bosom of the earth! The means are

happily in our power. It is already settled to a certainty that science can be applied with absolute profit to agriculture. Recent experiments have demonstrated the vast value of an accurate analysis of soils, of plants, and the peculiar elements required by the various kinds of vegetables for their complete and perfect growth.—But, however valuable this discovery is, the grand art remains where it was. It is tilling the soil. By deep and frequent plowings, by harrowing and hoeing, the soil obtains from the inexhaustible resource of the atmosphere its elements, its dews and rains, the everlasting renewal of its fertility. No art will ever render this constant stirring of the soil unnecessary. Man's labor is bound to be forever mixed up in the products of agriculture. Bain says that agriculture is a manufacture—that the yield of the earth is almost without any preparation fit for consumption. This is true of almost every fruit. It is so true, that to the best specimens of Nature's own confectionary in the fruit line, man can scarcely do any thing to alter it for the better.

The products of the farm are honest. Who can forge a bushel of wheat? an ox? a strawberry? Perfect from the hand of God, they cannot be forged by man. Their profit, Bain says, is direct, for every seed you plant you have many in return.

What interest have you like that from one pound of turnip seed, giving you twelve hundred bushels of turnips?

We rejoice to see so great a number of the best men of our country earnestly engaged in the cause of agriculture. On such men and their well-tilled farms; on such men, of temperate and vigorous bodies; on such men, of calm, cool heads, the vast fabric of this republic rests secure. They are the mighty pillars on which the great edifice proudly inclines its vast weight. —*N. Y. Morning News.*

Plows and other Farm Tools.

From the New Orleans Commercial Times

In nothing does the Southern Planter show so great a want of economy as in the implements he uses, and especially the Plow. Important improvements have been annually made by our Northern neighbors, by which time, labour, and money are saved; yet we plod on with the same inefficient and expensive tools that were in use twenty years ago. Nothing during our tour struck us so forcibly as this—and we had considerable opportunity for observation in this way—the contrast between the *economy of labor* in Northern and Southern farming, *by the use of good and of indifferent implements.* In other items of good farming, we do not lag far behind. Indeed, it may be said with truth and safety, that, with the exception named above, we have as great a proportion of good and careful farmers, in this region of the South, as in any part of the Union; and as few bad managers.

Within the last ten years the improvements made in plows has added millions to the wealth of the country, by the saving of wear and tear to plow, team and hand; besides the vast benefit to the lands and crops, by the deep and thorough pulverization of the soil. Few planters think of this as they ought to do. From the inefficiency of our breaking plows, the small amount of work they perform in a day, scratching along with a pair of good mules, in a furrow seven or eight inches by three or four, covering up the seeds of weeds and grass so lightly that they grow off more readily than the crop, and fresh supplies are brought to the surface each time the crop is tended; forming a glazed, *hard-pan*, as it is termed, under the shallow covering of loose soil, which resists the absorption of water, so that every heavy rain that falls, runs off, carrying with it large quantities of what little soil is stirred in plowing. The favorite plow is usually one that is light, cheap, of such a size as to do for one or two horses, and consequently unfit for either, and is a pretty good article, if, after an outlay for laying and sharpening its wrought-iron point, equal to two-thirds its original cost, it will last a second year. They are generally made for the Southern market, as I was told by a New York dealer, and of course got up cheaply, to enable the dealer to make his profit, and the commission merchant his, from whom the planter orders them; few of whom know more of the plows in use on their plantations, than that their overseers want so many new ones of some particular make, about which they profess to be very particular—they could not possibly make crops with any others! So much indifference has been felt on the subject, that we believe the first exhibition and trial of plows and other implements in Adams county, Miss., took place there at Ingleside, some three years ago. By using great exertions, and incurring all the trouble and expense ourselves, we gathered together *nine* owners of plantations! Since that time there have been some large gatherings; and we have enjoyed the gratification of being assured, by experienced planters, that during the few hours they had passed, at a trial of this kind, they had learnt more of plows and plowing, than they ever knew before.

Many would try implements they see recommended in their agricultural papers, but knowing nothing of the sizes from the numbers given, they are at a loss what to get; and, ordering two-horse breaking plows, they have heavy sward plows sent them, such as are used, perhaps, in the stiff, rocky soils of the North; which proving too heavy for their teams in this warm climate, and being, moreover, needlessly heavy for our light, friable soils, they are rejected and the experimentor discouraged. This was our own case, until having procured, some three years ago, a plow made by Messrs. Ruggles, Nourse & Mason, of Boston, we found it, though unnecessarily heavy, perfect in every other respect. At least, so we then viewed it, and we have had no reason since to change the opinion then formed.

And here let me remark, before going farther, that I have no interest whatever in this more than in any other good implement; that I spoke as highly of this plow before I ever saw or knew anything of the makers, as I can possibly do now; and that I speak of it again merely because it has stood the test of two years' constant use, and has been in nothing found wanting; and because I would persuade my neighbors to reap the advantage from the use of an excellent implement, that I have done.

The results of the trials, held there, have been that no other plow offered could, in any thing, compete successfully with the plows made by Ruggles & Co. There were many excellent ones exhibited at different Fairs in the North, this fall, none of which were offered there for trial—though inducements were held out to the makers to send them, and we were assured that at the trial which we hope to see take place early this next spring, in Washington, a great majority of the best Northern plows will be forthcoming. Ruggles & Co. have exhibited so often, and that successfully, that they now generally decline competing for the premiums offered; but where exhibited, this season, they retained their deserved position. At the State Fair at Utica, New York, they were exhibited, but much to our regret did not compete at the trials. Nor did Prouty's Centre Draft. Of those we saw at work, one marked "J. B. Gaylord, Auburn, No. 5," made by Comstock & Brainard, was decidedly the best. All of their make were capital plows, as was also one marked "Wilson." The trial, however, was in sod land only—by no means a fair test, as a different implement is needed for that, and for stubble and light mellow land. For stubble there was an excellent plow on the ground: large, light, and effective—the only objection being its cost, the mould-board being a plate of steel—it would suit our soil just as well if of cast iron. We regret having lost the address of the maker. Those trials, at the time of a great gathering of this kind, when no one is willing to give their attention to one object for any length of time, and when different kinds and conditions of soil cannot readily be had, must necessarily be partial and defective.

Having a strong desire to visit a large factory of agricultural implements, and having but one day to spare, we determined to devote it to that of Messrs. Ruggles & Co., at Worcester, Mass. A day more fraught with pleasure and profit we have rarely spent.

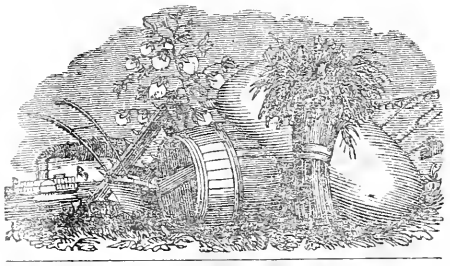
Half a dozen columns would scarce afford space enough to tell of all the wonders we saw—the pattern-making, casting, polishing and fitting the castings; the timbers all sawed out, planed, dressed, turned, bored, morticed, etc., by machinery; the apparatus for stocking or fitting each plow together, so that all are perfectly alike; the extraordinary rapidity and completeness with which the whole was done; and the careful economising of labor in every department—all was one succession of surprises.—The machinery is driven principally by water-power, assisted, when needful, by a powerful steam engine. The timber used seemed particularly fine—all choice and carefully selected; and when any piece, in the working up, proves to be defective, it is at once thrown aside. The metal is so superior that an inch and a quarter cast bar, submitted to us, required repeated blows from a heavy sledge hammer to break it! The surface of each casting, where exposed to wear, is *chilled*, by which, for about one-sixteenth of an inch of its depth, it is rendered excessively hard. The timber is all worked up by machines—the morticing, cutting tenons, etc., is all, of course, perfectly exact; no bungling, no loose fitting, and irregularity or difference in the running of any of the plows. Numerous other implements are made here—cutting boxes, planting machines, cultivators, harrows, etc., and all put together, apparently, with like care. All connected with the concern are ingenious, practical men, ready to hear, weigh and act upon any suggestion for the improvement of the implements they now make, or that will adapt them to any particular region of country, and for making altogether new ones. We left them engaged in preparing sundry new patterns, to lessen the weight of metal in those plows intended for the light lands of the South, without lessening the work done by the plow; and this especially in the breaking plows of that size found to suit us best, and in their side-hill plows; also, getting out patterns for new cultivator teeth, on a plan suggested by us; a trench plow and some other implements. T. A.

Hay and Fodder Crops.

From the New Orleans Commercial Times.

Hay is now quoted in New Orleans at $26 per ton. In the river towns above, it is still higher. The hay crops in the North and West were very light this past season; so light were they, in many places, that distress amongst the stock must have ensued, had not their agricultural journals pointed out to the farmers the means of remedying the evil—by sowing corn and oats mixed; drilling corn alone, so thickly as to cover the ground; sowing millet, and other fodder crops; and by cutting up all the fodder they feed out, by running it through a cutting box. Until the next year's crop comes in, hay will continue to rise in our markets.

We can do much to regulate the price, by doing as our Northern neighbors have done—sowing oats, millet, etc. It is the extreme of folly in any planter to buy hay, or even corn. Bermuda grass will cut double the weight of hay to the acre that any grass in the North or West will. Crab-grass makes excellent hay, and a great deal of it; and a good crop can be had after cutting a crop of oats or millet. Even bitter coco makes good hay. In no part of the world do oats succeed better than in Mississippi; the Egyptian (winter) oats, when sowed in September, afford capital grazing all winter, and will yield, if the ground is suitable, and they have been well put in, forty to sixty bushels per acre of oats, weighing thirty-eight to forty-two pounds per bushel. Millet is an excellent fodder crop. T. A.



The Southern Cultivator.

AUGUSTA, GA.

VOL. IV., NO. 3..... .....MARCH, 1846.

☞ We have received articles for the CULTIVATOR as follows:

From Mr. SEABORN, on Subsoil Plowing, &c.

From Mr. BAKER, Recording Secretary of the Liberty County Agricultural Society, an account of the proceedings of the Society on 1st January last, and an Agricultural Address delivered on that occasion by Dr. J. P. STEVENS.

From "PEDRO," on Hopkins' Allen Plow.

These all came to hand too late for this number of the CULTIVATOR, but shall have due attention in the next.

The Southern Cultivator.

The publishers of this work, without desiring to obtrude upon its friends, deem it due to themselves, no less than to all those who feel an interest in the success of the paper, to state that, thus far, the patronage extended to it, is wholly inadequate to its support—not sufficient to pay the actual expenses of publication!

The publishers have no appeals to make to any; they have entered upon a contract, which they intend to, and *will*, fulfil to the letter, by the publication of the 4th volume. That done, their contract ceases, and will not certainly be renewed unless a very different feeling be exhibited in behalf of the work by those to whose interests and prosperity it is devoted.

Papers that exchange with the "SOUTHERN CULTIVATOR" are requested to give the above notice an insertion, and accompany it with such comments as they deem proper.

Efficient Support.

The Albany Cultivator for February boasts of having received *nine thousand* subscribers in the month of January; being one thousand more than were received in January, 1845. There subscribers go in by companies of twenties, fifties and hundreds. To those engaged in trying to elevate the character of the great profession by which the human race live, such treatment is very cheering. We would be greatly pleased to see a like spirit prevail here, among Southern planters. Then we would have the satisfaction of being able to make the SOUTHERN CULTIVATOR what we wish it to be, both in appearance and in the quality and quantity of matter wherewith it is filled.

Cow-ology.

In the February No. of the Farmer's Library, we have Chap. I, and part of Chap. II, of Mons. GUENON'S "Treatise on Milch Cows." We regret that we cannot copy in the CULTIVATOR any part of this Treatise, because the copy-right has been secured to Messrs. GREELEY & MCELRATH, proprietors of the Farmer's Library. The preface, which was inserted in the last No. of the CULTIVATOR, will give the reader a very distinct idea of the character and object of Mons. GUENON'S book. Those who want to know more about his discovery must go to the Farmer's Library for information.

Potatoes and Ground Nuts.

A correspondent writes to us as follows:—"I would be glad if you would inform me through the columns of the CULTIVATOR, of the best manner and time of planting Irish Potatoes, Sweet Potatoes and Ground Nuts, together with the culture of them."

If the time were not so near at hand when these crops, to succeed well, ought to be in the ground, we would request some of our correspondents to give the information wanted. As it is, we must undertake to do what, we doubt not, might be far better done by others, that is, to comply with the above stated request.

IRISH POTATOES.

Our own practice, which has been very successful, is to prepare the ground well by stirring it very deep—new ground is by far the best—to make the rows three feet apart—the trenches 9 inches deep—the manure three inches deep in the bottom of the trenches:—the manure must be perfectly well rotted, otherwise the quality of the potatoe is exceedingly injured. Coarse, unfermented stable manure, hogs' hair and such like is often used, and the result is waxy potatoes of very bad flavor, in some instances, even disgusting; and, we have no doubt, unwholesome as they are disgusting. If we would have the Irish Potatoe in perfection, too much care cannot be bestowed on the food that is prepared for its sustenance. For seed we select large potatoes without knobs on them, cut them into pieces with one or two eyes at most; put these in the trench on the manure, nine inches apart, and fill the trench with rotten leaves from the woods, or rotten wood, or chip manure, which is better still. Plant from middle of February to middle of March, according as the weather may be. When the stalks are about 9 or 10 inches high, the whole surface of the ground is covered with wet leaves from the forest, up even with the top of the plant, packing the leaves close around the stem, and taking care to leave the top uncovered. Nothing more is necessary except to pull off all the blossoms as they appear.

To ensure good crops of good mealy potatoes, according to our experience, too much care cannot be bestowed on the following particulars:

1. The selection of kinds to be planted. We prefer the Mercers for an early, and the Bluenoses for a late crop.

2. The kind of ground they are to be planted in, the preparation of it, and the kind of manure used. Nothing more readily takes a tincture from coarse, filthy, unfermented manure. Even chip manure is improved for the use of the potatoe, by being mixed pretty liberally with the carbonate of lime.

3. The moisture of the ground.—Hence in part the excellence of the potatoe in Ireland and Nova Scotia. In our hot, dry climate, by covering the ground with leaves the same end is attained in some degree.

This is a brief account of our practice. Others have their own plans which they prefer. Mr. McCOY, of Pendleton county, Virginia, makes 800 bushels to the acre in favorable seasons. He prefers a soil composed of sand and clay in about equal proportions, resting on a clay subsoil. "On such a piece of land, which has been in grass for a few years, I haul out (to use his own words as we find them on page 59, February No. of Albany Cultivator.) in February or March, six four-horse loads of good stable manure to the acre, (about 80 bushels to the load.) The manure is immediately spread and turned under by inverting the sod to the depth of ten inches at least. About the last of April spread on the inverted sod about three additional wagon loads of manure to the acre. Harrow the ground well lengthwise with the furrow. Cross-plow to the depth of four or five inches and harrow again. By this time the last manure applied is well mixed with the soil, and the land is in a fine state of tilth. The first of May mark out the ground in rows three feet apart each way with a large two-horse plow, to run as deep as the first plowing. A good plan is also to let the bull-tongue plow follow in the furrows after the barshear plow. This breaks up and loosens the subsoil under the rows. A subsoil plow would, I suppose, do the work better, but we have none, and the bull tongue answers very well, as it loosens the soil and does not throw it up. We plant the '*long reds*,' using large potatoes for seed, cut into pieces, with about four eyes each, and put four pieces in a hill, which takes about 20 bushels of seed to the acre. The seed is thus planted deep on a loose mellow bed, and the ground after planting has a perfectly level appearance. The after culture is quite easy and simple. As soon as the plants are two inches above the ground, plow with a bull-tongue, as near to the hills as possible; if most of the plants are covered up, so much the better. In two or three weeks plow again both ways; by this cross-plowing the earth is well loosened, and thrown up around the hills in a sort of hollow square, a little depressed in the centre, presenting a broad surface to receive the rains, and convey the moisture to the roots of the plants. The hoe is used to destroy such weeds as have escaped the plow, and to give the hills the proper form. Care is taken not to make those conical shaped hills, which used to be the fashion, so admirably calculated to carry off all moisture from the roots of the plants. * * * * I have never tried planting in drills, and prefer hills on account of cross-plowing, which I consider very important. I know that 800 bushels per acre can be raised by my plan, for I have done it three years in succession, in 1842, '3 and '4."

Next, we have in the Southern Planter for February, a statement of Dr. CAMM, of York county, La., of a "new mode of planting Irish Potatoes," which he has tried and prefers to all others. The novelty of his mode consists in the use of a hot bed to start the shoots, and then taking the shoots off and setting them out in ground properly prepared, just as sweet potatoe vines are set out. He says he has tested it for three years, and last year set out his whole crop in this way, and had six crops to succeed well, all of which were drawn from the same bed. It is very easy to try this new mode. We intend to try it carefully, and hope others will do so too, and report the result.

SWEET POTATOES.

This crop, according to our experience, requires light, sandy soil, a long, warm summer, and plenty of rain in July, August and Septem-

ber. We prefer the Yam and the Red Bermuda to all other kinds; and to make a large crop we arrange so as to have the vines ready to set out immediately after the full moon in April—all danger of frost being then usually past. To do this, use is made of the hot bed, or forcing frame. Our frames were made according to the directions given on pages 10 and 11 of McMahon's American Gardener's Calendar, and are managed as directed at page 12 to 20 of the same book. The potatoes are put in the hot bed about the first of March, and by the middle of April, even in the latitude of Athens, we often have vines two feet long. The ground to which they are transplanted is made rich with well rotted manure, and plowed very deep. We prefer a deep sandy soil, in which there is plenty of vegetable matter in a state of decay. Ridges are made three feet apart, not more than six or eight inches high, so arranged as to run horizontally, and thus hold all the rain that may fall. As soon as all danger of frost is past, the vines are drawn from the potatoes in the hot bed, and planted in the ridges about a foot apart. By putting about a pint of water in the hole in the ridge opened to receive the vine, they will grow right off; so that if water can be had conveniently there is no need of waiting for a season, as they say. Indeed, we have found vines set out in this way, in a very dry time, and under a hot sun, grow better than those set out as they usually are.

Then as to cultivation: about the time the vines begin to spread rapidly, and if possible when the ground is wet, we fill in between the ridges with leaves from the woods. This is all the labor expended in cultivation except to pull out any grass or weeds that may spring up on the top of the ridges, the leaves effectually preventing any such growth between the ridges.

We are perfectly aware that the use of forcing frames is altogether unnecessary in all the country below the last falls of the rivers in South Carolina, Georgia and Alabama; and even in the district of country immediately above that, on large plantations, it might not be profitable to use them. In such situations, the common hot-bed without glass may answer all purposes. But in the range of country in which Athens is situated and in all the country above that, inhabited as it is, more by farmers than by planters, and in which good potatoes are so seldom seen, we are confident the introduction of forcing frames would be attended with great benefit. Such, at least, is the result of our own experience. But in every situation, below the falls, as well as above, we are quite sure that the planting in ridges running horizontally, so as to retain all the rain that falls, and the filling in between the ridges with leaves, will be found to be a very important improvement on the old plan of planting in hills, which we must think is the very worst plan that could be adopted.

In vol. 1, page 38 of the SOUTHERN CULTIVATOR, a plan is described by Mr. McKINLEY, of Oglethorpe, by which the Sweet Potatoe is cultivated in level ground—that is, without making either hills or ridges. The reader is respectfully referred to the article itself for full information on the subject, with the single remark that the plan is well worthy of a careful trial by every one who is in search of new revelations on the subject of Agriculture.

GROUND NUTS.

Though the cultivation of this article is connected with our earliest recollections of field labor, yet we must depend on some of our correspondents to supply the information wanted.

Useful Measures.

We publish the article of "PEDRO" cheerfully, but must be permitted to ask him for the authority on which he relies to make the bushel contain 2160 cubic inches.

Since our attention has been directed to this subject of measures of capacity, we have been very much surprised to find that so great a want of uniformity prevailed, a short time ago, even in the Custom houses of the U. States. We are aware that the government has been engaged in furnishing correct standards of weights, and measures of capacity, and of length: and so far as weights are concerned, we believe standards have been made and distributed. But as to the measures of capacity we know not what progress has been made.

Those who are engaged in Agriculture have a very deep interest in this matter.

The following was the size of the bushel, at the Custom-houses named, in 1832, as is shown by the investigation directed by a former President, JOHN Q. ADAMS. We find the document in Mr. HASSLER's report to the Secretary of the Treasury, in 1832.

Custom-house.	*Bu'l Cub in*	*Custom-house.*	*Bu'l Cub in.*
Bath, Maine	1925	Baltimore, Md	2150.42
Portsmouth, N H.	2153.74	Washington City	2117.20
Boston, Mass.	2211.6	Richmond, Va.	2112.6
Providence, R I.	2194.5	Camden, N C.	2152.2
New London, Con.	2222.06	Charleston, S C.	2172.03
New York	2152.36	Savannah, Ga.	2013.32
Philadelphia	2186.2	New Orleans	2162.02
Wilmington, Del.	2192.2		

These are the principal Custom-houses in the list made out by Mr. ADAM's direction. Besides these, there are many others in the list, in which there are still wider discrepancies. At Plymouth, N. C., for example, the bushel is made to contain 2358 58 cubic inches, and it is remarkable that in the whole list Baltimore is the only place where the bushel was, at the date of the report, of the right size, viz: 2150.42 cubic inches.

Ornamental Trees.

Would it not be well for those who take an interest in planting Shade Trees about their houses, to introduce something more of variety in their selections? We get tired of seeing the never-ending China Tree. It is a handsome tree enough, but we have entirely too much of it. If we go into our own forests we may find in the red maple, elm, beech, sweet gum, black gum, sugar maple and poplar, abundant means of giving variety to our ornamental plantations. Add to these a few foreign sorts, as the ailanthus, sterculia, paulownia, abele, silver-leaf maple—and, above all, the Linden—and intersperse the whole liberally with our native Holly, and we might have something worth looking at. As to the Linden, read the following extract:

THE LINDEN TREE.—Few trees connected with rural economy, are of more value than the Linden. In some countries, and especially in Russia, scarcely a village or hamlet can be found where it cannot be seen. The wood of the Linden is valuable and much sought after by cabinet makers, by whom it is wrought into furniture of various descriptions. It also furnishes a most eligible material for other artificers, particularly the carver and the turner, by whose skill it is made to assume the form of a variety of domestic utensils. From the inner bark of the linden, cords and matting are manufactured. Its blossoms, which exhale a most aromatic perfume, are available to the apiarian as a pasture for his bees, and to the botanical practitioner as a tisane for the invalid. The particular hue, fine aromatic odor, and delicious flavor of the honey of Circassia, derives its valuable characteristics from these blossoms. The small limbs, and tender shoots, gathered with their foliage and mixed with ground corn or other nutritive grains, are fed to stock during winter, and are reputed valuable.

Sumach.

Has any one south of Virginia turned his attention to the culture of Sumach? The extent of the crop in Virginia last year is stated to have been about 10,000 bags, equal to 700 tons, and nearly one-twentieth of the whole consumption of the United States.

Why cannot something be done in growing this article in South Carolina, Georgia, and especially in Florida? We believe it is a law of nature that plants containing gallic acid require warm climates to bring them to the highest state of perfection. Sumach raised in Virginia, it is stated, has been used in place of the Sicilian. If this be so, the growth of still more southern climates would be still better. Will not some of our enterprising planters make an experiment in the culture of this new article. Properly managed, the product is said to be from three to five tons per acre.

Southern Dependence.

The editor of the *American Agriculturist* in his number for February, says he has paid out to farmers, chiefly in the State of New York, during the year 1845, over six thousand dollars, for improved stock and seeds, most of which has gone South. He further states that he probably did not make *one-twentieth* of the purchases that were made for the same purpose. Now just take your pencil and calculate how much cotton it will take at present prices to pay for all these seeds, &c.—nearly all of which is a dead loss to the South, simply because, when the stock and seeds come home and are paid for, our people too often don't know how to manage them.

Is it at all surprising that, with such drains on our resources, our part of the United States should be advancing backwards so fast?

Horses.

By the very many glowing accounts of the great excellence of the Morgan Horse, which we have read since our connection with the Agricultura press, we were induced to arrange with a gentleman in Georgia, to purchase and introduce one, for the improvement of our Southern stock. Well, what think ye, is the upshot of the business? Read the following extract of a letter lately received from our correspondent, who was entrusted with the purchase, and that will tell you:

"The Morgan horse," he says, "has been run out these twenty years, and it is the merest gammon with jockies to talk about them. Every thing in the country is now called 'a Morgan,' from the merest rat of a pony to a gaunt, long-legged, seventeen-hand horse. We have what is better than Morgan horses ever were, viz: the Messenger, Mambrino, and Duroc crosses. They are almost thorough bred, and the most admirable roadsters that the world can produce. I have seen all kinds in England and other parts of Europe, including quite a number

of pure Arabians, Persians, Turkomans, Cossack horses of the Don, &c. &c. * * * * It fairly makes me sick to see the miserable Canadian, and other horses palmed off upon the South by glib fellows, who, if they can write an article in some agricultural paper, are set down at once as great judges, though they really know nothing upon the subject. There is not one real good judge of horses out of one hundred pretenders, or indeed of stock of any kind."

This article is intended as a sort of counterblast to the article on horses in the last number of the CULTIVATOR; so that if any one shall have been induced thereby to think about getting a Morgan horse, he may be induced hereby to look sharp with whom he is about to deal.

Domestic Wine.

We have received the bottle of wine, and the cuttings of the Uchee Grape, so kindly sent by Mr. PEABODY, of Columbus. The wine is a first-rate article—so pronounced by every one who has tasted it.

Mr. PEABODY's account of the grape from which the wine is made, is as follows:

SPRINGHILL, Ala., January, 1846.

Dear Sir:—Your favor of the 16th came duly to hand, and in reply to your inquiries respecting the grape, which my Port Wine is made from. I will most cheerfully give you the history of the grape. It is a native grape, which abounds on the Banks of the Uchee Creek in Russell county, Ala., the bunches are long, very compact, and of a jet black color when fully ripe. In its native wild state it yields but little juice, but that is extremely rich and makes a most delicious wine, as you shall judge for yourself, for I will send by a gentleman who leaves for Augusta in a day or two, a bottle of the Black Uchee Port, and some cuttings of the grape.

The best of Wine connoisseurs have pronounced it equal to the best imported, and altogether superior to most of the trash sold for wine. A New York importer of wines and liquors of some celebrity, on being called in by some gentlemen (who were discussing the merits of a bottle,) to give his opinion, after deliberately tasting and closely scrutinizing, said: "Gentlemen, I pronounce it a cask of genuine Old Port, begot by a ten gallon keg of Muscat." I think you will find it a good decision, for it has the body of Port, with a little of the Muscat flavor. The wine is perfectly pure, not having a drop of any kind of spirits in it. Yours respectfully.

CHAS. A. PEABODY.

From Mr. T. SPEED, of Madison, Morgan county, we have received the two specimens of wine mentioned in the following letter. Of the specimens, that of the vintage of 1844 is generally preferred by those who have tasted both; because, as one person said on trying them, there is something more manly about it. It is equal, in all respects, to the best Madeira. The other has more of the character of Muscatel. Both are first-rate, each of its kind.

MADISON, Ga., January 26, 1846.

Dear Sir:—There appears to be some interest taken in making domestic wines in different sections of the country, and you being editor of the SOUTHERN CULTIVATOR, I send you two bottles, the smaller from the vintage of 1844, and the larger from the last year's. If you think them to be a good article, and believe the mode of making it would be of any interest to your readers, I can furnish you the recipe by which it was made. You must excuse the smallness of the sample of the vintage of 1844, as I only made a little to see if it could be made on a small scale. Yours, very respectfully.

—— T. SPEED.

MADISON, GA., February 7, 1846.

Dear Sir:—Yours of the 27th ult. was duly received. I herewith give you the recipe by which the two bottles of wine I sent you were made.

The grapes should be gathered of a clear, dry day, and after the dew is off in the morning. They should be picked from the stems, and the grapes should then be well mashed. Let them remain in the must about eighteen hours. Then strain the juice from the must through some tolerable open coarse cloth. Having no barometer, I used a fresh laid egg. Sweeten with brown sugar until the egg rises out of the juice as large as a 12½ cents piece. Put it into a cask and leave the bung open, and let it ferment four days. The cask must be full, so that in its fermentation the dregs will rise to the top and be thrown off. As often as two or three times a day fill up the cask with some juice kept in reserve for that purpose. At the end of the fourth day, draw it off as clear from sediment as practicable; and to every ten gallons add one gallon 4th proof Cogniac Brandy. Wash a pint of sand until the water runs clear from it; add to the sand the whites of ten eggs; beat the eggs and sand well together, but not to a froth; then pour it into the cask and bung it closely. The egg and sand form a nucleus which carries with it all remaining sediment to the botton, and the wine becomes clear. Let it remain quiet until the last of October or first of November; then draw off as long as it runs clear. It can then be bottled or returned to the cask after the cask is well washed. This racking is better to be done on a clear day.

The largest bottle sent you was sweetened until the egg rose out about the size of a 25 cents piece. In 1839 I made ten gallons; it was sweetened until the egg rose to the size of our new coin 25 cents pieces. Many good judges of wine drank of it and pronounced it the best domestic wine they had ever tasted. I kept some of it four years and I thought age improved it very much. Yours, very respectfully,

T. SPEED.

"First it blew, and then it snew, and then it thew, and then it friz." *Hood.*

The present winter, thus far, (20th Feb.) has been unequalled in severity by any one since 1835. There has been snow in Mississippi, ice at New Orleans, cold unequalled before, so far as is known to the present inhabitants, at Corpus Christi, Texas, and indeed all over the Southern States the weather has been steadily, and, at times, intensely cold. Here, in Athens, on the morning of 21st Dec., the Thermometers showed, according to exposure, the cold to be from 4 to 10 degrees above 0, or 22 to 28 degrees below the freezing point. In 1835, on the morning of 8th February, the mercury stood at 9 degrees below 0, or 41 degrees below freezing.

The injury done by the cold of 21st Dec., to the grain crop is not so serious as was at first apprehended, as people now think. But the amount of discomfort ensured in consequence of the open houses of the South, has been very great. The two preceding very mild winters put people off their guard, and hence they were taken by surprise, when the late cold came. If we had anticipated any such state of things, we would have published in due season, the following excellent recipe for keeping one's-self warm in cold weather. We publish it now—and as Mr. WEBSTER said recently in the Senate, about certain memorials against the admission of Texas, which he presented after Texas had been admitted—if they are too late for Texas they may be in time for Cuba—so our recipe, though too late for this winter may answer for the next. We have not tried the recipe ourselves, but it stands to reason that it is good, for it is full of very sound philosophy, and is, withal, very old; and what is still better than all, it is not very expensive.

KEEPING WARM ALL WINTER WITH A SINGLE LOG OF WOOD.—To enjoy health, warmth, peace of mind and a vigorous constitution, if you have nothing else to do, take a log of wood of moderate size, carry it to the upper garret and throw it from the window into the street, taking care of course, not to knock any body on the head; this done, run down stairs as fast as you can; take it up again to the garret and do as before. Repeat the process until you are sufficiently warm—when you may lay away the log for another occasion.—*Old Recipe.*

The Late Memphis Convention.

The following resolutions are appended to the report of the Committee on Agriculture:

1. Resolved, That it is the opinion of this Convention that the present depressed condition of the cotton planting interests of the South is entirely owing to the over-production of Cotton, and that the crisis demands some immediate well-concerted plan for restoring the equilibrium in the cotton market, by equalizing the supply and demand.

2. Resolved, That we believe it practicable for the planters of the South to form a compact, agreeing on some definite ratio of annual diminution of the crop (say about one-third,) for a term of years—until they are in a measure relieved from the evils complained of, by a manifest revival of a satisfactory demand for their great staple.

3. Resolved, That inasmuch as the proposed reduction in the cotton crop, would give rise to a new direction of capital and labor, we recommend the establishment of manufactories in the South as the most profitable investment of said capital and labor.

4. Resolved, That we believe any prompt and uniform action on the part of the cotton planters of the South, justifying the conclusion that those proposed objects will be successfully carried out, would have a most salutary influence on the present price of cotton.

5. Resolved, Should the attempt in forming a compact among the planters of the South, for a general reduction of the cotton crop fail, we consider it a paramount inducement for them to encourage, not only in their own domestic economy, but by the manufacturing of the North, every new source for the consumption of the raw material.

6. Resolved, That we recommend it as an inviolable rule in the economy of every planter, to raise an abundance of provisions, and every species of grain and stock that may be required for the consumption of the plantation. And we do especially recommend the substitution of the "comfort" for the woollen blanket, as an article of economy, believing it to be cheaper, more healthy, and more comfortable for the use of negroes.

7. Resolved, That above all, we believe the more frequent formation of Agricultural Societies in every Southern State, together with a more liberal patronage of Agricultural periodicals on the part of planters, would prove powerful agents for the correction of the errors most prevalent in our system of agriculture, and for inspiring a generous emulation for practical science so eminently conducive to the development of all the sources of wealth among us.

REMARKS.—These are the resolutions. The report is a good one—the whole of it, except that part which relates to a combination among cotton planters to reduce the amount of the crop. No combination, we think, of that sort can be formed in the first place. And in the second, if it could be, it would accomplish nothing. The elements of failure would be inevitably blended with its very organization. Reduction of the quantity produced, by such means, is utterly impracticable.

Of the resolutions, the 6th and 7th are worthy of all commendation. The 7th, especially, embodies suggestions, which, if acted on steadily and earnestly, would produce just such results as all sound, practical Southern men see the necessity of, and would greatly rejoice to see produced.

Aid to Agriculture.

Well, the Legislatures of all the Southern States have adjourned, and so far as we have been able to learn anything of their proceedings, not a single thing has been done for Agriculture, by any one of them. In some instances, it is true, the subject has been pressed on their attention in a very appropriate manner in the Governor's messages;—but there the matter ended;—and so it will end every year, until the tillers of the soil assert their rights to an equal participation in the benefits of the government, which they, chiefly, have to support with their money, and defend with their arms, when danger comes. This is the more to be regretted, as legislative action, for the benefit of Agriculture, in many of the free States, as they are called, has had an important agency in placing them far ahead of the South in wealth and prosperity.

In a late number of the *Ohio Cultivator*, we find a synopsis of what has been done, in this respect, in several of the most important of the free States—and one has only to go into these States look at the condition of things there, and contrast it with that in those where no such laws exist, to be at once satisfied that public money could not be better spent.

A good deal has been accomplished in having the interest of Agriculture occupy the prominent position it does in the late annual messages of the Governors of South Carolina and Georgia. This is one important step towards what ought to be done. In due season, we have no doubt, the most ardent hopes of the friends of Agriculture for efficient aid from the Legislature of every Southern State, will be fully realised.

[From the Ohio Cultivator.]

In Maine the county or district agricultural societies are aided and sustained by an annual appropriation from the State Treasury, of an amount equal to what is raised from fees or contributions by the members, not to exceed $300 for each society. In addition to this, bounty is, or has been paid by the State to encourage the production of wheat, and some other crops.

In Massachusetts the law provides, that when any county or district agricultural and horticultural society shall have raised and invested at interest, $1,000 as a permanent capital, the income of which is to be devoted to the objects of the society, the sum of $200 shall be annually paid to the society from the State Treasury; and if the capital at interest exceed $1,000, the State bounty shall be increased in proportion, not to exceed $600. The premiums offered and not competed for, and other surplus funds are allowed to be added to the capital fund each year, so that a number of societies have now $3,000 or over at interest, and receive $600 annually from the State. Besides this, large amounts have been expended by the State for bounties on crops, and for agricultural and scientific surveys. The effect of this liberal policy has been to place Massachusetts in advance of all other States of the Union, in improvements in Agriculture and the increase of domestic industry and wealth. For many years, indeed, that State was the only one in which any considerable progress was making in agriculture; and at this time it exhibits a more scientific and profitable system of farming, as a whole, than can elsewhere be found.

In New York the sum of $8,000, is annually appropriated from the State Treasury, of which sum, $700 is given to the State Agricultural Society, and $950 to the American Institute, and the remainder divided among the county agricultural societies. In addition to this, a valuable volume of agricultural essays and reports is annually published by the State and distributed gratuitously; and a bounty is paid on silk to encourage its growth and manufacture. The law for promoting agriculture in that State has only been in operation five years, but its effects are already exciting the wonder and admiration of all intelligent observers.

In Pennsylvania, a law was enacted about 20 years ago, similar to that now existing in Ohio, providing for the organization of an Agricultural society in each county, and allowing them to receive from $50 to $150, annually, from the *county treasury*, provided the county commissioners deem it expedient to make the appropriation. The effect of this law, as in Ohio, was of very little if any general benefit. Only a few county societies were organized under it, and most that were organized had but a short duration. The only society that has of late years been active and useful is the one called the Penn. Society, which embraces the city and county of Philadelphia, and one or two counties adjoining. and which is aided by a positive appropriation of $50, for each member of Assembly elected by these counties.

In Indiana a law was enacted a few years ago, providing for the incorporation of a State Board of Agriculture, and a society in each county, with rules for the government of a complete system of State and county operations for the advancement of Agriculture, comprising an act of 17 sections; but like a piece of beautiful machinery without motive power, the law has proved *utterly useless*—the State Board we believe never had a meeting, and not a county society was organized; and why? Simply because no provision was made for defraying the necessary expenditures of the board, or for aiding the societies, in their endeavors to promote the general good; and the kind of men who are the most efficient, and take the most interest in these matters are not such as can well afford to spend their money as well as time in such business.

In Ohio, as most of our readers are aware, a law was passed in March 1839, providing that the Commissioners of each county, may, 'if they deem it expedient' appropriate out of the county funds a sum not exceeding $100, annually, in aid of the county agricultural society, if one is duly organized.

American Ingenuity.

Mr. Weissinger, one of the editors of the *Dollar Farmer*, in one of his letters written from New England, thus speaks of the American character as developed in that part of the United States:

"There is no people on the globe, not the French nor the English, that can compare with Americans in adaptation for manufactures and the mechanic arts, in ingenuity, enterprise and versatility. Mind is no where else so free, active and enterprising, and there is no country that begins to compare with this in the number of intelligent and inventive persons, in proportion to population. In every branch of manufactures that we have attempted we have succeeded; in many we have advanced far ahead of other nations. In the last forty years ten valuable improvements and inventions have been made in this country, in the departments attended to here, for one in Europe. Many American inventions have been transferred to Europe, but some we retain as secrets. Witness the carpet power-loom, invented by Bigelow, which gives the American manufacturer an immense advantage, and which yields to the inventor a very large income by the simple per centage paid him by the manufacturers who use his loom Such is the confidence of American Ingenuity that it in many instances refuses to avail itself of European inventions for the most complicated untried processes, setting to work at once to make the machine, and seldom failing to produce one superior to those of Europe. I asked a New England man his business. He said he was an inventor, explaining himself to mean that it was his business to devise the means of doing anything that is required. The maxim of the country is, if a thing is to be done, there is a way to do it; and that way is generally discovered as soon as the demand arises. Such is the character of the American people. In spite of all the powers of Democracy, they are destined to become the greatest manufacturing people on the globe, and the fact that they can make their own bread and meat and produce their own cotton, hemp and wool will be no obstacle, but an aid. If they can feed their own operatives and supply them with the raw materials so much the better—it is no reason why they should get their furniture and wearing apparel from foreign workshops.

"By the way, I am reminded by this train of thought to say a word of the inducements offered for educating youth with especial view to fit them to conduct manufacturing establishments. The learned professions are crowded, but there will be no supplying this demand for those every way qualified to take charge of such establishments. The demand, too, for designers, engravers, chemists and machinists will be boundless. Let fathers educate their children with a view to these employments. Let them be grounded in mathematics, natural philosophy and chemistry, and then let them be placed in the workshops and serve a thorough apprenticeship. Here is a refuge for those who vainly desire to give their children position by placing them in over-crowded professions, for which many are unfit. Nothing can be more respectable than to have charge of the establishments I am speaking of, or to fill the posts in them of artists and men of science. The designer of Lowell, who recently killed himself in a fit of drunkenness, though an intemperate man, had a salary of $2,500 a year. Let fathers think of these things and *educate* some of their children *for* the workshop and *in* the workshop.

Original Communications.

Management of Slaves.

Mr. Camak:—Looking over the back numbers of the *Southern Agriculturist*, published in Charleston, S. C., I met with the subjoined article on the "Management of Slaves." Observation and experience have taught me that the success of the planter depends as much upon the judicious management of his slaves as upon the proper cultivation of the soil. Fully persuaded that the plan adopted for the treatment and management of his negroes by a South Carolina planter, if pursued by Georgia planters, would be attended with eminent success, and productive of the most salutary and wholesome results to all—slave, master and country—I respectfully suggest, if it meet your approbation, the re-publication of this excellent article in the columns of your valuable paper.

Very respectfully, and truly

Your obedient servant, Burke.

[From the Southern Agriculturist.]

Dear Sir:—In compliance with a request made by you some time the last winter, I now give you the plan I have adopted for the treatment and management of my negroes. I must first, however, apologize for the delay that has taken place. I assure you, in making this communication, I do it expressly to convince you of my willingness to afford any information in my power, solicited by my neighbors. I shall state to you, therefore, frankly, and as fully as circumstances will allow, the views which have governed me in laying down the plan I have pursued.

When I commenced planting, I was induced to believe, from the advice I received, that success depended more upon the judicious management of negroes than anything else; and that in order to arrive at any good system of management, it was necessary,

First—That there should be a perfect understanding between the master and the slave.

Secondly—That certain rules should be laid down on the plantation, which should be considered fundamental rules, never to be deviated from, and which should be distinctly understood by all, and,

Thirdly—That there should be uniformity of conduct on the part of the master, who ought to exhibit considerable interest in the proceedings on his plantation, and an ambition to excel.

What I would mean by a perfect understanding between a master and a slave is, that the slave should know that his master is to govern

absolutely, and he to obey implicitly. That he is never for a moment to exercise either his will or judgment in opposition to a positive order.

The rules I have laid down, and which are considered by all on the plantation, as fundamental rules, are:

1st. No negro shall leave the plantation at any time, without my permission, or in my absence, that of the driver; the driver in that case, being responsible for the cause of such absence, which ought never to be omitted to be inquired into.

2d. The driver should never leave the plantation, unless on very urgent business of the plantation.

3d. No negro shall be allowed to marry out of the plantation.

4th. No negro shall be allowed to sell anything without my express permission.

I have ever maintained the doctrine that my negroes have no time whatever; that they are always liable to my call without questioning for a moment the propriety of it; and I adhere to this on the grounds of expediency and right. The very security of the plantation requires that a general and uniform control over the people of it should be exercised. Who are to protect the plantation from the intrusions of ill-designing persons when every body is abroad? Who can tell the moment when a plantation might be threatened with destruction from fire? Could the flames be arrested if the slaves are scattered throughout the neighborhood, seeking their amusement? Are these not duties of great importance, and in which every negro himself is deeply interested? To render this part of the rule justly applicable, however, it would be necessary that such a settled arrangement should exist on the plantation as to make it unnecessary for a negro to leave it, or to have a good plea for so doing. You must, therefore, make him as comfortable at home as possible, affording him what is essentially necessary for his happiness—you must provide for him yourself, and by that means create in him a habit of perfect dependence on you. Allow it once to be understood by a negro, that he is to provide for himself, and you that moment give him an undeniable claim on you for a portion of his time to make this provision; and should you from necessity, or any other cause, encroach upon his time, disappointment and discontent are seriously felt.

If I employ a laborer to perform a certain quantum of work per day, and I agree to pay him a certain amount for the performance of said work, when he has accomplished it, I of course, have no further claim on him for his time or services. But how different is it with a slave! Who can calculate the exact profit or expense of a slave one year with another? If I furnish my negro with every necessary of life, without the least care on his part—if I support him in sickness, however long it may be, and pay all his expenses, though he does nothing—if I maintain him in his old age, when he is incapable of rendering either himself or myself any service, am I not entitled to an exclusive right to his time? Good feelings, and a sense of propriety would always prevent unnecessary employment on the sabbath, and policy would check any exaction of excessive labor in common.

Whatever other privileges I allow the driver, he is not suffered to send any negro off the plantation, unless he sends him to me, or some extraordinary circumstance arises that could make it proper that a message should be sent to a neighbor: for as his transactions are confined solely to the plantation, there rarely could exist a necessity to communicate elsewhere than with me. If he sends him for his own purpose he is answerable for his absence, as the negro would be, did he go away without any permission at all.

I never give a negro a ticket to go from home without he first states particularly where he wishes to go, and assigns a cause for his desiring to be absent. If he offers a good reason I never refuse, but otherwise, I never grant him a ticket, and feel satisfied that no practice is more prejudicial to the community, and to the negroes themselves, than that of giving them general tickets to go where they please. I am so opposed to this plan, that I never permit any negro to remain on my plantation whose ticket does not authorize him expressly to come to it. I believe there are some who think that after a negro has done his work, it is an act of oppression to confine him to the plantation, when he might be strolling about the neighborhood for his amusement and recreation. This is certainly a mistaken humanity. Habit is everything. The negro who is accustomed to remain constantly at home, is just as satisfied with the society on the plantation, as that which he could find elsewhere; and the very same restrictions laid upon him, being equally imposed on others, he does not feel them, for society is kept at home for him.

As the driver is answerable for the good conduct of the negroes, and the proper application of their time, he ought always to be present to attend; otherwise he could never with propriety be charged with neglect, in which case all responsibility would be at an end.

No rule that I have stated is of more importance than that relating to negroes marrying out of the plantation. It seems to me, from what observations I have made, it is utterly impossible to have any method, or regularity where the men and women are permitted to take wives and husbands indiscriminately off the plantation. Negroes are very much disposed to pursue a course of this kind, and without being able to assign any good reason, though the motive can be readily perceived, and is a strong one with them; but one that tends not in the least to the benefit of the master, or their ultimate good. The inconveniences that at once strikes one as arising out of such a practice are these:

First—In allowing the men to marry out of the plantation, you give them an uncontrolable right to be frequently absent.

Secondly—Wherever their wives live, there they consider their homes, consequently they are indifferent to the interest of the plantation to which they actually belong.

Thirdly—It creates a feeling of independence, from being, of right, out of the control of their master for a time.

Fourthly—They are repeatedly exposed to temptations from meeting and associating with negroes from different directions, and with various habits and views.

Fifthly—Where there are several women on a plantation, they may have husbands from different plantations belonging to different persons. These men possess different habits—are accustomed to different treatment, and have different privileges; so your plantation every day becomes the rendezvous of a medley of characters. Negroes who have the privilege of a month ticket to go where they please, and at any hour that they say they have finished their work, to leave their master's plantation, come into yours about midday, when your negroes are at work, and the driver engaged; they either take possession of the houses in which their wives live, and go to sleep, or stroll about in perfect idleness, feeling themselves accessible to everything. What an example to those at work at the time! Can any circumstance be more subversive of good order and contentment!

Sixthly—When a man and his wife belong to different persons, they are liable to be separated from each other, as well as their children, either by the caprice of either of the parties, or where there is a sale of property. This keeps up an unsettled state of things, and gives rise to repeated new connexions. It might be asked how does this rule answer when there are several men on a plantation, and few women, or *vice versa*, where there are several women, and few men. I would observe, it would be best to equalize the number of both sexes as nearly as possible. This can be done either by purchase or sale. For to adopt rules merely because they are good in themselves, and not to pursue a plan which would make them applicable, would be fallacious.

I never allow my negroes to sell anything without my express permission. I never restrict them in any acts of industry, but reward them punctually for their exertions, by taking from them at a fair price whatever they justly have to offer. Where they have all the comforts they have a right to expect, regularly and carefully furnished them, they very readily and cheerfully submit to any such restrictions. I furnish my negroes regularly with their full share of allowance weekly. I give them annually their clothes and shoes, and every third year a blanket. I supply them with salt, and from time to time through the year salt fish and tobacco. If a negro is suffered to sell anything he chooses without any inquiry being made, a spirit of trafficing is at once created. To carry this on, both means and time are necessary, neither of which is he of right possessed. A negro would never be content to sell only what he raises of either corn, poultry or the like; but he would sell a part of his allowance also, and would be tempted to commit robberies to obtain things to sell. Besides, he would never go through his work carefully, and particularly when other engagements more interesting and pleasing are constantly passing through his mind; but would be apt to put off his work for a future period, or slight it over.

That the general conduct of a master has a very considerable influence on the character and habits of his slaves, will be readily admitted. When a master is uniform in his own habits and conduct, his slaves know his wishes, and what they are to expect if they act in opposition to, or conformity with them: therefore, the more order and contentment exist. A plantation might be considered as a piece of machinery; to operate successfully, all of its parts should be uniform and exact, and the impelling force regular and steady; and the master, if he pretended at all to attend to his business, should be their impelling force. If a master exhibits no extraordinary interest in the proceedings on his plantation, it is hardly to be expected that any other feelings but apathy, and perfect indifference could exist with his negroes; and it would be unreasonable for him, who has the principal incitements, and is careless, to expect attention and exertion from those who have no other interest than to avoid the displeasure of their master.

Whenever the season for hoeing begins, whatever tasks a negro commences with, are considered his throughout the working of the crop. Sickness sometimes produces a little variation in this plan, but to no great extent. Where a negro knows that the task he is working is to be worked by him the next time he goes over the field, he is induced, in order to render the next working as light as possible, to work it well at first. But where he is allowed to take his task indiscriminately as he comes into the field, there is always a great contention for tasks, each endeavoring to obtain the easiest to work. By that means great injustice and imposition arise. The fastest worker would always have the choice of tasks, and it is not always the fastest worker who is the best worker. Instead of taking pains to do his work well, he hurries over it, to have the choice of the next task.

In the different departments on the plantation as much distinction and separation are kept up as possible, with a view to create responsibility. The driver has a directing charge of everything, but there are subordinate persons, who take the more immediate care of the different departments. For instance, I make one person answerable for my stock of cattle, the plantation horses, the carts, wagons, plows and their tacklings. Another has charge of my boats; a third attends the dairy, the sick, &c.; a fourth, the poultry, and providing for, and taking care of the little negroes whose parents are in the field. Each of these negroes, however, do other work.

As good a plan as any I have found, to estab-

lish security and good order on the plantation, is that of constituting a watch at night, consisting of two or more men. They are answerable for all trespasses committed during their watch, unless they produce the offender or give immediate alarm. When the protection of a plantation is left to the negroes generally, you at once pereeive the truth of the maxim, "that what is every one's business, is no one's business." But when a regular watch is established, each in turn performs his tour of duty, so that the most careless is at times made to be observant and watchful. The very act of organizing a watch bespeaks a care and attention on the part of a master, which has a due influence on the negro.

Southern Independence.

Mr. Camak:—By last mail some unknown hand forwarded to Messrs. Cooper & Stroup a number of the *Chronicle & Sentinel*, containing an extract from your paper, in which is copied a notice taken from a Wetumpka (Ala.) paper, of certain very superior castings about then said to be delivering in Wetumpka, from Mr. Moore's Foundry in Alabama, stating also what he was doing, and how much, &c., after which, you express a desire to know what Cooper & Stroup are doing, and you appeal to me individually to inform you.

Having at all times had a pleasant as well as profitable intercourse with you, I cheerfully avail myself of the first opportunity to respond.

First, we have too much to do, to talk much or write much except on business.

We are blowing two good furnaces with a capacity for 6 to 7 tons metal per day, producing from twenty to twenty-five tons per week:—superior metal in the form of machinery, agricultural implements, hollow ware, pig metal and wrought iron. In machinery, we make all kinds of gearing for cotton mills, grist and saw mills, cotton gins and horse powers, threshers, wheat fans, plows, &c. Cast machinery for cotton factories, for looms, spindles, throstles and cards, are made by us equal to any in the Union, pronounced so by the machinists at the Coweta Falls Manufacturing Company's works at Columbus, Geo. These men are recently from Lowell, Mass.

We are sending hollow ware to almost every part of Georgia, and selling it at from 3½ to 4½ cents. We have a depot at Newton & Lucas's, Athens, where it may be bought by wholesale at factory prices. Ten tons of it are now on the way there.

About the time specified in your extract from the Wetumpka paper, we delivered and sold at Wetumpka a ton and a half of hollow ware as good as ever went to that market, the quantity and character of which we hope will not disparage that of our neighbor. We can send more.

We have a depot in Augusta and Columbus, and hope soon to have in Macon. In strength and durability our wares and machinery have an advantage over most that comes to Georgia.

We are making about a half ton of malleable iron per day when operating, and have on hand a stock of thirty tons bar iron and plow moulds for market.

We have a flour mill that can grind eight to ten bushels per hour per run, and makes good flour; two corn grists, one of which only is now operating, and grinds 50 to 60 bushels per day.

There is a population of about 400 dependant on our operations for daily subsistence, of whom, probably, two hundred are women and children, without work, who might be employed in cotton and wool factories at nominal prices.

We have water power without limit, in two miles and a half of the Rail Road to Charleston and Savannah. We consume annually about 25,000 bushels of corn, 3 to 500 barrels of flour, 100,000 lbs. pork, besides other minor articles; from 10 to 20 sacks coffee per month, besides sugar, salt, molasses, etc.

This, sir, is a part of what we are *doing*.—We are building a Merchant Mill (of stone,) capable of manufacturing 3 to 500 barrels flour per day. We are putting up a wool carding mill for Mr. Buchanan, to which is to be added machinery for coarse woollens.

We have the foundation of a Rolling Mill laid, and expect to start it by December next.

We have fifty tons of pig metal on the way to Boston, Providence, Charleston, Savannah and Augusta, and ought to supply every foundry in Georgia if they know their interest.

We have the power of the Etowah river five times over in three miles, and where one million of dollars might now be profitably invested.

Having hastily answered your question so pointedly referring to my affairs, excuse me if I in turn ask one of you, to wit:

What will you and your neighbors do with your idle capital? Can't you apply it so as to put idle people to work?

Respectfully, your friend, &c.,
Mark A. Cooper.

Iron Works, Cass Co., Ga., Feb. 2, 1846.

Experiment in Subsoiling.

Mr. Camak:—About a year ago I came into possession of a farm of fifty acres, that I had bought a few months previously, more than two-thirds of which had been long cleared and badly worn. After the trade was closed, I asked the gentleman (and he merits the title) of whom I bought, how much corn per acre might be expected under good tillage and favorable seasons? He said, a barrel and a half. The reply startled me, for I supposed he spoke from experience, and he being a man of education, unusual intelligence, wealth, and experience, his opinions were entitled to respect. For it was but reasonable to conclude, he knew what to do, how to do, and when to do, and having the hands to execute or carry out the dictates of his judgment, it was presumable that he did it to the fullest extent. I thought if this reasoning was fair, my prospect for bread was very unfair. I knew, however, from ample experience, that manure would bring good corn out of bad land. But, being a new-comer in these parts, I had not a load to bestow on my poverty-stricken premises; and the agricultural papers having made people as covetous of manure as of money, I knew it would be a waste of wind and walking, to go about begging it. And then to think of being recompensed, for my toil and sweat, with seven bushels and a half of corn per acre, did sorely vex my quiet spirit. But I will not trouble you or your readers with the horrors I endured in view of such a crop. Unfortunately its effects are too manifest in the lank sides, prominent bones, and reeling walk, of nearly every horse, hog, cow, and dog, in this part of the State. Suffice it to say, I had read of subsoiling, and the *Southern Cultivator* kept it prominently before my eyes. Having nothing to hope from any other quarter, I determined to try it. In addition to the reasons usually advanced in support of this mode of plowing, I found out another: (for I am keen in investigations and shrewd in argumentations, although few have ever found it out. But their want of discernment is no fault of mine, you know.) My discovery is this: that if earth be stirred that had never been stirred before, something may be got out of it that had never been got out before; and the result proved my philosophy profound and my reasoning conclusive.

Last spring I concluded to plant twenty acres in corn and let my other field rest. I broke it up with a scooter, (it not being convenient then to break with a coulter as I would have preferred doing,) laid off at five feet distance for planting in drills, run a furrow with a coulter in each scooter drill as deep as it could be sent, dropped the corn, covered with a scooter furrow on each side, (making a list,) then plunged a coulter into each of these furrows as deep as possible, and, finally, broke up the balks with a coulter away down in a region where plowshares had never scraped acquaintance before—certainly not by sight, if, peradventure, by sound. The cultivation consisted in two hoeings and three superficial plowings with a common shovel.

Now for the result: but I must first state the drought was excessive. It seemed, from the intervals between showers and the lightness of them when they did come, that nothing could be made. But strange to say, my corn, though small, seemed to be in good heart, (as the phrase goes,) but I was not. The bottom blades even, over the greater part of the field, continued green until fodder time, when I saved six common single stacks of fodder, and in due time thereafter, 36 two horse wagon loads of corn, each load containing at least two barrels according to my judgment and the judgment of others; or, in all, 72 barrels, something over 3½ barrels to the acre. This is a small yield I know, abstractly considered--but think of the quality of the land and the drought, to which add the fact made known to me yesterday by an intelligent farmer who saw my crop growing, and who pronounced it the best that the land had yielded for the last ten years, with one exception, and I think all must admit that my old field did marvelously well, and I don't know what to attribute it to but the subsoiling, for it did not receive a shovel of manure. Under common management my field would have yielded 30 barrels of corn, seasons and tillage being good, but by one proper plowing I made 42 barrels more than that, in a very dry year. Well paid for my labor I think; for these 42 barrels would command for me now $210. Let me give the total value of my crop on the 20 acres of old field:

360 bushels of corn at $1 per bushel	$360 00
3,000 lbs. fodder at 75 cents	22 50
Dry peas, (green do. and corn used from the field)	10 00
Total	$392 50

Mr. Editor, the foregoing facts may be implicitly relied on; for I know my neighbors and friends will bear me out in saying "I am not the man to misrepresent when it is not to my interest to do so," and my little farm is not for sale. Therefore, commend me to the credence of your readers, and the forbearance of some of your pleasantly pugnacious correspondents, so that I escape criticism. I wish the especial favor of my excellent friend, your correspondent, John W. Pitts, who is very intolerant of Bermuda Grass and a great persecutor of Berkshires. I hope he will favor your readers with more of his spicy articles. I bespeak too, the favor of friend Cunningham, who hurled a dart at me for appearing in your paper under a fictitious signature. I will appease him now, and pay a debt of gratitude to a farming implement, so far coming out from my concealment as to subscribe myself, very respectfully, Long Coulter.

Oxford, Ga., February, 1846.

Subsoil Plowing.

Mr. Camak:—Having read much in the agricultural papers upon the benefit of subsoil plowing, I determined last winter to try, for my own satisfaction, an experiment to ascertain whether subsoiling would benefit cotton.

In a piece of land containing about thirty acres, there was a strip poorer than the rest which I wished to manure. The land had been cleared and planted ten years; the soil light and fine, with a moderately stiff clayey subsoil, 12 inches from the surface.

It had been in corn in 1844 and made about 12½ bushels to the acre, without manure. It was broken up as deep as possible with one horse and a common turning (Allen) plow, in the last part of January. In March I laid it off as usual, 3½ feet, except forty rows through the poorest part of the field, which were laid off 4 feet wide. These forty rows were laid off with a turning plow as deep as it could be with one horse; into the bottom of this furrow I run a plow made for the purpose, twelve inches long by six wide, in the shape of an ordinary scooter, as deep as it could be driven with one horse to pull it. Into this furrow I put of coarse manure, made of the scrapings of the surface of the woods, stable dung, leached ashes, partially rotted shucks, &c., at the rate of three hundred and fifty bushels to the acre. The manure was put in wet, and distributed from the cart as it was hauled into the field. Upon the manure I turned a furrow from each side, so as to make what is called a "list;" into the bottom of each of these furrows I run the long scooter as before

The balance of the field was laid off with a scooter, and listed with the turning plow without the subsoil furrow.

The field was planted on the 7th and 8th of

April, and all treated with the same number of plowings and hoeings, without "favor or affection," my object being to ascertain the precise amount of benefit accruing from the subsoiling and manure.

The result was, that although the whole crop was little over one half, on account of the extreme drouth, the difference was three to one in favor of the part subsoiled, while the only extra labor expended was the three extra furrows to each row at planting, and putting on the manure.

An experiment was tried by one of my neighbors, of subsoiling for corn on pine land, with a result very favorable to the practice, though I cannot give you the precise amount of benefit. Suffice it to say, these experiments have induced several of our large planters to try it this year upon a large scale, and when the result is ascertained, I hope they will have the goodness to make their experience public, as there seems to be considerable prejudice upon the minds of some in regard to this matter. P. DAVIDSON.

P. S. Can any one inform us in regard to the culture of Nankin Cotton, and where seed can be procured?

Medville, Ga., January 21, 1846.

Nankin Cotton.

MR. CAMAK:—By this mail I forward you a sample of Nankin Cotton, in a newspaper, which grew from seed I imported last year from Malta. The staple is finer and longer than the Malta cotton, as compared with some unginned cotton with the imported seed. I planted this cotton on a plantation where no other cotton grew, and ginned it in a gin where no other cotton was ginned, thus keeping it from being injured by mixing with other cotton. It grew finely and was free from the rot which generally proves very destructive to our common Nankin.

I have a few hundred bushels of the seed for sale, at two dollars per bushel. The seed imported cost me more than double that price. They can be forwarded to Columbus or Apalachicola by steamboats, &c. I have an order for some of the seed from a gentleman in South Carolina, which will be shipped to Charleston via Apalachicola. Should you think the patrons of the *Southern Cultivator* would wish to procure any of the seed, you can give such notice in that periodical as you may deem proper.

Yours, very respectfully,
REUBEN C. SHORTER, Sr.

Eufaula, Ala, January 16, 1846.

[The sample of cotton mentioned in Gen. SHORTER's letter we have received. It is very beautiful in color, and the staple is very fine and silk-like. We hope Gen. S. will be re-amply rewarded for his enterprise in bringing this new article into the country, and introducing it to the notice of cotton planters. THE EDITOR.]

Fencing.

MR. CAMAK:—I see in the first number of the SOUTHERN CULTIVATOR, in the report made by the Committee on the Agriculture of Georgia, that they state that it behooves the Georgians to begin to think of some substitute for the common rail fence. I am now making an experiment that I have no doubt will succeed, and answer the purpose of the best kind of a rail fence. Wherever there is a fence that will secure the farm for three years, ridge up a bed of land inside of the fence, in the same manner that land is prepared for cotton, and open the ridge with a narrow plow, and if the land is very poor open the ridge pretty deep and fill it with manure, and sow, or rather drill, China tree berries about the first of April. They should be drilled pretty thick, so that they may be sufficiently thick, and if they should come up too thick they can be cut out to a proper stand. In three years they will make a fence sufficiently strong to turn any kind of stock. I drilled about one-half mile last year. The weather was very dry for some time after I planted the berries, and they did not come up until late in May, but wherever the ground was properly prepared and moist I have a fine stand. The best of them are from six to eight inches high. This year I shall plow and hoe them. I shall prepare this year about one mile more inside of my plantation, and I have no doubt that in three years they will answer the purpose as well, or better, than the best kind of rail fence. The China is a tree of quick growth, and flourishes finely in the Southern States. The berries should be covered about two inches deep. Persons living in an open prairie country would do well to make the experiment, as well as those who live where timber is inconvenient to be had. Respectfully yours, &c

JOHN GREEN.

Burrit Corn, Ala., January, 1846.

Fencing.

MR. CAMAK: I find short practical rules of immense benefit to the farmer. As the time for resetting old and making new fences is at hand, I present your patrons with a very short and simple rule to ascertain the number of rails necessary to do the amount of fencing needed.

RULE.—Measure around the ground to be fenced and multiply the number of *yards* by 4, and this gives the number of rails necessary to make a 10 rail fence over the ground measured.

Example.—Suppose you desire to make a fence one hundred yards long. Then: $100 \times 4 = 100$, the number of rails required.

In a fence made by the above rule the stretch made by two pannels is fifteen feet, the base or width of the strip of ground occupied by the fence is $4\frac{1}{2}$ feet. The angle is about 120°.

The practical mode of laying this worm is to first stake off two lines, with the distance of $4\frac{1}{2}$ feet between them, then prepare a rod 15 feet long, which is to be carried by the man who lays the worm, for the purpose of measuring between the corners. In laying let the ends of the rails cross precisely upon the two lines previously laid off $4\frac{1}{2}$ feet apart. By this rule you have a fence which is commonly made in the country. But I think it is rather straight, and the base too narrow, and the number of rails too small (10) to the pannel to make either a handsome or strong fence; and, therefore, prefer the following

RULE.—Measure, as before, and multiply the number of yards by 5. For every 100 yards add 16 rails. This gives the number of rails to make a fence of 12 rails high, with 14 feet stretch and 5 feet base.

Example.—Suppose it is desired to fence one hundred yards Then: $100 \times 5 + 16 = 516$ rails required.

A fence made by this last rule, though it takes more rails, yet the farmer is well paid in the strength and beauty of his fence. The angle, in this instance, is about 108°, which makes a much handsomer crook.

Were it not for occupying too much space in your valuable paper, I would give the rationale of the rules, for the benefit of the curious.

Your friend, WALTON.

Measures—Millet—Meat and Corn.

MR. EDITOR—Sir:—I see in your last number of the CULTIVATOR recommendations how to make measures; also, how to measure a corn crib. Now, I do not say that these are incorrect, in the least, but permit me to give you my rule, and then persons measuring can work by either.

In the first place, almost every farmer has a use for a half, or bushel measure, and for want of knowing the proper size to make them, he goes to town, buys a Yankee made one, pays three times as much for it as the plank and nails are worth that it takes to make one. Any man who can saw a plank and drive nails can make one. The rule is this: A box 12 inches square and 15 inches deep will hold one bushel. For a half bushel, 12 inches square and $7\frac{1}{2}$ inches deep. For a peck $8 \times 8 \times 8\frac{1}{2}$—a little too large. The calculations are made for the bushel to contain 2,160 inches.

To measure a corn crib—multiply the length and breadth together and multiply that product by four. This will give you the amount the crib would contain suppose the corn to be one foot deep. Multiply this product by the height of the pile; cut off the right hand figure; in short, multiply the length, breadth and depth together, and that product by four, and cut off the right hand figure. Example:—Suppose a crib $10 \times 15 \times 8$ feet; these multiplied make 1,200, and multiplied by 4 = 4,800. Do you see, the crib will hold 480 bushels; every foot in height will hold 60 bushels.

MILLET.—I would recommend every farmer who is needing fodder to get some millet seed and sow it on a rich spot of ground. It should be sown about the time corn is planted, in drills three feet apart, plowed like corn, the grass and weeds picked out while young like rice. When seeding, cut and feed like oats or rye. It is a good preventive of bots. It can be cut on low, moist land, every two or three weeks from the middle of June until September. A quart will sow an acre.

MEAT.—There are many ways of preserving meat from the bugs. The following is my plan: The last of February take down your meat, if well smoked; have a large pot of boiling water; keep fire under it; dip your meat in it; let it stay one minute by the watch, to kill the eggs; no danger of hurting the meat; let it stay in the sun a little while; being hot, it will soon dry; then pack it away in a box or hogshead with alternate layers of wheat or oat chaff, and it will be good and sweet as long as it lasts, and perfectly free from bugs, if the eggs are all killed in the first place.

CORN.—Lastly, how to make your Corn hold out. Go to the crib yourself and get it out, or see it done, and don't depend on a servant. There is not one in forty but will give more than you direct if you do not see him.

Your humble servant, PEDRO.

Anonymous Writers.

MR. CAMAK:—I was sorry to see in the October number of the CULTIVATOR that friend CUNNINGHAM has suffered a total defeat in his warfare against *Bermuda Grass*, and has applied his forces against "anonymous contributors," as I, for one of your readers, have derived more useful information from two pieces over the signatures of "A Subscriber," page 73, and "Colonus," page 167, second volume, than I have from any four others signing their real names, and there has been very many good writers, those on Bermuda not excepted. And, by-the-bye, I should be well pleased for "A Subscriber" to give us his views on the culture of Corn, as he promised. As his mode of raising Cotton answers the purpose so well, his plan of cultivating Corn must be worthy of attention even if he signs his name "Potatoe Eater," &c. I care not what name may be signed to a piece provided it is the "real grit." And now, friend C., a word with you through our friend CAMAK. I entreat you to raise the siege, as there is no laurels to be gained by battling with an unknown foe, much less an ally. Rather advise all and every one that knows anything worth communicating to their brother farmers, to sit down and write it out in the best form he is able and send it to the editor, and if it will stand the ordeal you will be satisfied. Tell them it is information you want, not their names, and my word for it you will gain as much by doing so as by calling hard names. I think if the Cultivator was filled with such pieces as those specified, and a great many others I could name, with anonymous as well as real names signed to them, it would be more acceptable to subscribers generally than to be half or two-thirds filled with selections from Northern papers that are of no interest to us Southern farmers; and if friend C. will take the trouble to look over the three back volumes of the CULTIVATOR, he may find that if the anonymous writers were stricken out it would not contain more than half the original pieces it does, and if the writers had to choose between signing their names or not writing at all, I am fully of opinion the latter alternative would be chosen by the most of them.

Will any of your correspondents inform me if the labor-saving plow noticed in the CULTIVATOR, vol. 2, page 161, is patented. If not, they will confer a favor on some of your subscribers by giving through your paper a more plain and full description of it so as to enable a smith unacquainted with the plow to construct one.

Yours, truly, WM. SMALLWOOD.

Cairo, Decatur Co., Ga., Jan. 21, 1846.

Agricultural Meetings.

Burke County Agricultural Society.

Mr. Editor: Below I send you a list of the premiums for the year 1846. This is the second year of the Society's existence. A fair was held in December last, a report of which will be made out, and, we hope, in time for your April number.

LIST OF PREMIUMS FOR 1846.

For the best 5 acres of wheat.....$5	2d best 1
For the best 5 do Oats... 5	3d best.....50 cts
do do do 5 do Rye... 5	Best 4 sides of Tanned Leather $2
For the best acre Corn.. 2	2d best 1
2d best 1 50	3d best.....50 cts
3d best..... 1	Best pair do shoes...75 cts
Best ½ acre of potatoes.. 1	2d best.....50 cts
2d best.....75 cts	3d best.....25 cts
3d best..... 50 "	Best milch cow and calf.$2
Best horse colt, a 6 mos to 2 years $2	2d best..... 1
2d best..... 1	3d best.....50 cts
3d best.....50 cts.	Best samples cotton (bale to the hand).....$2
Best Mule..... $2	2d best 1
2d best..... 1	3d best.....50 cts
3d best.....50 cts	Best fleece of Wool (quantity).....50 cts
Best hog $2	Best fleece of Wool (quality).....50 cts
2d best..... 1	
Best pair home made Boots.....1 50	

To the Plantation kept in the best repair, yielding the most per acre, quality of land and force considered, and most independent of foreign supplies for support —Premium—A Silver Cup.

DOMESTIC FABRICS.

Best patch-work bed quilt.....6 silver tea-spoons.
2d best do do .....a " butter-knife.
3d best do do .....a " salt-spoon.
Best laid work.....6 silver tea-spoons.
2d best " .....a " butter-knife.
3d best " ..... " salt-spoons.
Best Counterpane.....silver sugar-tongs.
2d best " .....silver salt-spoons.
Best cotton Diaper, 15 yards.....Handsome Bible.
Best piece negro cloth, cotton and wool, 30 yards..$3
2d best do do do do do 2
3d best do do do do 1
Best pair blankets, cotton and wool..... 2
2d best do do 1
3d best do do .....50 cts.

For all not above mentioned, such as plows, mechanic arts, inventions and improvements, fancy work, as watch chains, reticules, pocket books, hearth rugs, travelling bags, &c., a premium of $2 is offered, with a graduating scale to 25 cents, having in view the cost of material and value of article—these are under the supervision of the Discretionary Committee of Premiums.

P. S.—By publishing the premiums you will much oblige us. Let it be in full. As you doubtless feel interested in this enterprise, allow me to say, that we are prospering, and zealously advocating economy and reform; and trust, by patient investigation and prudent management, to cause Old Burke to flourish anew. Many of our members are experimenting this season with the Bommer patent. I will give you the results at some future day.

Yours, respectfully,
W. C. Musgrove, Sec'ty pro tem.

Leon County (Fla.) Agricultural Society.

At a meeting of the citizens of Leon county favorable to the formation of an Agricultural Society, held at the Court House in the City of Tallahassee, January 31st, 1846, the Committee appointed at a previous meeting, reported the following Constitution, which was unanimously adopted and signed.

The Society then went into the election of officers, and the following were unanimously elected: Col. B. F. Whitner, President.

Col. John Parkhill,
Thos. Reynolds, Esq, } V. Presid's.
Jno. S. Shepard, Esq., }
Col. R. W. Williams, Cor. Sec'y.
F. H. Flagg, Rec. Sec'y and Treas'r.

On motion, the Recording Secretary was instructed to request the several papers in Tallahassee to publish the proceedings of the meeting together with the Constitution of the Society.

The meeting then adjourned to the first Saturday in March. B. F. Whitner, Pres't.

F. H. Flagg, Secretary.

CONSTITUTION.

We, the undersigned, do hereby form ourlves into an association, to be devoted to the improvement of agriculture and agricultural economy, under the name and style of the *Agricultural Society of Leon County.*

1. Any person shall be eligible as a member on subscribing this Constitution and paying to the Treasurer the sum of $1.

2. The officers shall consist of a President, three Vice-Presidents, a Corresponding Secretary, and a Recording Secretary, who shall also act as Treasurer; to be annually elected by the Society.

3. The Society shall meet in Tallahassee on the first Saturday in every month.

4. Eight members present at any regular meeting of the Society shall constitute a quorum for business.

5. The President shall preside at all meetings and appoint the several Committees, and in his absence, a Vice-President shall act, or if none be present, a Chairman, *pro tem.*

6. The Corresponding Secretary, shall keep a file of all communications received, a copy of all letters written by him in carrying on the correspondence of the Society, and shall revise and superintend all publications ordered by the Society.

7. The Recording Secretary and Treasurer shall record the proceedings of the Society at each meeting, in a suitable book, and shall receive the funds of the Society, and pay the same to the order of the President, keeping a record of all receipts and expenditures.

8. That there shall be a Standing Committee on Cotton, whose duty it shall be to collect all facts relative to the growing crop, the amount produced, the kinds most profitable, with such other observations as may be useful to the Society; to be prepared and reported through the President at the call of the Society.

9. There shall be similar committees on Tobacco, Sugar, Rice, Corn, small Grain, Root crops, Fibrous Plants and Fruits, with similar powers and duties.

10. There shall also be a Committee on Stock, whose duty it shall be to report on the best varieties, the best methods of rearing, &c., at each annual meeting of the Society.

11. There shall be four Visiting Committees, consisting of three persons each, and it shall be the duty of some one of these Committees to visit the plantation of each member of the Society, at least once in every year, and report to the President upon its management and condition, and he shall embody these reports and submit them at the annual meeting of the Society.

12. It shall be the duty of every member of the Society to try annually some experiment in agriculture, manufactures, or mechanical arts, and to communicate the result to the President, to be laid before the Society.

13. Each member of the Society shall exhibit, at the annual meeting, some improved domestic animal, some specimen of domestic industry, or some improved agricultural production. And all others, not members, are invited to exhibit, at the same time, specimens in the line of their business, as mechanics, artisans or manufacturers.

14. The annual meeting of the Society shall be held in Tallahassee on the first Thursday in December in every year.

15. A majority of the members present at any regular meeting of the Society may propose any amendment, and if the same be adopted by two-thirds of the members present at the succeeding regular meeting, such amendment shall become part of this Constitution.

B. F. Whitner, President.
F. H. Flagg, Secretary.

Agricultural Implements, &c.

From the Floridian.

We are pleased to notice that Messrs. Starr & Flagg have this fall brought out an assortment of Agricultural Implements for the use of our Planters. They are purchased at the Agricultural Ware House of Ruggles, Nourse & Mason, Quincy Hall, Boston, and are sold at Boston prices, adding only the cost of transportation. We hear all the first invoice, consisting of Sub-Soil Plows, and Eagle Plows for breaking up land, and smaller sizes for the cultivation of Cotton, Corn, Sugar cane and Rice, were disposed of in two days after their arrival. Orders have been given for a further supply, with the addition of Cultivators, Corn Shellers, Corn Mills, Hay Cutters, Harrows, &c., all of which will soon be received.

We are informed that several of our large planters have used the Eagle Plow, and are highly pleased with it. They can cultivate the land much more thoroughly, and make better crops on a less quantity of land, than by the old method of plowing. We have always been of opinion, that the lands in Florida were not properly cultivated. There is too little attention paid to breaking up the soil for the crop, more perhaps than in the cultivation after the crop is planted. Many planters are of opinion that deep plowing injures the land more than it benefits the crop, inasmuch as it exposes too much of the undersoil to the action of the sun, and destroys its productiveness. Some we have heard contend that deep plowing would cause more wash on rolling land. This certainly must be a mistake—as the surface of land merely scratched up by a small plow, will, on the first heavy rain, become so saturated with water, as to go off almost in a body—while land well broken up will retain the water, and give time for the water to soak into the soil below. We have frequently recommended deep plowing to our planting friends, but have generally been met with one or the other reason why it should not be practised. We know of others, however, who have adopted a more thorough cultivation, and have succeeded far better than in any other mode they ever pursued. The *Sub-Soil Plow* is a remedy to an exposure of the soil to the influence of the sun. It is so constructed, that it enters the soil deeply, and merely breaks up and mellows the earth, while the top soil is left to remain in its old position. It is not turned over as with the common mould-board plow.—How much, however, we would ask, of the heavy burthen of grass which always follows a crop after being laid by, is lost to the soil by the simple scratching of the small one horse plow? If it is turned under at all, it is covered so scantily that instead of rotting and becoming manure for the next crop, the sun dries it to a powder, or the wind drives it into a fence corner, where all the substance is wasted. Too little attention is paid to manuring land. We have too much land here to go to this trouble, and when one clearing is exhausted, or entirely worn out by improper cultivation, another new clearing must be made. This generally happens before the old stumps are removed, and frequently before much of the deadened timber is out of the way. Agriculturists at the North do not so cultivate their land. Such a course there, would in a short time produce starvation. We think our planters here should go in for a better cultivation of their land—they will find it much more profitable. They will require less land, less servants, less horses and mules, less agricultural implements, if they purchase the right kind, and will make better crops, with less labor, and far more satisfaction to themselves.

Another great evil we have considered heretofore in our plan of cultivation, which we are happy to notice is becoming somewhat improved, was that of depending too much upon the cultivation of one single article—that of cotton. Our observation has taught us that the most successful, thrifty planter, is one who diversifies his crop—who raises his own corn, his own sugar, his own beef and bacon, and who manufactures the necessary wearing apparel for his servants at home, upon his plantation. Find us such a planter, and we pronounce him a thrifty planter. He is making money. His cotton is nearly a clear gain to him, at least he has but few expenses to be paid out of the money he receives for it. To him the price of cotton cannot matter, as it does to one who depends upon one or two articles to *purchase* subsistence for himself and his servants.

But there are other crops which might be cultivated to profit, it intermixed properly with the cotton crop. Tobacco, the long staple cotton, the cultivation of Bear Grass, from which a hemp can be procured perhaps nearly equal to the Sisal hemp, some of which we have seen, and are informed it is easily produced, and cannot fail to be profitable. These, with others we may hereafter name, all or any of them can be successfully cultivated.

We have thrown out these remarks for the consideration of our friends. Having recently become a State, it devolves upon our citizens to aid in developing our resources. Unless we think upon these things we shall never practice them—unless we practice them we shall never succeed. *Agricultural Societies* should be instituted in every county in the State, regular meetings should be held, and the experience of planters, the success of different crops, and different modes of culture, should be made known to the community.

Appropriate Manure.

The following remarks, which we find in the Albany Cultivator, have their origin in practice. The results obtained, and the suggestions, are in accordance with scientific experiments:

With too many farmers it seems to be the aim to make and apply manure, not stopping to inquire how it can *best* be applied. Green and rotted, composted and clear, it is too often applied, indiscriminately to all kinds of soil, when or where convenience or custom may direct. There can be no question that long manure is best adapted to hoed crops, and well rotted compost for top dressing. But the principle to which I would particularly invite attention, is that given by the Creator of Adam, and legible in all nature's works, viz: that seed produces seed after its kind; in other words, that like produces like. Look upon the stately trees of the forest. How have they attained their great dimensions? Who has been their cultivator, and what the mode of their cultivation? He, who does all things well is their culturist, and their food the decayed leaves and branches that are annually deposited at their roots. Man has been slow in learning the simple principle from the Great Teacher. It is but a recent thing that the vine dressers of France have discovered that the prunings form the best manure for the vines. It has long been observed that hog manure is exceedingly well adapted for a crop of corn. Does not the fact that hogs are generally fatted upon corn, furnish the reason of its adaptation? An experiment of a good farmer in this vicinity, bears directly upon this principle. Cuting the tops of corn for fodder, he places the bottom stalks between the rows, and upon these stalks he turns back furrows; without further manuring or plowing, he plants his corn, and his crops are above the average of those in the neighborhood. A similar experiment with potatoes has proved that the tops well covered at the time of digging, will furnish sufficient manure to ensure an equally good crop the succeeding year. Onions it is well known succeed best when sowed on the same ground year after year. Is not the rationale found in the fact that the tops are always left on the ground? Rye has been known to grow on the same land for a course of years, with undiminished yield, with no other manure than is furnished by the stubble plowed in. Chip manure is universally recommended for promoting the growth of young fruit trees. The wherefore is found in the simple principle we lay down, that like produces like. Nature has furnished all seeds with nutriment in themselves best adapted for the future plant. Who can doubt but that the pulp of the apple was designed as food for the seed as well as to gratify man's appetite? The blade of wheat and the sprout of the potato, as they first shoot forth, feed solely upon the parent stock.

The principle we have thus briefly illustrated and endeavored to prove, has important political inferences. If the principle is true, no top-dressing can be better adapted for grass than the aftermath left to decay on the ground. The manure from stock fed on hay should also be applied to grass lands, while that derived from grain should be applied to farinaceous crops.—It is not necessary to carry these inferences further. They will suggest themselves to all readers of reflection.

Lee, Sept. 15, 1845. BERKSHIRE.

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ORIGINAL PAPERS.

SELECTIONS, EXTRACTS, &C.

☞ Volumes 1, 2 and 3 of the "SOUTHERN CULTIVATOR," can be supplied to those who want. The back numbers of present volume are sent to *all* Subscribers.

SOUTHERN CULTIVATOR.

VOL. IV. AUGUSTA, GA., APRIL, 1846. No. 4.

ANNIVERSARY ORATION,

Delivered before the Burke County Central Agricultural Society, January 13, 1846.

BY M. C. M. HAMMOND.—[CONCLUDED]

From a faithful prosecution of the general plan I have sketched, would soon flow innumerable advantages of the highest value; among the most important of which, would be the promotion of health, the choicest blessing of life, and the consequent increased happiness and value of our slaves. The necessity of Absenteeism, the chief obstacle to our progress, if it could thus be removed, would lead to every solid and lasting improvement. Living permanently on our places, we would feel deeper interest in our pursuit, and rely more on ourselves and less on our agents. The worth and contentment of our people, who perform cheerfully under the eyes of their owners more than they can be made to do for others, would be enhanced; and, instead of devoting all our energies to the worship of Mammon, we would raise all necessaries within ourselves, and having less need of money, would turn more fully to the cultivation of the intellectual faculties and social affections, and the humane charities of life. Our whole system would be changed. After restoring our lands and learning, as would soon be done, that, all in all, our condition could not be bettered by removal to Texas or Oregon, or California, we would build more durable dwellings and plantation houses—extend our orchards—ornament our gardens and yards—and having established a SACRED HOME for ourselves, our children and their posterity, would be permitted to enjoy in their reality, the tranquil pleasures and rural blessings, which poets and philosophers of all ages, have assigned to country life.

It may be asked, how is the planter to find time to consummate such a system of improvement as I suggest? Who can carry out the extensive scheme of marling, manufacturing manure, subsoiling and draining? I answer at once, that time and labor must both be found for these things, whatever else may be omitted; and that hands must, without hesitation, be taken for these purposes, *from the crop*. If a planter works but four hands let him give up one, wholly and solely to them. If he works one hundred hands, let him appropriate twenty-five. If he can make as much with three-fourths of his force as all can gather in season, of which I have not a shadow of doubt, since it is estimated, that in time, one half would do it, he will be doing an infinitely better business than he does now. Let him then devote one-fourth of his labor to the improvement of his soil. His crop may be diminished for the first year; indeed, the effect may be to decrease it for several years, until his system gets fairly into operation. But in the end, he will be directly paid for these losses in greatly increased crops, and doubly and trebly paid, in the permanently enhanced value of his lands.

But this view is immediately connected with the other great question which I propose to consider. *How are our crops to be diversified?* If to make manure we pen our hogs and cattle, they must be fed, and to feed them properly we must make far greater provision than we do now. In the system of enclosing pastures and artificial grasses must of course be left out of consideration. Although the foreign grasses, like almost all foreign productions, have been, and may again be, grown successfully in our genial climate, yet we can better employ our land in the cultivation of substitutes; and first among them, our great product of Indian Corn. Wonderful as cotton is to the external man, and the world, in all its relations of clothing and commerce, *it is infinitely less so* than is this plant to home economy, the subsistence of man. In the beautiful system of ancient Mythology, the Olive was held sacred to the Goddess of Wisdom, and other fruits to certain other divinities; with more propriety might the Red man have consecrated his incomparable maize to the GREAT SPIRIT whom he worshipped. Indigenous to this continent, unparalleled in value, and of universal use, reaching nearly five hundred millions of bushels annually in the United States, it should be regarded *par excellence*, the NATIONAL PLANT. It is applicable to a greater variety of nutritive purposes than any plant that grows. Its grain supersedes as food the use of all the small grains, including rice, and if man will drink spirituous liquors, which I presume he will do more or less for all time to come, it furnishes the most wholesome of alcoholic stimulants. Given separately, it is the most strengthening food for work animals; and ground in an improved mill with the cob, or cob and shuck, it is the cheapest, and, as abundant experience can test it, the healthiest and most nutritious provender that can be used. Its leaves make our fodder, the great substitute for hay. The stalk contains, at a certain period of its growth, a large quantity of saccharine juice, and when properly managed, yields a high per centage of sugar, superior in granulation to that derived from the maple tree, and nearly equal in all respects to that from the cane. After some experience, it has been calculated in Indiana that an acre of land which will produce 50 bushels of corn will make from 6 to 800 lbs. of syrup, of which two-thirds or 5 to lbs. would be sugar and one-third molasses. In Delaware in 1813, a single acre of corn yielded 500 pounds of sugar, 50 gallons of molasses, and more than 6 000 lbs. of fodder, all of which sold for $86. Here is an opening for our enterprise. Sugar will not soon be a drug in the market. The advance of civilization increases its consumption. It is becoming a *necessary* all over the world, and wealth and luxury mould it into a thousand forms for use. What else can we plant that will return us $86 gross per acre? Cotton does not ordinarily realize us more than a tenth of this amount, nor will anything that I am acquainted with, make, in the long run, so profitable a return as sugar. The method of making it is by no means expensive nor difficult to learn. Ten dollars will suffice to construct a mill for grinding, which will answer all purposes for a number of seasons, and double that amount will provide a boiler that will last indefinitely. Experience will soon teach the best way to manage the stalk and the proper time for cutting, and likewise remove all obstacles to success in clarifying the juice, and in granulation.

The extensive roots of corn is not the least of its remarkable properties. A single stalk, presented last year by Mr. Skinner to the National Gallery in Washington, measured on estimate, about 8,000 feet of roots, when it had been growing only two months. This of course was extraordinary, but commonly they are greater than those of any other annual plant, and beyond competition in enriching the ground with carbonaceous matter. Hence we perceive the infinite advantage of deep or subsoil plowing, to give facility to the roots to descend and diverge; and likewise how important we might render corn, in the renovation of our lands. Sown broadcast after deep breaking, and turned under when in tassel, it would be an ample coat of manure for a fair growth of cotton, wheat or any other crop.

This product may, however, be applied as food for animals, in a mode not in use among us at all, which is destined to contribute largely towards subsisting our stock, at least; and with the cob and corn meal, to supersede almost entirely all other provender. When sown or drilled and cut before in the silk, and cured with stalk, leaves and shoots, it furnishes a fodder, fattening and grateful not only to cattle, but to horses, mules, sheep and hogs. It will answer the purpose of corn and fodder both, and if first submitted to the cutting knife, would be all consumed. A piece of land in South Carolina sown last year with three bushels of seed to the acre, returned at the rate per acre of 27,000 lbs. of well cured forage. If we will manure heavily, and drill the seed to enable us to work it once or twice, we can exceed even this amount. Thus a very few acres would supply all our stock the year round.

With such abundance of provender at so small an outlay of manure and labor as this source, with others to be mentioned hereafter, would supply, we could profitably consume corn on our plantations far more extensively than we do now. We could rear all the improved stock found valuable to us—manufacture any quantity of manure, and supply ourselves amply with meat, so sure an indication of prosperity where abundantly raised. Although we might not find a market for any large quantity of corn itself, yet the general and enlarged culture of it would confer upon our own, as well as it is with other People, the signal blessing of reducing to the lowest price the "staff of life;" while by feeding it away bountifully, we could sell it indirectly at a fair value in beef, pork, bacon and butter. For these articles, we should find for a long time ready sale at home, and at first even for our corn; for corn is shipped to South Carolina and Georgia in large quantities, from other States. Our butter is chiefly imported from the North, and all our cheese. Our bacon comes from Cincinnati by way of New Orleans, and our pork is driven over the mountains. But ample as it might be for our day, we would not be restricted to the home market. By reference to our National statistics will be seen the immense export of all these articles, and the reasonable price they every where command. The whole world would be open to our competition, and while consumers are multiplying over the globe, and we possessed the advantage of cheap transportation to the seaports, we could at least fare as well as others engaged in this trade.

Considering the inestimable value of Indian Corn, I am inclined to think it our true policy—and one which will ere long be forced on us, whether we will or not—to make it at once our main crop, and to hold all others, especially cotton, subordinate to it. For this reason, we should now direct our attention seriously to studying

its character, and improving its cultivation as well as its use. Making with ease a sufficiency for existing wants, we have been heretofore culpably negligent in its cultivation. There must be some radical defect to occasion the marked contrast in its production here and in the North. Our climate it is said is too hot for its perfect growth. True as this may be to some extent, it is probable also that our tillage is not adapted to the climate. Our soil can be strengthened, and if the heat of our sun cannot be mitigated directly, its worst effects may be evaded by skillful management. A hundred bushels of corn to the acre has been averaged repeatedly on good sized fields of native land at the North, while we rarely gather over fifteen bushels, and on our unmanured, older land, from eight to ten is a fair yield. Their most enriched acre, in the gravelly soil of Connecticut too, turned out in 1844, 151 bushels; and another in New York produced some years ago 174 bushels; and a ten acre lot in Ohio averaged per acre 193 bushels—while we have reached certainly only 89 bushels in this State, and last year 113 bushels in North Carolina, and I have good reason to believe that 112 have been made on Savannah river bottom. Still, this result is not discouraging. It shows the advantage of closer planting and manuring; and as a thousand acres may be brought to the same productive capacity as one, it proves also, that we *can do* much better than we *are doing*.

It is far easier to enrich and till one acre with such effect, than to work ten after our present fashion. The land would improve yearly; the laborers would perform their tasks with more cheerfulness and ease, and in housing the produce, our satisfaction would be incomparably greater. Supplying annually abundant nutriment, there would be no need of fallowing. De Candolle's theory of roots excreting substances hurtful to their repeated growth on the same soil, existing only in conjecture, the rotation system might be abandoned. Suitable land could be selected and corn perpetually grown, each year increasing its produce over the last, until the soil attained what is unknown yet, its maximum productive ability.

But our common culture I fear has its evils, and with the hot sun, must share the responsibility of failure. Perhaps we usually work our corn too late in the season, and thus cut the roots at the critical periods of tasseling or shooting. We may plant too wide apart, in the stronger lands particularly, and lose the benefit of shading the soil, which checks the growth of grass and protects the roots. We should break the land deep at first, since the roots will not spread so much if they can descend, and will be less apt to be cut, will gather more nutriment when manured in the hill, and suffer less in a dry season, provided the surface has strength to impel them to the clay subsoil where moisture is perpetual. We should plant early, since it always increases the grain, and it is equally important to gather as early as it can be preserved, for here likewise the grain is augmented. In short, by careful experiment and judicious reflection, I have no doubt any ill effects of climate may be overcome, and this invaluable plant grown in its utmost perfection on our soil and under our sun; *and that, from corn alone, sold in the grain, or manufactured into sugar, or fed away and sold in meat, every planter will soon make it, as all should do, an invariable rule to pay all his plantation and family expenses.*

But we have other products to aid in subsisting our people and stock, which have attracted our attention to some extent, yet they merit at this crisis more serious regard. Our climate and soil are well adapted to Turnips, and they may be grown as successfully here as any where in the world. One of our members estimated the yield of a single acre of his land at near 2,000 bushels of bulbs. This is equal to the highest produce in England, where turnips are an important crop, and its amount greatly increased by spade cultivation, which is proved to be the best. Twenty years ago, 5 to 600 bushels to the acre was counted an immense yield there, whereas 15 to 1800 bushels per acre is by no means uncommon now. By adding to the ordinary mode of cow penning, large quantities of peat or dried mud saturated with the drippings of the stable and 20 or 30 bushels per acre of pounded bones, I am convinced that we can equal in amount of turnips anything on record. Bones have indeed become so highly appreciated, that in the German States, a tariff is imposed on their exportation. Consisting largely of lime and phosphoric acid, they are valuable likewise for corn and cotton, but the supply is too limited to make it more than an object to collect and pound or grind them for our turnips.

The Jerusalem Artichoke is also capital food for cattle, but especially for hogs. It is planted and cultivated precisely like corn, and in good land from 500 to 1,000 bushels of tubers per acre is not unusual. The leaves make equally as good fodder as those of corn, and about as abundant, and the stalks likewise are as good absorbents for our compost heaps. It has been asserted that a single acre of them will furnish food for twenty hogs for four months. Like corn and the cow pea, it would be highly useful in restoring land, and being easily destroyed with the plow, would never become troublesome to other crops.

The Sweet Potatoe is too generally planted, to do more than allude to it as excellent food for our negroes as well as our stock. It is one-fourth as nutritious as meat itself, or three lbs. are equal to 12 ounces of bread, and 5 ounces of meat. It certainly merits more extensive cultivation.

Wheat and Rice might be grown for our own consumption, and when over supplied at home there are Foreign markets for them both, which are never glutted. Our heavy loams and strong clay lands would yield fair crops of wheat. Seventy bushels have been gathered from an acre, and 56 bushels averaged on small fields in England; and an extraordinary yield on a small spot properly prepared and drilled at intervals of six inches, attained the enormous amount of 320 bushels pro rata per acre! Seventy-eight bushels have been cut from an acre in N. York; 68 from an acre in Ohio, and 64 bushels have been averaged on large fields; and it is believed at the North that drilling and judicious culture will turn out on good land in this country 100 bushels to the acre. As with respect to Indian Corn, we are far behind these results; but when we turn our attention strictly to wheat, I see no reason why we should not reach the average production of any other region. Our climate cannot be an obstacle, since in warmer countries in olden time, in Egypt, Chaldea and Italy, immense crops of it were made, and the then known world was mainly supplied from these sources, in the periods of their respective prosperity.

Flour is imported very considerably into this State. The entire wheat crop of Georgia for 1844 was little over a million of bushels in a general crop of near one hundred millions. Here is an ample market for us, and could we by possibility over-supply it, England would consume the surplus at a compensating price. Her deficiency of crop last year was estimated variously at from twenty-five to fifty millions of bushels, and her population increasing faster than the ability of her land to feed them, and her corn laws being soon to be repealed, she will always offer a good market for flour. Our Southern flour, too, is the richest in the world. Analysis has proved that the flour made in this country is eight to ten per cent richer in the essential principle of gluten than any made in Europe, and the farther South it has been tested among us the richer is the wheat.

Rice, it is said, will grow wherever corn will, and it is remarked also, that our up-country rice is larger grained, whiter, and more nutritious than that in the tide-water region. Planted in our richer drained land, it would yield a fair crop, and although the grass would be difficult to kill without flooding, still the cultivation would well repay us the labor expended. Its consumption is increasing everywhere, and its great productive regions are mainly confined, at least in America, to the low country of Carolina and Georgia.

Some of our planters are already wisely turning their attention to Tobacco. This weed, while bitterly reviled by many, is yet esteemed by a large majority of those who have access to it, as one of Heaven's choicest gifts to man. To millions it is a comfort, for which nothing can be substituted, and it may be regarded as certain that its consumption will go on increasing to the end of time. We now purchase all that we use, and at comparatively a high price. It is discreditable to any planter to buy his tobacco, and in a few years it will so be universally considered. We can readily grow it to an extent far beyond our own demand. Three to four hundred dollars have been realized in a season in Florida from a single acre in tobacco, but if the fifth of this could be made here we would be fully satisfied. Eight hundred pounds have been gathered from an acre in this State, and if it were from the Cuba seed, and it is true that 8 pounds will make a thousand cigars, this yield would produce 100,000 cigars; these, if sold for only 25 cents per hundred, would bring the handsome amount of $250. This crop is so exhausting to land as to abstract in the fair produce of an acre, as much as 170 pounds of mineral matter, yet reasonable success compared with the calculations made, would authorize a large expenditure of manure and labor in its production.

Indigo, an extinct staple, might be revived and grown again to some extent. It commands from 30 to 50 cents a pound, and an acre of land will produce about 500 weight. It grows wild among us, and the weed of this wild plant is better than that from imported seed, showing the perfect adaptation to it of our climate and soil. Some trouble and expense are required in its preparation, but they would be fully compensated.

Madder, likewise, would well repay the labor of cultivation. It has been introduced recently into Ohio with great success, where it is ascertained that strong soils will yield from two to three thousand pounds of it per acre. It sells for 15 cents a lb. This demands also some skill and much care in its culture and preparation, but under the system of Agriculture I suggest, skill and care, now so wholly wanting in nearly all our operations, will soon be abundantly and habitually applied to every kind of crop. Both these dye-stuffs are extensively used in the factories at the North and all over the world, and if manufacturing continues to increase here likewise, as I think it certainly will, a home market would be opened for them, which, at least, we should endeavor to supply.

I should hesitate to recommend any Planter, entirely unacquainted with the business, to invest largely in the cotton manufactures now springing up in our region, and least of all, to undertake himself to direct one; but unquestionably it is our interest to encourage them by all the means we can properly use. Such Planters however and other citizens as have risked and are now risking themselves in these, to us, somewhat novel enterprises, and the strangers who may come among us for the same purpose, are entitled to our highest gratitude for their enterprise and patriotism, from which, in good season, we cannot fail to reap great advantages. In time, they will become safe depositories for our surplus funds, and our children may be trained up to their management. They will be consumers not only of our cotton, but of all our agricultural productions; will concentrate some of our population, which would tend to better education; by employing, divert some of our labor from staple cultivation, and diminish its aggregate production; will introduce or give life to capital among us, and set us the best examples of industry, skill, care and economy, in the application of scientific principles to manual operations, and of the inestimable importance in all our pursuits of intelligence ever looking forward, and energy that never fails.

But there is a kind of manufacture equally ap-

propriate to us as that of cotton wool, and I am not sure that it would not be as profitable. Accumulating an abundant supply of manure from the means I have suggested, we might appropriate our cotton seed to a better purpose. Invaluable as they have heretofore proved as manure, we should dispense with them in view of a higher economy. A valuable oil may be expressed from them, which burns, when fully refined, as well, it is said, as sperm oil. It has double the strength of light from coal gas, and makes also a good oil for paint. Besides, a cake results from its manufacture of great use in feeding milch cows, and fully as good as that from rape seed so celebrated in Europe. A bushel of seed weighing 30 pounds gives over two quarts of oil and more than twelve pounds of oil cake. The crop of Georgia for 1844 was estimated by Mr. Ellsworth, Commissioner of Patents, at 532,000 bales of cotton, though in reality it turned out less: Counting 25 bushels of seed per bale, after deducting five bushels for planting purposes, it would have yielded more than thirteen million bushels of seed, which would have expressed over seven million gallons of oil, and have furnished about one hundred and sixty million pounds of oil cake. Valuing the oil at only 50 cents a gallon, (and we pay twice that sum now for an interior article,) would give over three and a half millions of dollars; and estimating the cake at only 1 cent a pound, would give over one and a half million more, in all, more than five millions of dollars! By converting our cotton seed into marketable materials, we would by this calculation add about ten dollars to the value of each bale of cotton! This is an important consideration and merits our deliberate attention.

This diversifying of our Agricultural operations, which I have endeavored to show may be readily and profitably effected, and which, in time, must inevitably be done, would curtail the amount of cotton planted to so much as we could make clear of all expenses, and in most cases reduce it even lower. However little that amount when exchanged for money might appear, I suspect that it would be more than most Planters make clear now. Yet, if our soils were highly improved, although the culture were reduced two-thirds in the quantity of land, it is very probable that as much cotton might be gathered as is now done. Dr. Cloud, whose system of cultivation, so far as the manuring is concerned, at least, is unquestionably the true one for us, declares that ordinary land has been made to yield from 3 to 5000 lbs. seed cotton per acre. If, however, the plan were universally adopted, and its effect should be to diminish the quantity of cotton, it would enhance its value, and thus the ultimate result would be the same.

With this view, could the war which is threatened, if it is declared, *continue for a few years only*, I have no doubt it would prove in the end, as beneficial to the Southern Planter as it certainly would to the Northern manufacturer and the Western farmer. However calamitous it might be to the commercial interests, and perhaps to the seaport cities and the coast planters, yet by reducing our staple to a price at which we could not grow it, would force us generally, and at once, to abandon its cultivation for Foreign markets, and to adopt substantially, the very scheme that I recommend. Temporary losses would of course follow, but we would soon raise our own provisions, and indeed compete in the common markets with other regions in supplying all the necessaries of life—would manufacture for ourselves whatever was practicable and profitable, and bring into immediate practice all the rules of household and plantation economy. A short period would serve to confirm this diversion from cotton planting, and the demand for it again on the return of peace, would probably recall us to only so much of its cultivation as we could attend independently of our more important productions.

In connection with the restoration of land and the changes of cultivation, it is important likewise, to improve our implements of labor. Among these, from the earliest times, the Plow has been the great instrument in agriculture. For hundreds of years it underwent little or no change, and though greatly altered in size and form, and much varied in its modes of use within half a century past, and even modified in the last few years, still it is no doubt susceptible of farther improvement. As we cannot supersede by steam or otherwise the use of animal power in plowing, the source of greatest expense to the staple planter, the grand desideratum is to perform the most effective and the largest amount of work, with the least exertion of it. Thus have been introduced the sweep, and for deeper plowing the half shovel or turn plow, constructed with mathematical accuracy; and upon this fundamental principle must be based all useful alterations and inventions of the plow.

It may not be inappropriate to allude here to our communications to market. For a long time to come, it is feared, that our enterprise will prove insufficient, to construct a Railroad from the 80 mile station to Augusta. Wagon transportation, to which we must continue necessarily to resort, is highly expensive. Every bale of cotton, and other produce in proportion, thus conveyed to Augusta from this part of the County, costs at least one dollar. It is a little less to the Railroad, and something cheaper still to the river. But the larger part of this outlay might be readily saved to us. Briar Creek, which has been partially cleared out once already, could be rendered navigable for pole boats, at least as high as Ray's Bridge. A Company, on condition of removing the obstructions, would find little difficulty in obtaining from the Legislature the privilege of exclusive navigation for a series of years; and a few thousand dollars judiciously applied by them, which would be tenfold repaid, would thus afford us a safe and cheap outlet to market for all our produce, and enable us to receive our supplies direct from the seaports, at the cheapest rates. It would even be preferable to a Railroad, since ours would be "way freight" and be liable to continual neglect, and all the charges would be higher, and only counterbalanced by the single advantage of speedier transportation. Its tendency too would be to rebuild and enlarge our County town, to keep much of our money in circulation among ourselves, and confer benefits which would be felt throughout the country.

But I have done. I have trespassed long on your attention. The magnitude and inappreciable importance of the subject, excuse, if they cannot justify me. We have a great work before us. The welfare and happiness of ourselves, of our children, and of our Country, rest upon the exertions we are at this crisis, called on to make. What higher motives can address themselves to man, to stimulate him to collecting information—to deep reflection—to decisive judgment—to bold and vigorous action? If they fail to do it for us our fate is sealed, and the same Historic page which depicts it, will record that we were not worthy of a better. But, Gentlemen, I am full of hope. I know too well the noble character of Southern Planters to despond. I perceive already the right spirit at work among us, and I look forward with sanguine expectation and cheerful faith, to see, at no distant day, our broad lands renovated and our Country rescued by the virtue and intelligence, the indomitable courage, and persevering energy of her Sons.

SIMPLE METHOD OF FILTERING.—The waters of the Wangho and Yang-tse-kiang, in China, are highly surcharged with mud, the former containing one-seventeenth part, and the latter one ninety-sixth of earth. This renders them both unpleasant and unwholesome to drink. Cunningham, the writer, informs us that the Chinese have adopted a very simple remedy for this evil, which it behooves any one who may chance to visit muddy streams, to remember. Into about a quart of water they throw a small pinch of alum, leaving it to stand a few minutes; it becomes as clear as crystal, a considerable sediment being found at the bottom. The poorest fisherman is always provided with a small portion for this necessary purpose.

AGRICULTURAL ADDRESS,

BY J. P. STEVENS.

Delivered before the Liberty County Agricultural Society, January 17, 1846.

GENTLEMEN:—The circumstances which convene us at this time are peculiarly interesting. Annually do we meet to commemorate the birth-day of our National Independence. The calls upon our charities in the formation of benevolent associations for the amelioration of the condition of suffering humanity are responded to with cordial sympathy; any great national scheme is unhesitatingly pursued with avidity and enthusiasm; but that which concerns us most intimately, which directly affects the personal condition of each one of us, has, until now, been regarded with a jest or sneer. It is unnecessary for me to enter into a minute detail of the advantages accruing to society from the pursuit of Agriculture; for, from its first organization, improvement in the art of cultivating the earth have progressed in a direct ratio with the advancement of civilization and enlightenment. Even among some nations where religion and morality have withdrawn their influence, and blindness and superstition have veiled the evidences of a future state of accountability, a remarkable degree of acumen and skill is exhibited in gleaning from the soil the necessary demands upon its resources.

It is believed that nine-tenths of the fixed capital of all civilized nations is embarked, and probably two hundred millions of men spend their daily labor, in the prosecution of this art. It is, indeed, the foundation upon which rests all other pursuits in life. The myriads of ships that are supported upon the bosom of every ocean—the thousands of locomotives that fly upon our Railroads—the thousand millions of human beings who live upon the earth, lean upon agriculture as the fountain and source of their being. Man is naturally averse to labor, and so long as he can depend upon nature for support, his physical and intellectual exertions will be commensurate therewith. We discover, then, that in those countries where a virgin soil is rich in fertilizing properties, the system of agriculture is of the rudest and simplest character. Of this nature, we are informed, is a vast portion of the western territories of our own land, where it is frequently necessary merely to protect the grain from the depredations of animals, and a plentiful harvest is reaped by the planter.

In proportion to the increase of the population of a country will there be a demand upon its agricultural resources. Hence we observe, that in France, Germany and Great Britain, a large number of ingenious and investigating minds are engaged in renovating the energies of a soil worn out by perpetual tillage. Calculations are made by which the maximum amount of grain may be produced upon every acre of ground susceptible of cultivation. The aid of science is called into requisition, and the art of culture must be proportionally superior.

From statistics of a writer* computing the pecuniary value of the productions raised in Great Britain, we have the following items:

In 1760 the total amount of all kinds of grain produced in England and Wales, was about 120,000,000 bushels. To this should be added 30,000,000 for Scotland, making a grand total of 150,000,000 bushels. In 1835, the quantity in both countries could not have been less than 340,000,000. In 1755, the population did not, if any, exceed 7,500,000 in the whole island. In 1831 it had risen to 16,525,180, being an increase of 9,000,000! Now the improvements in agriculture have more than kept pace with this prodigious demand for its various productions; for it is agreed that 16,500,000 or rather 17,500,000, for more than a million have been added since 1831, have been much fuller fed, and upon provisions of a far better quality than the 7,500,000 were in 1755. Again, it is estimated by British writers of high authority, that the subsistence of 9,000,000 of people costs,

*Humphrey's Foreign Tour.

in raw produce, not less than £72,000,000, or £8 for each individual per annum. According to this estimate, the annual product of this great branch of national industry is $350,000,000 more than it was in 1755. Now, if it cost $350,000,000 to feed the increased population of 9,000,000—to feed the present population of 17,500,000, must cost nearly $700,000,000. By consulting another authority of more recent date, we are informed that in 1780 the island of Great Britain contained about 9,000,000 of inhabitants, it now contains nearly 20,000,000. The land has not increased in quantity, but the consumption of food has probably more than doubled. The importation from abroad has not increased to any important extent. By improved management, therefore, the same area has been caused to yield double. The superficial area of Great Britain comprises about 57,000,000 of acres, of which 34,000,000 are in cultivation, about 13,000,000 are incapable of culture, and the remaining ten millions are waste lands susceptible of improvement. The present population, therefore, is supported by the produce of 34,000,000 acres, or every 3½ acres raises food for twenty people. Suppose the ten millions susceptible of improvement to be brought into such a state of culture as to maintain an equal proportion, they would raise food for an additional population of about 6,000,000, or supply till the number of its inhabitants reached 26,000,000.*

We have an analogous instance of superior skill, as exhibited in the art of husbandry, among the Chinese. Their agricultural implements are comparatively simple, and although hitherto excluded from intercourse with foreign nations, yet their superior knowledge of the art of culture has enabled them, upon an area of 1,200,000 acres of land, to support a population of nearly 300,000,000 of people! Indeed, the progress in the science and practice of agriculture has been so great, in recent times, among the older civilized countries, that it has been confidently asserted by a popular writer, that within the next twenty years, Britain will, in all probability, become an *exporting* country.

The inquiry naturally presents itself, how have such astonishing results been realized? We reply, by the application of scientific principles in the cultivation of the soil; in other words, by making Agriculture a source of study and reflection. The farmer, of all other men, is the most deeply rooted in his prejudices. Taught from his earliest infancy to pursue a certain system of labor, trained up in the customs and manners of his ancestors, guiding all of his important operations by the different lunar phases and meteorological observations, which are to his mind ominous of good or evil; any suggestions which may have a tendency to invalidate the stability of his faith are received with incredulity and suspicion. Even when actual observation and experience have tested their superiority, he is tardy in adopting them and giving due credit to their efficacy. It is also true, that while all other sciences have been fostered by governmental patronage, and the public mind has been educated in them, Agriculture has been left to itself, neglected and despised. It is pleasing then to reflect, that as necessity, the most successful opponent of opinionative notions, has invoked attention, the veil of Isis which has so long obscured the movements of this branch of industry has been partially removed, and a day has already dawned whose invigorating influence is destined to elevate agriculture among the most certain, useful and popular of the sciences. The most rapacious intellects here find a field for the employment of their noblest faculties. A plant itself insignificant in appearance, yet in its structure it presents a striking analogy to the very perfection of Divine mechanism. Its radical extremity imbibing nutriment from the various ingredients of the soil and atmosphere, it is conveyed in the form of sap through the trunk and branches to the leaves, there to undergo a process of aeration preparatory to imparting its nutritious qualities to the plant, and finally that part which is no longer adapted to the purposes of the economy is returned to the soil in the form of effete, or excrementitious matter. In the functions of the leaves we observe a process analogous to that which the lungs perform in animals, namely, that of respiration. Here too, we observe in this chemical laboratory, by the decomposition of certain gases, an explanation of one of the means to which nature resorts, in the animal and vegetable kingdoms, for maintaining a due supply of healthy atmospheric air. We are aware that the air which we breathe is composed of definite proportions of oxygen and nitrogen gases, and a trace of carbonic acid gas. In the process of animal respiration, oxygen gas is absorbed, as a certain portion of it is necessary to the support of animal existence, and carbonic acid gas is evolved, the inhalation of which produces instant death. We will readily perceive that from the countless numbers of animals upon the face of the earth, the atmosphere would soon become irrespirable from the predominance of this deleterious agent, was there not a counterbalancing influence. But mark the munificence and providence of nature. Plants absorb carbonic acid and evolve oxygen gas. That noxious agent, one atom of which if inspired into the lungs of animals, would produce immediate dissolution, is expended in imparting health, vigor and strength to the whole vegetable world. Here, then, we cannot look with contempt upon the smallest twig or tenderest leaflet that dances in the breeze, for truly we are measurably dependent upon it for the blithesome countenance and elastic step of health and happiness. This property of plants receiving nourishment from the atmosphere is a wise provision of nature, and it is the only rational method by which we are enabled to account for the manner in which vegetation was originally supported. For vegetable mould, called by some humus, is the product of the decay of vegetable matter in the form of leaves, stems, &c.; and there having been no anterior provision of this kind, we are led to infer that the original plants must have been supplied with extensive leafy expansions, receiving their nourishment chiefly from the air, and demanding but a limited supply from the soil.

By arriving at the conditions necessary for the development of plants, investigating the different ingredients in the soil which are appropriated to the formation of certain portions of the same plant, and becoming acquainted with those general physiological laws which operate in maintaining a healthy growth, has the art of culture of the present day attained its superiority. We must proceed in the rearing of plants upon a similar principle to that which we observe in our treatment of inferior animals when we wish to obtain a definite object. By pursuing a certain system of regimen we have a development of the muscular tissue; by a different course of treatment we have a predominance of fatty matter. So with plants; besides heat, light, moisture, and the component parts of the atmosphere, there are certain substances which exert a specific influence upon distinct genera, and even upon separate portions of the same plant. Some require a predominance of the silicates to afford strength and durability to the stalks; all plants of the grass kind demand a large share of the silicate of potash; wheat requires a still larger allowance of potash. One hundred parts of the stalks of wheat yield 15 per cent. of ashes, while the same quantity of the dry stalks of barley afford but 8, and of oats only 4 per cent. It is evident, then, that the same soil which would support but one crop of wheat would bear three of oats. In a thousand pounds of the dry hay of rye grass and clover, we have of the rye 8 per cent. of potash and 27 of silica; of clover, 19 per cent. of potash, and 3 of silica.

These facts then afford a solution of the reason why oats are found to be so exhausting to lands; on account of the great demand which they make upon a single ingredient in the soil, namely, silica. We are enabled to arrive at these deductions by the aid of chemical analysis. And here I may observe, that it is to chemistry in its application to agriculture that we are indebted for the astonishing results which have followed the labors of the scientific agriculturist.

The fertilizing properties of arable land are dependent upon many conditions. Upon its porosity, its ability to retain moisture, as well as upon the various chemical compounds which are essential to the growth of plants. Pure sand alone is essentially barren, for aside from its absolute deficiency in nutritive agents, its loose and comparatively reticular consistence renders it unfit to retain a sufficient degree of moisture around the roots of plants. Rain, when it comes in contact with the earth, exerts a solvent agency upon many of the constituents of the soil, and instead of there being a mechanical impediment to its transit, causing its invigorating influence to be directly applied to the roots, it permeates more deeply and is hence lost. So, in time of drought, not only does the plant suffer from defective nutriment, but the first refreshing breeze that passes by severs its fragile attachments and prostrates it. Clay alone, presents the opposite difficulty. By its consistence and impermeability to water it retains moisture too long. There is not free access of air and warmth to the roots, and the plant again perishes. It is, then, by an union of the two, clay and sand, in definite proportions, that we can expect to obtain a soil maintaining proper consistence to afford mechanical support, as well as a sufficient degree of porosity for the purposes of watering and ventilation, and having enough of the silicious ingredient to afford strength and durability to the stalk. Of course modifications to suit the demands of different plants may be desired. Thus, clay soils possessing a large proportion of potash, are generally acknowledged to be better adapted to the growth of wheat; a considerable proportion of sand is requisite for barley, and a *decidedly sandy* loam for rye and oats.

Having obtained a soil, the chemical constituents of which are most favorable to the growth of plants, it is evident that a proper system of cultivation is absolutely necessary to success. As reasonably might we expect to observe all the diversified faculties of the human mind to be possessed in the full vigor of perfect maturity by the Indian in his state of savage wildness, as to look for a maximum return of grain upon even a virgin soil unaided by the skillful hand of the husbandman. Indeed, the different degrees of success which characterize the efforts of agriculturists may be ascribed in a great measure, to the diligence and assiduity with which each employs physical and mechanical means as well as to the relative accuracy of their observations.

[CONCLUDED IN OUR NEXT.]

* Johnston's Agricultural Chemistry.

POTATO JELLY.—The potato may with ease be made into a rich and nutritious jelly, and the process should be generally known. It is as follows: Let a couple of good sized, mealy potatoes be washed, peeled and grated; throw the pulp thus procured in a basin of water and stir it well; let it stand a few minutes, and a sufficient quantity of starch will have fallen for the purpose required; pour off the water, and pour on boiling water, stirring the starch the while, and it will soon and suddenly pass to the state of jelly. The only nicety required, is to be careful that the water is absolutely boiling, otherwise the change will not take place. On comparing this jelly with that obtained from Bermuda, a difficulty in discriminating between the two will be apparent. The difference, however, becomes more obvious on applying sugar to sweeten the jellies, for then the superior flavor of the potato jelly is at once perceived, and it is equal, if not superior, also to arrow root in its nutritious properties.

LAZINESS.—Laziness grows on people: it begins in cobwebs and ends in iron chains. The more business a man has, the more he is able to accomplish; for he learns to economise his time.

From the Charleston Mercury.

To the Planters and Farmers of South Carolina.

At the late meeting of the State Agricultural Society, the following Resolution was adopted, viz: "That the President be requested to communicate to the public before the planting season, such information as he may possess, or which it may be in his power to collect, in relation to the means of modifying the effects of drought on Indian Corn and other provisions."

It is necessary for me to premise, that what I shall say concerning the use of the plow is mainly derivative. From several causes, the planters of the Sea Islands are but slightly acquainted, in practice, with the value of that great implement. To give the experience of the highest authorities is, therefore, on my part, an imperative obligation. It is proper also I should in this place observe that, in consequence of assiduous endeavors to obtain facts from supposed reliable sources, in which I have signally failed, this communication, which would have been made at a much earlier period, has been delayed, but not so late, it is hoped, as to be wholly unprofitable.

Satisfactorily to elucidate the matter of the Resolution would involve a minute examination of many of the topics connected with the science of husbandry. As I am certain, however, it was not designed or intended that my remarks should take so wide a scope, I shall only briefly advert to those principles and their operation upon which some of the most valuable results in husbandry rest.

All the earths have a considerable attraction for the fluid which the atmosphere contains. The very best soils possess this power in the highest degree; hence, it may with certainty be assumed, that the measure of their fertility depends chiefly on their capacity to absorb moisture. In determining their value, however, on that head, two other properties have to be noticed —the quantity of water which is essential to their saturation, and their power of retaining it. In all these respects, clay and sand occupy antagonistic relations. The former imbibes the aqueous vapors like a sponge, and parts with them reluctantly; when dry, it constitutes a compact mass; from the closeness of its texture the dissolvent action of the air is excluded, and putrefaction is retarded. The latter is friable and asceptic; from the solidity of its particles and their want of coherence, water filters easily. In the adoption of expedients by which to secure these earths a supply of moisture, different processes, in part only, it is advisable to pursue. From their predominance in the State, I shall direct my attention prominently to clayey or aluminous soils. What then, are the means which reason and experience assure us are the best calculated to attain the end in view? I answer, deep plowing; thorough pulverization of the soil; abundance of manure; and the use of salt and retentive atmospherical absorbents.

1. Deep plowing. The roots of plants should be allowed to extend themselves in every direction. The deeper they penetrate, and the wider their ramifications, the greater will be the absorption of nourishment. The average depth of good soils is about 6 inches. Every inch added increases its value 8 per cent.: so that a soil where the vegetable layer is 12 inches thick, is worth half as much again as that in which it is only six inches.* It is consequently obvious that whatever, from this cause, may be its enhanced value, if not reached at some time in the progress of cultivation, the remainder is in effect a *caput mortuum*. By deep plowing the capacity of the whole soil is called forth. While it enables the earth, through the agency of air and water, to inhale atmospherical manure, by diminishing the force of the sun's rays, it lessens materially its exhalations. Should the substratum, which perhaps in every instance contains the principles of fertility, be broken, still, as a general proposition, the most signal benefits, prospectively, if not immediately, may confidently be expected to enure from the operation. Deep plowing insures the greatest product from the smallest given quantity of land. If by the use of one half of the soil ten bushels of corn per acre be obtained, it is reasonable to infer, all other circumstances being equal, that were the whole in tilth, twenty bushels would be harvested: indeed, a much larger quantity ought to be the result, for the deeper the soil the greater will be the number of stalks, and the larger and more numerous the ears. The Maize, says Taylor, "is a little tree," and possessing roots correspondent to its size, penetrates a depth almost incredible—9 feet, it is known, have been reached. It follows that where, from the vigor of the plant or the friability of the land, the roots meet with no obstruction, the consequences of drought will be sensibly diminished, if not entirely prevented. It is believed that the rolling of the leaves of corn is attributable solely to the absence of moisture. This is an error. Scanty manuring or shallow tillage is as often the true cause.

To render deep plowing* effectual, it should take place in autumn. The expansive power of frost, and the mollifying influence of air and rain, and the action of these in breaking the continuity of fibrous matter, are strong reasons in favor of the practice. Whether it should be done once in two or three years only, which, I believe, is the opinion of the most successful farmers of Great Britain, or annually, as is common in parts of our country, is certainly as yet an undetermined point.

2. Pulverization. The soil must not only be made easily accessible to the descent and spread of the roots, but there should be such a disintegration of its parts, as to allow the free transmission of air. However rich in ingredients, these afford no nutriment to vegetation, until subjected to the combined action of heat, air and moisture—the great agents of decomposition. Unless freely supplied with oxygen, the remains of animals and vegetables do not decay, but they undergo putrefaction† "The frequent renewal of air by plowing and the preparation of the soil, change the putrefaction of the organic constituents into a pure process of oxidation; and from the moment at which all the organic matter existing in a soil enters into a state of oxidation or decay, its fertility is enhanced." In a well compounded soil, water is presented to the roots by capillary attraction. As this increases in proportion to the smallness of the particles of earth, the advantage of their complete pulverization is plain. It is equally true, that as food for plants must exist in solution, it is requisite to admit water to the roots by artificially reducing the compactness of the soil by tillage. From frequent working, therefore, the most favorable results may be anticipated; indeed, it has been well observed, that good stirring of the ground in dry weather is equal to a shower of rain; for however strange it may seem, while it promotes moisture, desiccation is prevented. To aid in the increase and preservation of atmospherical vapor, the ridge system is especially recommended. The breaking up of the old furrows deeply, and making the new ridges on them, by which the two interchange places, provide a quantity of finely divided earth much greater than what is obtained in the ordinary mode. While the coming up of the corn is thereby facilitated, and the thrifty condition of the young plants secured, the depth at which the seeds of grass and weeds are deposited, prevents their germination, except in small numbers; hence labor and time in the cultivation of the crop are saved. In relation to maize, the author of "Arator" sums up the advantages of high ridges and deep furrows in substance as follows:—The roots are never cut in one direction, and this great depth of tilth thus early obtained, by superseding the occasion for deep plowing in the latter period of its growth saves them in the other. The preservation of the roots, and their deeper pasture, enable the corn much longer to resist dry weather. Litter thrown into the deep furrow upon which the list is made, is a reservoir of moisture, far removed from evaporation; within reach of the roots which will follow it along the furrows, and calculated to feed the plants when in need of rain. The dead earth brought up by the plow from the deep furrow is deposited on each side of it, without hurting the crop on the ridge; further by one deep plowing, received by the corn, after it is planted, being bestowed upon it whilst it is young, and its roots short, and being run nearly a foot from it, the roots of the corn in this way escape injury, and the effects of drought on the plant being thus lessened, its product is increased.

It would appear from this condensed exposition of his views that, in the opinion of Taylor, one plowing only, and that a deep and early one, the growing crop requires. To clean and pulverize the soil, the harrow, skimmer or cultivator, alone should be used. Each might advantageously be resorted to in any stage of its growth, but in a parched condition of the earth their reviviscent tendency would then clearly demand it.

With regard to sweet potatoes, the plow may most profitably be employed at any time. When the shoots begin to wither break up the space between the hills or ridges by running four furrows. The newly turned earth will be found wet in the morning, while before no moisture had been apparent. In a few days the leaves from being brown or yellow will assume a greenish hue, and new shoots ordinarily may be expected to follow.

3. Manure. The fertility of the soil is the first object to be attained by the farmer. For their dividing properties, all fossil manures are highly esteemed. Deep plowing and lime, unaided by organic matter, it is well attested, have renovated lands, that in the judgment of the former proprietors, were not worth the labor of cultivation. In reference to the special matter under consideration, a judicious mixture of soils is of primary importance. Clay applied to sand assists it in retaining manure, and receiving the vaporized water of the atmosphere. To allow the fibres of plants to shoot freely, clay, sand and lime, acting mechanically by their mixture, are mutual manures to each other. Burnt clay may beneficially be substituted for sand.

It has already been observed, that pulverized earth has a strong attraction for atmospheric vapor, and this increases in proportion to the minuteness into which the particles are divided; but as the power of the most fertile soils, in this respect, is inferior to that of even the worst ordinary manure, it is evident, that "for the mere purpose of withstanding long continued dry weather, those plants whose roots have immediate access to organic manures, will be much better enabled to absorb the necessary supplies of atmospheric moisture, than those merely vegetating in the unmanured soil;" hence, whenever fertilizers are employed in anticipation of drought, or to mitigate its evils, in either case, the good to flow from their application to corn, will depend in a high degree upon their abundance, and the materials that compose them. The richer the ingredients and larger the quantity the more decided will be the benefit. Suppose in a propitious season one acre, judiciously manured, to yield 50 bushels, and five acres of the same natural strength, unassisted by art, 10 bushels per acre; experiments and practice prove that in a drought, the former will produce generally not five fold, but seven or eight times as much as the latter. I may indeed assert, that the difference in product will be commensurate with the heat and dryness of the weather.

Whether manures should be buried deep or shallow, or lie on the surface, and whether they should be spread in a rotted or unrotted state, are questions which the occasion does not require me to investigate. The tendency of decomposing animal and vegetable matter is to rise in the atmosphere; of fossil manures to sink. As it is known that coarse litter is better

*Thaer.

* About 12 inches. † Liebig.

adapted to corn than any other crop; if employed when putrefaction has commenced, immediately before the period of committing the seed to the ground, or in the fall, in the shape of long muck, to allow the frosts, rain and wind of winter, to prepare it for the putrefactive process, every portion of the decaying and fermenting fertilizer will be gradually absorbed by the roots and leaves of the plants. All the facts that have come to my knowledge sustain conclusively the principles and reasoning I have advanced. I repeat that very rich ground rarely suffers materially the want of water, especially if it has been properly divided and loosened by artificial means. If, therefore, the withering power of drought should at any time show itself on poor land, let the farmer instantly apply putrescent manure on the surface of the ridge. To the spreading of compost without burying it over the cereals during the vegetation, the English attribute an almost magical influence. They assert that "the plants may almost be *seen* to renovate and regain their verdure." It is evident, says Thaer, that not only actual advantages, but also security against evil is to be derived from the possession of an active manure of this nature, and without any sensible diminution of its value. Though the quantity may be small, yet the beneficial results first indicated in the change of color in the leaves, will soon appear. In the instance of a planter of this place, whose crop was in a perilous condition from the excessive dryness of the summer of '44, one cart load only to the acre of stable manure, partially decomposed, was instrumental in producing a fine yield, while from the remainder of the field the harvest was very meagre. When the application was made, the corn had begun to tassel; the stalks were small and the leaves yellow and curled. Although the former never increased in size, the latter soon exhibited a healthy green. This favorable indication took place before the first shower of rain, which was slight, and occurred about a fortnight after the trial of the experiment. This secret of my friend's success is traceable to the fact that, as all fertilizers have a strong attraction for atmospherical moisture, he used the one, which of all others, in that respect, guano excepted, possesses the greatest power.

A prominent error in Southern husbandry is over-planting. Manuring, consequently, as a system is not practised. This alone is sufficient to account for the smallness of the aggregate crop for the extent of ground annually in tilth. Reformation on this head is therefore loudly demanded. But until this ensue, what is to be done? In what way may the injurious operation of drought be modified, as well by the ignorant as the skilful, the poor and the rich?

4. Salt. In small quantities salt is a septic; in large quantities it resists putrefaction. Though not strictly germane to the subject entrusted to my charge, I hope I shall be excused for here stating the estimation in which this substance is held by many observant agriculturists. It destroys, they maintain, noxious weeds and vermin; gives luxuriance and verdure to grass lands; prevents the scab in (Irish) potatoes; sweetens grass, and hastens the maturity of crops. Wheat or barley following turnips on land that had been previously salted, the ensuing crop, it is well authenticated, escaped the mildew. For a top-dressing for grass land, six bushels per acre are recommended; for cleaning the ground preparatory to the putting in of the grain, sixteen bushels, it is said, may be employed upon fallows. An ounce of salt to a gallon of water benefits vegetables; a larger quantity gives a brown color, and is therefore injurious. As it is a stimulant, salt should be mixed with compost, mud, or loamy earth. Its great capacity for inhaling atmospherical moisture renders it peculiarly valuable in dry and hot weather. For cotton I have used it successfully at the rate of 5 pecks to the acre. Beyond that its effects were adverse to the growth and production of the plants. Manure designed for corn, should receive, several weeks before it is put on the land, as much salt as will furnish to every acre not exceeding one and a half bushels. If, however, none of the measures noticed in this communication have been adopted by the farmer, and his crop be suffering from the absence of rain, let him sprinkle on the ridge of each plant or hill as much well pulverized salt as he can conveniently take up with the thumb and two fore fingers. In a short time the result, from my own experience and that of some of my co-laborers, will be the same as though the ground had been recently moistened with a moderate shower. How long the benefit will continue I am unprepared to state, for after every experiment of my own, rain fell in from ten to fifteen days. I can only assert that, in the interval, the salted portion of the field was in every respect much superior to the remainder.

5. Organic absorbents. It is not merely necessary that atmospheric gases should be inhaled by the agents which the vigilant care of the farmer may have provided, but to render his labors and knowledge more effectual, they must possess the additional merit of retaining them. The atmosphere is the matrix of manures; these however, are so subtle and evanescent, that they quickly escape, unless elaborated into permanency by the use of vegetables in a hardened form. The valuable properties of organic matter in a state of putrefaction, if buried in the earth, are absorbed by plants, and "exactly that portion of manure which is lost by the custom of rotting it before it is employed, becomes the parent of a great crop." The most common and yet the most esteemed retentive atmospherical absorbent with which I am acquainted, is the leaves of the pine.* When mixed with farm yard or stable manure, especially if a little salt has been added, it forms a highly fertilizing compound In attracting and preserving the gases and vapor of the atmosphere, lies, however, its great virtue. In a drought, if applied a few inches thick around each hill of corn, considerable moisture under the heaps will be seen in twenty-four hours, and shortly afterwards, the field, should the farmer's operations have been so extensive, will prove the efficacy of this simple experiment. At the late session of the Legislature, a member of the Senate informed me, that the last summer he employed pine leaves for his growing crop of potatoes with the happiest results. During the drought he filled the alleys with this material. At the time of harvest potatoes were found on the earth below the trash. Though unable to speak with precision of the difference between this section of his field and that on which no leaves had been placed, yet the product of the one was far greater than that of the other. To determine a question of vegetable re-production, in 1841, near Brest, in France, on a few rods of poor land, untilled, and which received no ulterior attention, grains of wheat were strewed, and then covered with wheat straw about an inch thick. In despite of excessive droughts during the spring, prolonged and several times repeated, while all around was drooping and uncertain, the protected wheat sustained no injury. When the plants matured the straw was found to be more that six feet high, and in the ears were fifty, sixty, and even eighty grains of wheat of full development." A satisfactory explanation of this experiment, remarks a French writer, is found in straw being a bad conductor of heat, and a good conductor of electricity. The roots consequently were maintained in a medium temperature, and the moisture of the earth furnished by the straw facilitated the absorption of carbonic acid from the atmosphere. As pine leaves contain a much greater proportion of nutritive juices, they should always be used, if obtained, in preference to the straw of other trees or any crop.

Having already extended this communication to an unreasonable length, I will merely add, that the true and permanent interest of the agriculturist is to be found in preparing against the vicissitudes of the season, and not in weak and uncertain attempts to mitigate their influence. Deep plowing, loosening effectually the texture of the soil, and a bountiful supply of appropriate aliment, are the surest means for the accomplishment of that purpose. While a parsimonious use of manure is sure to develop slender returns, it promotes slowly but inevitably the deterioration of the land. It is better, then, to cultivate a few acres to the plow or laborer, furnished abundantly with enriching materials, than treble the number without nutriment. These truths were practically enforced in the palmy days of Egyptian agriculture. The Roman husbandman was considered blessed who owned 7 acres of ground

In England 20 or 30 acres constitute a good farm, and in China on one third of that quantity, a large family is well supported. The grass lands in the immediate vicinity of Edinburgh, rent for $100 the acre. In West Cambridge, Massachusetts, manure to the value of $100 per acre, is supplied by many of the farmers, and instances are not unfrequent of ten acres, thus fertilized, yielding in money $5,000.† To us the full power of land is unknown; indeed, nowhere has it been ascertained that there is a limit to production. The period perhaps has arrived, when not only the advancement of their pecuniary welfare, but it may be, the preservation of the domestic institutions of the South, depends on a radical change in the habits and practices of the tillers of its soil. If, in relation to this State, the distressing visitation of the last summer have the effect of arousing the attention of our agriculturists to the necessity of union among themselves, with a view to a free and full interchange of opinion in matters pertaining to their common vocation, they may yet have ample cause to be grateful to a merciful Providence for the calamity with which they have so recently and heavily been afflicted.

WHITEMARSH B. SEABROOK,
President State Agricultural Society, S. C.

* "Oak leaves," says Thaer, "are not easily decomposed, and contain an astringent matter which is highly injurious to vegetation as long as the leaf remains undecomposed."

† Farmer's Register.

From the London Gardener's Journal.

Poultry.

The economy of poultry may be classed under three heads, first, in their natural state, which is the department of the naturalist; second, in their domestic state in the country, with a full range of the farm-yard and field, in which the poultry-keeper is concerned, for his profit; and third, in their artificial state, in or near towns, in pens or yards, which will chiefly engage my attention in the present article. The best and cheapest method of feeding I must leave to be detailed by those who keep poultry in large quantities.

Shelter.—Fowls should always be kept in a dry, warm, sheltered situation—a southerly aspect is to be preferred—for they enjoy and benefit greatly by the "warms in the sun," as well as requiring protection from its scorching rays, and a secure (storm) shed for rainy weather. The roosting-house and laying house, if separate, should communicate, that early layers may have early access to the nests, and also communicate with the storm-shed for the fowls to run in for security, if they should leave their roosts early in the morning. The nests should be numerous, either in boxes or barrels, not too deep, but roomy, some situated high, some low, and as independent of each other as possible, each supplied with sweet, short and soft straw and a small nest-egg or two of chalk, the size of a pigeon's egg. If the nest be too deep they break the eggs in jumping in and out, and if the nests are not roomy, sitting hens have no room to turn easily, and consequently break eggs by not being able to get to them softly. They then eat the broken eggs, which gives them the habit of doing so at other times. They should roost warm at night, the perches high from the ground and of easy access, by means of lower ones or ladders. The more lightsome the house the better for promoting dry air and free circu-

lation; besides, fowls cannot see at all, being quite stupified and helpless in the dark, consequently the feathered tribe always retire to roost before the sun goes down. Shutters to the glazed windows are unnecessary, except for better security, or to prevent fowls from leaving their roosts too early in the morning, to disturb ticklish neighbors, otherwise they come out almost as soon as day-light begins to appear. The feeding places, it under cover, so much the better, as a precaution for wet weather, and as far as possible removed from the nests, that the hens which happen to be laying at the time, or which may be sitting, may not be disturbed and enticed off their nest and eggs at improper times. Being evidently natives of a warm country, they are scarcely yet perfectly acclimated to our variable and colder regions; although so widely diffused from time immemorial over the whole face of the globe, they have retained a peculiar susceptibility of damp and chilliness, most of their diseases arising from rheum, or catarrh catching colds. The lungs of fowls are particularly tender; the finer the species the less is it hardy.

Cleanliness.—Fowls being cleanly by nature, thrive when regularly attended, but degenerate and sicken if neglected. In an artificial state of existence, they require to be supplied by art with what in nature they would obtain for themselves. For this purpose they should have a regular supply; in some convenient part of the shed, of sifted cinders daily to roll in and cleanse then selves, and which should be often changed. This precaution will keep them entirely free from vermin of any description.

Green Food.—This being quite as necessary for health as corn, to supply this requirement of nature, they should have daily a good supply of sweet and fresh green vegetables. Cabbage and lettuce are the best—turnip-tops and watercresses—but on no account any sour plants, which scour them as do spinnach, the cuttings from grass plats, and most sorts of garden seeds, as their instinct does not serve them to choose the wholesome from the noxious weeds, more than it does animals that happen to stray in a clover-field, or happen to receive too large a quantity into their stables. I have known them to burst. Green food with fowls is an astringent, the very reverse of what vegetables are with us. This fact will not appear so surprising, when it is recollected that one takes them raw, and the other cooked.

A plentiful supply of clean water, in daily well cleansed vessels, and wholsome food are necessary. Frequent changes and mixtures of corn improve the appetite. Barley is decidedly their staple food in this country; Indian corn, or sometimes rice, mixed, for a change. Oats occasionally, but in too large quantity, are apt to scour. Occasionally buckwheat and hemp seed, as a stimulant, mixed with the barley for a change, are very beneficial, particularly whilst moulting. One meal may be composed of boiled or steamed potatoes, well mashed up whilst hot, with a portion of barleymeal or oatmeal for a change, but which must be allowed to remain till cold. Books copying errors from one another, make a great mistake in advising food to be given hot. It is unnatural—they have no good cooks amongst them in their own state; and it is decidedly injurious to their digestive organs, except when fattening, when they are doomed soon to be killed for table. Feed twice a day at least, or three times if not too fattening; morning early, before the usual hour for laying, if possible; at noon, the noontide meal may be the potatoes, as above directed, and before sunset—no later than four o'clock—that they may go to roost by daylight, or they will go without their food. Regularity greatly tends to health, and disturbance of any sort is very hurtful.—Rice occasionally boiled in a cloth, greatly increases its bulk, and they are very fond of it.—Reaumur says, that great economy is derived from steeping or boiling the barley, to increase its bulk, when they will be satisfied with one third less quantity. But I cannot speak of this from my own experience, nor can I say that beneficial effects are produced by giving them much flesh, raw or boiled. But fat, as advised in books, produces scourings; spiced or salt meats, and kitchen stuffs, are certainly pernicious to their stomachs. In fattening for the table, when they are not required to live long, or show fine feather, this may not be of any consequence. Will some of your practical correspondents enlighten us? They require in pens, or small yards in towns, to be well supplied with grit, sand, and small gravel; slaked lime, and old mortar pounded is very beneficial, and serviceable in assisting to make the pen or yard dry. I will add to the above, that there is no economy in keeping poultry in towns, in small quantities, which is always exceedingly expensive, if well fed and taken care of; which, however, is compensated for, to those who wish to make certain that the eggs are quite fresh and newly laid. All calculations of expense must be erroneous, there being so many contingent expenses. As a source of trade, much depends upon rearing the best breeds, to be early in the season, laying in a stock and store at proper times, having a ready sale for produce, and to "buy cheap, and sell dear."

From the N. Y. Farmer and Mechanic.

The Four, and Hundred Acre Farmers.

In journeying through the State of Rhode Island, the traveller in that State, as in most others, discovers a great variety of interests and almost every *species* of husbandry, from the very best to none at all, as you may say. A few days since I fell in company with a gentleman who had just purchased a farm, for which he paid $7,000, every dollar of which he had saved from the income of his garden or farm, consisting of only four acres of land, (and that not of the first quality in the natural state,) besides supporting his family. I asked him for the secret, as I was sure he possessed one, which he gave me as follows. "First," said he, "I prepare my ground, and never use any but the best of seed, and that mostly of my own raising, and always put it in in good season, and often take two crops from the same ground by putting in vegetables that ripen early and then those that are late. And, again, I never carry anything into the market except it is of the first quality or quality recommended, sell it for what it is, and not for what it is not. Always sort my potatoes and all other vegetables, and vary the price according to quality; yet I can get more for each quality in proportion to mean cost or price of whole by so doing; frequently sell potatoes from 10 to 15 cents per bushel. Allow the market price and other kinds in same proportion, and only because the buyer knows he can depend upon having just the sort, kind or quality that he orders or purchases. Near by, was a farmer with an hundred acres of equally good land who was hardly able to make the ends meet, (as the saying is,) yet was industrious and had a healthy family. Again for the secret. Well, he did not work his land; had too much and could not; went over it and left it to work itself; was obliged to fence more, and do a thousand things that the man of four acres was free from; and when he went to market went in a hurry, and in such shape as was most convenient and in such order as the time he allotted himself would allow; always a little late in the season, and usually found a falling price. Had he sold one half of his farm of 100 acres and bought manure, and hired help to properly till the other he might long ere this have brought it back and another with it of equal value.

In a few instances I saw farmers carting manure from their yards and putting it in heaps in the field for spring use. This I call anything but good husbandry, as the manure by laying in the yard through the summer and exposed to the frosts and storms of winter, must waste at least one half its virtues. As the grass crop in New England is by far the most profitable I think, that the fine manure and whatever is made through the summer, should be put on to the land that is seeded in the fall, and then the yards cleared in the spring, and whether coarse or fine, be either plowed or harrowed in spring for crop. Muck from its resting place should be hauled out in the fall or summer, and exposed to frosts and storms to decompose and sweeten it a little if a present profit is wanted, and in the spring before using put in unslaked lime, and work it over, and you will be sure of a rich return for labor thusexpended.

From the American Agriculturist.

Buckwheat.

Buckwheat is a native of Northern Asia, and seems to have been introduced into our country at its first settlement. It stands lowest among the grain crops of the farmer, and is seldom included in any regular rotation, but is cultivated on some piece of new land, or some field out of its regular order.

Mr. Ellsworth's Report for 1844, makes the whole crop grown in the United States, 9,000,000 bushels. More than two thirds of this is grown in the States of New York and Pennsylvania. Among the New England States, Connecticut takes the lead, while Ohio is most engaged in its cultivation in the valley of the West.

Among some farmers its cultivation is induced by the little comparative outlay of seed and labor, and the quickness of the returns.

By some it has been considered a very exhausting crop; but this is by no means the generally received opinion. It is more easily affected by the weather than any other grain, and a dry season, a hot sun upon the blossoms, or an early frost, is sufficient to seal its ruin; but if the season is propitious, good crops are often grown on very poor land.

It is generally sown about the first of July, and about half a bushel of seed to the acre is required. The better the ground the less seed is wanted; the most successful cultivators considering it an object to have a rather thin stand, large straw, and well branched out, in order to have a good yield. Rye is sometimes sown with it, and a tolerable yield obtained when the season favors. Thus two crops are obtained with the same plowing.

About 175 lbs. of grain are required for 100 lbs. of flour, and different mills will produce very different qualities with the same quantity of grain. The essentials of good buckwheat flour are whiteness, absence of all grit, and a clean, soft handling.

The bread, or rather cakes, made of this grain, in some sections, is considered essential to a cold weather meal. In its season, it is used almost exclusively by the poorer classes, both on the score of economy and convenience. Medical men have pronounced them unhealthy, and no wonder they should do so, if their judgment is made upon the heavy, leaden things that so often come upon the table under the name of 'buckwheat cakes.' As in other things, there is *sleight* in the baking. Our country women are far ahead of your city cooks in this matter.

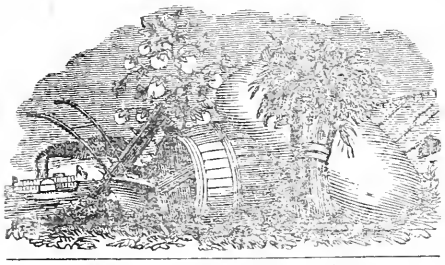
Some analysis of this grain have shown it to be nutritious. It is said by Professor Johnston to contain gluten, starch and sugar, nearly equal to some varieties of wheat. But a hard-working German once in our employ, said it would do very well for supper, to sleep on, but not for breakfast or dinner, to sustain him at his labor. The German's analysis was a real *practical* one. Give me *experience*, yet.

Most kinds of stock are fond of this grain when ground; and it is the best of "slop" for cows, producing an extra flow and better milk.

Probably three-fourths of the crop is consumed where it is raised, and retailed in the country towns and villages. Except in some sections, the city markets are seldom resorted to. For New York it is put up in kegs or bags of 100, 50, or 25 lbs. each. It is generally sold in lots to wholesale flour dealers, from whom the grocers obtain and retail it. It is now bringing (Nov. 1st,) about $2 per 100 lbs. in bags or barrels, in the city of New York, according to the newspapers.

A. R. D.

Hackettstown, N. J.



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New England Industry.

We have been exceedingly interested in a paper, which we find in the *National Intelligencer*, of 7th March. It is a synopsis of the "Statistics of the condition and products of certain branches of industry in Massachusetts for the year ending April 1, 1845." And what think you is the aggregate of the products of the labor of the people of that State in the items enumerated? No less than $114,473,443—nearly twice as great as the value of the whole Cotton crop of the South! Look, for a moment, at the items in the table that exceed a million of dollars. They are,

Bleaching or coloring cotton goods	$2,165,000
Boots and Shoes	14,799,941
Butter	1,116,709
Calico	4,779,817
Candles	2,613,795
Cars, carriages, &c	1,343,576
Chairs and cabinet-ware	1,476,079
Cotton goods of all kinds	12,193,449
Fishery, cod and mackerel	1,484,137
do Whale	10,371,167
Grain	2,228,229
Hay	5,214,257
Hollow-ware and castings	1,280,141
Leather	3,836,657
Machinery	2,022,648
Paper	1,730,273
Potatoes	1,309,030
Rolled and slit iron, and nails	2,758,300
Stone squared for building purposes	1,665,599
Straw bonnets and hats, palm leaf hats and braids	1,649,496
Vessels	1,172,146
Wood, (fire,) bark and charcoal	1,088,656
Woollen goods of all kinds	8,877,478
Other enumerated goods and produce	5,204,111
Non enumerated do do	4,758,581

Then, in the grand list, are other items, each amounting to less than a million of dollars, viz: Anchors, chain cables, &c, beef, bricks, tallow and soap, carpeting, cheese, chemical preparations, copper, cordage, cutlery, engines and boilers, firearms, fruit, glass, glue, hats and caps, iron pig, iron railing, &c., jewelry and watches, white lead and paints, lumber and shingles, milk, musical instruments, oil, lard, saddles, harness and trunks, shovels, spades, forks and hoes, sewing silk, snuff, tobacco and segars, refined sugar, tacks and brads, tin-ware, upholstery, vegetables other than potatoes, wooden-ware, wool, worsted goods, amounting, together with the items over a million, to the sum of $114,473,443. And all this immense sum is the result of the labor, for one year, of 152,766 persons, employing a capital of $59,145,767.

We are surprised that, in the tables we find no mention of ice. This is certainly a very important item in any good account of the productive industry of Massachusetts. For we were informed last summer, in a conversation with a gentleman who had the statement, as he said, from Mr. WEBSTER, that the *ice exported by Massachusetts, paid for all the cotton consumed in the manufactories of that State.*

Besides the grand list, we have a large number of tables, exhibiting very interesting statistics in detail, of various departments of industry—such as the number of mills, manufactories and male and female operatives employed therein; consumption and value of different articles used in manufacturing; statistics of the whale, mackerel and cod fisheries; statistics of sheep and wool; number and value of cattle, stock, &c.; statistics of grain produced; statistics of other agricultural and domestic products. In this last table, we find potatoes to amount to nearly five millions bushels; fruit, to nearly three millions do.; butter, to nearly eight millions pounds; cheese, over seven millions; milk, nearly three millions of gallons; broom corn and seed to the value of $86,111; and *shoe pegs, to the amount of* 13,808 *bushels, valued at* $18,206.

When the citizens of a State have such an exhibit to show to strangers, they have something to be proud of; and when those who are elected to make laws have such minute and accurate statistical information before them, they can go on in the discharge of their duties boldly and fearlessly—and not groping in the dark as with us magnificent Southrons.

To a citizen of the Southern States it is excessively mortifying, when in New England, to be asked how many acres of land are in cultivation in cotton, rice, sugar, corn, &c., and to be compelled to answer—don't know. What is the number of sheep, horses, cows, &c., in Georgia? for example—don't know. What is the amount of the cotton crop?—*about* so many bales. And so of everything else. What, no statistics!! No; none except an account of the population. How in the world do your members of the Legislature get along in arranging taxes equitably, and doing the many other things that can't be done right, without such statistical information as we in New England are so careful to collect? Why, they have just to do as well as they can.

There is no exaggeration in this. And, from present appearances, we fear such mortification will have to be endured for a long time yet by our Southern people.

Southern Independence.

With a view of showing what people are doing in Mississippi to relieve themselves from the abject thraldom to which the South, too generally, has been reduced by depending on Cotton for everything, we copy from the *Albany Cultivator* an extract of Dr. PHILLIPS' letter to the Editor. Shall we hope for the extensive prevalence of the like spirit?

"Our people are improving," the Doctor says, "and will improve; and I tell you more than this, that low prices of cotton, and high prices of our necessaries, will open out in this *wry clime* a production that will drive many from our market. Pork can be bought cheaper in Eastern Mississippi than in Cincinnati; hay or fodder can be bought cheaper than in New York, Cincinnati, or New Orleans. I have sold an excellent lot (10 steers) of beef cattle at 2½ cents per pound. I know of a pretty large lot of two year old hogs, purchased at $2 50 to $3 each—they would weigh 150 to 200 lbs—say 160 lbs. average. I will sell weathers at 5 cents, stalled for two or three months. I hope to see the day that Mississippi and Louisiana will supply our own people with every necessary, and I glory in being one of Mississippi's citizens who exerts himself in making her thus honorable and independent. I tell you, sir, it can be done, and yet send off our 500,000 bales, worth $10,000,000, or more, and, I believe, to some extent, it will be, done in my day and time."

Colman's European Agriculture.

We have received the fifth part of this very valuable work, and have read it with very great pleasure. We cannot but regret, on looking over the list of subscribers, that there are so few in the Southern States—not more than one in a hundred of the whole number, we think. There are to be ten numbers in all, making two volumes of about 400 pages each; and we do not see how any one, having five dollars to spare, can make a better use of the money than by the purchase of Mr. COLMAN's work.

The subjects discussed in this 5th No., are:—

General Markets.
General Remarks and Divisions of the subject of English Farming,
The Soil.
Theories of the Operation of the Soil.
Soils of Great Britain.
Classification of Soils.
Physical Properties of the Soil.
Peaty Soil—Loamy Soil.
Humus, or Vegetable Mould.
Peculiarities of Soil.
Application of Chemistry to Agriculture.
Theory of Agriculture.
Actual Improvements.
Plowing.
The Perfection of Plowing.
Plowing Match at Saffron Walden.
General Rules for Plowing.
Improved Machinery.
Moral Considerations.
Harrowing—scarifying or grubbing.
General Remarks on the use of Agricultural Machinery.
Particular Examples of Improvement.
Cornwall and the Lands' End.
Table of Calculations on Plowing.

Deep Plowing.

In 1828, the celebrated Dr. COOPER, of South Carolina, in an article in the *Southern Review*, on the "Principles of Agriculture," made the remark, that "accurate pulverization, and deep plowing, are, as yet, very uncommon in our Southern States generally, and in South Carolina in particular." This was written, printed, and published a little more than eighteen years ago. And though since then, reasons have been immensely multiplied, from the wearing out of our soil, and the diminished value of our chief crop—cotton—why an improved system of Agriculture should be adopted, yet here we are, driving along in the old beaten track of our ancestors, and spurning, too generally, every proposed improvement, especially if it be suspected to come from books.

But it is useless to complain. Time will work a cure, after a while, in spite of all the resistance of bigotry and folly. Stern necessity will compel other generations to profit by the lessons taught by science, even though they be recorded in books, as has actually happened in England in the course of the last hundred years.

We wish we could transfer to our columns the whole of Dr. COOPER's article on the "Principles of Agriculture." We are compelled, for want of room, to confine ourselves to an extract of so much of it as relates to pulverization and deep plowing:

"Jethro Tull, who published in 1731 and 1733, and who died in 1740, may be considered as the father, 1st, of the pratice of pulverizing the soil to a degree not in use before. It is true, he considered this practice essential, not only as affording a more easy passage to the tap-roots, and the lateral fibres of roots, and encouraging the

growth, but as a complete substitute for manuring; inasmuch as he considered earth itself as a pabulum or food of plants; wherein he was undoubtedly in error:—2dly, of the Drill Husbandry:—3dly, of the Horse Hoeing Husbandry:—4thly, of the abolition of Fallows:—and 5thly, as the obvious result of his principles, Deep Plowing.

"It is long before the precepts of good sense and sound philosophy are brought into common practice. We think it may be said, that accurate pulverization and deep plowing, are, as yet, very uncommon in our Southern States generally, and in South Carolina in particular; although the hot and dry summers of a southern climate seem peculiarly and loudly to call for this practice. Suppose a field plowed 4, 8 and 12 inches deep,

———— 4 A
———————— 8 B
————————————12 C

when rains come, on whose moisture the plants will have to subsist during, perhaps, a two months' drought, the four inch plowing will be thoroughly soaked with moisture for four inches down to A; and the water will percolate with difficulty through the unstirred ground from A to B, but will run off in great part, to supply springs and hollows at a lower level, and be lost to the field. But if the ground be plowed eight inches from the surface down to B, there will be a body of moist earth for the gradual supply of the roots, eight inches deep instead of four, and will, therefore, last twice as long as the moisture contained between the surface and A. So, if the ground be well plowed and stirred as low as C, the supply of moist earth will take a long period of evaporation from below, before it be exhausted. The absolute quantity of moisture retained, will of course depend on the capacity of the soil for retaining moisture; but be this more or less, the above reasoning will hold good: the ground will be thoroughly soaked, so far and no farther than it can permit the water to percolate; when the under soil is so hard as to present an obstacle to its passage, it will run off to some lower level, or be converted into a reservoir of water, which the heat of the earth will gradually evaporate among the roots of the plants. To make a sandy soil more retentive of moisture, Gen. Beatson's plan of manuring with half burnt clay, pulverized, to the amount of from 30 to 50 loads per acre, would, undoubtedly, be attended with the happiest effects; and we are fully inclined to believe this would be an addition, as valuable, at least, as the same quantity of stable manure; for it would be more permanent. Deep plowing, therefore, furnishes a reservoir of moisture for the roots to feed upon, when the surface earth is parched by long continued heat. All this is familiar to every gardener, and we believe this mode of explaining one of the good effects of deep plowing in our climate will be intelligible and perhaps convincing; but it will take a long time to persuade a planter or farmer that the practice of a gardener will repay the cost.

"Another advantage of deep plowing and pulverization is, the facility it affords to the tap roots and side shoots that branch off from the main root, to extend themselves to find nourishment, and to contribute to the growth of the plant. About the middle of October, we went into a cotton field of poor and sandy soil, and plucked up two plants by the root; digging down (not a difficult operation) to the bottom of the main tap root. One of them was from a part of the field where the soil was loose and well pulverized for about four inches deep; the other plant was taken from a part of the field where the earth appeared to be more baked and hard; the larger root (the first mentioned) was seven inches long from the surface of the ground; the other was six inches long. The root from the part of the field most loose and pulverized was about double the size of the other, and its side shoots about six times the thickness of the other; it weighed also about three times as much. The whole field had not (from appearances) been stirred by the plow more than about four or five inches deep; but the superior size of the larger root was manifestly owing to the facility afforded to the side shoots in their search for food. We think it not too much to say, that had the whole field been plowed twelve inches deep, the crop on the same space of ground would probably have been doubled. All that we have read, and all that we have seen, convinces us, that the nearer agriculture approaches to Horticulture, the more perfect will it be, and the better will it remunerate the labor expended.

"Gen. Beatson, from examining the East Indian and Chinese plows, so light and simple in their structure, and the effect produced by them, arrived at the opinion, that deep plowing could be effected more easily, more cheaply, and as perfectly, by means of light plows or scarificators drawn by one horse, and repeatedly working in the same furrow till the required depth was obtained, than by heavy plows drawn by four oxen or horses; and that the required pulverization of the soil would be more easily and effectually produced by this repetition, than by one deep plowing in the common way. Hence, he runs a light plow or a scarificator six or eight times along the same furrow. If the facts detailed in his book are fairly related, of which we see no reason to doubt, the practice recommended by him, is attended with the desired success, and a great improvement on small farms it will assuredly prove. Heavy plows and a numerous team cannot be prudently purchased or easily maintained but by farmers on an extensive scale, who can supply constant work to this expensive team; and, therefore, deep and effectual plowing cannot take place where farming is carried on on a small scale, or where the tenant or occupier is straitened for capital. The practice of gardeners in respect of deep stirring the earth and effectually loosening the subsoil, appears to be the greatest practical improvement that could be introduced into agriculture. Every modern garden, commenced upon approved principles is dug all over at first, full two spits deep."

Original Communications.

Plantation Management.

Mr. Camak:—Having taken hold of the handles of the plow, I dare not look back. I have endeavored, from the commencement of the Southern Cultivator, to encourage that excellent work, not only by procuring subscribers, but, in my feeble way, to give my brother farmers, from time to time, the plan we do things on down here South. Well, we have entered upon the responsibilities of another year, and have already put considerable seed in the ground. But, as year after year passes by, I find much to learn in my efforts to carry on my small farm. Finding I had to abandon my farm or commence enriching it, I determined on the latter course—as pulling up stakes and moving from one section of country to another is, I think, one of the worst kinds of employments that a farmer can possibly engage in.

In an effort to enrich my farm, I had to pursue the course that every farmer must, who makes the trial depend on the materials within his reach. I therefore commenced digging the blue marl, and set to hauling it into my lot, and at the same time, commenced hauling in the pine straw. But here, Mr. Editor, I was at once at a loss as to the best plan to pursue, having but little knowledge of Chemistry;—not knowing, indeed, whether the marl would not answer as well spread over the land at once, instead of the labor of hauling it in a lot, and letting it remain some four or five months, and then hauling it out. I knew but little of the properties of the pine straw. My impressions were rather against the pine straw. Still, I thought, by mixing the marl and straw together, a compost might be made with the treading of cattle, that might prove valuable. So to work I went. I have found it quite a task to haul it into the field. Here, again, I was at a loss how to manage: whether to manure in the hill, or to spread broad-cast, or both, was the difficulty. I finally determined on Dr. Cloud's plan, with the exception I was afraid to risk the hill system of planting Cotton, for fear of a stand. I therefore first spread my manure broad-cast, and then turned it under with the turning plow. I then opened a large shovel furrow, and filled that with the manure.

Time will determine our success or failure; and in either case, should I be spared, you shall hear from us. You know Maclin's advice to his Son was, to write perseverance on his heart. If we fail, we must but change our system. But the farm has to be manured, and we have to find out the best System by Experiment.

I said we had much to learn. I have been plowing ever since I was able to handle a plow, say forty years. I am for the first time, using the Sub-soil Plow and the Cultivator.—The self-sharpering Plow that I have, is rather on the plan of the old bar-shear, with a coulter in front, only that the mould-board is iron, instead of wood; and the coulter of the self-sharpering Plow is so constructed, that the point of the plow runs into the coulter—the coulter being confined by a wedge.

Will you be so good, Mr. Editor, as to inform us through the Cultivator, how you have succeeded with the grape, and your opinion of the best variety for the South? With us, the culture of the grape has proved a failure. The roots rot in the ground after a few years. This, I presume, is owing to a want of proper knowledge of their culture. While visiting the garden of Mr. Parson's of Long Island, I found him burying the roots of the grape very deep. He showed me a bank in which, he informed me, he had buried some five or six dead horses, for the roots of the grape to penetrate.

Although I found the finest grapes in the North, I think our Southern climate much better adapted to the raising that delicious fruit, than a more Northern latitude. Mr. Ellsworth informs us, that North Carolina raises double the quantity of grapes of any State, at least, makes double the quantity of wine.

Knowing you to be a practical man, Mr. Editor, give us through your columns the best plan for a manure heap. A strong box to hold the Farmer's money, is not more important than a well managed manure heap. Manure is only a dirty kind of money.

Hoping your efforts to do good, and improve the Farming interests of the country will prove successful, I am your Friend,

Alexander McDonald.

Eufaula, Ala., 12th March, 1846.

The Right Spirit.

Mr. Camak:—I see an announcement by the Publishers, in the Cultivator for this month, which betokens a bad state of affairs. I allude to the fact, that, "thus far, the patronage extended to it (the paper,) is entirely inadequate to its support—not sufficient to pay the actual expenses of publication." This must be mortifying to every man who desires to see an improved mode of Agriculture. Can it be possible that the people of Georgia, will suffer the paper to dwindle, after it has battled so nobly to promote their interest? I think not. I cannot, nor will not believe, that they will prove so recreant to their own interest. Are there not among its friends in almost every County in the State, those who will exert themselves to extend its circulation, until it shall be justly entitled to a place beside the best work in the Union, of the same character? There are many of your subscribers, who do not believe in, nor will not tolerate a retrogade movement of this sort, now that they are apprised of the fact. Tell them how many subscribers you have—how many you want—how many it will take to make your paper as good as the best in the land—plates and all; and then see if they don't send you "new subscribers" by "scores and hundreds." I believe that in advancing the interest of the Southern Cultivator, I am indirectly advancing my own, and to show that I "practice what I preach," you have my permission to place my name on your list of gratuitous agents.

To support liberally our Agricultural papers, is the first step to improvement in our art: for unless men are previously prepared for it, by a proper course of reading, you cannot get them to unite in forming Associations for their mutual benefit. They do not see any advantage to be gained from Associations, because they are unacquainted with their practical tendency, not having read or even heard of the great benefits that other sections of the country have derived from them. Good papers are all important to the Agricultural community, (all who read them think so,) if *improvement* be their object, and yet, if we were to judge of their value by the number of farmers who read them, we should be compelled to set them down as almost valueless. It surely would not be thus, if our people reflected upon the subject properly.

I have pursued this subject far enough, and will drop it, hoping that some one of more ability, will take it up, and while it may rest, let us all do what we can to increase the circulation of the Southern Cultivator. I have seen all the

while, that some of your correspondents were anonymous, while others signed their real names. We hear some grumbling among the latter class occasionally—pray don't let them fall out by the way for so trivial a cause. I like very much to see the proper name at the end of each article, but when a good reason exists for withholding it, let us have the article without the name. How I like to see T. Affleck, M. W. Philips, Solon Robinson, or some other "good and lawful" name attached to an article; yet, who can say that these men have accomplished more than "Commentator," "Agricola," "A. of the North," and many others like them. Tell them, Mr. Editor, to give us a good christian name, if they can, and if they can't do that, let them do the best they can without the name.

Respectfully, your Friend,

JOEL HURT.

Crawford, Russell Co., Ala., Mar. 18th, '46.

Clearing Land.

Mr. CAMAK—As there are some of your readers who may yet have land to clear, I propose making a few remarks, the results of my experience and reflections, on the manner and time of clearing land, in which the labor spent will be most productive; the soil most easily brought into cultivation, and the timber kept most valuable. I will briefly state, first, the process which I would recommend, then state my reasons, &c. I do not hesitate to think that I would have been benefitted some hundreds of dollars by the course I now recommend, if I had known and pursued it for the last six years. As the season is not yet too far advanced, I hope it will benefit some of your readers.

The course I recommend is, first burn off the leaves, underbrush, &c., in the usual way of burning woods, in the spring. If it is done early, the burning will be more uniform and easily effected, as the leaves have not been blown by the wind into seperate heaps; if it is done after the sap begins to run the small growth is more effectually killed, and I prefer it.

After burning, at any leisure time, it should be cleaned by cutting *down* (not grubbing) all the small growth and putting it into heaps, together with all the dead logs, &c., and if convenient it may be plowed with a coulter or dull scooter.

The next step is one on which I lay particular stress; which is to wait until the month of *August*, and, if you have any faith in the moon, to wait until a few days before the full, but I think any time in August, then go over the whole ground and deaden all the trees, which can be done more easily than at any other time, *most* trees requiring only to have the bark cut through. After this split rails, fence, burn logs, clean, plow, plant as usual.

The main advantages of this system are the following: first, much labor is saved by burning the leaves and undergrowth out of the way; second, the labor of *grubbing* is *saved*, while the *roots* of the grubs are more certainly killed; third, the horse in *plowing* is not so frequently stumped, as the snag of the sprout, or bull-head, as it is pithily called, turns the plow aside; which turning also gives a twist to the *root* and causes it sooner to die.

There is a time in May, which I call the nick of time, for burning, (in dry season;) it is when, in most trees, the leaves of spring are fully grown and before a second growth has commenced.

The second great step in the process flows from a *Grand Secret*, viz: *Rails and Timber*, for all purposes, *cut in August* are more *durable* than the like timber cut at any other time. And this, I am bold to assert, and can substantiate by argument—Uncle Sam, his live-oak cutters and ancient usage, to the contrary notwithstanding.

It is also *thought* that the roots will rot out of the way sooner. This is yet with me a matter of investigation. But about the rails I am as confident as the boy who exclaimed, "Chesnut rails is the idee for a fence; they last forever; dad's tried them often; I knows." And, *en passant*, of another thing I am as confident, and for the boy's reason; and that is that fence corners and pasture lands *sprouted* in August will remain clean longer than if grubbed at most other times of the year.

I hope, Mr. Editor, that some of your correspondents will think on the matter, and correct any error which they may see in my plan.

I have frequently mentioned my thoughts in this matter, and the only strong objection which I have heard, and it was pretty much of a damper at first, but has occurred so recently, that I have not had time to collect facts in the case; it was this, "You are right, but it will kill your land too."

Now, sir, one motive in making this communication is to draw out well ascertained facts, bearing upon this matter, from the stores of experience laid up by many of your readers. Are there any facts which they will give in regard to the injury resulting from killing timber in summer? I once bought a little experience in regard to plowing wet land; which I would do, because I could not get a reason, as well as an assertion, for it, and I have ever since been cautious how I rejected a statement made by one of Old Usages children.

I think the objection here, however, invalid; and that it arises only from observing the effect on the wild growth, and not by noticing the product after cultivation

Agriculturists should observe carefully and not draw their deductions too soon. Yours,

A. S. OF OAKWOOD FARM.

Lebanon P. O., Cobb co, March 11, 1846.

Subsoil Plows, Corn and Cob Mills, Straw Cutters, Large kettles, Boiling Corn for Hogs, &c., &c.

Mr. CAMAK:—I herewith send you a rough draught of a subsoil plow, (for your own inspection, as I presume you have no means of transferring it to the CULTIVATOR,) which I have had in use for the last two years. It is a combination of two plows, or rather, of a plow, the twisted shovel—and the broad-dart-shaped-point Coulter, which latter, I had first made, (and the first I ever saw in that shape) to run in a common Coulter stock after another plow. But, on reflection, I came to the conclusion that I could combine the two, and so save the labor of one hand by doubling my team, and, I am happy to say to you, that I have succeeded in making a subsoil plow, with which I am much pleased. It is, however, most probably not to be compared with the late inventions of Messrs. Prouty & Mears, Ruggles, Nourse & Co., and others, that are so highly spoken of in our Agricultural papers; neither of which have I had the pleasure of using or even seeing. But, it is an implement that will, when properly constructed, and drawn by a good team, I think, give satisfaction to all of my brother Farmers who have not seen or used a better.

You will perceive by the figure, though badly drawn, that the small turning plow runs ahead. It may be set to run a furrow as deep as may be proper to turn a thin soil. The Coulter follows in its wake, and may be set to run as deep as desired, or as the team may be able to pull it. It breaks, like a mole, without bringing the subsoil to the surface. The bar of the Coulter should be two and a half inches wide, by three-fourths thick. The point, which is made in the shape of an *isosceles* triangle, should be about 8 inches on the two longer and equal sides, and 6 inches on the shorter side, or across the heel. It should be laid with steel and set at something over a right angle with the front edge of the bar. It is not necessary, I presume, to describe the "jack" or "twisted shovel," as most farmers have seen one or the other of them. Either will do to run before the Coulter. Or, to those that are opposed to *turning* their land, I would say, put on a common shovel or bull tongue, in place of the turning plow, and "go ahead."

I have been anxious to procure one of Prouty & Mears', or Ruggles, Nourse & Co.'s subsoil plows, but have not yet succeeded. It is said of the former: "These are light in their structure, simple in construction, easy in draft and management, adapted to a common team on common farms, viz: for two to four horses, or oxen, and efficient in operation. The weight does not exceed that of a common plow." * * * "The fact that No. 2, working at the depth of 12 inches, after a light span of horses, driven and held by a boy, for a whole day, with ease to himself and team, and the work performed in such a manner as to call forth the unqualified approbation of numerous intelligent farmers, is conclusive, as to ease of draft, &c." This plow, as well as those of Messrs. Ruggles, Nourse & Mason, are highly spoken of by most persons that have used them. Col. B. F. P., of Greenville, S. C., in a letter to me, on Agricultural subjects, says: "I have the honor of introducing the first subsoil plow into Greenville District. It costs *only* ten dollars, and is easily drawn by two horses. By running a common plow in front, you may plow with it ten or fifteen inches deep. By subsoiling our hill sides, we prevent their washing. The water sinks down through the subsoil instead of sweeping over, and carrying off the surface. *Every* Farmer should have this plow, if he wishes to preserve and pulverize his soil."

I believe the development of facts growing out of the application of the principles of Chemistry to Agriculture, with the use of the subsoil plow, on our lands that have been well protected by hill-side or grade ditches, will form a new era in the science of Agricultute. With *hill-side ditches* and *subsoil plowing* to protect our land from washing, and *chemical analysis*, to point out the character of our soils and the necessary manures to render them productive, we farmers had better stay at home, and let speculators, and others that choose, go to Texas.

I was much pleased with the excellent address of Mr. Sargent, published in the CULTIVATOR, and fully concur with him in the conclusion he has come to on the subject of hill-side ditching. And I will vouch for the fact, that if his advice is well followed in Georgia, or elsewhere, there will be less "running away" of *land* than there has been heretofore.

On the subject of asking Legislative aid to Agriculture, I would say to Mr. S., You had as well "sing psalms to a dead horse." Well, it is our own fault. When our Legislature is composed of the proper materials, we may expect aid, and not before. Think you if our worthy Governors had recommended an increase of *salaries* or *fees*, instead of fostering the Agricultural interests, they would not have been better sustained? But you will perhaps say, I am meddling with politics, so to my subject.

In addition to subsoil plows, there are other implements of husbandry we stand much in need of. A northern farmer would keep an extra animal on what we would waste in feeding half a dozen! We need Corn and Cob Crushers, Straw Cutters, and also large Kettles to boil food for our Cows and Hogs. Of the latter Messrs. Cooper & Stroup of Cass county, Ga., can furnish any number, I presume, that may be called for. I have one on my farm, near the Furnace, which holds about 60 gallons. In this kettle, put up in a rough furnace, corn for 120 hogs, fatted the past season, was boiled daily, and, I might add, *nightly*, for it was kept in use all the time. Occasionally a kettle of *Turnips* or *Artichokes* were given, and now and then, a handful of *salt*, or a shovel or two of *ashes*, were thrown into the kettle when boiling.

Not only the *Corn* was eaten without any waste, but the *Cobs* were masticated, the juices sucked out, and I believe a part swallowed. I never had hogs to thrive faster, or, as I believe, fatten on less food.

But this was too much trouble, some would say. Well, it was some trouble, to be sure; for it required the constant attention of one of my best hands. But the corn saved by this trouble, for which I expect a fair price ere long, will more than compensate for it, besides paying Messrs. Cooper & Stroup for the kettle, which is now in daily use in boiling turnips and artichokes, with a portion of corn meal, (here you see the necessity of a cob mill,) to mix with my cut food for my cows and calves..

You would not, I think, censure a man, Mr. Editor, for thus economising, especially if he had scarcely corn enough to make ends meet. Nor do *I* fear censure, even when I inform you, I have not only a plenty for my own use but some to "*take to the depot*," to supply the wants of our low-country friends. Poor Richard in-

forms us that "a penny saved is a penny made." There is no propriety in wasting, even if we have more than enough, especially when so many are in want.

With a corn and cob mill, much might be saved by grinding into *fine* meal, all the corn with the *cobs*, fed to our stock. I say *fine* meal, because I do not approve of feeding such "cob meal" as is ground in bark mills to either cows or hogs. Much of it, I know, will be rejected by hogs, and it is said by some to be injurious to cows. By breaking down the cob so that it will feed out of the shoe of a corn mill, and then grinding it with the corn as other meal, it is an excellent article of food. Having no cob crusher near me at this time, I have my nubbins broken up on wet days, in a large trough, as you would beat apples for cider; then the miller that does my other grinding, converts the whole into fine meal. By mixing a portion of this meal for each horse, with cut oats, hay and rye, or wheat straw, I believe I save near, if not quite, half of the corn that would be required to keep a horse in the same condition, when fed in our usual wasteful manner on corn and fodder; besides, I am enabled thereby to sell all my fodder to my neighbors that are afraid of trouble.

Judging from what others say of them (for I have not had the pleasure or profit of owning one myself, though I trust this will not be the case long)—there are some excellent corn and cob mills now offered for sale in most of the cities of the North, and they are probably kept by Messrs. Hazard & Co., of Savannah. Why do not the Augusta Merchants keep them? If they do, they do not advertise in the proper paper, the CULTIVATOR. The much lamented J. M. Garnett in one of his last excellent articles over the signature of "Commentatoso," in the Albany Cultivator, says: "The account given by C. N. Bement of Hussey's and Baldwin's corn and cob crushers, is such as ought to induce every one, who feeds corn to stock, to buy and use one; since there can be no longer even a shadow of doubt as to the great economy of the practice. Yet, strange to say, there is not probably one farmer in a thousand, even among those who are thoroughly convinced of their great utility, who has ever bought either of them. Our extreme tardiness to adopt even what we firmly believe will materially benefit us, is among the most unaccountable things in our nature; and the man who could cure us of it, would be one of the greatest benefactors to our whole class that ever lived." I do hope that many, very many, of the Agriculturists of the South will, through the influence of Agricultural papers, be shortly cured of such obstinacy, and that the cob mill may be found on every farm or plantation where there is a threshing machine or cotton gin.

We also need better straw-cutters than the old Dutch cutting knife and box, of which there are almost an endless variety now offering for sale, (I cannot *say* or *believe*, however, that *all* of them are better) many of which are, no doubt, superior. Of such as I have seen in use, I had concluded that for cutting straw or hay Greer's was the best, especially when the power necessary to drive it was taken into consideration. Col. P. from whose letter I have taken the liberty to quote above, says of HOVEY's straw cutter: "It is an improvement on Greer's, and costs only $15. It cuts, with wonderful ease and rapidity, corn stalks, shucks, hay, fodder, straw, &c. In one day you might cut enough with it to feed on for weeks or months. One reason why we have all been so averse to feeding our stock with cut food, is the trouble of cutting it; this difficulty is removed by *Hovey's* straw cutter." I see that others speak in equally high terms of it.

But, Mr. Editor, I shall, I fear, trespass too far on your columns. I do not pretend to write often or *well*, but I hope I shall be understood by plain men. The greatest difficulty with me is, when I have once commenced, to know when to stop. When I get on the (to me) interesting subject of *Agriculture*, I put myself in mind of what a friend once said to me respecting these "no-occasion" sort of eaters. He said, "If ever you invite a fellow to eat, and he says he has no occasion, let him alone, don't insist on him, for so sure as you get him down, *he will sweep the platter*." And so it is with myself, as in the present instance, I have swallowed everything of this *hotch-potch* that was set before me, and yet I am scarcely satisfied; but for "manner's sake" I will desist. Our worthy Post-master and myself have succeeded in increasing your subscription list some five or six the present year, and I hope it will continue to increase.

GEO. SEABORN.

Pendleton, S. C., February, 1846.

Hopkins' Allen Plow.

MR CAMAK:—As this is the season for plowing, I will, with your sanction, suggest to the favorable consideration of your patrons, the excellency of "Hopkins' Allen Pattern Plow."

This implement was perfected a few years since, after much effort and application, by Mr. THOS. HOPKINS, of Augusta, and is only to be had at his Foundry in its perfect form. This plow is an entire casting, with point and heel attached by a single screw and tap each. This advantage renders it the most convenient, at the same time the most economical implement now in use. Its width is only 7½ inches, but cuts and turns far more land than the old wrought "Allen Plow" with nearly double its width. It is a correct scientific implement, and comes nearer perfection than any article I have ever seen, and is constructed literally upon the principle of a perfect wedge, which is the true science of plow making. As an evidence of this fact, it wears equally at all points. I am now working with some that have been in use three years and are nearly as thin as pasteboard.

"Hopkins' Pattern" combines the three points of a perfect plow, which are never realized in the old fashion and detestable wrought plow.

First, It enters and passes through the soil with the least possible resistance.

Secondly, It turns the furrow slice and breaks it thoroughly.

Thirdly, The most beneficial line of draft to the horse is easily obtained.

There are other advantages too in this implement which are most important to the planter. When once stocked it never requires to be sent to a smith, as any cobbler can make wrought points from the pattern of a piece of pasteboard. As a general rule, the old fashion wrought plow, when once beat upon by the common smiths of the country, can never again be fitted to the same stock.

Mr. Hopkins certainly deserves the reward of the planting interest of Georgia for having constructed a plow of so great utility, and answering so eminently all sections and all varieties of soil. I would suggest to Mr. H. the propriety of casting his plows of better materials and giving them a smoother surface.

We shall never arrive at anything like a correct system of agriculture until we adopt a new and more scientific method, and with it also the improved implements of the age, which are progressing with the same ratio as all other tools that wear the impress of genius. The planter that sets himself down at the present day without the agricultural lights before him, is unfit to be classed in the scale of a rational being; for his duty requires of him far greater effort of mind and muscle than any other member of society. Should he be a parent, then he is more culpable—for so certain as mind is progressive, the blush of agricultural ignorance will crimson the cheek of his son.

The planters of Georgia must, ere long, adopt a new and more thorough system of agriculture. The present fatal system of surface-plowing must be abandoned or ruin is inevitable. We must break deep, mix top and bottom together, plant deep, cover lightly and cultivate shallow. The past fatal season has thoroughly demonstrated the practicability of this plan. Our system of agriculture can only be compared to our system of education, radically wrong and too shallow. I have never seen a planter upon hilly and clay lands adopt any other for breaking than a turning plow, but I have lamented his folly. If the planters of old Burke, Jefferson, &c., break their sandy and light soils with the deepest turning implements, and find that every subsequent operation only adds durability and life to their old fields, cultivated from 50 to 60 years, why need those upon a clay substratum pervert the guarantee of nature herself; for in the absence of it upon light lands she has given them a subsoil to build upon. If not irrelevant, Mr. Camak, I would here suggest, that to achieve a proper and more correct plan of breaking lands, we must have another race of blacksmiths as well as improved implements, for the work of their hands have aided in desolating one of the fairest portions of creation.

By a ruinous and unenlightened system of surface-plowing, the soil from one of the loveliest portions of God's handiwork has been swept from its base until nothing now presents itself but one vast area, stripped of its beauty and grandeur. Better that the Indian had never been dispossessed, for he cherished the land for its crystal springs, its verdant hills and majestic forests. But the race that has followed him has demolished all and left desolation upon its face.

Such, too, Mr. Camak, has been the fate of old Clark—nothing is left you to treasure save the history of her red old hills. True, alas! the plow has passed over this once beautiful and lovely part of creation—and left nothing in its furrow but the lament of Posterity!

Very respectfully, JETHRO.

Reclusa, Ga., Feb. 16, 1846.

Agricultural Meetings.

Warren County Agricultural Society.

MR. EDITOR:—Below I hand you the list of premiums offered for our proposed fair for 1846.

For the best acre of upland Corn............$5
2d best.................. 3
3d best.................. 2
Best acre lowland corn.. 5
2d best.................. 3
3d best.................. 2
Best acre upland Cotton 5
2d best.................. 3
3d best.................. 2
Best lowland Cotton.... 5
2d best.................. 3
3d best.................. 2
For best acre of upland Wheat $5
2d best.................. 3
3d best.................. 2
Best half acre potatoes.. 5
2d best.................. 3
3d best.................. 2
For 4th and 5th best acres of each above....honors
Best Stallion...........$5
2d best.........1st honor
3d best..........2d honor
Best brood mare........$3
2d best.........1st honor
3d best.........2d honor
Best colt 3 yrs and under$3
2 best..........1st honor
3d best..........2d honor
Best Mule colt 2 yrs and under................$2
2d best.........1st honor
3d best..........2d honor
For best Gelding........$3
2d best........1st honor
3d best..........2d honor
Best Georgia raised Mule$3
2d best.........1st honor
3d best..........2d honor
For best boar...........$2
2d best................. 1
3d best.........1st honor
4th best.........2d honor
For best sow...........$2
2d best................. 1
3d best.........1st honor
4th best..........2d honor
For the best hog 1 year and under............$2
2d best.........1st honor
3d best.........2d honor
For the best pig half year and under............$2
2d best.........1st honor
3d best..........2d honor
Best bull...............$3
2d best.........1st honor
3d best..........2d honor
Best milch cow.........$3
2d best..........1st honor
3d best..........2d honor
Best calf 1 yr and under.$2
2d best.........1st honor
3d best..........2d honor
For best piece of jeans, not les than 5 yards..$2
2d best........1st honor
3d best ....2d honor
For the best piece cotton cloth, 5 yards........$2
2d best........1st honor
3d best.........2d honor
For best piece vesting..$2
2d best..........1st honor
3d best..........2d honor
For the best piece of negro cloth, 5 yards.....$2
2d best.........1st honor
3d best ....2d honor
For the best bed-quilt..$2
2d best.........1st honor
3d best ....2d honor
For best counterpane...$2
2d best.........1st honor
3d best.........2d honor
For the best woollen bed-spread $2
2d best.........1st honor
3d best.........2d honor
For best lot of butter....$1
2d best..........1st honor
3d best..........2d honor
For the greatest number matured joints sugar cane.................$2
2d do.........1st honor
3d do..........2d honor
For the largest number of pounds Spanish Tobacco in leaf.........$2
2d do.........1st honor
3d do..........2d honor
For the largest number pounds Indigo........$2
2d do.........1st honor
3d do..........2d honor

Resolved, That the Society set apart $20 to be equally divided for premiums upon articles

offered by the ladies, and agricultural productions.

Resolved, That the proceedings of the meeting be published in the Tri-Weekly Chroniele & Sentinel and the Southern Cultivator, and that all other journals in Augusta and Milledgeville friendly to the cause of agriculture, be requested to copy the above.

JOHN HARRIS, President.
JOHN H. ROBERTS, Jr., Secretary.

Jefferson County Agricultural Society.

The Jefferson County Agricultural Society offer the following list of premiums for 1846:

For the best half acre of Corn for each hand worked.....$1
2d best..... 5
3d and 4th best.....honors
Best acre of Cotton....$5
2d best..... 3
3d and 4th best....honors
Best acre of wheat.....$5
2d best..... 3
3d and 4th best....honors
Best half acre potatoes..$5
2d best..... 1
Best colt under 2 yrs old..$5
2d best..... 3
Best calf under 2 yrs old..$5
2d best..... 3
For the best lamb, this year's raising.....$5
2d best..... 3
3d and 4th best.....honors
For the best hog, according to age.....$5
2d best..... 3
3d and 4th best.....honors
For the best improvement in making and stocking plows.....$5
Best original method of making manure.....$10
For the best marled acre of land producing the best results.....$20
2d best.....10
3d and 4th best.....honors
Best 10 yds. of homespun for gentlemen's wear..$5
2d best..... 3
3d and 4th best.....honors
Best 10 yards domestic carpeting.....$5
2d best..... 3
3d and 4th best.....honors
For the best patch-work bed quilt.....$5
2d best..... 3
3d and 4th best.....honors
Best counterpane.....$5
2d best..... 3
3d and 4th best.....honors
For the best 10 yds negro cloth.....$5
2d best..... 3
3d and 4th best.....honors

The Society has set apart $15 to be awarded for such other articles as may be presented by ladies not enumerated in this list.

A. R. WRIGHT, Secretary.

Liberty County Agricultural Society.

MR. CAMAK:—I am instructed by the Liberty County Agricultural Society to send you for publication the proceedings of a meeting held at Riceboro on the first of January, (our Annual Fair day,) together with a report and address delivered on the occasion.

On the 1st of January, 1846, the Society was called to order by the President, Mr. Nathaniel Varnado, sen'r. The proceedings of the last meeting were read and approved.

The Committee on Corn, through their Chairman, Dr. J. M. B. Harden, reported that the largest quantity to the acre, amounting to 46½ bushels, was raised by Mr. M. L. Jones.

Mr. Jones, in accordance with a rule of the Society, then read an account of his process of cultivation, the quantity of manure applied, the time when, and kind, to which he annexed some highly useful remarks on the culture of Corn in general.

It was moved that Messrs. M. L. Jones, W. S. Baker and T. S. Mallard, constitute a Committee to examine and report on Stock.

Dr. J. P. Stevens, by appointment, delivered a very chaste and appropriate address replete with valuable information.

On motion, the Society took a recess of three-quarters of an hour.

The meeting being again called to order, Mr. Jones, Chairman of the Committee on Stock, reported that they had attended to the duty assigned to them, and unanimously decided that Mr. N. Varnadoe, sen'r, was entitled to the premium for exhibiting the best specimens of stock.—He then in behalf of the Society presented to Mr. V. a silver cup, value $10.

After which, the Chairman of the Committee on Corn presented a like award to Mr. M. L. Jones.

The presentation of these were accompanied in each case with suitable congratulatory remarks, which were responded to by the recipients in an appropriate and happy manner.

On motion, Resolved, That the Chair appoint a Committee of three whose duty it shall be to take into consideration the subject of the awarding of honors and premiums at the next Fair of this Society and report at our next meeting.

Messrs. J. B. Mallard, W. Q. Baker and M. L. Jones, were appointed that Committee.

Resolved, That a report of the proceedings of this day be prepared for publication in the SOUTHERN CULTIVATOR, and that a copy of the address delivered by Dr. Stevens, and of the report by Mr. Jones, be requested for publication in the same paper.

Mr. J. B. Mallard was appointed to deliver an address at our next meeting.

The Society then adjourned.

W. S. BAKER, Recording Secretary.

I feel it due to Mr. Jones as well as to our Association, to say, that we date existence as a Society from the 5th of March last, but that no action was taken with regard to premiums until the 19th of April, at which time, our corn was planted, and for the most part 18 inches high, consequently no acre was planted *expressly* for the prize.

At the Fair, our President occupied an enviable position. He exhibited a number of fine horses, three geldings, all valuable; a filly of 4 years, a handsome and superior animal; a well grown and promising colt of 20 months, a large ox, two cows, giving, the one 10 quarts, the other 12 quarts, mornings and evenings, and two year old pigs averaging 200 lbs:

Mr. W. Q. Baker also exhibited a hog of 20 months, and weighing 360 lbs.

By this day's exhibition, we are shown that we have ample resources within ourselves and need no longer depend upon the West for our horses and bacon, or on the North for fine milch cows and Fulton market beef.

Very respectfully, W. S. BAKER.

P. S. The author of the Report declines its publication.

Barbour County Agricultural Society.

According to appointment the "Barbour County Agricultural Society," met in Glennville, on Friday, the 27th February. The President, Dr. John M. Raiford, in the Chair, informed the Society that the meeting had been postponed to that date, in order that a general attendance might be secured, and that a plan of arrangements for the successful operation of the Society for the present year might be thus early adopted.

The proceedings of the last meeting of the Society, held in Eufaula, in November last, were then read—after which, John A. Calhoun, Esq., in some appropriate remarks, informed the meeting of the interest exhibited by the members generally, and the public, in the proceedings of that meeting, affording prospects of the more extensive success of the Society. He entertained the meeting with interesting views in favor of the Agricultural cause. The attention it deserves—the objects and interests of the Society—and urged upon the consideration of the citizens of the neighborhood of Glennville, the advantages of their position, in an agricultural point of view, and the importance of giving a unanimous co-operation in the promotion of the Society. He offered in conclusion the following resolution, which was unanimously adopted:

Resolved, That a committee of three be appointed by the President to report to the next meeting of this Society as to the best means of governing ourselves and of promoting their happiness, and consequently their usefulness to their owners.

John A. Calhoun, Esq., Dr. E. E. DuBose, and Dr. V. Bobo, were appointed the Committee under that resolution.

Dr. DuBose moved that the ex-President, Col. McDonald, favor the meeting with a report of his observations, and the information otherwise derived on the subject of Agriculture, during his tour through the West and North during last summer. To which Col. McDonald responded in an interesting description of the variety of climate and soils, the different modes of culture in each, and the success; the improvements and inventions in agricultural implements, the various systems of agricultural management, economy, &c. &c., concluding with the opinion, that the country occupied by the "Barbour County Agricultural Society," would compare favorably with any he explored, were its resources fully developed, and properly developed and properly husbanded.

On motion of Col. McDonald, it was

Resolved, That meetings of the Barbour County Agricultural Society be held monthly at the plantations of such members as may invite the Society to their farms, and furnish a dinner to those that examine their farms.

Urging his resolution upon the ground that more interest would be thereby excited in the promotion of the Society, and the proof of its benefits carried to every man's door.

It was further resolved, on motion of M. M. Glenn, "that the President of the Society, and the ex-President, Col. McDonald, to communicate the Society and the public, at their convenience, the result of their experience, and such information as they may have otherwise obtained, in relation to the most effectual means of preventing the effects of drought on provision crops in this climate.

On motion of John A. Calhoun, Esq., it was appointed by the President, that the next meeting of the Society be held in Eufaula, on the 1st Saturday (the 4th day) of April next.

After which the Society adjourned.

M. M GLENN, *Secretary*.

Industry and Economy.

From the Albany Cultivator.

L. TUCKER, Esq.—Several years ago, on a cold raw day in November, public business called me to the house and farm of Mr. Dudley Chase, then and still residing in the town of Winchester, in this state. I was so highly pleased with the amount of labor performed in doors and out, with the help employed, that I then made memorandums of the same in writing, and think it worthy of a place in your very worthy agricultural journal. I have no doubt of the truth of what I state, although it may seem extraordinary. The work was none of it slighted, but was all, in doors and out, done in an excellent manner, and in due season.

They then lived in an old inconvenient house in the middle of their farm, and had no public road to the house, but have now a good convenient house, and a good road passing by it. Mr. C. was, as might be expected, a subscriber to the New England Farmer, published at Boston, perhaps the only agricultural periodical then published here-abouts. He had that year kept and milked 16 cows, and made 6,500 lbs. cheese, 450 lbs. butter, and fatted 2,700 lbs pork, to aid in doing which, he bought a load of bran and 70 bushels of corn.

Mrs. Chase and a hired girl did the work in the house. They had three children, the oldest then four years old, and the youngest born the preceding August.

Mr. C., with the help of a boy 16 years old, had done all the work on the farm, raised 3 acres of corn and potatoes, made 16 rods of stone wall, got out his manure, made and got in his hay, collected materials for a large and convenient farm-house, and his year's wood: made 575 lbs. of maple sugar, of which he saved for his own use 30 lbs., and cleared on the rest over expenses of transportation, $59, 20, and 2 galls. of molasses sold for $2, 50. Sold 5,400 lbs. of his cheese for 8 cents a pound, and his calf-skins for $9, 28. Collected the apples for 25 barrels of cider, carried them more than a mile to the mill and brought back the cider.

His team consisted of a single horse and no more, and he used no other during the year, except to break up one acre of sward land for planting. And with the same horse, he went to market in trips from 7 to 53 miles out, each, amounting in the whole to 428 miles, and he thinks about the same distance in shorter trips.

He bought his farm on credit, but by the industry and economy, not parsimony, above described, had been enabled to pay for his farm, and furnish himself and family with all the comforts of life. My daughter drank tea at his house a few days ago, and informed me that every thing is managed as well as when I was there.

Lest it should be thought I have some interest in puffing a particular friend or connection,

I can say, and say truly, that I never saw or heard of the man or any of his family, till the occasion first mentioned, nor have I now any connection with them or any more friendship for them than for any others, that by industry and good management, make themselves comfortable and respectable. Such folks I wish to encourage, and as far as in my power, present to others for example, and therefore hope you will not refuse this a place in the Cultivator.

Plymouth, Conn., June 16. C. BUTLER.

Action of Plaster as a Manure.

From the New England Farmer.

MR. BRECK—Several weeks since one of your correspondents gave us a short review of "*M. Bousingault's Rural Economy.*" Bousingault's theory of the action of plaster of Paris, as a manure for plants, is at variance with the preconceived notions of my own.

I am well aware of the fearful odds I have to contend with in attempting to "run an opposition line" against him. But if he is right, it should be *universally* known among farmers. If I am wrong in my views upon the subject, my only wish is to be put right.

Mr. Bousingault's theory is "that the application of gypsum is but an indirect method of liming the soil," or only acts as lime would; my opinion is, that it acts mostly from its sulphuric acid, or rather sulphur.

Sulphur is one of the essential elements of many, if not all species of plants—some kinds, to be sure, require more, and some less; or upon analysis, some exhibit larger quantities than others. It is also one of the essential elements of various parts of animals; it is found in the blood, muscle, &c. The albumen, fibrine and caseine, are rich in sulphur. From what source does the animal body derive these three fundamental components? Unquestionably they are obtained from the plants upon which the animals subsist.

The source from which sulphur is obtained by plants is not the *atmosphere*, according to Prof. Liebig, but the soil, whence it is furnished by the decomposition of sulphates.

Now one thing seems to be pretty certain, plants cannot take sulphur by "the great woolen spoonful," as Mr. Squeers made the boys take it, at the Dotheboy Hall school, but they must take it in their rootlets (spongioles,) after it has been decomposed, in the form of very dilute sulphuric acid, or sulphate of lime—soda, potash, or even *iron*—or a sulphuret, &c., in solution with water, for it is too universally present in plants to believe for one moment, it is the result of chance. Even in our forest trees, when burned to ashes, it is always present in large quantities, in the form of sulphuric acid.

From my earliest recollection until after I was 20 years of age, my father carried on, in connection with a country store, the manufacture of potash. The ashes were leached in large tubs or vats, the lye poured into kettles and a strong heat kept up for something over a day and a half, when there would be enough from what lye was boiled down for a barrel of potash. After the lye had been boiling some ten or twelve hours, by sinking an iron ladle in the boiling lye, it would soon be filled with what was then termed *neutral* salts, but in fact were crystals of sulphate of potash, and so large an amount of sulphuric acid was present in the lye necessary for a barrel of potash, that there would be formed from three to four pecks of sulphate of potash—nearly a quarter of a barrel, or from 20 to 25 per cent of a barrel of potash would be sulphate instead of carbonate of potash. But before the process is completed, it is necessary to increase the fire and keep up an intense heat for hours together, until the kettles and their contents are brought to a "white heat." In all probability a part of the sulphuric acid is driven off by the *melting* process, and upon analysis of the potash, it would not yield anything like the per centage of sulphate I have named above.

I cite this case to show the quantity of sulphur in the ashes of our forest trees, but many classes of plants that serve for food for man and animals contain larger proportions of sulphur than our forest trees. It seems almost unnecessary to say, that it is derived from the soil in which the trees and plants grow—or, that it it is one of the absolutely essential elements of plants. Some may inquire how the sulphur is applied to the soil. The answer is, by the disintegration and decomposition of rocks and stones containing sulphur and iron. I have, and so have hundreds of other farmers, dug from beneath the soil, tons upon tons of hard and perfectly sound rocks that have lain in the soil "ever since the flood," and up to the time they were dug they had not apparently lost or gained a single ounce. The grooves and scratches caused by their transportation in that mighty current of water that once swept over this continent at some remote period of time, were as legible as it made but yesterday.

But as soon as exposed to the action of the atmosphere and moisture, a very marked change commences—the oxygen of the air, aided by moisture, combines with the *iron* in the stones—it separates in thin scales, and the sulphur is set free, and that in turn combines with oxygen, and sulphuric acid is generated; the acid combines with the oxide of iron (iron rust) and copperas—or sulphate of iron is formed; as this is very soluble in water, the ground becomes saturated, (and on many farms most injuriously,) with sulphuric acid and iron. Now, as far as my observation extends, plaster of Paris has little or no effect upon such soil; it has already enough of the sulphur element in the soil, and applying plaster to such land is like "carrying coals to Newcastle." The brakes that spring up by the sides of stone walls, made of this kind of rock, and the white maple leaves that lodge about them, and the grass in the fields in the immediate vicinity of such stones, in the spring of the year will be colored as black as the ink with which I am writing, formed from the sulphate of iron (copperas) formed from the decomposition of these brimstone rocks.

But upon soils and tracts of land where the rocks and stones are clear granite, or such as do not readily decompose by the action of oxygen alone, and upon the diluvial sand and gravel—or what is here termed pine lands—or any other soils that do not contain "sulphur stones," I have observed that Plaster of Paris always is applied with good results, because in applying gypsum to such soils we apply sulphur—a substance in which the soil is deficient, and we apply it, also, in a form in which the *plant* can appropriate it to its growth. It does not follow that sulphuric acid to be useful, must be in combination with lime, for experiments have proved that very dilute sulphuric acid has precisely the same effect as gypsum. This fact, the reviewer of Bousingault's Rural Economy and Professor Johnston both confirm. Then, the *good* effects cannot be due in this case, to *lime*, as there is none in clear oil of vitriol or sulphuric acid.

But in confirmation of what I have said, I will give a simple fact or two. A few of the last days of July, the past summer, I spent, in company with several others, as one of the viewing committee (of the Merrimack Co. Ag. Society) on farms, &c. In rambling over the farm of A. Brown, Esq., Northfield, N. H., I noticed that the stones in his wall were nearly all pure granite. I observed to him that plaster of Paris would be a *good* manure for his *soil*, and said, have you ever tried it? Yes, he says, I have tried it, and it is useful upon my soil, and when we come to my cornfield, I will show you its effects. No more said upon the subject at that time; after looking at a field of wheat and some other crops, we came to the cornfield. There were four acres—a good soil—well manured, and free from weeds; the corn was very heavy; in passing through it, we came to four rows of very small corn, not more than half as heavy as the rest. Upon expressing our surprise, he informed us that those four rows had no plaster; the rest of the field had a teaspoonful of plaster dropped in each hill at the time the corn was planted, and that was all that made the difference.

But some of the committee expressed surprise that the corn on such good land and well manured, should not be any better, even if it did not have plaster, "Oh!" says Mr. B., "it is a great deal poorer, for the others having plaster,—the plaster draws the nitre, or air, or something from the unplastered, and robs it." (The thought occurred to me that this was confirming what Prof. Sprengel says of the effect of marling alternate strips of land in Holstein: the unmarled strips are much less productive in consequence of marling the other strips.) But one thing is a fact: one teaspoonful of plaster on his corn, made about as much difference as three of guano did upon mine; and had not the whole field been any better than the unplastered rows were, he never would have entered it for a premium: that's another fact. A few days since I saw a son of Mr. Brown, and he informed me that there was about as much difference in the corn at harvest, as there was when I saw it, the 30th of July. I cannot yet believe that a teaspoonful of lime in the hill would have made the difference in his corn that the plaster did—but I will write to him to make experiments the coming season, and have no doubt that he will, and report the results.

The next day I was upon the farm of Capt. S. Chadwick, in Boscawen. Here I observed a different kind of rock and stone prevailed.—Many of them, in the walls and about the fields, had disintegrated, and others were in a state of rapid decomposition by the agency of oxygen and moisture. I observed to Capt. C. that I thought plaster was of but little or no use upon his farm. "Well, 'tis not," says he; "I have tried it, *out and out*: the money is thrown away in the purchase of it, and the labor is lost in applying it."

Prof. Hitchcock, in one of his reports upon the Geological Survey of Massachusetts, gives several well attested facts of the very remarkable effects of what he terms "muck sand." This sand is strongly charged with sulphureted hydrogen, and by its application in numerous instances it effected wonders upon various crops and plants. May not its effects be ascribed to the sulphur, in combination with hydrogen, one of the elements of water? Sulphuric acid is nothing but sulphur and oxygen, the other element of water. No one, with the least pretensions to a knowledge of animal and vegetable physiology, doubts the importance of phosphoric acid to animals and plants: without it, in combination with lime, the wheat ceases to perfect its seed, or to be nutritious, and the young animal cannot grow. Bones are, when burned, nothing but phosphoric acid and lime. Why not with just as much propriety say the application of bones was but an indirect way of liming the soil? The English farmers would veto such an idea.

But, as I observed, if M. Bousingault is right in his theory, it is important that the fact should be known; and I will illustrate its importance. The farmers at Haverhill, N. H., and vicinity, use many tons of plaster every year: they obtain it at Concord, N. H. When ground fit for use, it costs 50 cents per cwt. The freight as much more; so that the plaster costs them one cent per lb.; 100 lbs. of plaster containing 33 lbs. of lime. Then it costs them $3 per hundred for the lime obtained by the purchase of plaster. I presume lime at the kilns in Haverhill, N. H., can be purchased for half a cent per lb—and if it is only the lime in the plaster that acts, as M. Bousingault says, then it is very important that farmers should know it.

It is to be wished, then, that those farmers upon whose soil plaster exhibits such favorable results, would make many experiments with plaster and lime—and if it should prove that a teaspoonful of lime has as good an effect as the same quantity of plaster, it will save the farmers much money—but it will be a sorry day to some of the Nova Scotians. Yours, truly,

LEVI BARTLETT.

Warner, N. H., Oct. 16, 1845.

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1844, and arranged to suit the Southern States.

CALENDAR FOR APRIL.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

Plowing may be done on all light sandy or gravelly soil, as soon as the frost is out of the ground. But on all clay soils, their exact condition should be observed, and if not previously plowed in the fall, *as they always should be*, they must be turned over only when they are comparatively dry. Plowing when wet mixes the soil into a mortar, which subsequently bakes into large lumps, in which condition it remains through the summer, unless beaten in pieces at great trouble and expense. Deep plowing is too much overlooked. It should be the object of the farmer constantly to deepen his soil by cultivation, and in proportion as he enriches it, a small quantity of the subsoil should be brought up for improvement. By this means the roots of the plants will have greater resources for food, and before he is aware of it, his crops will be doubled by this system. The mowing fields should be put in order, by carrying off any surface water there may be upon them; and all the stones should be carefully collected, and put into fences or used for making under-drains to convey the water from springs, or such as cannot be otherwise carried away from stiff clay or boggy lands. Corn for soiling may be sown broadcast or closely in drills. All early potatoes and most of the early vegetables in the garden may be planted. The garden should be particularly attended to. As much frequently may be raised on an acre of ground for the support of a family in a garden, as from the best five acres of the farm. Plaster, with which any farmer who can use it to advantage, ought to be well supplied, may be sown in this and the following month. *It is the cheapest manure he can apply*, in connection with other manures, and it ought to be used liberally wherever it is found beneficial. Field peas may now be sown. The fences should be thoroughly staked up on every part of the farm so as to prevent waste of time and crops from the inroads of unruly cattle.

Animals should not be suffered to get into the fields before a good bite is afforded them, and they should at all times, but especially when first allowed to run on grass, be well supplied with salt, to correct the frequently too purgative effects of the fresh feed. Look particularly after the young things, and don't allow them to follow their dams into the fields till the ground becomes dry, warm and firm.

Sow hemp seed the early part of this month where the climate will answer. [For full particulars of its cultivation, see vol. III of the Southern Cultivator.] Sow tobacco seed also, and the last part of the month plant castor beans.

Kitchen Garden.—During this month, early cucumbers, melons, cabbages, cauliflowers, lettuce, radishes, &c., which have been brought forward in the hot-bed, should be transplanted into the open ground. Attend to the asparagus bed, if not prepared before, according to the directions of last month. All kinds of table vegetables and early root crops sow in the open ground. Tomatoes, egg plants and peppers that have been forwarded in pots, plant out the latter part of the month. Draw out the sweet potato sprouts and plant them.

Fruit Garden and Orchard.—All kinds of fruit and forest trees and shrubs, should be transplanted before the leaf-buds shall have come out. All grafting and spring innoculating performed. Strawberry beds dressed and cleared. Currants, raspberry and gooseberries that have not before received attention, can now be pruned; the latter should be pruned to open heads for the admission of sun and air, be well manured about the roots, and the soil made loose and mellow with the spade; the roots of peach trees be examined, and the worm cut out with a knife. Scions may be set this month, and all the exposed wood should be carefully protected by wax. Several compositions may be used for this purpose, but perhaps as good a one as can be made consists of three parts of beeswax, three parts rosin, and one part tallow, which is best secured by putting on bandages of new, strong, cotton cloth.

Flower Garden and Pleasure Grounds.—Bulbs that have not yet started ought now to have the earth about them stirred to the depth of three or four inches. The borders of the flower garden be made up, and perennial herbaceous plants transplanted. Seeds of annuals should not be sown until next month. Hedges and shrubs may be trimmed, and box-edging set out. Put in order the gravel walks and pleasure grounds, and, if necessary, give the lawn a top-dressing of ashes. Deciduous trees should be transplanted this month if not done before, and shrubbery for the door-yards and gardens. Too little attention is paid to these last in our country. Many a farmer will spend $50 a year to procure ribbons, gauzes, and artificial flowers, for his wife and daughters, when one-fifth of the money would furnish him ornamental grounds throughout the year. Fruit trees are ornamental as well as useful, and are perhaps the most profitable use to which he can put a few acres. The choicest kinds of every species should be selected, for it costs but little more to raise the best kinds than the poorest, and they frequently produce him five times as much in value. A large hole should be dug for the reception of the roots, which should be filled with loose mould, and when the tree has a large top, some branches should be lopped, and the extremities of the twigs cut off.

Plantation.—At the beginning of this month attend to the planting of cotton as directed in March. Continue its culture as recommended by Dr. Philips in the American Agriculturist, Vol 2.

Plant upland rice in drills about 18 inches apart, or sow broadcast, and harrow in the seed as is directed for lowland rice. Cover the ground two inches thick with old rice straw, in order to keep down grass and weeds, and to nourish the crop. Irrigation is unnecessary in the culture of this variety of rice. It will grow on poor sandy ridges and also on wet lands. Continue sowing lowland rice.

Attend to the cane fields, keep the earth loose and clear of weeds.

Occasionally stir the earth around the tobacco plants both with the hand and the hoe. At first, *shave* the surface, and after the plants increase in size, gradually draw a slight bed toward them. Closely examine the plants every night and morning, and destroy the numerous worms which feed upon them. First look for a small grub about the roots under ground, and afterwards a large ugly worm which feeds upon the leaf. There is also a small worm which attacks the buds of the plant, and if not killed, will prove a sure destruction to its further growth. Another worm of a smaller size may be found within the two coats of the leaves, which feeds on the juice alone. All of this work can be done by boys and girls from 10 to 14 years of age.

Prepare your ground for sweet potatoes by ridging up rows about four feet apart. Set out your drawings similar to cabbages, eight or ten inches asunder in the ridges, as fast as they rise, and the season will permit. Some prefer large round hills four feet apart each way to drills. Hoe and plow your Irish potatoes and Indian corn. Sow cabbage, savory and cauliflower seeds for next winter, but let them remain in the nursery bed until August. Sow carrots and parsnips. Plant young orange trees and water them until they take root.

You may set out all kinds of evergreens successfully.

Persevere in agricultural improvement.

Judge Rost on the Progress of Agricultural Improvement.

From the Farmer's Library, October No.

We have much pleasure in giving extracts from a letter of Judge Rost, though not quite sure that it was written for publication. We deem it fortunate to have so soon attracted the regards and good will of correspondents so well qualified, notwithstanding their self-distrust, to take a leading part in the accomplishment of the objects we have in view, as are those who have already come, kindly, to our assistance.

St. Charles, Aug. 23, 1845.

Dear Sir:—I received, long after its date, your kind letter, and the first number of the *Farmer's Library*, to which I request to be considered a subscriber. I have no doubt that under your superintendance, that publication will be useful, and it will afford me pleasure to promote its circulation. I have no copies of my previous communications to the Agricultural Association of Louisiana, and its records being kept at Baton Rouge, I cannot, at present, procure them.

Your wish that I should occasionally contribute to the pages of your periodical, pre-supposes in me abilities which I do not possess. The more I feel the importance of communicating to the Agriculturist the knowledge that should guide his art, the greater the difficulty appears to me of imparting that knowledge in the simple, concise and exclusively practical mode suited to his usual education, his habits of thought, and his limited leisure. If it be gratifying to know that, in the study of Agriculture, the Schoolmaster is abroad, we must not forget that men cannot be taught faster than they can learn, and that the besetting sin of schoolmasters is teaching too much.

Mr. Petzholdt's observation about the English Agriculturists—that to do as their fathers have done, is deemed by them an unquestionable proof of wisdom—is incorrect, and casts unmerited censure on that sterling class of good men and true. To learn al. that their fathers knew, has been their constant practice, and that is an unquestionable proof of wisdom. But they have made, from time to time, important additions to that knowledge. If they have not oftener availed themselves of the aid of Science, it is because the votaries of Science have not, until lately, applied it with success to objects of rural pursuit.

Agriculture, left, in a great measure, to its own resources, has continued to improve, and has obtained great results. Whoever compares with the England of the present day that which Cæsar invaded—a country covered with forests and marshes, where the inhabitants sowed no corn, and princes dressed with skins—will scarcely deny that Mind has had something to do with the change. The facts and the rules of action by which the change has been effected, form an important part of human knowledge; it is that knowledge which the agriculturist acquires from his ancestors. Learned professors may not call it science, because it is not taught in Universities; it includes, notwithstanding, not only the art, but also the science of Agriculture; and it is vain to deny that both have, of late, advanced rapidly. The system of interchange of crops—the use of green crops—the improvement in the breeds of all domestic animals—thorough draining—subsoil plowing—the use of many new manures—are all recent and valuable improvements. At this stage of progress, experiments were being made in various places, to discover the best mode of applying manure, and the kind of manure best suited to each particular plant. Gypsum had already been found to be the food of clover—bone-dust that of turnips; and there is no reason to doubt that European agriculturists would, without assistance, ultimately have acquired the knowledge, which the Chinese are said to possess, of feeding plants with the various substances they require at the different stages of their growth. Liebig came, and gave directions to their researches; he told them what each plant is made

of, and what it feeds upon in the course of its development, and also how they could procure the food it requires. Valuable as that discovery undoubtedly is, it forms no part of Agriculture, and belongs exclusively to Chemistry. That science now guides the Agriculturist in his investigations, as Astronomy and the compass guide the navigator in his course.

It is no way to entice Agriculturists to the acquisition of knowledge, to begin by telling them that they and their ancestors have been heretofore ruled by prejudice and sunk in degrading ignorance; and if, in addition to this, it is attempted to make them forsake the plow for the purpose of learning, not the science of Chemistry, but its words and phrases, depend upon it they will dismiss the Schoolmaster, and say of him, as the Haberdasher said of Mr. Pickwick, "the honorable gentleman is a humbug." Tell them the truth—tell them that the experimental mode of investigation is right, and must not be changed; satisfy them that, by following it, they have learned much, and raised their art to the dignity of a science. Show them, then, in what manner Chemistry has lately placed within their reach the means of obtaining additional knowledge, and you may confidently trust them for the acquisition of it. Very respectfully, your ob't serv't, P. A. Rost.

J. S. Skinner, Esq.

From the American Agriculturist.

Too Much Land.

During a recent excursion in this and some of the New England States, I was struck with the comparative sterility of land which might by proper cultivation become "the garden of the world." Instead of seeing fields of wheat bearing thirty bushels to the acre, we find scarcely twelve to fifteen in the yield; where two tons of hay should be cut, hardly one is the product; where thriving fruit trees might be expected, bending beneath the weight of their delicious fruit, our eyes are pained by the sight of gnarled, stunted and half dead trees, scarcely able to sustain the life of the few curled-up leaves that come forth as if to reproach their owners by the sight of their consumptive appearance. If they had tongues to speak how bitterly would they complain of their treatment. Is it because nature is so miserly that she does not reward man for the labor he bestows on her, or because man will not let her yield a bountiful supply in reward for his labor? What is the cause of this sterility, and the complaints of the farmers that they cannot make a living, though they have hundreds of acres at their command? It is evident the fault is with themselves. They attempt the cultivation of too much land.

Our farmers have from fifty to five hundred acres under what they call cultivation. Still they are in debt, and in many cases the more they possess the worse they are off. Their land is scattered far and near. Two acres here and ten there, instead of being compact together. In this manner, more time they often lose in going from one lot to another, in the building fences for other people and keeping out the cattle, than the whole income of the land amounts to. I have myself lost more time in this way in a single year, than it would take to keep ten acres in the finest condition.

What is the remedy? Sell half of your land and spend the proceeds of it on the remainder, and thus make what you have yield a liberal income. Depend upon it, there is no course so suicidal as owning and attempting to cultivate two hundred acres, when you can hardly do justice to one hundred. Suppose, for instance, a man has fifty acres of naturally good land and he has but a certain amount of manure, time, &c., to use in its cultivation, which is not enough to keep it in heart, or to pay that attention to rotation of crops, which it requires, is it not evident that the land, the owner, or whoever is connected with it must suffer? Would not all intelligent persons condemn such a course? Yet how many such instances are to be seen all around us? I believe it would be for the interest of many farmers even to give away a portion of their land, rather than have so much in their care. Self-interest tells us it is the policy of such a man to sell what he cannot properly use, for he would gain time to devote to the remainder, money to purchase all that it required, his crops would yield in double ratio, his land increase in value as it increased in fertility, and thus he would be in every way benefited.

I have seen acres of the best land, overrun with daisies, mullens, and other noxious plants, that root out the grass, and eat up the life of the soil, without affording nourishment to either man or beast, which might by a little attention yield a rich harvest. But the farmer has no time to attend to it, and the land becomes worse than useless; for it is self-evident that land must either increase in fertility or decrease in value—there is no middle way—it must afford a profit or be an expense.

Look again at the swamp and meadow lands, with which our country abounds, that are not only worthless, but causing sickness and death in the vicinity. All these might be reclaimed and made the most productive lands, by a small outlay of capital; the owners have neither, because they have too much land already calling for their attention. The muck contained in these places, can be made to pay better interest than bank stock. Yes, if properly used, it may be made the farmers mine of wealth.

This leads me to inquire how are our lands rightly cultivated? I reply, by using the experience of those who have studied the chemical formation of soils, and the effect which different manures have on different soils. Much time is lost and land injured, by the farmer not knowing the relative value of his manures and the theory of rotation of crops, which might be saved by the expenditure of a little time and money in procuring and reading agricultural books and papers. There is too much of the saving a cent and losing a dollar economy in this age. When the time shall have arrived, that men will be willing to study the theory and practice of farming in all its details, then shall we see agricultural pursuits elevated to a proper standing, and yielding a profit that shall rejoice the hearts of all.

Mr. Norton's Letters.—No. XVIII.

Professor Johnston's Lectures on the Introduction of the Study of Agriculture into Schools.

L. Tucker, Esq.—A year ago, in a letter dated the 24th of this month, I mentioned that Prof. Johnston had just delivered two lectures to the parochial schoolmasters of Scotland, at their annual meeting, upon the introduction of Agricultural Chemistry into the Parish schools.

Those lectures, as I then mentioned, were received with much approbation, and their permanent effect has been shown by the adoption of this branch of instruction into about 90 schools. This year the schoolmasters invited Prof. Johnston again to appear before them and give more fully his ideas, as to the kind, extent, and manner, of instruction necessary. In accordance with this request, he on Thursday the 8th, delivered the first of three Lectures, to about 250 of the teachers.

In the commencement, he asked, why is it important that the schoolmaster should teach this branch of knowledge? Because it has become of acknowledged importance that it should be diffused, and because the only way in which this diffusion can be made lasting and universal, is through the rising generation.

"But," he continued, "let it not be understood that it is *chemistry*, we want taught; it is only chemistry so far as it is applied directly to Agriculture. More than this would only overload the mind and injure the cause it was intended to serve. To the same end would tend the endeavors of the great mass of teachers to make themselves analytical chemists. They might get far enough to make imperfect researches, and therefore draw incorrect conclusions, but more they could not do without entirely neglecting their other pursuits and duties.

"All that is necessary for the primary schools, is the Catechism. This work contains the great outlines and divisions of science, and it imparts a knowledge of those few scientific words and important substances, which the cultivator of the soil must acquaint himself with."

In order to show more fully the plan of this little work, and to exhibit to those unskilled in such matters the method of performing the experiments therein mentioned, the Professor here took it up, and proceeded through explaining every point upon which darkness might rest, and performing all of the experiments.—These are very simple, but the sight of their performance would enable those who are unaccustomed to chemical manipulation, to perform them much more easy and satisfactorily.

This exposition of the Catechism, occupied three days, and was delivered to deeply attentive and interested auditors. At the conclusion, every doubt seemed to have disappeared from the minds of all present, as to the simplicity and beauty of the great outlines of the science which had been laid before them. Though in themselves the result of years of labor, guided by the highest scientific intellect, they are given in such a form that any boy of ordinary capacity may understand them. I have lately been in schools where boys of 12 and 14, not only understood, but applied these principles to such farms as fell under their observation.

Many have acknowledged that much benefit might result from this instruction, but at the same time contended, that it would be more than balanced by the injury done to other studies. This objection is, I think, completely answered by the fact that Prof. Johnston, from the result of actual experience, now recommends that only half an hour a week, be devoted to this branch, and even that only during the last year at school. Of course, each teacher may, if he chooses, still farther impress the boys by an occasional Saturday afternoon's walk, over some neighboring farm, making such observations as the state of the land and mode of the culture suggest.

At the conclusion of the lectures, Mr. Milne, deputy advocate of Scotland, made a most admirable and eloquent speech, upon the progress of agricultural education, a cause in which he is deeply interested, and which he has most powerfully contributed to forward. He expressed his great gratification at the spirit which prevailed, and the movement which was commenced, among the Scottish schoolmasters; and sketched in graphic language, the improved condition of all classes of the community, when the best system of cultivation should be every where adopted. Not only an additional population would be maintained by an increased supply of food, but would be maintained in a greater degree of comfort through the increased demand for laborers.

Prof. Pillans, of Edinburgh University, in seconding a vote of Prof. Johnston, bestowed upon him a tribute of cordial and well merited praise. He avowed that he had come to these lectures prejudiced against the cause they were intended to advance, but confessed himself to have become an entire convert. "So clear had the whole subject been made, so completely had doctrines founded upon the most abstruse principles of science been simplified, that he could not refrain from expressing his delight. The lecturer, with a scientific mind of the highest order, delighting to grapple with the most difficult problems of nature, had not been for one moment tempted from his object of giving simple instruction He hoped and believed, that the Scottish schoolmasters, urged by every consideration, would lend their energies seriously to this new task, and maintain that character which they had always borne."

That the effect of these lectures will be lasting I can not doubt; the whole body seemed quite unanimous in expressions of approbation.

We were mentioned by Mr. Milne as rivals in the introduction of this new branch of education, and I trust that we shall prove formidable rivals, that our rising generation will take the field so armed with the true principles of

cultivation that in 20 years from this time we shall no longer need to look to Scotland as a model. The Scotch would call this American conceit, but they don't know what we can do when we are in earnest. Very truly yours,

JOHN PITKIN HORTON.

Laboratory of Agricultural Chem. Association, Edinburgh, Sept. 10, 1845.

THE USE OF A SCRAP BOOK.—A friend of ours a few days since came near being strangled by a fish-bone sticking in his throat. He remembered having seen a specific in the newspapers for this evil. Consulting his scrap book, he found the following, and by improving the hint was soon relieved from his difficulty:

"The white of an egg is said to be a specific for fish-bone sticking in the throat. It is to be swallowed raw, and will carry down a bone easily and certainly. There is another fact touching eggs, which it would be well to remember. When, as sometimes by accident occurs, corrosive sublimate is swallowed, the white of one or two eggs, taken immediately, will neutralize the poison and change the effect to that of a dose of calomel."—*Mobile Advertiser.*

AUGUSTA PRICES CURRENT.

			Wholesale.		Retai.
BAGGING, Hemp	yard		13	@	15
Tow	"	"	none.		
Gunny	"	"	17	@	18
BALE ROPE	"	lb.	5	@	7
BACON, Hog round	"	"	6½	@	8
Hams	"	"	8	@	10
Shoulders	"	"	6½	@	7½
Sides	"	"	7	@	8
BUTTER Goshen	"	"	25	@	30
North Carolina	"	"	12	@	18
Country	"	"	15	@	20
COFFEE, Green prime Cuba	"	"	8	@	9
Ordinary to Good	"	"	7	@	8
St. Domingo	"	"	7	@	9
Rio	"	"	8½	@	9½
Laguira	"	"	9	@	10
Porto Rico	"	"	9	@	10
Java	"	"	13	@	15
Mocha	"	"	22	@	25
CANDLES, Spermaceti	"	"	33	@	37½
Tallow	"	"	12	@	16
CHEESE, American	"	"	10	@	12½
English	"	"	none.		
CIDER, Northern	"	bbl.	7 00	@	8 00
in boxes	"	doz.	3 50	@	4 50
CIGARS, Spanish	"	M.	17 00	@	40 00
American	"	"	5 00	@	12 00
CORN	"	bush.	75	@	87½
FISH, Herrings	"	box.	75	@	1 25
Mackerel No. 1	"	bbl.	12 00	@	14 00
" No. 2	"	"	8 00	@	11 00
" No. 3	"	"	5 50	@	7 00
FLOUR, Canal	"	"	7 00	@	8 00
Baltimore	"	"	5 50	@	6 00
Western	"	"	5 50	@	6 00
Country	"	"	6 25	@	7 50
FEATHERS	"	lb.	25	@	30
GINGER	"	lb.	10	@	12
GUNPOWDER	"	"	6 00	@	7 00
Blasting	"	"	4 00	@	4 50
GLASS, 10 × 12	"	box	2 50	@	3 50
8 × 10	"	"	2 25	@	3 00
IRON, Russia	"	"	5 00	@	6 00
Swedes, assorted	"	cwt	4 75	@	5 25
Hoop	"	"	7 00	@	8 00
Sheet	"	"	09	@	8 00
Nail Rods	"	"	5 00	@	7 00
LEAD	"	lb.	6	@	7
LEATHER, sole, Hemlock	"	"	13	@	18
Oak	"	"	20	@	25
Upper	"	side	87	@	2 00
Calf Skins	"	doz	12 00	@	26 00
LARD	"	lb.	7	@	9
MOLASSES, N. Orleans	"	gal.	30	@	35
Havana	"	"	27	@	31
English Island	"	"	none.		
NAILS	"	lb.	4½	@	6
OILS, Lamp	"	gal.	1 00	@	1 25
Linseed	"	"	90	@	1 00
Tanners	"	"	50	@	75
Lard	"	"	87	@	1 00
OATS	"	bush.	50	@	67
PEAS	"	"	62	@	75
PAINTS, Red Lead	"	lb.	12	@	15
White Lead	"	keg	2 12½	@	2 50
Spanish Brown	"	lb.	3	@	6
Yellow Ochre	"	"	4	@	10
RAISINS, Malaga	"	box	2 75	@	3 00
Muscatel	"	"	2 00	@	2 25
Bloom	"	"	none.		
RICE, Prime	"	cwt	3 75	@	4 50
Interior to Good	"	"	3 50	@	4 00
SUGAR, New Orleans	"	lb.	7	@	9
Havana, white	"	"	11	@	12
" brown	"	"	8	@	9
Lump	"	"	13	@	14
Loaf	"	"	11	@	15
Double refined	"	"	15	@	15
SPICE	"	"	14	@	18
SOAP, American. No. 1	"	"	6	@	7
" No. 2	"	"	5	@	7
SALT Liverpool bulk	"	bush.	40	@	45
" "	"	sack	1 45	@	1 62
STEEL, German	"	lb.	12	@	18
Blistered	"	"	8	@	15

Back Volumes of the Southern Cultivator.

The Work complete from its commencement.

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PROSPECTUS

OF THE FOURTH VOLUME OF THE

SOUTHERN CULTIVATOR,

A MONTHLY JOURNAL,

Devoted to the Improvement of Southern Agriculture,

Edited by JAMES CAMAK, of Athens.

IN submitting to the Southern Public the Prospectus for the FOURTH VOLUME of the SOUTHERN CULTIVATOR, which may now be regarded as permanently established, the Publishers deem it unnecessary to advert to the high character the Work has attained under the editorial control of Mr. CAMAK, and therefore make a direct appeal to the Planters and Friends of Agriculture throughout the Southern States, to aid them in sustaining a publication devoted exclusively to the cause of Southern Agriculture

The advantages and benefits resulting from Agricultural Periodicals, have been felt and acknowledged by the intelligent and reflecting Tillers of the Soil in all civilized nations; to be most useful, therefore, they should be extensively circulated among all classes of Agriculturists; if possible, they should be in the hands of every man who tills an acre of land, and to this end we invoke the aid of every one who feels an interest in the improvement of the Agriculture of the South.

The first number of the Fourth Volume will be issued on the 1st of January next. It is published Monthly, in Quarto form; each number contains SIXTEEN PAGES of matter, 9 by 12 inches square. TERMS:

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AUGUSTA, GA., Nov., 1845.

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The Southern Cultivator

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J. W. & W. S. JONES, PROPRIETORS.

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SOUTHERN CULTIVATOR.

VOL. IV. AUGUSTA, GA., MAY, 1846. No. 5.

AGRICULTURAL ADDRESS,

BY J. P. STEVENS.

Delivered before the Liberty County Agricultural Society, January 17, 1846.—[Concluded.]

It would be interesting to dwell at length upon the effects resulting from proper drainage, plowing, hoeing, &c., but we must be contented with a few passing observations.

The effects of draining are more perceptible upon tenaceous clay lands than upon a light, porous, friable soil. In the cultivation of the former, this is the first step which the planter takes preparatory to planting his grain. Proper drainage prevents the accumulation of stagnant water, and gives free exit to the escape of large and sudden visitations from the clouds; favors the access of fresh supplies of rain water, and consequently of fresh air to the roots; washes away those noxious accumulations which collect in the soil, and renders it softer and more impressible by the roots By effectually resolving the hard lumps and rendering the subsoil more porous, it enables the plant to enjoy a wider range for feeding, and it facilitates vegetation by dissipating that coldness of the soil which so often paralyzes the plant in early spring. The sanative influence of hoeing and plowing is no less remarkable by minutely dividing the soil, encouraging the plentiful supply of air and water, thereby affording a due supply of oxygen, which is necessary to the decomposition of vegetable matter, the germination of seeds, and maintaining the plants in a healthy condition. The destruction of weeds and insects, and extending the field of imbibition to the roots are productive of incalculable benefit.

One of the most judicious and economical methods of retaining the natural fertility of soils, and in the disregard of which we are guilty of a most flagrant sin, is the observance of a judicious rotation of crops. Chemical analysis and experience demonstrate that the constituents of the soil are heterogeneous, and that what will prove detrimental to one plant affords healthy food for another. Decandolle maintained that plants absorb various soluble substances simultaneously, and that consequently some are received which cannot be assimilated, and must be returned to the soil. Now it is evident that this deposition of excrements must increase in proportion to the length of time that the same crop is successively planted, and finally there will be an accumulation sufficient to induce total sterility. Now this very substance may be soluble and assimilable by another plant, and a twofold object will be accomplished by a change. All plants require alkalies; some in the form of silicates, others in the form of oxalates, nitrates and tartrates. Corn delights in phosphate of magnesia and silicic acid, and an analysis * of the cotton plant discovers, in matter soluble in water, a predominance of 44 per cent. of the carbonate of potash, as well as 9 per ct. each of the sulphate and muriate of potash; the phosphates of lime and magnesia, and the carbonate of lime are also found in variable proportions. Thus we see, that an alternation between even these two varieties of produce alone will be followed by beneficial results; for what one plant is found to reject, another receives. In the older countries of the Eastern world two successive crops of a similar kind are never permitted to grow upon the same soil. In Belgium, we are informed * that the rotation of crops upon a portion of land remarkable for its fertility, which had not received any manure for twelve years, is as follows: Beans, barley, potatoes, winter barley with red clover, winter barley, wheat, oats; during the 9th year it was allowed to lie fallow. By the 10th year it was probably capable of yielding as bountifully as during the first. By pursuing this system judiciously, you will perceive that no limits can be assigned to the fertility of lands. We are blessed with a soil which is unsurpassed in natural productiveness by that of scarcely any other country, and yet the controlling principle with us is to impose upon its resources by a most shameful and suicidal policy until its treasures are actually irrecoverably exhausted. The necessity for alternation may in a great measure be obviated by the application of a sufficient amount and of appropriate kinds of manure. The aid of chemistry is here advantageously employed in discovering the actual amount of sustenance abstracted from the soil, and exactly that kind and quality which is required to be returned. As animals are dependent upon vegetables for their maintenance and growth, it is reasonable to suppose that the same chemical combinations which existed in the latter will be eliminated in some state by the former. The process of the decay of animal matter liberates carbonic acid, water and ammonia. It has been already remarked, that each of these constituents, singly or in combination, furnish abundant food for plants. The last principle, ammonia, is found abundantly in the various effluvia of animals in the form of a carbonate; it is an object then to know how to make it available. By the addition to our manure heaps of sulphate of lime, known by the name of gypsum, or plaster of Paris, a comparatively cheap substance, we have the formation of sulphate of ammonia and carbonate of lime, fixed substances, and therefore transferable. Innumerable are the agents which are employed for increasing the value and productiveness of land. In the laboratory of the chemist there is scarcely an atom in nature which may not be made to yield some available principle. Man, in his insatiable appetite for gain, is not even contented to guide the lightning in its wild, erratic course, but even compels electricity itself to contribute to his comfort and convenience. Indeed, it has been affirmed by one of the most gifted minds of the age, "that the time will come when plants will be manured with a solution of glass, with the ashes of burnt straw, and with the salts of phosphoric acid, prepared in chemical manufactories, exactly as medicines are given for fever and goitre."

And now, gentlemen, having taken a very cursory glance at the lights which men of science have thrown upon the efforts of the cultivators of the soil, permit me to inquire why it is that we are so far behind the age? Why are we so lethargic upon a subject which is agitating the whole civilized world? Why is it that we are contented to grovel and plod in the steps of those who have marked out a course for themselves, fifty years since? Why is it that having treated with contempt the munificence of a kind Providence by destroying the productiveness of a rich and fertile soil, instead of employing some of our time and talents in assisting and improving upon nature; like the Arabs of the desert, nay, like the herds of the field, we migrate from place to place? Do you say that our country is rich and boundless in territory. Europe, with her scores of millions of human beings, is groaning under her heavy burthen. Is it possible for the imagination to portray the amount of wretchedness and misery which would necessarily follow some tremendous political agitation or adversity of seasons. Even under the wisest legislation, and when enjoying the smiles of Heaven, how awfully deplorable is the condition of myriads of miserable paupers, who drag out an existence of the most squalid poverty, in many instances, of abject want!

Can we not predict the time when even our country will be experiencing the force of similar circumstances? "Blessed by Heaven o'er all the world beside," the policy of our legislation extending an indiscriminate invitation to the oppressed of every land to participate in our joys, with an increase of seventeen millions of people since our political birth-day, who will not venture the assertion that the millions of acres of desert pine lands, marshes and fens, now solely tenanted by beasts and aquatic birds, will be compelled, at no distant day, to unbosom their treasures in obedience to the calls of science and art. The inducements to the farmer for devotion to the study and practice of his art are superior to that of almost any other pursuit in life. What are called the learned professions occupy, each of them, responsible and appropriate positions in society, but the practice of them is uncertain and unsatisfactory, from the fact that the source from which support is sought after is the vacillating and changing nature of man. It has been said with much truth, that nothing repays more bountifully and readily than the willing soil: and in what beautiful and harmonious concert are the graces and virtues of the heart nurtured and cherished! Bound by a community of interests, each by enriching the products of his own farm conduces to the well being of his neighbor. Removed from the cares and perplexities of public life, an overweening mania for notoriety not having poisoned the fountain of every ennobling sentiment, enjoying in rich profusion the munificence of Nature, witnessing the dear pledges of his affection growing up in health, beauty and wisdom around him, he is among the happiest and most highly favored of men. As an illustration of the charms which invest rural life, refer to the present occupations of the greatest statesmen of the age. The Sage of Linden wold, and the venerable and gifted Farmer of Ashland, having occupied the highest positions in the councils of the nation, battled manfully and gloriously in preserving the peace and permanency of our confederacy, have thrown aside the mantles of honor and responsibility to indulge in the pleasures of fields and pasture lands. When the glorious achievements of generals and statesmen shall have been consigned to oblivion, the splendid discoveries of Davy, Liebig, Johnston, Decandolle, Chaptal and Bousingault, will be preserved in living monuments as trophies of their greatness and beneficence.

As a favorable indication of increasing zeal in the cause of agriculture as exhibited in our community, we regard the organization of this Society. United effort in the pursuit of any definite object can alone ensure success. Stri-

* Seabrook's Memoir on the Cotton Plant.

* Liebig's Agricultural Chemistry.

ving for the attainment of the same end, divested of sectional jealousies and political animosities, we convene at stated periods for the purpose of exchanging views in relation to the best means of advancing the interests of the planter. But how exceedingly small is the number of names enrolled upon our catalogue in comparison with the population of our almost exclusively agricultural community. Can this be ascribed to a want of intelligence, and a due appreciation of the advantages which are destined to result from our Association? Most certainly not. Is it a consciousness of incapacity to contribute to the literature of the Society? This idea, though exceedingly prevalent, is none the less erroneous. We deal in facts, we search after facts, we wish the results of observation and experience, and certainly these can be communicated orally, or in a colloquial style. The simple truth that our ideas are clothed in language tinselled with classical purity and logical accuracy, invests them with actual importance only so far as they *originate* or *substantiate facts.* There are none then who do not possess the ability to add to the importance of correct principles. Some declare that they will not connect themselves and participate, but will wait and see what good emanates from our deliberations, and then they will reap the benefits resulting therefrom. Such a declaration as this needs no commentary. It speaks for itself. Others urge in vindication of their apathy, that they are doing well enough, and care not for information. They, indeed, may congratulate themselves upon their good fortune. But it is conceded by all that there are certain duties which we owe to society, and as social beings we are bound to discharge them. There are many who will contribute to the preparation of a convivial banquet with a view to advance the interests of political demagogues, inflaming the passions of men, thrusting firebrands in a community, yet when the special object of an Association is to conciliate good feeling and tranquilize the popular tumult, they are stricken with paralysis. But, gentlemen of the Society, can it be expected that the attention of others will be arrested when we are so lethargic and desponding? Is it not a notorious and lamentable fact that the mere shadow of an apology is eagerly sought after by many as a plea for neglecting to attend the regular meetings of the Association. The paucity of our numbers urges the strongest inducement for punctuality and alacrity in the performance of the duties which are assigned us. Was there ever an Association worthy of attention which, in its infancy, did not meet with discouraging embarrassments? It seems to be a governing principle with the human mind, to oppose innovations. Among our countrymen of the North we see that the public mind has been alive to the importance of this subject. Individual and State Associations render reciprocal aid in enforcing upon popular attention the necessity for general action. The consequence is, that the rocky plains of the Atlantic coast are seen teeming with the foliage, and ultimately the fruits, of the Western prairie. Persevering, indefatigable industry and unwavering zeat characterize their efforts. And it is only needful to refer to a few statistics to exhibit more forcibly the rewards which follow such determination.* It has been computed that the average value of exports from this to European countries, during a decennial period included between the years 1821 and 1831, may be estimated at $53,000,000. From this aggregate we may assign the relative value of articles exclusively of Southern productions, viz: cotton, rice and tobacco, to be $33,000,000 in round numbers, this will leave for the North a remainder of only $20,000,000, with nearly double the amount of population. With regard to the import trade we will merely present a contrast between the then rival States. In 1821 the value of the import trade of New York was $23,000,000; in 1829, $43,000,000; in 1821 that of Virginia amounted to $1,078,000; in 1829, $375,000. Thus we see that the value of imports at the South in comparison with the exports is exceedingly small. It will be recollected that in the year 1769, anterior to the Revolution, the import trade of Virginia exceeded that of New York by nearly eight times, while in 1829 the imports of the latter exceeded that of the former by upwards of one hundred times! Here then we have a vivid and forcible illustration upon an extended scale, of the necessity for vigorous and untiring assiduity in the promotion of individual as well as national prosperity and importance. Let us then move forward and extend a cordial welcome to all who will unite with us in maintaining an Association, the direct object of which is, the promotion of the comfort and happiness of *all classes* of community.

* Southern Agriculturist, Vol. II, April No, 1838.

FARM MANAGEMENT;

OR PRACTICAL HINTS TO A YOUNG BEGINNER.

From the South Carolinian.

I take advantage of a rainy day, to fulfil my promise to answer your queries about the conduct of your farm. If you will permit me, I will give you a general and detailed view also of the manner in which I would manage your place, and *en passant*, shall probably answer all your inquiries. You have 90 acres of woodland, and 60 acres cleared, besides your garden, orchard, and vineyard, and four hands to work—two of them being women. In clearing, ditching, rail-splitting, lifting, &c., you will find women of little use. In all other farming operations they are equal to men, and in some of them superior. As to working out doors, most of them prefer it, and are healthier than house servants. No negroes, however, should work out in bad weather, or at night. Humanity dictates this, but sound economy demands it. You should add to this force a smart boy of 14 years old; or perhaps and elderly man, say 45 to 50, would be better. He should have a good mule and cart; his employment all the time to collect materials for manure, feed your stock, go to town, &c., &c. You will perhaps find it requisite in time to have two hands of this kind.

As wood is valuable, and becoming more so, I would not just now clear any land, or be in too great a hurry to cut down any wood, You will find dead wood enough to answer all your domestic purposes, accruing annually on 90 acres.

As you are convenient to a town, the market of which is miserably supplied with provisions, I would make the farm what may be called a market farm, and raise nothing but what is demanded for town consumption. Time and experience must suggest the most profitable crops to you. In the mean time, however, I recommend the following:

Divide your 60 acres into two lots—one of 50, the other of 10 acres. Plant your 50 acres in corn, early in March, as soon as the equinox has exhausted itself, which it usually does by or before the 15th. Corn is the king of vegetables, and worth all others put together. Our farming operations have long been impeded by running after grasses, grains, &c.,—none of which do well below our upper cotton districts—while we have neglected corn, which may be cultivated and used in a great many ways, and as a substitute for every thing else, that potatoes will not supersede. This 50 acres of corn land I would manure every year with not less than 100 bushels of manure per acre, and 500 if possible. I would certainly make the greatest efforts to get on it 300 bushels as soon as possible. Thus manured, by the second crop, it will make you 40 bushels per acre—certainly by the 3rd. Plant it 5 by 3 feet, reducing to 4 by 3, and ultimately 4 by 1 as it grows richer—always putting in peas the wide way, between the 20th May and the 20th June—the 1st June best time. If you will thus manure it, you will need no rotation. In fact, I don't believe in rotation. All plants, with the exception of aquatic ones, use *pretty much the same food.* The texture of the soil and the climate, both may have specific effects, and difference of culture may have a slight influence also. But my only rotation is *rest*; and if you will constantly supply additional food for your crop, the very same kind will grow and flourish on the same spot to the end of time. If you will add 100 bushels manure per annum, you may plant corn on your 50 acres for life, and if you add 300 to 500, it will soon double and quadruple the product. Two plows and two hoes will tend your 50 acres like a garden. Two acres per day may be plowed by each horse, and as many hoed by each hand. Allowing for contingencies, it will be plowed and hoed every fifteen days, from 1st April to 1st June, when it should be plowed no more, but thoroughly hoed for the last time. If the season has been dry and backward, so that your corn is small, and the main grass crop has not been killed, you must work it longer: but then some of the previous workings will for the same reason have been omitted. Four plowings and four hoeings are as many as will do corn good, and your evidence of judgment will be in giving them at the proper time, according to the seasons, never working when *very* wet or *very* dry. Prepare your land by spreading your manure on it early in January, and then break it up thoroughly and deep—6 inches at least.

There is an endless variety of plows. I do not believe there is any better one for breaking up (which is also the cheapest and simplest,) than the Boatwright plow, invented by your townsman. I tried it many years ago, gave it up to go the rounds of Yankee inventions, and because it went rather deep I have now come back to it again.

Your land can be broken up by two plows in 25 days, say by 20th February. Then lay it off flat, or with the smallest possible bed, made by three furrows of bull-tongues the wide way. Flat culture, however, is the best for corn. Plant it flat, and work it flat. *Never soak your seed.* Plant only the butt end half of your best ears, and only one grain in a hill. You save corn and thinning by this. You cannot save re-planting, do as you will, and this should be attended to as early as possible, without waiting too long for it to come up. Late corn is seldom worth anything, and replants after 10th April are of little account. As soon as your corn is well out of the ground, run a sweep on each side of it, as near it as you can. This is commonly done by bull-tongues, and if your land has not been thoroughly and deeply broken up, they are best. But it should be so broken, and then I would afterwards use nothing but a sweep; and, contrary to the common practice, I never would put any more dirt to it than they throw. The dirt injures materially for a time, but it kills grass and saves hoeing—but you will be strong in hoes. You can run round 7 acres a day, or eight with two plows. This finished, turn them, and run one furrow in the centre, the narrow way. After this, you can spare your plows a few days from the corn, and put the hands at hoeing, if behind in that line, or to making manure. As soon as the young grass springs, or in eight or ten days any how, run three to four furrows the wide way and sweep it out completely, and then hoe it thoroughly. This is the second and most important working. You have one or two more to give, according to circumstances. Plant peas *before* the last working, so that they may have the advantage of it. Nothing but a hoe should go into corn after it begins to tassel. Your 50 acres, thus manured, and thus worked, will soon give you a crop of 2,000 bushels of corn, and 2 to 300 of peas.

Your ten acres I would thus divide: two acres in turneps, two in sweet potatoes, one in ground nuts, one in Jerusalem Artichokes, and the other four in rye, and, if you like, wheat. The first six, and that in wheat, should have at least 500 bushels of manure. If you can lime, or marl and plaster them, so much the better. One invaluable manure you can readily command—bones. Have two large wooden mortars dug out, with an iron plate 6 by 6 inches fastened in the bottom. Use a crow bar for a pestle, and beat up all the bones you can collect to the

size of a marble. A hand will beat three bushels of a rainy day. Get a coarse wheat grain sifter and sift them all: 10 per cent. will be fine enough to mix with ashes, and put in your turnep drills. Spread the rest broadcast, 20 bushels at least to the acre—100 if you can—and then be patient till you see the *second* crop. On the turneps certainly, and if possible, on the potatoes, I would put bones at the rate of 25 bushels per annum, or 100 for four years. Of course every thing else will be much benefitted by it. Turneps are a valuable winter and spring food for cattle and hogs, being cooling and diuretic. They would be invaluable to us, as they are to others, if our sweet potatoe was not far better and more easily grown. I have lost three stands of turneps by the fly this fall, and shall put in the fourth as soon as it holds up, though it is too late to make any thing but tops. It is a very uncertain crop. As to carrots, beets and Irish potatoes, never think of planting them out of your garden. By great care you may then raise an inferior article for your table, or for early marketing, but never enough to feed a cow, if you planted ten acres of them. They do not belong to our clime—nor do turneps, in anything like perfection. And those who work against nature must pay for it, as those do who grow pine apples at St. Petersburg. I count that your four hands can till these crops as well as your 50 acres; but remember, they will not bear neglect. Every spear of grass in your potatoe patch is one potato gone, at least. I am of opinion that potatoes should be planted in very small beds, and not until you have a breathing time in your corn crop. They will do just before your first working, or after your *second*. The common but very erroneous opinion is, that they must be planted the first thing. They will do *best* I believe, planted last of April or 1st of May.

Pindars are very prolific and very valuable. You may dig for seed or for market what you can sell, and fatten your hogs on them, the artichokes, and remains of potatoes after digging. Read about Artichokes.

But I find I have omitted one important item. One of the acres I have given you for grain I must take back. It must be sown in forage corn, which will be worth 20 acres of rye or wheat, or oats, for provender. Put 500 bushels of manure on it, lay off drills, 2 to 2½ feet, drill your corn (early) as thick as you can, and run a small plow through it two or three times to keep down the grass. Cut it down in the silk, and you may count on, if a fair season, 20,000 lbs. of dry forage of the *best* quality, or 100,000 lbs. of *green*. This and your shucks will furnish an ample supply of the most nutritious forage for all your cows and horses the year round, and enable you to sell every blade of your fodder—say 30,000 lbs—off your fifty acres of corn. *This is no fable.*

Now for the main points: You must keep up your hill-side ditches. Study that matter closely, and see to it minutely. If you let the water wash away your soil it will carry with it all the gold it contains, or that you can put on it. This point secured, the next is how to get the manure which my plan requires—say 30,000 bushels.

1st. Fill your stables, stable yard, cow and hog pens *one foot* deep with straw and leaves. Do it instantly. Manure, like interest, makes day and night, and an hour lost is lost forever. Don't take up the idea of a little, and good. Make as much as possible, and if you can only get into trash, dung and urine enough to act as leaven, put it on your land; nature will do the rest. Once fermentation is started, the work is done. After putting on one foot of leaves, &c., you must add a little from time to time for the comfort of your animals, until you find the stables, &c., inconveniently full. Then clean out, and heap it up in a wet time, and sprinkle a few bushels of plaster (no lime) over it; and, if you can, give a coat of muck six inches thick. Cover it with a shed besides if convenient. The plaster and muck, however, will save nearly all the gases; and if you were to put one or both of these on your yards and stables, from time to time, so much the better. By this plan you may make 1,000 bushels for each head of horses and cows, and 200 for each hog. But this may not be half what you want: Then,

2nd. You must go to composting. Get all the offal from the slaughter houses which are convenient to you. Make arrangements to get the blood, which is invaluable. Get hair, horns, hoofs, bones, dung, everything. It will be leaven. Supply to it leaves in abundance, and let it cook them. Get all the dead carcasses about town. One dead mule or cow will make you 500 bushels of the best manure, if you will cover it with mud and leaves. I have no means of estimating the quantity you can make in this way, but it must be great. If, however, you have not enough yet, then

3d. Go to Russell—buy Bommer's patent—make Russell teach you how to use it in the most economical manner, and then make out and out enough manure to complete your 30,000 bushels, for 30,000 you must have to carry on your farm in perfection.

As to stock: The best foreign herd for us is the Ayrshire. Taylor and Hampton both have it; but if you cannot procure it from them, Dr. J. B. Davis can tell you where it may be obtained in Fairfield. I could give you a half blood bull, and perhaps in time a full blood of the best of that stock. I am inclined to think the foreign stock crossed on the native is the best. Four to six cows you might keep; perhaps less would serve. The question would be whether most could be made by selling provender, or selling butter. Two cows you might feed on offal of the place, and you would hardly feel it. Peas, turneps, potatoes, &c., all answer well. Don't have any more stock than you *keep up all the time and feed.* They give double the milk when confined, and you have their manure. To milk two cows you must have about four.

As to hogs, I am entirely out with all the improved breeds. They can't stand our climate. I have cultivated them until I have nearly lost my stock. I have never seen them thrive, except when two or three sows are kept about the yard, and perhaps your best plan would be to procure, say three Berkshire sows, and let them have the run of your stable and other lots, with free access to water. These three ought to give you 20 killing hogs per annum, which would be an ample supply of bacon. One hog of 150 lbs. for each month, little and big, is a fair calculation.

I recommend these small beginnings in the stock line, because they are very expensive articles. They eat enormously, and must be well fed to do well, and unless one has a great deal of experience and manages well, he will soon find they cost more than they come to. Nothing is easier than to lose money by cattle and hogs. Sheep would be a nuisance to you. They suit aone but those who have large old fields and idle pasture lands in abundance, and are very troublesome and unprofitable then. Hampton has the best stock of them in America. When droves come in this winter you may purchase a few at $1.50, on which you can try your hand.

You see in all my calculations I give the go-by to grains. In some situations, and in some soils, they do well. But you see how I estimate them in comparison with forage corn. If you had mills near that were prepared to grind flour fit to use, you might, from a couple of acres, well manured, grow your supplies. But it would be more trouble than profit. I have fine mills and am pretty well prepared, and shall for the first time this year sow wheat—4 acres. Besides this, I have in two acres of rye, for calf pasture. I have not sown an oat in two years, and never will again. I have sowed as largely as 350 acres at once. I would prefer 10 acres of forage corn to the whole 350. Where nothing else can be made with profit, grain may be tried. But you are too near market. You can sell every bushel of corn at 50 cents, averaging one year with another; or you may buy poor stock of all kinds, feed away your corn, &c., and sell them at the close of shad time, when beef, &c., always bears the best price. You might easily clear a spot in the branch and grow your own rice. Half an acre would suffice. You might on one of your ten acres grow Spanish tobacco with great profit in a small way, and time will also develope to you a great many changes for the better in the plan I suggest. In the meantime, on this plan your farm will be greatly improving, and ready for any change you may desire. I only propose a scheme for starting you.

I think you will want six hands to make your crop and your manure, and four horses or mules, a small wagon, two carts, three Boatwright plows, two bull-tongues, four sweeps. It would no doubt be the greatest advantage to *all* your land to subsoil it. By writing to A. B. Allen, of New York, editor of the American Agriculturist, (an excellent $1 paper,) you can get a small one for two horses—such as I have got from him, at something under $10, delivered. It will be worth your while to subsoil, if only 10 acres annually.

After looking at your letter I return a moment to hogs. My trial of pens this year has not been a fair one, owing to the extraordinary heat and drought. On the whole, the hogs have done as well in the pens as in the woods, perhaps a little better. They have consumed more food, but the manure pays the difference. I shall try them another year, but on a different system—in lots, with running water, rather than pens—feeding them under a shelter well littered, where they will be sure to spend most of their leisure time, and yield me a fair share of manure. In food, hogs require frequent change, when not permitted to run out. Boiling is best, on the whole, but they tire of it. You may boil anything, peas, corn, turneps, potatoes, meal, &c.—and those are the things to feed them on, with a little fodder or cured corn stalks, rotten wood, charcoal, &c.—salting well and giving salts occasionally. Three sows in your lots would scarcely require more than the shattered corn and wastages. The pigs, as soon as weaned, should be kept to themselves, and the killing hogs to themselves. But in the small stock I recommend you to keep, I would make no division unless some of them proved mischievous. Let the sows pig in a secure sheltered place, and remain there separate from the rest for a few days.

As to woodland pasture, it will be found of great service from time to time, for dry cattle, jaded mules, hogs, &c. Its chief value will be in furnishing leaves for manure. No grains or grasses will, in this climate, grow in it to advantage, without being thinned so as to destroy its value for wood—that is, taking off so much that none could be cut without clearing it. Wood is to be cherished, and is more valuable where you are than grass pastures.

Your idea of landscape gardening is a delightful one. Of course it would not be profitable, except in as much as it added to the permanent value of the place. Still, as far as you might feel inclined to indulge in it as a luxury, I would commend you to go. Money is a good thing, but a man is a fool who runs after it as an *end*. It is a species of insanity. As a *means*, to what end could you devote it more likely to increase your happiness than in gravelled walks, terraces, and glorious bowers of native oak?

Remedy for Lockjaw.—Having seen in the Argus of the 21st, an account of the death of the son of Mr. Andrews Wasson, from lockjaw from a nail accidentally run into his foot, I would state for the benefit of those afflicted from similar causes, that a common cent, or a piece of copper bound firmly upon the wounded part, and in actual contact with it, will cause almost immediate and entire relief, and cause the wound to speedily heal, whether it be made by rusty nail, steel instrument, splinter, or any other cause, either in foot, hand or other part of the body.

N. B. Rusty or tarnished copper is preferable to bright copper, though either will answer.

From the Southern Planter.

SHEEP.

By fishing in the sea of "stuff," with which our agricultural papers are filled, we are sometimes enabled to catch up a sensible, practical article like the following, taken from the "North Carolina Farmer," a paper lately started at Raleigh, which we would most heartily commend to the attention of our Southern friends. A thorough knowledge of the sheep business would be as good as fifty thousand dollars to any man in Western Virginia:

Mr. Lemay: Sir,—I have seen one or two articles in your new paper on the subject of raising wool in this State. I have no practical knowledge of wool-raising in so warm a climate a North Carolina enjoys, especially in the Eastern part of the State. There are impediments in every department of husbandry to retard enterprise; but I feel sure that wool raising has as few drawbacks as most branches of employment. The hindrances may be summed up as follows, viz:

1. Climate and food.
2. The diseases of sheep.
3. Necessary protection to sheep.

1. The Climate of North Carolina is in many respects similar to that of Spain, where the raising of wool has long prevailed as a staple. Much of the imported wool of the United States has been brought from Spain. The latitude of the two countries is not the same, but the coldness of the Western Continent renders the climate much the same. The high or mountain districts of Spain produce the greater portion of the wool, and it is probable that the same is to be the case in North Carolina. It is a notorious fact that the Northern latitudes are the best adapted to the growth of wool. Scotland and the more northerly parts of middle Europe raise the greater part of the wool for English manufactures. The nature of sheep leads them to the hills as much as the forest courts the instinct of the bird. In cold weather sheep leave the fold and wander to some elevated spot to graze, and will only leave it in very severe weather. Sheep should never be housed; an open shelter, closed on three sides, open on the South, ought to be the enclosure in cold weather. Horned cattle ought never to be kept in the same enclosure; yet sheep will pick much after both horses and horned cattle; perhaps a farmer may save half the feed of his sheep by allowing them to pick after his other stock; but never let them graze together or to be accessible to hogs in time of having young lambs.—Sheep, if healthy, are a hardy animal.

The question, whether North Carolina has a suitable climate, and the proper food to sustain large flocks of sheep on small portions of land, is unsettled; for I hold practical experience to be the only answer admissible to questions of so much importance. That sheep do flourish and do well, in small flocks, in all parts of the State, is indisputable; as I have seen them in all sections, from the sea coast to the mountains.—Sheep of the common wool kind, have been made to yield on an average eight pounds per head for the whole flock of thirty sheep; and in one instance as high as sixteen pounds of wool was sheared from one sheep. A farmer ought to be satisfied with from four to six pounds per head, unless he uses more than ordinary care. Every branch of industry yields a profit only to labor and attention. If you read the mode of tillage that brought an unusual crop of wheat or corn, you find the land was plowed deep, subsoiled, rolled, harrowed, manured and worked over and over, again and again. A man that wishes to raise a good field of corn must get up at daylight and see every thing right, and his land must be kept all the time loose; so if he raises sheep, he must be up at all times and see them often.—Salt them, have good shade trees in his fields, or make shelters open on all sides in the summer. There is a fly peculiar to sheep pastures, besides the excessive warmth of their wool, that renders good shades necessary; perhaps an open grove on a hill is the best shelter in summer.

The only valid objection to raising wool of a fine quality, is the changing temperature of spring. Sheep, if not sheared, would shed their coats annually. The wool matures by the end of autumn, and the new crop commences its growth as soon as the fresh grass of spring has stimulated the sheep, and produced that change that all animals experience at this season of the year. This new growth is separate in its film from the old coat, and if cut off with it ruins the whole fleece for making any fine fabric, as the new growth in carding, works up into knots and pervades the whole texture, producing weakness or rottenness. Cloth made from wool of such a character is of inferior value. This drawback is owing to the long spring. Sheep cannot, with safety, be sheared before May; grass often puts forth in March, and sometimes in February, it did so in 1842. In the Western portions of the State this evil is not so likely to befall wool raisers—as the spring is later and more abrupt. The only remedy for this evil is to feed the sheep from the barn and not let them pick grass so early, yet this would be but a partial remedy, the warm weather would stimulate reaction and produce a change of constitution.

To introduce a fine, well reared stock, of either sheep or domestic animals into a district where farmers are unacquainted with the mode of treatment to which they have before been accustomed, is to quadruple the disadvantages under which the trial or experiment is to be made. In the first place the animal must undergo acclimation, if he change latitude, or even if he be but removed from the north to the south side of a range of elevated land a few miles, or *vice versa*—or if from the east to the west, and the contrary. Besides climate, the change of food owing to different soils, and the change of nature, all conspire to derange the constitution; and all changes are for the worst. The native stocks of hogs, cattle, horses, etc., are always best to rear from, and it is but a species of monomania for any man to attempt to change the entire stock of any country, or even district of country at once. The change must be gradual and keep pace with the knowledge of the nature, habits and character of the newly introduced breeds. I would not be understood as discouraging the introduction of superior animals among us—far otherwise; I would foster the enterprise by every wise and practicable means or justifiable expense. Daily experience teaches us that the correct way to improve stock, is to do it gradually. I would suggest this rule as the safest way of procedure to any man who desires to improve his stock, viz: to first take some good agricultural paper for 12 months and there read carefully the best means to improve his farm, (for sure as he is living, improved stock comes from improved farms;) after he has read and practised improved farming, tried a few new grasses, and has put a few acres in clover to feed his pigs, calves and lambs on, then he may safely order a fine blooded bull, boar and buck to range among his cows, sows and sheep at the proper season. And on the subject of the right time of the year, for allowing the free intercourse of bucks and ewes much of the success of sheep rearing depends. The bucks should be kept up until such time as will effectually prevent the too early production of lambs in the spring. In any effort to rear a fine animal, care must be taken from the very first that it does not become stunted. More depends on the first year's growth, in any animal, than ever after. If the animal is neglected the first year of its growth, give it up and try another.

In adopting the native stock to rear from, we have all the produce of native and sound constitution and not liable to the vicissitudes of climate. Most, if not all, the discredit of the Berkshire humbug, as some call it, would have been avoided by observing the above method—of first learning what sort of food is most suitable to the animal, and having it provided ready when he first needed it. Sir, agriculture and improvement of stock must go hand in hand.

The food of improved stock has been of a very superior grade to that growing on our worn-out hills and old fields. The imported sheep have been nursed with great care by persons who are shepherds in fact, and if we are to raise sheep, we too must turn shepherds. It will never do to say to every negro, do so and so through the spring, and so and so through the summer, and so on for the year with my sheep; but every man must daily inspect his sheepfold; (for such he must have, secure from without and within,) he must look to his flock carefully; if one is sick it must be separated from the flock and taken the strictest care of. It must be separated from the flock, because most diseases of sheep are contagious or at least contaminating, and liable to infect the whole flock more or less—as the old adage has it—"one smutty nosed sheep will spoil the whole flock." There is more truth than fiction in the old saying. It must be nursed, because the constitution of sheep soon sinks under disease; and if once a flock of sheep become weakly and sickly, it runs out. There is no restoring a puny flock of sheep. The food for a better flock of sheep than we now have must be commensurate with the grade. The finer the breed of sheep the more delicate the nature of the animal and the greater care must be taken of it. Sheep must be sustained at all seasons of the year. It is the nature of sheep to graze, and in North Carolina they can do so most of the year. In the winter a few oats are the best support weak sheep can have. On the subject of diet and diseases, every sheep raiser should be provided with a full treatise. It costs but little, and is of the first importance—buy one.

Mr. Lemay, I will give you something on the protection of sheep, soon. Yours, &c.,

Wake County, Nov. 12, 1845. M. R.

From the Boston Courier.

BREEDING ANIMALS.

The New York Courier & Enquirer of the 19th Jan., in a notice of the Farmer's Library, for January, (a periodical conducted by J. S. Skinner, and published by Greeley & McElrath,) has the following:

The peculiarity of this number is in the discovery which it announces—and a treatise on which discovery is forthwith to be published in its pages—that *the quality and quantity of milk which a cow will give can be unerringly ascertained by external marks and appearances on the animal.* The value of such a discovery is obvious, for since it costs just as much to keep a bad cow as a good one, and as by care in guarding them from intermixture, good races can be perpetuated—this discovery will at once consign bad milch cows to the butcher, and with advantage all round—for the tendency to fatten which suits the shambles, is one of the causes which render cows indifferent milkers."

There will be many an incredulous reader of the above paragraph, many who, as the translator of the work about to appear in the Farmer's Library says—will exclaim, "nonsense! who can believe any such thing? What! by merely looking at a cow to be able to tell how much milk she is capable of being made to yield!"—but the fact is even so.

It is of French origin, and the treatise, of which the translation is now to be laid before the readers of this periodical, is by M. Francis Guenon—the translator is Mr. N. P. Trist, late United States Consul at Havana, and a gentleman of accomplished mind.

When the discovery was announced in France it attracted the notice of the chief Agricultural Societies. committees were appointed to investigate it, and on being satisfied that it is what it professes to be, a most important step in knowledge, gold medals were awarded to the discoverer. Mr. Trist in his preface adds, that having explained the subject to one of our countrymen quite conversant with cattle, his curiosity was awakened—he took notes of the particular marks and indications, and after an absence of some weeks returned, saying, "that thing is as true as a book. Since I was here I have looked at more cows than you ever saw, and I am perfectly satisfied the thing is just as the Frenchman said."

The proprietors of the Farmer's Library have

taken out a copy-right for this translation, which therefore can only appear in its pages.

We have not seen the number of the Farmer's Library, to which reference is made in the preceding quotation, and as we are not a subscriber, we may not see the forthcoming number, which is to contain the promised *copy-right* translation; but we have some reason to suppose that the "discovery" alluded to is nothing more nor less than a developement of what Col. Jaques of the Ten Hills in Somerville, has successfully practised for many years. That Col. Jaques can *breed animals to order*, is a fact well known to the farmers of this region, and he has never deemed it necessary to take out a copy-right for his theory. He was at the New York State Fair, at Albany, in 1843, and there spoke freely of his method of breeding animals, and described the process, which, with him, had always been successful. In the New York Herald of October 4, 1842, is an article on this subject, from which the following is an extract:

"*Breeding Animals to Order.*—Coming down from Albany we had the pleasure of an interview with the celebrated Col. Jaques, of the Ten Hills Farm, near Boston. He was present at the fair, and was chairman of the committee on native cattle. He is said to be the best judge of animals—animals of all kinds—from the mouse up to the horse—that there is in the country. He is the breeder of the famous Cream Pot Cows, four quarts of whose milk will make a pound of butter—and the cream of which he guarantees publicly or privately to convert into butter within a minute's time—he has done it before the members of the Massachusetts Legislature. He has some curious notions, in which some people think him rather enthusiastic, particularly in the matter of breeding animals to order. For example, he guarantees to breed 20 cows to order, either red, white, black, speckled, ring-streaked, or striped, with horns, either long or short, straight, or turned up or lopped—with large bags or small, and of any color—[he is now breeding a lot with yellow bags and mahogany colored teats]—with wide backs upon which you may lay a bushel of corn without its rolling off, or so narrow as not to hold a single kernel. In short, he will breed you animals to order, and is a perfect LL. D. in the matter of crossing breeds. He breeds all his Cream Pot Cows with a deep red body, white faces, yellow noses, yellow bags and mahogany colored teats. He claims to be able to transfer the properties of any one cow, whatever they may be, to any other cow—and in the matter of color, to shade the animals to fancy. He goes strong for native breeds of cows; and many people think he will eventually ruin the foreign bloods, as the Durhams, the Herefords, the Devonshires, &c &c."

Then follows an extract from the Report which Col. Jaques had prepared for the ensuing volume of the New York State Agricultural Society's annual proceedings.

In the New York Spirit of the Times, of Sep. 28, 1839, is a letter from Col. Jaques to the editor of the American Farmer, (J. S. Skinner, we believe—if not, his immediate successor as a conductor of that valuable paper,) in which is a detail of his operations to produce a "horse to order," and in which he succeeded beyond his expectations. A description of the horse (Bell-founder) is given, and the skill and intelligence of Col. Jaques are highly complimented by the editor.

In February, 1843, at a meeting of Agriculturists at the State House in Boston, Col. Jaques spoke at large upon his theory of breeding animals, especially cows: a report of his remarks was published in the New England Farmer of February 15, which we here give in full, as his remarks upon the qualities of these animals, and the signs which indicate their good qualities, will be generally interesting to agricultural readers:

"Upon the subject of selecting and breeding domestic animals generally, it has been my object to combine as much as possible all the most desirable properties adapted to the soil, climate, and habits of New England. I wish, however, it may be distinctly understood, that whatever I may say upon this subject, I do not desire to dictate to others, but hope those who are better informed may make known their practice and experience.

"My principles are, that the *blood*—the red fluid, in every living creature, in whose body it flows, is, by the laws of nature, the sole agent and controlling power, in developing the general character; and that by crossing and mixing the blood of the different varieties of the same species, the strongest strains of blood will be found to predominate—and that health, or disease—good or bad properties—are transmissible to the progeny and descent, both in the human and animal creation—even the color may be shaded to suit the fancy.

"From over fifty year's practice and experience upon these principles, I consider the following, among many points, important to be observed in neat cattle generally, but in bulls and cows particularly, viz:—Muzzle fine, with yellow nose; *eyes brilliant;* head and horns light; ears thin, the inside yellow, not unlike as though sprinkled with yellow; neck of cows thin and clean, fore shoulders quite close, and well laid in, giving the fore hand a very light appearance, in proportion to the other parts of the cow; bulls' necks may project from the breast and shoulders stout, very muscular and strong, but tapering fine, so that the bulls' and cows' neck be joined to the head very neatly. Throats clean and free from much dewlap. Bosom or breast, broad and full, projecting well forward; legs straight, with fine bone, and well set apart; the fore arms well covered with muscle, tapering downwards fine; shoulders smooth and well laid in; chine full; back straight and broad; ribs well roundi gout, the last rib projecting most, and not too far from the hips; broad in the loins and hips; hips full and globular—neither too close nor ragged, but placed on a level with the back; rumps long and broad—very little, if any, sloping; pelvis, broad and full; tails set on strong, and on a level with the back—tapering down to the end fine, where they should be well covered with long, silky and glossy hair; and on opening the hair here, there should be the same yellow appearance on the skin as is mentioned above on the inside of the ears. Not too full in the twist, (which is, a fullness between the hind legs or thighs,) nor too thick in the thighs. Flanks quite deep. It is important that the whole skin should be yellow. The color of the hair is pretty much fancy. A good coat of hair, even if it inclines to be long, is not unfavorable; but it should be very silky and glossy. The *elastic handle, or touch* of the flesh, with the *silky* and *glossy coats*, are of the greatest importance, as these properties indicate their value as much, in comparison, as in broadcloth of from two dollars to ten dollars per yard. The bag or udder of cows, should be capacious, projecting well, both fore and aft; hanging moderately deep, when full, but after the milk is drawn, to be quite the reverse. It is very desirable in a cow, that she should have teats, well spread apart and of medium size. Cows possessing most of the above mentioned points I have found generally to be deep and rich milkers—also, neat cattle generally I have found to be of good temper, good spirits, vigorous, active, good walkers, easily kept, taking on flesh readily, and that too, on the most valuable parts; and the bulls and cows well adapted for good breeders, for the dairy, the yoke and the shambles.

We have no doubt that this theory of breeding is original with Col. Jaques. When he first spoke of it in public, some persons thought him a little too enthusiastic, and some thought that his enthusiasm had impaired his judgment; but there are few intelligent breeders of cattle, now, who do not acknowledge the soundness of his theory and admire the success which has attended his efforts. Col. Jaques boasts of nothing, we believe, which he is not able to perform. Since the development of his principles, we have understood that some persons have advocated them, and claimed the credit of originating them. But to him alone belongs the credit of their conception, and the first efforts to prove their accuracy by their practical results.

It is possible that Mr. Francis Guenon, or some other Frenchman, may have the same or a similar theory, without any knowledge of Col. Jaques and his operations. It may be that the French writer has made a new discovery of facts entirely different from those which form the basis of Col. Jaques's theory. The forthcoming number of the Farmer's Library will furnish the means of judging, whether it be original with th eauthor or a transcript of principles acted upon for forty or fifty years by the industrious and skillful proprietor of the Ten Hills Farm.

Culture of Sumach.

In September, 1845, I sent you an article on the cultivation of sumach, which appeared in your number for October. I am pleased to inform you, and the friends of American industry generally, that the quantity sent from the South for the past year, 1845, mostly from Virginia, has been equal to about ten thousand bags, equivalent to seven hundred tons, being nearly one-twentieth of the consumption of the country.

I mentioned in my former essay, that the most astringent vegetables, or those containing the largest portion of gallic acid, are raised in warm climates. Now, although the sumach sent from Virginia has been used in place of Sicilian, yet that which can be raised in South Carolina, Georgia, Alabama, and more particularly Florida, would be of decidedly better quality. I would therefore call the attention of enterprising citizens of those States to the article, and can promise them they can cultivate no product that will pay them better.

I stated in my article of 1845, "that I had been informed sumach would not reproduce from the seed, it being a hybridous plant; but on consulting a Mr. Woodward, who sent the seed of our sumach to England, he says it will reproduce, as much of the seed sent there produces bountifully." He states that it should be gathered as soon as ripe, and planted soon after, so as not to become too old. This I consider an important fact, and one which our Southern planters should embrace; for by planting the seed, and mowing down the shoots three times annually, they might obtain from three to five tons per acre, with much less expense and trouble than by gathering and bringing home the natural growth scattered extensively over the country. The sumach is perennial, and when once planted would last for ages, the crop when sown annually increasing until the ground became full of roots.

WM. PARTRIDGE.

BENEFIT OF PRESSING THE EARTH.—A writer in the Michigan Farmer says:—"A few years since, I was employed to make a garden. The soil was a gravelly loam. Among the beds made, was an onion bed, about 8 feet by 20. The earth for this bed was carefully spaded up to the depth of 11 inches, and with a garden rake, made very mellow. The next day the seed was sown in drills, crosswise the bed, the drills being about 7 inches apart. Immediately after sowing the seed, one half of the bed was stamped down as hard as the weight of a lad of 15 years age, by pressing once or twice in a place, would make it. The other half was left light. Shortly after the onions were up, they were weeded and carefully thinned, so as to stand about three inches asunder in the drills all over the bed. The soil during their growth was not moved any more than was incident to the pulling up of the weeds. With regard to the result, suffice it to say that the onions which grew on the part of the bed which was *stamped* came up first, grew more thriftily, and were more than double the size and quantity than those on the other half—being in fact, as good a yield as I ever saw."

RHUBARB OR PIE PLANT.—This is another highly esteemed esculent for early Spring use, and of the easiest possible culture. The plants continue many years in full bearing, and occupy very little room—a small number being sufficient for a family. The seeds may be sown any time in Spring, and will make good strong plants in one year; when they should be transplanted to a rich deep border, or any convenient spot—placing them three or four feet apart.—The stocks should not be cut until the plants are at least two or three years old.—*Ohio Cultivator.*

Planting trees in Great Britain, and throughout the continent, is now extensively prosecuted. In some instances thousands of acres are planted on a single estate.

From the South Carolinian.

JERUSALEM ARTICHOKE.

HELIANTHUS TUBEROSUM LINN.

This plant having recently excited some attention amongst agriculturists, as a valuable root crop, we proceed to give a few hints respecting its culture, derived from our own experience, together with some accounts of its yield.

Although it is called so, it is botanically, in no way allied to the artichoke, but it fs of the same genus as the sun-flower, which it much resembles. The term Jerusalem is, according to Webster, a corruption of girasole, the Italian name for sun-flower; and it derives the appellatiou of Artichoke from some fancied similarity in the taste of the tubers with the Artichoke bottoms.—It is a native of Brazil, and was first carried into England about the year 1620, and before potatoes were so generally in use, was extremely popular as an edible root. Mention is made of it in old agricultural treatises, as the *Canada potato*, to distinguish it from the common potato, and it was sometimes called the *Virginia potato*. It was regarded as wholesome, and is of an agreeable taste, though it is never dry and mealy like the potato, being rather moist and soft in its texture, and is nutritious. Being hardy and perennial it succeeds in almost all kinds of soil. It was almost lost sight of in agriculture, until within a few years. Latterly, it is obtaining as an article of food for domestic animals.

Twelve to fifteen hundred bushels have been obtained from an acre, when properly cultivated, and being relished by horses, cattle and hogs, it is undoubtedly the most profitable root crop which can be planted in the South; and perhaps, it might succeed in more northern regions. It is rich in farinaceous substance, and all animals do well and improve, when fed upon them.—Last spring a friend sent us a quart of tubers. We did not think this small quantity worth planting, as they were much injured and dried up by long exposure. On the 3d of May, fully two months after they should have been planted, we had a small space of ground, about 2 rods, prepared, and put them in. A drought ensued, and they did not come up soon, and consequently lost a great deal by their being so late. They were planted in drills two and a half feet apart, and twenty inches in the drill: but the seed being so badly injured, the plants were very irregular. They were plowed once, and the grass and weeds afterwards removed with the hoe.—In November we had them plowed up, and upon gathering them, found we had ten bushels; and it is our opinion, that if they had been picked clean from the land, the yield would have reached twelve bushels. The tubers filled all parts of the soil, and some of them are two feet long, consisting of small bulbs connected by succulent roots.

The roots are white, and extremely tender, while the tubers are slightly tinged withe red.—The roots make the best slips for planting, and if cut up, leaving an eye to each slip, they readily vegetate. When it is intended to feed this crop to hogs, they require no harvesting, for they readily withstand our mild winters; and if the hogs are turned in on them, they usually provide for themselves. For calves, sheep and horses, they must be gathered and washed, but unlike other roots, they require no cutting up.—They might be fed to sheep, by merely plowing up a few daily, and letting the sheep eat them immediately from the ground. In consuming this crop, the hogs gave the ground a thorough plowing, and by turning under the stalks and leaves, they add much to the soil. Some have asserted that it is an exhausting crop, but from the genus of the plant, we infer it is not. The leaves are large and the stalks are crowned with beautiful yellow flowers.

The above was substantially the contents of an article contributed by us to the *Albany Cultivator*, for February, 1845. In the Spring of 1845, in preparing the plat of ground spoken of, for potatoes, more than 6 bushels of tubers were gathered, (making the yield sixteen bushels,) which had not been effected in the least by the frost, and vegetated finely. The ground was planted in potatoes, but there still remained innumerable small tubers of Artichoke which had not been gathered, and these vegetating brought up a fine stand before the potatoes came up.—They took possession of it, and instead of a crop of potatoes, one of Artichokes was raised, which produced the second year over twenty bushels on the ground above mentioned. Our experience of the prolific nature of this plant, does not cease with the two instances above mentioned. Several acres were planted in a peach orchard at Pomaria last year, and under all the disadvantages of dense shade, drought, and exhausted soil, they produced quite a fine crop; and its adaptation as food for swine has been fully tested. A number of sows and pigs, are now running on this last mentioned lot, and keep fat on what they glean from the field, which has been partially dug over, without a particle of other food. It is a great promoter of milk in all animals, and fully sustains the opinion above expressed, concerning its being good food for cows and sheep. It would perhaps supply better food for ewes and lambs, than any other root we could grow, as the tubers are extremely succulent, and embody more farinaceous matter than is usually allowed to it, by those persons who wish to discountenance its culture, because the Artichoke happens to contain 76-100 parts of water. The great quantity of this constituent renders it the very best article which we can give to our stock, in conjunction with the dry food which we feed out in winter. This is wisely ordained by the Creator, who, with the powers and mightiness of omniscience, has thus constituted vegetable substances, in order that they may be fit and proper food for the beasts of the field, without the artificial aids of preparation, which man is forced to apply to the articles of his diet. Owing to the large yield of this root we are fully satisfied that one acre of it, *will furnish more farinaceous matter* than an acre planted in any other root crop. The Jerusalem Artichoke, contains *one-third* more nutriment than the beet which is extensively cultivated in France as an article of economical food. It will compete and far exceed the yield and profit of the carrot in our soil; being more nutricious, and at the same time, more productive—it will grow luxuriantly on soils too poor for the different families of the potatoe, the beet or the carrot—and we have tested its powers of withstanding drought and cold; for our crop grew well amidst the desert heats of the last Summer, and the roots which remained in the ground during the late severe winter, have not been injured in the least; whilst it is never attacked by insects or disease, both so fatal to the interests of root crops in the Southern latitude. We believe, from a fair trial, that it is destined to the first rank amongst cultivated roots, and will finally work great changes in the economy in feeding domestic animals. The shading of old worn-out lands by a plant that lives from atmospheric sources, should be sufficient inducement for its general cultivation. Yvard the distinguished Agricultural professor at Alport, recommended its cultivation both by precept and example. Arthur Young affirms the nett profit of its cultivation to be much greater, beyond all doubt, than that of any other ordinary agricultural production; and finally, it remains in full production on the same spot, for ten years and upwards.

Our experience induces us to prepare the land and plant them as follows; Break up the soil as deep as you can in the winter, either with turning, Eagle, or Subsoil plows; as soon as the frost is out of the soil, in February or March, cross-plow it with the common twister or corn plow, so as to have the land perfectly friable—lay it off in rows two feet apart, and drop the tubers, prepared for planting by being cut into pieces, ten inches apart in the row; cover them with a plow. When the plants are ten inches high, plow them over, following again when they become twenty inches high, and the crop is made. They grow well in any soil, and being a hardy perennial, flourish for a score of years on the same soil. They can be eradicated by hogs, but will always come, even after the hogs have gleaned the field, in sufficient quantities to make a crop the next year. After the first, *instead* of *planting them*, they must be plowed down to a stand by three or four workings as soon as they come up in the Spring.

SOUTHERN HEMP, or BEAR GRASS.

We find in the Tallahassee Floridian of the 15th (says the New-Orleans Bulletin) the following letter from Gov. Call to Gov. Moseley, in relation to the cultivation of Hemp from the plant known by the name of Bear Grass, and indigenous to the Southern States. The Floridian introduces the letter with some remarks on the agricultural advantages and the products of Florida, from which we give a short extract:

"We have heretofore remarked that we believed there was no country under the sun where the honest, industrious cultivator of the soil could obtain a living with more ease and less labor than in Florida. We are every day becoming more and more convinced of this fact. The salubrity and healthfulness of the climate, the richness and fertility of the soil, the variety of productions, and the ease with which they can be cultivated, all prove this. Almost every year we have a new article introduced into cultivation, which has been neglected or overlooked for years past, in the all-absorbing mania for raising cotton. In some parts of the Peninsula we can raise most of the tropical fruits in perfection; in all parts many of them; and in quantities, if the culture is properly attended to, to render their production profitable. With the people of Florida, then, there is no necessity of confining themselves to one particular. We have before noticed some of the most profitable productions—cotton, sugar, tobacco, &c. We have this week a new article to notice, which has heretofore been neglected—the Bear Grass. We have been informed by an intelligent merchant of St. Marks that, a year or two since, he received and forwarded cotton from a Georgia planter, roped with the rope made on his plantation from the Bear Grass; and that, but for the fact that it was not quite so well manufactured, it would not have been distinguished from the regular Manilla."

TALLAHASSEE, Nov. 8, 1845.

To his Excellency, WM. D. MOSELEY,
Governor of the State of Florida:

SIR: I have the honor to present to your Excellency a specimen of the Florida Hemp, produced from the plant generally known by the name of "Bear Grass." It abounds in Florida in its native, uncultivated condition, and it is believed that it may be propagated to an indefinite extent. Nothing feeds upon it, and it therefore requires no enclosure. It grows in the forest frequently to the hight of three or four feet, and, no doubt, may be improved by cultivation. It loses scarcely anything by the process of manufacture—the hemp being about the same length as the leaf. It is found indigenous in most of the Southern States, and, though being neglected and unnoticed, from the successful results of experiments recently made, I feel assured it is destined very soon to become one of the most valuable staples of our country. In the present depressed situation of the cotton market, owing to the superabundant production of that article, such a result is greatly to be desired. And if my anticipations are realized, the Southern Hemp will become more abundant and more profitable than that of the North, and will contribute but little less than cotton to the population, wealth and power of the Southern States.

The resemblance of the Hemp of Florida both in its native condition and after its manufacture, to that of Manilla, induces a belief that it is equal in value if not superior to that article, and that the same process may be required for its cultivation and preparation for market. Although I am well satisfied with the result of the experiments I have recently made for the latter purpose, and am convinced that, without any improvement whatever in the method I have

pursued, the labor of every hand engaged in its production will be more than twice the value of the same amount of labor employed in a cotton field, yet it may be found, on inquiry in the country where the Manilla Hemp has been produced for so many years that a much better plan has been produced by long experience. Deeming this a subject highly worthy of inquiry, I would respectfully suggest to your Excellency the expediency (should you think favorably of the proposition) of requesting of the Government of the United States, through some of our foreign Consuls, to obtain all the practicable information in regard to the cultivation and preparation of this valuable article of commerce.

The experiments I have made have been as simple and expeditious as they have been satisfactory in their results. The leaves of the plants have been plucked from the bud, around which they cluster, tied up in convenient bundles, boiled, and pounded, until the green bark and soft vegetable matter is disengaged from the strong fibres, when they are put in water, and washed out with great ease.

But the apparatus I have suggested, and in which I have great confidence, (sufficient to prepare from two to three tons per day,) is a heavy wooden wheel, to traverse a circular platform, firmly constructed and covered with strong plank. The wheel to turn on a shaft, carved in the form of a screw. One end of the shaft confined and turning on a pivot in the centre of the platform, which will cause the wheel in its revolutions to traverse every part of the platform, The action of the boiling water for twenty-five minutes will prepare the leaves for the wheel.—The bundles, which will then have shrunk considerably, should be re-tied, to prevent the tangling of the Hemp, placed carefully on the platform, until it is covered, and the wheel put in motion by the animals hitched to the outer end of the shaft, and moving in a circle on the outer edge of the platform. When the wheel shall have reached one side of the platform, by its revolution on the screw, the animals moving it are to be turned and driven in the opposite direction around the circle, which will cause the wheel to traverse back again to the opposite side. While the wheel is in motion, water should be frequently thrown on the plants, which being permitted to escape by vents from the platform, carries with it all the surplus matter, (in a state of solution,) disengaged from the strong fibres by the friction and pressure of the wheel, until the Hemp is washed perfectly clean. It should then be taken from the platform and hung out to dry, which completes the process of preparation, and the article is ready to be packed up for market.—This process will succeed until a better is devised.

Every good plant will produce one pound of clean Hemp. Some have exceeded that quantity. The best specimens from the uncultivated plant are from three to four feet long, and the fibres coarse or finer, in proportion to the age of the leaf, as you will perceive by comparing the smaller parcel I send you, (composed of the bud leaves only,) with the larger. From five to six thousand plants may be produced from one acre, which will yield as many pounds of good Hemp. The specimens I have shown are estimated, by our most intelligent merchants, as superior to the Manilla, and are considered worth from eight to ten cents per pound in the New-York market. At these prices, there is no cultivation in the United States so valuable.

I have made experiments on the plant known by the name of the "Spanish Bayonet," which abounds on our Southern sea-board, and find the fibre equally good in every other respect, though not so large as that of the "Bear Grass." I learn from men who have been accustomed to cut up the latter plant annually in the cultivation of their fields, that it is almost indestructible. Should this be the case, it would require to pe planted but once, after which it will continue through a succession of years to yield its valuable tribute without cultivation. Such results, though very imperfectly realized, will render the Florida Hemp a most important production. It will add to the prosperity of the wealthy, give profitable employment to the laboring classes, both in Agriculture and manufactories, but to the poor it will be an inestimable blessing. It will invite emigration, ensure a dense white population, and make the South the richest and most powerful portion of the country. Cotton and Sugar can never be produced in great abundance except by slave labor, and the employment of a capital far beyond the reach of the poor. Their culture has therefore a tendency to increase the number of slaves, and exclude a white population. But should the Hemp become a valuable staple, as I confidently anticipate it will, from the simplicity and care of its culture, and abundant production, it will give the richest and most generous reward to the laborer. There are none so poor as to be unable to avail themselves of its advantages to some extent. The bounty of Providence has placed it within their reach. The production of a few acres will yield a sufficient support for a small family at greatly reduced prices; and where they may not be able to procure the necessary apparatus for boiling the Hemp, the same result may be produced by steeping it in cold water for the space of twenty days, after which they can prepare more of it for market with their fingers alone in one day, than they can pick of cotton in two. Let the culture be once introduced, and it will never be abandoned while good Hemp is worth two cents per pound.

I have the honor to be, very respectfully, your ob't servant, R. K. Call.

From the Southern Reformer.

CRAB-GRASS HAY—PEA VINE, &c.

Col. W. M. Smith—Whilst endeavoring to benefit myself by reading, for the second time, "Economy of Farming," translated from the German of Prof. Burgen, by the Rev. E. Goodrich of New York, I am inclined to think that possibly I might aid some one, by giving a few hints. There are many this present year who, I learn, must be short of corn, and they may not think at the present time, that they can save many dollars by losing a little labor from the cotton field, which labor bestowed on cotton, could not buy the corn that could be saved.—Perhaps a hint may bring this to their mind and thus a saving be effected. Our author quotes Thaer, who says: A moderate sized common working horse, needs on an average through the whole year 9⅛ pounds, equal to 7¾ quarts good oats. Together with this, he requires 9 1-6 pounds of Hay, in order to keep him in usual strength for continuous labor." Horses require from eight to seventeen quarts of oats, with from seven to ten pounds of hay, owing to size and work required of horses. "Many hold that oats is the only grain fit for horses," and with enough of it and good hay, he is required to do full work. How will the experience of these Germans, who never work by guess, tally with our mode of feeding in this country? When we feed oats we give a peck, or about nine and a half pounds (oats weighing 38 lbs.) with two bundles of fodder, or about four to five pounds: when we feed corn, we give a peck per day, or twelve pounds, with over three bundles of fodder. "As the hay is increased, the grain may be diminished, and vice versa." Thus by having an abundance of hay, may we keep our horses on less grain, and no doubt to their advantage, but the animals must have longer time to eat. We know that horses will fatten on crab-grass, why should they not hold their own on the hay well cured from crab-grass, if allowed time to masticate? That they will, is known to many who have saved crab-grass hay. This brings me now to the point: advising farmers to at once put all hands to saving crab-grass hay. The rains since July have given fine growth to this grass, and if saved early, there is no doubt but what it will be but little inferior to Timothy, if any. Where it grows in cornfields, a grass-knife cannot be readily used, but a hand can save a handsome lot by pulling it with the hands; where the grass scythe can be used, it is more expeditious. I allow it to lay about a day, then throw up into heaps, let it remain thus for two nights and a day, then open out to sun; hay cures better this way, the moderate heating in heaps, makes it sweeter and it cures sooner. I do not allow it to be spread out to receive the dew at all; it is thus more trouble, but much better. After having enough hay, I would advise sowing oats, the Egyptian oat; they will save corn during the winter and until March; when ripe, say about first of June, they will, with one third of feed of corn, keep plow horses in full condition. Let any one count up how much hay his hands can save and how many oats can be sown, count up the entire cost—then count up even the value of the cotton, (though this would not be fair, for there would be but a slight loss of it) and set against this the purchase and hauling of corn—then judge ye! But even this would not tell the whole story, for bought corn never fattens the farmer's horse, nor holds out to measure; the consequence, short work. I make no doubt that even at this date, many planters can obviate the necessity of purchasing corn, if they will only appropriate labor to the amount of five to ten cents per bushel for the corn they will need, thus save their cash and the time of hauling. We are now saving hay, although we have housed more provender this year than ever before, not for the want of corn, for we have it to spare, but that we wish to feed our cattle better than heretofore.

It is usual in Mississippi to cut oats, tie in bundles, and feed it from a rack or out of a hollow log—waste! If planters will have the oats cut with not over one-fourth to one-half the straw attached, then cut up with a straw-cutter, sprinkle a little salt and water and meal over the cut stuffs, they will see increase of condition and a saving of food enough to pay a heavy interest on straw culture. These savings are of no little import when the income from a short crop and low prices is so small. I might allude to the pea-vine as an excellent food for mules and horses; they are difficult to save unless the planter be fixed; then, not much. If an abundance of four foot boards and rails, I would advise making a pen, say one foot high, lay rails on this to prevent the vine falling through, then build up a pen two feet, fill with pea-vine, lay on another floor of rails, and so on till some ten or fifteen high, then cover with boards, and let them project well on all sides. Vines will save thus, even with one day's sun, and better not sunned too much as they shed their leaves. A little salt sprinkled over them not only facilitates the saving, but adds to their value. I would advise something be done to save the expense and time of hauling corn; it is so much loss, and much of it to the state. Hoping that I may be in time, I am, respectfully, yours,

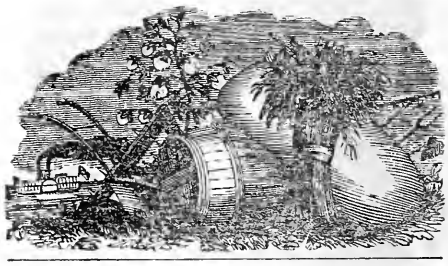
M. W. Phillips.

Log Hall, Hinds Co., Miss., Oct. 22, 1845.

Filberts.—They do not require a very rich soil, but grow well in that part which is rocky and gravelly. The ground is kept clean around the trees, which are placed about twelve feet apart. They are very carefully pruned, and one stem only is left to branch out a few inches above the ground; the branches are trained and pruned in the shape of a punch bowl, and are not allowed to run above four or five feet high; thus they will bear abundantly, and very profitably.—When the filberts are gathered, they are laid to dry in the sun, or under a shed exposed to the air. If they are well dried, they will keep good for several years.—[*Penny Cyclopedia.*

The above refers to England; but would not this tree succeed in the United States and prove profitable to the cultivators of it? It seems to me that some trials on the culture of it in this country ought to be made, as also on the English walnut, so termed, which has proved profitable in some instances at least. W. Jennison. [*Nashville Agriculturist.*

Get to work early in the morning, that you may rest during the heat of the day.



The Southern Cultivator.

AUGUSTA, GA.

VOL. IV.. NO. 5..... MAY, 1846.

Mr. Farrar's Proposition.

☞ In the concluding paragraph of his communication, Mr. FARRAR proposes to become one of a Thousand or less number who will pay one dollar a volume for Volumes I, II, III and IV (bound) of the SOUTHERN CULTIVATOR, and desires to know whether we can afford them at the price? To which we reply, we will furnish any number that may be thus subscribed for. The *friends* of the work have now an opportunity to show their faith by their works. THE PUBLISHERS.

☞ We have received communications for the CULTIVATOR from D. KENDALL, D. C. ROSE, A. B. C. and PEDRO, all of which we are under the necessity of laying over for the June number.

Marl.

We are under obligations to GOV. HAMMOND, of S. C., for a copy of his letter on Marl, addressed to the Agricultural Society of Jefferson county, Georgia. Since the publication of Mr. RUFFIN's Essay on Calcareous Manures, we know of nothing on the same subject calculated to do so much good as this letter, to the whole region of the Southern States, where marl can be had and economically used. We intend to commence the re-publication of it in the next number of the CULTIVATOR.

Southern Hemp.

This number of the CULTIVATOR contains a very important article for the South, in GOV. CALL's letter to GOV. MOSELEY, of Florida.

By the kindness of W. McKINLEY, Esq., of Lexington, we are enabled to show to persons who take an interest in such things, samples of this hemp, both unmanufactured and made into rope. Any one who will call at the store of Messrs. NEWTON & LUCAS, Athens, or at the office of the CULTIVATOR, Augusta, can see it. We refer to Mr. McKINLEY's letter in another page for particulars as to these samples.

The Southern Cultivator.

Our thanks are due, and are hereby tendered to our friends of both the political and agricultural press in the South, and indeed in other parts of the U. States, for their kind notice of our annunciation of the fact that the support given to the SOUTHERN CULTIVATOR would not warrant its continuance. We hope we will be pardoned for copying two of these notices—one from South Carolina and the other from Maine.

The editor of the *Southern Agriculturist*, published in Charleston, S. C., after copying the notice that this paper would be discontinued after this year, says:—"We would much regret that such should be the end of the Southern Cultivator, as we are fully aware of its great utility—indeed, the South cannot afford to loose any of its agricultural papers—for although there may be many subscribers to those printed at the North, yet the generality of readers do not obtain their information from them; but it is through the medium which the exchange of such publications diffuses, that we keep pace with the daily increasing knowledge of the times, and thus prevent our being thrown behind this age of improvement. Therefore, let the friends of Southern Agriculture rally to the support of both the Southern Cultivator and Southern Agriculturist."

DR. HOLMES, editor of the *Maine Farmer*, thus speaks of the CULTIVATOR and its prospects:

SOUTHERN CULTIVATOR.—One of the neatest Agricultural papers printed in the Union, is the Southern Cultivator, published in Augusta, Ga., and Edited by JAMES CAMAK, of Athens, in that State. It is published monthly in a quarto form, at one dollar per year. Ably edited and earnestly devoted to the Agricultural improvement of that State in particular and of the South generally, and yet we are surprised to learn by the last number that it does not receive sufficient support "to pay the actual expenses of publication."

The people of Georgia ought to be ashamed to have such a story told. How it is possible that they can be so blind to their best interests, is beyond our comprehension. They sneer at our "frozen climate" and "sterile soil," as they please to term it, and shudder when they think of our storms of snow and long icy winters, and yet can't or will not support one monthly agricultural journal in their own State. Out upon such beggarly apathy as that! With all your blessings of sunny clime and fertile soil, of teeming summer and bland winter, we can beat Georgia, and always shall, unless you rouse up and make better use of the superior advantages God has given you; and the first step towards it will be to give the Southern Cultivator a strong support.

The publishers take the responsibility of adding the following testimonial from T. AFFLECK, of Mississippi, the able Agricultural editor of the *N. O. Commercial Times:*

THE SOUTHERN CULTIVATOR.—This is an excellent *Southern* journal, just entering upon its fourth year, and is now under the care of Mr. JAMES CAMAK, of Athens, a gentleman who has labored zealously in the cause of agriculture and horticulture for some years past. The *Cultivator* is worthy of a circulation of twenty thousand copies. We shall have frequent occasion to borrow from its pages.

Sheep and the Shepherd's Dog.

Since our connection with the Agricultural press, we have written a number of articles under this head, and have copied from other papers a still greater number; of these latter one of the very best, we think, is in this number of the CULTIVATOR, written by a correspondent for the *N. C. Farmer*. There are suggestions in this article of very great importance.

The correspondents of the So. CULTIVATOR have devoted a good portion of their attention to the subject of sheep-raising. But thus far, so far as we know, notwithstanding all that has been said, not a single effort has been made to establish sheep-walks any where in the South, with the single exceptions of Buncombe, N. C., and Ingleside, Miss. Nor is this apathy surprising, when it is remembered how utterly regardless of the people's welfare their public agents have been, in not suppressing the horrid nuisance of worthless dogs. Mr. SKINNER, the editor of the *Farmer's Library*, on this subject, says, that the disposition which exists to establish large sheep farms in the mountainous and other portions of the Southern States, so far south as not to require cultivated food in the winter, can never be carried out successfully until some legislative provision is made against sheep-killing dogs, and until there shall exist a more general conviction of the indispensable services of Shepherd's Dogs, and provision be made for a more general supply of them, with the knowledge of the manner of raising and using them. For shepherds, Mr. S. thinks Indians and Mexicans will answer the best. But he suggests a difficulty likely to arise in the introduction and use of the Shepherd's Dog in these words. The danger is, on the first introduction of Shepherd's Dogs, that their use may be abandoned in disappointment and disgust, from want of reflection on the part of the sheep owner, that the *sheep*, as well as the dog, will require to be *trained*. In our country no sight is more terrible to sheep than that of a dog. All their associations with him warn them of danger and destruction. Mr. S. says, it is related of Mr. JEFFERSON, to whom a well-trained Shepherd's Dog had been sent from abroad, that after explaining to his visitors the sagacity and usefulness of the Shepherd's Dog, he led them to the fields, taking along the dog, to give them an exhibition of his fine qualities. On the first indication of what he was to do, the dog made for the sheep, and they scattered in all directions, terrified to death, and the dog not much less confounded at their strange behavior. Some of them threw themselves over precipices, and the dog was never recovered.

English Plowing.

For the purpose of enabling our readers to compare plowing, as it is managed on Southern plantations, with the same operation in England and Scotland, we have extracted from the last number of Mr. COLMAN's work an account of the latter. On page 422, Mr. COLMAN says:—"I think I may say that, in England and Scotland the art of plowing has reached perfection, and that it is unrivalled and unsurpassable. This, at least, is my opinion, which must be taken at what it is worth. I cannot conceive how it can be improved; and this not in rare instances, and at plowing-matches, but I may say universally. In some cases the work has been better done than in others; but I have not seen an example of bad plowing in the country; I have not seen one which, in the United States, would not be pronounced superior. * * * * * The perfection of any art consists in its accomplishment of its particular object in the best manner, and by the simplest means. The perfection of plowing consists in its performing its work exactly as you wish or require to have it done. You wish the surface of your field completely inverted. You wish this to be done at particular depth, and the furrow slice to be cut in perfectly direct lines. You desire it to be of a certain width and certain thickness, and the same in every part of the field. You require that it should be raised without breaking, and either laid completely flat upon its back, or made to recline upon its neighbor at a particular angle of inclination; and you wish it so done that, if it be greensward, every portion of the herbage shall be completely shut in, and not a spire shall show its head between the furrows, any more than a straggling Frenchman on the field after the battle of Waterloo. And you want this per-

formed at the rate of about an acre a day of eight hours work, with your team moving at the rate of two miles or two miles and a quarter per hour, so that they may work comfortably every day in the week. You desire your plowman to follow his team, and execute his part with entire attention to what he is about, without perturbation, without sweating, without fretting, and especially without swearing, which some men whom I have known, both at plowing-matches and in their own fields, have deemed indispensable to the proper performance of their work, in which matter I beg leave to say I always entirely differed from them in opinion, having never yet discovered any reason why men, who assume to belong to the order of rational animals, should, by their passion and the indecency and profaneness of their language, degrade themselves below the brute animals which they undertake to govern. Now, in all the particulars which I have pointed out, the plowing here will be done exactly according to a prescribed form. I said, in my first report, that the plowed land resembled a ruffle shirt just come from under the crimping iron. The representation is perfect.

"I attended, among others, a plowing-match at Saffron Walden, where there were at least ten competitors, with lots of an eighth of an acre; and, as well as I can remember, the furrow slices were to be seven inches in width and five inches in depth. It was not a match against time, although the work was required to be completed within a certain time. I do not misstate when I say that I do not believe there was the variation of an inch, in the whole field, in the width or depth of the furrow, or a single crooked line, or even one solitary balk. The fields or lands were struck out before beginning. Two horses composed a team, and the plowman was his own driver. Some boys under eighteen were allowed to enter as competitors for boy's premiums. I went over the field in an ecstacy of admiration at its uniformity, neatness, exactness and beauty. * * * * *

"There are two points, which have seemed to me, (says Mr. C.,) always particularly to test the skill of a plowman. The one is the mode in which he lays out his land, and strikes the first furrow; and the second, that in which he finishes the last furrow. In the case to which I have referred, the last land remained, at the close, a single unbroken strip of equal width, from one end of the field to the other, lying like a stretched out ribbon, which, as the plowman came down the course, he turned without breaking, and with perfect precision, from one end to the other. In this instance the horses seemed almost as well trained as the driver, and inspired with equal emulation. The finishing of the ends of the lands is always a work of great care; they are cross-plowed, and the whole affair is completed with equal neatness throughout."

After a description of the mode of plowing in old times, even in New England, according to the recollection of his early days, Mr. C. says:—"Somewhat of this experience may have been necessary, to enable me to estimate properly the excellence of English plowing, when the implement seemed to move through the ground with as much quietness, directness, ease—I may almost add grace—as a boat through the water, with its sails spread to a favoring breeze, and an accomplished steersman at the helm. * * *

"The usual practice is for the plowman to be at the stables at four o'clock in the morning, to clean, water and feed his horses, and to be in the field at work by six o'clock. With a short time to rest occasionally, he continues his plowing until two o'clock, when he returns to the homestead, the horses are thoroughly cleaned and rubbed, and watered and fed, and at last littered for the night—eight hours being considered as a day's work; and, in ordinary cases, an English statute acre, of the same size as an American acre, is his allotted stint. * * * *

"I shall be asked, perhaps, what advantage comes from this exact mode of performing the work. It might be enough to answer, that, in every species of labor, and in every practical art, what is done should be well done, and perfection, how far soever he may fall short of it, should be every man's great aim. It might be enough to say, that the moral influences upon a man's own character, and life, of habits of exactness, order, care and neatness, are always great, and of very serious value; but I may confidently add, that the perfection with which land is tilled is of great importance to the crops, and directly conducive to their perfection and abundance. The man, too, who studies to plow and cultivate his lands in the best manner, will be anxious to have his implements of the best kind, and to keep his team in the best order and condition. Indeed, multiply as we will the excuses for slovenliness, irregularity and carelessness, there cannot be a doubt that habits of order, exactness and carefulness, in all respects, are directly conducive to, nay, are the true foundations of, all profitable arrangement. I may add, likewise, that where everything is kept in order, and all work proceeds by rule and system, though these rules may sometimes appear extreme or severe, affairs are managed at less expense of labor and time than in a more negligent and reckless mode."

Agricultural Experiments.

Professor HARDY, of Randolph, Macon College, Va., in an essay on Guano, its nature and use, which is published in the April No. of the *Farmers' Library*, lays down certain rules by which Agricultural experiments should be conducted. We have copied them below, in the hope that, coming from such high authority, they will be regarded with some small degree of respect and attention. They are:—

1. The object of the experiments should be, *to test the comparative value of different manures as to specific crops.* Statements of a general, indefinite nature are of little value. Precision is as important as correctness.

2. The quantity of land manured in each case should be measured; the kind, cost and amount of each manure, and the time and manner of its application should be given; the crop, when mature, should be carefully gathered, weighed, or measured; and the relative cost of the manure per 100 lbs. or bushel should be precisely as certained. In all instances an equal portion of unmanured land should be cultivated.

3. If scientific men could be employed, the land, the manures and the crops should be analysed. While this cannot be expected in but few instances, it should be attempted whenever it is practicable; and the result must be highly creditable both to American science and American husbandry.

4. Every agricultural club and association should have in view at all seasons of the year some well defined specific objects to be accomplished. The subjects requiring the attention of the intelligent farmer are numerous and interesting; and no season should be permitted to arrive without bringing the results of some well-conducted, skillful experiment.

Deep Plowing.

In the 5th Number of *Colman's European Agriculture*, just published, we find the following remarks on this very important subject: "The loam, or vegetable mould, he says, is without question, the great source or medium of nourishment to the plants. Be it more or less deep, it is always safe to go to the bottom of this, and, by gradually loosening a portion of the subsoil, or lower stratum, and incorporating it with the mould, and rendering it accessible to the air and light, it acquires the nature of mould, and the whole arable surface is enriched. The deeper the soil, the more deeply the roots are permitted to descend, and the more widely they are enabled to spread themselves—unless they penetrate a stratum unhealthy from wet or the too great prevalence of some unfavorable mineral substance—so much the more luxuriant and productive is the vegetation likely to prove. The depth to which the roots of plants will go down in search of food or moisture, is much greater than a superficial observation would induce us to suppose. It is confidently asserted that the roots of some plants—such for example as lucern and sainfoin—go to a depth of fifteen, twenty, and even thirty feet. This seems scarcely credible. Red clover is known to extend its roots to the depth of three feet, and wheat to the depth of two or three feet, where the condition of the soil is favorable to their extension. VON THAER, the distinguished agriculturist, says 'he has pulled carrots two and a half feet long, the tap-root of which was probably another foot in length.' The tap-root of a Swedish turnip has been known to extend thirty-nine inches; the roots of Indian corn, full six feet. These statements may appear extraordinary, but by the free and loose texture of the soil, it is obvious a good husbandman will give every opportunity for the roots and their extremely fine fibres to extend themselves as far as their instincts may prompt them."

AGRICULTURAL SCIENCE IN FRANCE.—Mr. WALSH, in a recent letter from Paris, writes as follows:

"We have regular reports of the sittings of the Convention of the Agriculturists of the North. The Government lends it all countenance and aid, and manifests a strong desire to establish societies and committees in every district of the realm. A general scheme for this purpose was submitted on the 7th instant to the Convention by the inspector general of Agriculture, and was freely and fully discussed."

SHEPHERD'S DOGS.—S. M. Bell, West Alexander, Washington county, Pennsylvania, informs us that he can furnish a few of these dogs; "price $10 per pair for puppies—grown dogs, price in proportion." A few of these valuable animals, of pure blood, can also be had on application at the office of the Farmer's Cabinet, Philadelphia—price $5 each.—*Albany Cultivator.*

An ounce of silk worm eggs, it is said, will produce thirty-five thousand worms.

Original Communications.

From an Old Correspondent--Proposition.

Mr. Camak:—Having a few leisure moments on account of wet weather, &c., I undertake to write a few lines for the Southern Cultivator. In the first place, I respectfully say to the publishers that I was sorry to see in the March number a statement from them, well calculated to produce a blush of shame on the face of Southern planters, especially those within the bounds of our own State, when it is well known that the planters of Georgia are more than able to sustain an agricultural paper, both by extending its circulation until a sufficient number of subscribers are obtained to pay the publishers all expenses and leave them a reasonable profit, and by contributions in furnishing interesting matter, &c, to fill its pages. I request the planters of Georgia to look to the Northern States, and see what rapid strides are being made in the way of improvement in their lands, their crops, their stock of all kinds, mechanic arts, &c. Perhaps nine-tenths of the progress of improvements are produced by the circulation of agricultural papers. Some of the States have two or three agricultural papers in circulation, all well sustained. And shall we, the planters of Georgia, suffer our Southern Cultivator to droop and die for want of succor fully in our power to afford, after some four years' struggle for strength, which I once hoped and believed it would, ere this, have attained, at least to have put the thing out of dispute as to being permanently established? I do by no means wish any person's labor without their being paid a reasonable amount. At the same time, I am as much opposed to paying more than a fair amount for anything as any man to be found. If there is a man to be found that will calmly say that one dollar a year is more than enough for an agricultural paper, he is not worthy of one at any price.

About the time of the commencement of the 2d volume of the Cultivator, I made every effort within my power to obtain subscribers, and succeeded in getting about thirty. Most of them I had to persuade into it, and advance their pay in almost every instance. In some cases it was not refunded in 12 or 15 months. This I did not feel willing to stand up to, and have not put my persuasive powers in force since, because I soon found out that men going into, or taking hold of new things rather against their will, did not have any good effect, so far as agriculture is concerned. But if the Cultivator could bring corn in the crib, pork in the meat-house, fat horses and cattle in the stalls, without individual or personal effort being connected with it, there would then be a mighty rush, all hands coming forward to its support. The cry would be, never let the Cultivator go down. Long live the Southern Cultivator! For myself, I am so fond of agricultural papers I have taken the Albany Cultivator and the Tennessee Agriculturist, and am now taking the Southern Cultivator, the Southern Planter and the American Agriculturist, and consider my money as well laid out in that way, so far as the amount goes, as any other, except for the support of the gospel.

I do most sincerely advise my friends and brother planters to come up to the support of the Southern Cultivator, and not suffer it to go down for want of subscribers. I do further advise my friends, the publishers, to stick up to their undertaking, but do not wish them to do so at their continual loss. We hope for better things. If they were to discontinue the paper, it would not be 12 months before there would be another of the same kind started; and I should be very sorry for them, the publishers of the Cultivator, to be four years sowing and some other one to step in and reap the harvest.

I have a proposition to make, that is, if the publishers can afford to stand up to it; if they can they will let us know. It is this: I wish to be one of a thousand—if that number is too great let it be five hundred, or even one hundred—who will take the Southern Cultivator, 1st, 2d, 3d and 4th volumes, bound in a cheap and common manner, at $1 a volume. If no one will join me, though I hope many will, (*why not two or three thousand,*) if it can be afforded, I will be one.

I am, dear sir, very respectfully,

John Farrar.

Stanfordville, April 4, 1846.

To the Editor.

Mr. Camak—I regret very much to see, in the number of the Cultivator for the present month, that, after the expiration of the present year, the publication of the Cultivator, for want of adequate support, will be discontinued. I have taken the paper from its beginning, and although it has not been so valuable as I hoped in its original pieces, yet I consider it a treasure to the farmers of the State; and it would certainly augur very badly for the state of Agriculture in Georgia; for however lightly our population may think of it as a means of agricultural improvement, that does not alter the fact, that we reject one of the most powerful agents of improvement when we withhold our support from the Cultivator. There has been so much written and said recently in support of the usefulness of agricultural periodicals, that it is not necessary here to discuss their merit. I presume no one doubts the fact. It is the intention of this communication to urge those who see and feel the great importance of agricultural papers, to rally to the support of the Cultivator, and persuade their neighbors to subscribe for it. I have been remiss myself, and should have done much better. Since I saw the notice above referred to, I have determined to set to work, and the only two I have spoken to on the subject, consent to send for the Cultivator. I know the apathy of a great many, but it is reasonable to hope that this want of spirit will be overcome by faithful and well directed effort on the part of those who are awake to the importance of the thing.

Innovations are hard to take in most things, and particularly so, we find, in agriculture; and yet it cannot be doubted they are absolutely necessary to meet the present crisis in the condition of most plantations in Georgia. It is a fact, as far as my observations extend, that lands generally are fast assuming the galled and gullied appearance, which already desolates so much of Georgia's fair surface, without there being forest left to supply its place. Then this is truly a crisis. There must be something done to remedy this threatening evil; and whatever that something be, if there is spirit enough to do it, there will, with it, be the disposition to consider an agricultural paper indispensable. Improvement and agricultural periodicals must go hand in hand, and our proper course, with regard to our warm and active support of them, cannot be mistaken. We are "sure we are right," now let us "go ahead." The spirit of the times is evidently progressive in improvement, and if we farmers retrograde, as we must evidently from the tendency of our course, it may be justly said, we are the world's drudges, and our work its drudgery. But this shall not be our destiny. We can and will avert it, should be the language of every one; and when we do set our shoulders to the wheel in earnest, the car will move onward rapidly. Then there will be no complaint, when there is but one agricultural paper published in the State, that it must stop for want of adequate support.

Every plan should be devised to cultivate a taste for agricultural reading—and I have thought that neighborhood Agricultural Meetings might be resorted to where two or three persons in a neighborhood would be active in getting up such meetings. In these meetings agricultural discussions might be introduced in any way in the meeting, and might be varied occasionally to some other subject. I know that in many sections polemic societies are common, and I have often been surprised that agricultural questions have been left out entirely, and that, too, when almost all the club were farmers. In sections where polemic societies are common, or might become so from these considerations, the above plan might increase the spirit of agricultural reading, and the circulation of the Cultivator.

Now, Mr. Editor, I have always been desirous of contributing to the columns of the Cultivator, but being a little man any way, and one of little pretensions, I have hitherto been deterred. But being threatened with the loss of my paper, I concluded to scribble a few words of admonition to its patrons, to stand up to its support. I know not whether what I have written will be acceptable; if not, throw it aside, as it is the first I have ever attempted to write for the public eye.

Greene Co., March 25, 1846. A. B. C.

Whitewash.—Use this article freely.

Sea Island Cotton--Gins--Barley.

Mr. Camak:—In travelling to the upper part of this State last summer, I met, on the table of a friend, the "Southern Cultivator." I was so much pleased with the neatness of the sheet and the interesting matter contained therein, that I determined to grace my table also, and place it by the side of that excellent paper the "Albany Cultivator." I have received your three numbers since January last, and hope to derive much benefit from a journal so spiritedly conducted and so well adapted to the wants of the South. I have handed a number to several friends. Some have already become subscribers, and I have strong hopes of obtaining more in a short time.

Your correspondent has all his life been devoted to the practice of an arduous profession, leaving but little time for other things, and although long in the possession of a planting interest, is but a novice in this most important of all worldly pursuits. And now, when the young, the vigorous and active, are wishing to occupy the places of those who would imitate the example of the virtuous Roman and retire from the turmoil of life to the quiet scenes of the farm, he finds himself out of his element, and you must not be surprised if he should occasionally become troublesome on the score of seeking information.

The cultivation of long staple cotton is the engrossing subject on the seaboard, and the facilities for manuring from the mud and marshes of the salt-water creeks are abundant. I will just state an experiment I made a short time since. A compost was prepared according to the directions of Dr. Dana, given in his "Muck Manual." Three cords of creek mud or muck, two bushels of lime, and one of salt, after being several times, at short intervals, mixed, was spread on the listings of one acre of cotton ground. Other portions of the field were manured with stable manure and compost made in the pens; but a decided preference was given by several competent judges to the acre which obtained Dana's compost. I am trying this compost on a larger scale this season, but would not undertake to recommend it for its cheapness unless to those who are favorably located for obtaining these valuable materials.

I now come to the main object of this communication. The great desideratum with the long staple planter is a good and cheap roller gin to prepare the cotton for market. The common treadle gin is but the relic of old times, and the infancy of mechanical skill. Pottle & Farris's gins have not answered in this neighborhood, where the finer qualities of Sea Island are mostly cultivated. The opinion prevails that fine cotton is liable to wind around the rollers in the double clamp gins, causing delay and very often combustion; but as fine cotton, like every thing else, has had its day, it is not improbable, could these gins be put up by competent mechanics, they may still answer the wants of the planter. The barrel gin does not appear to me to supply this great desideratum, requiring *too many persons to feed*, but is certainly the best of the gin tribe I have seen used. In this section of our State we have had quite a gin disease for the last two or three years. Some here burnt their cotton and not a few their fingers. I have been recently informed that in Bryan county, in your State, an improved roller gin is in successful operation, and you would confer a favor on the long staple planter if you could obtain information on the subject, particularly how these gins are propelled, the number of hands required to feed them, the quantity of clean cotton turned out per hour or day, the cost of putting one up, &c., and whether they have ever been tested with the finer qualities of Sea Island.

Would you, Mr. Editor, inform me of the proper time to plant barley, and your opinion as to how it would answer on the seaboard for pasture, or to be fed in a green state to domestic animals. A Subscriber.

Beaufort, S. C., March 25, 1846.

Cow-Peas--Sea Island Cotton--Inquiries.

Mr. Camak—As there is a diversity of opinion existing among the planters on the seaboard, respecting the best time for planting cow peas, and also as much with regard to the best time when the growing crop of Sea Island Cotton should cease to be worked (two items of infor-

mation of considerable importance to the seaboard planter,) I thought I would drop you a line, requesting information on the subject, through the columns of the CULTIVATOR, hoping thereby to induce some of our low-country planters to give their views through your paper.

It is insisted by some that peas will make most if planted late, and that the later the better, consistent with their coming to maturity before frost, while others think it all important for a good crop, that they be planted at the right time of the moon.

As regards the culture of Cotton, some think it best to lay by the crop about the last of June, or early in July, while a few years ago it was not uncommon to work throughout the month of August. If you will give the above a place in your paper you will oblige one of your readers in

March 23d, 1846. LIBERTY COUNTY.

Sumach.

MR. CAMAK:—In the March No. of the "SOUTHERN CULTIVATOR" I observed your recommendation of the "Sumach" as a plant worthy the attention of Southern agriculturists. I considered your remarks very appropriate, and hope they will not be overlooked by enterprising planters. The time has arrived when all the resources of our country should be developed, and all the blessings which kind Heaven has showered upon our favored land, brought to view and duly appreciated. It is, indeed, a strange neglect, and appears to argue a want of enterprise if not of energy, that we should be indebted to a foreign clime for products indigenous to our own soil, and those products too, superior to that which is imported. As you remarked, all vegetable acids are produced in a more highly concentrated state, the warmer the climate. If Virginia can compete with Sicily in the production of this plant, certainly the Southern States, with all the advantages of a Southern sun, should at least make the experiment. Our great staple, Cotton, has long since passed its meridian, and it becomes us as prudent men to search for a substitute amid the varied productions of our country.

Will you, Mr. Editor, or some of your correspondents, inform me through the CULTIVATOR, of the Virginia method of cultivating this plant, the outlay of capital for its culture and preparation for market, and the probable proceeds per acre of a crop of the kind in the South. We have no less than eight species of this plant in the South, among which we find the *Rhus Typhina*, the *R. Glabra*, and the *R. Copallina*. I have seen the latter growing upon the banks of the Broad and Wateree rivers in the greatest luxuriance; and from the taste of the seed, I was induced to believe that the gallic acid was in a state of high concentration.

Very respectfully, yours. CAROLINIENSIS.

Fairfield Dist., S. C., March 19th, 1846.

Corn—Large Stalks and Small Ears vs. Small Stalks and Large Ears.

MR. CAMAK:—As this is my first attempt at indoctrinating my brother farmers, I hope that I may be excused for my initials, and also for any desultory or incoherent sentiments that may appear in this communication. I am in favor of Agricultural book improvement, and if I had never been benefitted by such papers as the CULTIVATOR, I should never have been stimulated to offer a written communication to others. Therefore, as the time is rapidly approaching when it will be necessary to make a test of my theory for making large ears and small stalks, and small ears and large stalks of Corn, I take the liberty of appearing before my Agricultural brethren that they may test my practice, which has been apparently demolished by modern writers; and if I am in error I hope some one will point out the defects.

The manner of making large stalks and an abundance of fodder and small ears is to plant your corn early. Manure the hill with cotton seed. Cultivate with the plow in such a manner as you think best calculated not to interfere with the roots by superficial culture throughout; and a good harvest of stalks and leaves will be the a result of your labors; and more particularly if (as is almost invariably the case) you have a seasonable spring and a little drought in the summer.

If you, on the other hand, desire to make large ears of corn and small stalks, you will plant also early, say by the tenth of March for this latitude, and cultivate in the most approved method, until the third and fourth plowings. Then run a coulter each time as near the corn as you possibly can, and break all the lateral roots. This idea may alarm you, but read on until you have gone through, and then form your judgment of its utility.

Of all things, I desire my corn to be checked in its growth in May and 1st of June, either by a spring drought, or by artificial means. And I do suppose that you will admit that by checking the growth of a stalk of corn that a small one will be the certain result; though I do not wish it to be too small to bear a good ear. Now if the small stalk is conceded, I will endeavor to explain how the large ear grows upon it, and my object is attained. After the corn is checked at the proper time (and of which every planter must be his own judge, taking into consideration the age,) so as to reduce the size of the stalk below that which the land would ordinarily admit, you may then cultivate the corn with sweeps or any other plow that will not disturb the roots, and lay it by clean and loose, and you will have small stalks and large ears of corn. Land is generous and will do her utmost all the time, but will grow faint under the great weight she has to carry, before that time when her energies are most needed, unless favored. You will then perceive the propriety of holding something in reserve for her assistance when the conflict is at hand, that of maturing the ear, and not allow her to carry such a stalk as will require all her strength to support, and leaving nothing for the benefit of the ear.

We generally have a drought about earing time, (which is a great affliction to a large stalk on poor land) in this country, and a small stalk treated in this way, by this time will have a plenty of roots, in an improved condition, and will stand a drought better.

Experience proves that a dry spring and a wet summer is attended with an abundant harvest, and, "*vice versa*," a wet spring and a dry summer bring on the reverse. It is therefore necessary that we should so cultivate our land that the crop may be acted upon in as near approach as we possibly can to those effects resulting from a dry spring. And that principle is to check your crop. If you were riding a four mile race, would you whip and spur from the word 'go,' and all the time, whilst your more knowing competitor, who had checked his horse for two or three miles, should in the last struggle pass you with ease? I presume you would not, and the principle is analogous. I do not say, like some of our ancient farmers, that I run my plow close and break the roots to make the corn grow fast, but for the opposite purpose, so that when the time of its maturity rolls on it may possess all the advantages that can be given by that soil which has been temporarily resting from her labors. And I would here observe that whoever may undertake to profit by this method and should fail in a full crop, or should not come up to their expectations, they must duly consider the cause and they will discover something else to which they may attribute the failure; for instance, that of hill manuring with cotton seed, as it stands in direct opposition to the principle which I would desire to establish, unless the seed was put on when the corn was half grown. So, in conclusion, you will discover that my object is to show that either additional strength must be given the land at the time of maturing crops or that a portion of its natural powers should be retained by cutting off all communication which produces a redundant growth, and then, as the Doctors say, "assist nature in her efforts" with skill and industry. Yours, &c., J. C. S.

Danburg, Ga., April 6, 1846.

Bear Grass.

MR. JAMES CAMAK:—In view of your efforts, in the columns of the SOUTHERN CULTIVATOR last year, to call attention in Georgia to the culture of Hemp, I am led to send you what will likely interest you, if not seen before—a specimen of the fibres of Georgia Bear Grass, and of Rope made of the same.

The fibres are just as they come from the first process of rubbing in the hand, as a washerwoman does clothes, after being water-rotted. The dark colored strands are from old leaves, the bright, from young or top blades. They surely promise to take on most beautiful bleaching; and, in that event, may we not yet see Georgia producing, in her extensive and valuable pine land counties, domestic linen of great beauty and excellence; or at least, the raw material for a new kind of linen manufacture?

But whether this happen or not, the specimens sent, will certainly show that Georgia has no need to depend on Kentucky, Russia, or Manilla, for cordage and bagging. What may not be made out of such fibres as these?

The specimens are from the lower country, where Bear Grass grows abundantly, and much larger than in the upper counties.

Yours, &c., W. MCKINLEY.

Lexington, April 7, 1846.

Agricultural Meetings.

Talbot County Agricultural Society.

MR. CAMAK:—As the Talbot County Agricultural Society has made me its Secretary, I ought to have informed you of its existence at an earlier period, but other calls have hitherto prevented.

On the first Tuesday in November last a few of our planters, who had previously consulted together, met in the Court House. Jesse Carter was called to the Chair, and the meeting was addressed by the Rev. T. F. Montgomery, upon the importance and practicability of forming a Society to promote the interest of agriculture. A number of the persons then present gave their names as members, and agreed to meet on the first Tuesday in December. A Committee was appointed to present a Constitution on that day.

On the first Tuesday of December, according to appointment, the planters again met; Col. Carter was again called to the Chair. By request, the Rev. William S. Martin, of Meriwether county, addressed the meeting, after which, the Constitution was read, approved and adopted.

The Society was then organized by receiving the names of some twenty-five members, and the election of the following officers:

JESSE CARTER, President.
CYRUS ROBINSON, JOHN NEAL, A. K. LEONARD, Rev. P. MONTGOMERY, MARK A. GEORGE, } Vice-Presidents.
WILLIAM V. COLLIER, Treasurer.
THOS. A. BROWN, Secretary.

By appointment, the annual meeting is to be held on the 2d Thursday in November, and the quarterly meetings on the 3d Tuesday in March, 1st Tuesday in June and September.

On the 3d Tuesday in March Judge Alexander held the Superior Court in recess that the Society might hold its meeting. The President called the Society to order. The meeting was then addressed by the Rev. Messrs. Gibson and Montgomery, and Judge Wellborn. The Constitution was then read, and an opportunity offered to others to join the Society. Several came forward and enrolled their names.

It was then announced that Mr. Gaulding, the Agent for the SOUTHERN CULTIVATOR, was present, and would gladly receive subscribers to that paper. I know not how many he obtained, but I would mention for your and our encouragement, that one of our members obtained and handed over some forty names as subscribers to your valuable paper, and that he has since obtained some twenty more, making, with ten he had already forwarded, nearly seventy.

Our Society numbers about forty, and seems to be growing in the estimation of the people. I hope it will soon equal if not surpass the Societies in the older counties of the State. The present we regard as the *crisis* in the agricultural history of Talbot county. Our lands are sufficiently worn and washed for us to see that they will soon be exhausted, unless vigorous means are used to prevent it, and yet sufficiently

fresh to encourage the planters to make the necessary exertions to prevent a catastrophe so deplorable. A little time and labor spent in hill-side ditching, a little trouble now taken in the manufacture and application of manure, and a little judgment exercised in the rotation of crops and resting of lands, will *now* accomplish ten times the amount of good that they would do ten years from the present time.

Very respectfully,

THOMAS A. BROWN, Secretary.

Talbotton, April 3, 1846.

Barbour Co. (Ala.,) Agricultural Society.

EUFAULA, April 4th, 1846.

The Society met in Eufaula according to adjournment, in the Town Hall, at 11 o'clock, A. M., when, the President not being present, John A. Calhoun, one of the Vice-Presidents, took the Chair; and the Secretary not being present, Mr. A. McGehee was appointed Secretary *pro tem.* A communication was received from the President, John M. Raiford, announcing ill health as the reason of his non-attendance.

John A. Calhoun, Esq., and Col. McDonald, who were appointed, at a previous meeting, Chairman of Committees to make reports—the first on the police of our negroes—the second, to report on the best means of avoiding the effects of drought on our crops—were excused from reporting at this, and were allowed until the next, meeting of the Society to report.

Col. McDonald submitted some appropriate remarks upon the effects of deep plowing, as a means of preventing the effects of drought—contending that in proportion as our lands were thoroughly and deeply broken up, we would be able to mitigate the effects of drought. He also referred to the beneficial effects of the subsoil plow, in loosening the under soils; and contended that in proportion as this under soil was kept open, would it become less heated and dried, and consequently less affected by drought. He also referred to the beneficial effects of manuring, and called for information as to the relative virtue of marl, muck and the marsh muds of our swamp lands.

Gen. R. C. Shorter submitted some appropriate remarks relative to deep plowing, and planting corn in the middle or water furrow. He agreed with Col. McDonald as to the effects of deep plowing, in the preparation of land, and expressed it as his opinion that the subsoil plow would be beneficially used in the bottom of the middle or water furrow, under the place where the corn is planted, as a means of keeping open the soil into which the roots of the corn are to penetrate, &c.

Mr. M. A. Browder was inclined to doubt as to the propriety of planting corn in the water furrow, because of the danger of its being washed up by the rains; but thought it might do if a side furrow was run so as to draw the water off. All were of opinion that if proper precaution was taken, and the ground was not too wet that planting in the water furrow would be beneficial to corn.

Mr. Paullin, in answer to Col. McDonald as to his experiments in mud and muck manuring, stated that he could not as yet say anything more than that he was trying some experiments, and that when he had ascertained the result, he would make them known to the Society.

The remarks, of which a mere outline is given above, were highly interesting, and made in a pleasant and interesting manner.

The Society then adjourned to meet at Glennville in May next—when a flower show is expected to take place. This is expected to be an interesting occasion, and we hope a large concourse of ladies will grace the meeting with their smiling May-like countenances. Notice will be given as to the day of the above meeting.

JOHN A. CALHOUN, President.

A. McGEHEE, Secretary *pro tem.*

BALSAM OF TURPENTINE.—Melt by a gentle heat black rosin 1 lb.; remove the vessel from the fire and add oil of turpentine 1 pint.

Manures--Their Application.

On the subject of Manures much has been written and much has been said; still it is fertile and full of interest. The subject cannot, in my opinion, be too frequently agitated, or brought into view, or too strongly urged.

When we consider how much the productiveness of our farms depend on the manure heap, and how much this matter is at times neglected, a few remarks, I trust, will not be unacceptable, and although familar to most of you, if they stimulate one person to apply them, who has hitherto neglected to do so, the object in making them will be attained

The collection and application of manures I consider to be the grand secret in good farming. It gives us grass and grain. It is by a liberal application of manure that extraordinary crops have been obtained. It is consequently an object of minute attention to collect as much as possible, and to apply it in the most advantageous manner. Although there is little danger of applying too great a quantity to land, it may be used to excess. Indian corn is a voracious feeder, and will bear a copious dressing, but the crops of small grain may be injured by manuring too highly.

Manuring the soil forms a grand item in farming, both on account of its expense and its need to replenish the land; it is therefore very important to know the art of managing this department with the greatest economy, and preventing waste in any possible shape.

Very few farmers ever have a sufficiency of animal manures for their potatoes. Hence recourse must be had to other means for augmenting the manure heap.

The great principle of all manures may be understood from this fact, that whatever animal or vegetable substance dies, is converted into manures for other plants in a living process of putrefaction. By this process it is gradually, but effectually decomposed; and the parts are fitted for entering into new combinations, and for adding to the substance of the living plants. Thus, instead of nuisances, Nature furnishes manure, and no substance whatever is lost. This is one of the beautiful and admirable laws of Nature; and though we cannot investigate her very minute operations, we are able, by observation, to learn much, and by industry to derive great advantages.

A great deal has been said about the fertility of plants. Pulverized earth, water as an excrement, carbonaceous matter in a soluble state, various gaseous substances have been successively in repute; some plants have been supposed to draw part of their food from the atmosphere, in a larger proportion than others; and it has been thought that grain and green crops require to be supported with food proper to each class; and that one particular crop, on that account, exhausts the substance on which it feeds if too frequently repeated.

Practice has introduced more discoveries into agriculture, assisted by observation, than science. At the same time, though the man of science will not presume to dictate to the skillful practical farmer, he may not only improve but enlighten, and even give dignity to agriculture as an art, by rendering it in some degree a science.

The application of manure depends on the natural state of the soil, and on the purposes for which it is to be applied. Observation and experience determine how to act and how to apply; also how and when the application should be. Yet it would be of important use to the farmer, in remarkable cases, to call in the aid of science. Many expensive trials have been made in redeeming some soils, or turning them to useful purposes in vain.

The farmer knows, or ought to know, that some soils want solidity, and others have too much, that some exceed in cohesion, others in looseness, and that a moderate degree of these properties is considered essential to fertility. With this view, sand is applied to tenacious clay; and clay on sand and gravel. But these applications are not made in the strict order of manures; they are mechanically wanted, in order to give to the soils a proper consistence for admitting plants to grow in them, and to push their small roots without loosing hold, and at the same time to feed in a regular manner, imbibing in just proportion the moisture and nutriment it contains without being either parched or burned.

Putrid manures applied in proper quantities furnish direct nutriment for plants; and calcareous manures probably do the same, in some degree; but they certainly furnish indirectly, by resolving organic substances contained in the soil into a mucus assisted by moisture. At the same time these manures are always productive of mechanical effect, in opening and deepening the soils to which they are applied.

From my own observation and experience, I have come to the conclusion that manure arising from animal and vegetable substances, should be exposed as little as possible to the sun, the air, and drenching rains, and when applied to the soil, be immediately plowed in. It is my opinion also, that manure, when plowed in, cannot be kept too near the surface, provided it is well mixed and so covered that the essence will be dissolved by rain, and taken up by the roots of the plants. So extremely minute are the mouths of the plants, that the nourishing parts of manure can enter there only in a state of solution by water.

My object and aim is to make and get manure; and to carry this into effect, nothing that would contribute in the least degree to increasing the manure heap is thrown away. I have always made it a practice of converting every article of rubbish and filth about my premises, weeds, and coarse grass around the fields and fences, into manure; and have even hauled sawdust, turner's chips and sumach leaves, from the morocco dresser, to bed my cattle and absorb the urine previous to mixing in the compost heap. I also haul anthracite coal ashes from the city, on which I set a high value for a top dressing on my meadows.

But however correct and economical may be the manner of saving and applying manure, the quantity, it cannot be denied, still falls short of the farmer's wants. How to apply this deficiency merits the deepest attention of the husbandman.

I am an advocate for compost, and for that purpose I mix all the produce of the cattle yard, the sheep yard, the horse stable, the pig stye, and the poultry house.

The dung of the hog, owing to the greater fatness of the animal and the nature of its food, is the richest and strongest; that of the horse the most heating; that of cattle the coldest but the most durable. The dung of sheep is quick in operation; therefore the mixing of cattle, horse, hog, and sheep dung for all kinds of soils and all kinds of crops is always to be preferred, as the one corrects the defects of the other, and prevents the fermenting process from going on too rapidly.

The utility of fermented dung is proved from the little advantage derived from what is dropped upon the ground, and has not undergone that process. In the course of its being fermented, also the seeds of weeds and the eggs of insects are destroyed.

My yard is dishing, still it sometimes overflows, and where the excess passes off, I cause a basin to be excavated to retain the liquid. Near this basin, which is outside the yard, I place my compost heap, which I commence with a layer of yard manure, about one foot in thickness; then a coat of shell lime and ashes; then a layer of turf; then a layer of horse, hog, or sheep dung; then a coat of soil, and so on, with such materials as are available. In short, everything of a fertilizing nature is placed in the heap, carrying up the sides square until the pile reaches to the height of from five to six feet. As the heap progresses, each layer is saturated with the liquid which escapes from the cattle yards, and then covered with fine soil to prevent the escape of the volatile parts of the

manure, and in the next place, to absorb the gasses, so that the soil used for a covering becomes itself a valuable manure—a point long since established by the practice of many enlightened farmers. After remaining a sufficient time I cause the whole heap to be carefully and completely turned and mixed, throwing on liquid manure as the work progresses. A fermentation soon takes place, sufficient to destroy the vitality of the seeds of such weeds as may find their way into the heap. After two turnings it generally gets completely broken down and comminuted. By mixing a small quantity of salt to the heap, I have no doubt it would add greatly to its fertilizing properties.

In this way I have added from one hundred to one hundred and fifty loads of good manure per year.

I have used with good success bone dust, horn shavings, bristles, salt fish and poudrette. They are all highly concentrated manures, and are valuable for the immediate crop, but for after crops and enriching the soil durably, give me the compost heaps.

I once had great faith in the use of gypsum, but after several experiments with it, I became satisfied that it was of no benefit on my soil, and I have therefore abandoned its use altogether. C. N. BEMENT.

Albany, Feb., 1846.

General Treatment of Greenhouse Plants.

The practice of removing Greenhouse Plants into a higher temperature during the period of their growth, so well explained by Mr. Wood in his various communications, cannot be too earnestly recommended. When it is considered that in all the countries where they naturally grow, the summers are intensely hot, with clear sunny days, and heavy dews at night, how much quicker the growth of the plants and ripening of the young wood must be than can possibly happen in our dull, cloudy climate, even with the aid of glass. The universal custom of turning Greenhouse Plants out of doors indiscriminately in the month of May, is doubtless one of the very worst modes of treatment that can possibly be adopted, especially when, as is often the case, they are placed in some shady situation; at this period many are just beginning to grow, others have made some progress, but few or none are within many weeks of terminating their growth and ripening their young shoots, and it is very uncertain whether any of them, under such circumstances, even in the most favorable seasons, will accomplish their growth, consequently when the time arrives for housing, it will be found that three-fourths of them are still in a growing state, and now, when the short, cold, cloudy days have set in, they will continue to grow for weeks, and even months after being brought into the Greenhouse.

This mode of treatment can only end in disappointment; at the time they ought to be loaded with flowers there may certainly be a few solitary blossoms, but anything like a full crop is entirely out of the question. It is remarkable that Camellias appear to be the only family of plants that are rightly treated in this respect; it does not seem to occur to many gardeners that all other hard-wooded Greenhouse Plants require exactly the same treatment as Camellias; but instead of so doing, at the very time the latter are carefully shut up in a higher temperature, to encourage the growth and ripening of the young shoots, as the means of ensuring a fine display of flowers, all, or nearly all, the others are turned out of doors to take their chance of a hot or a cold summer, as the case may be.

When Greenhouse Plants are housed for the winter, then is the time to judge whether they have been rightly treated. If such is the case, they will mostly have finished their growth; the young shoots will have changed from a green to a red or brown color, and of a hard, firm texture, and the flower buds of many swelling out prominently, ready to start into flower with the slightest excitement, rendering the forcing them into flower at any time when required an easy and simple matter. Not only Camellias, but Acacias, Boronias, Azaleas, Epacris, Corræas, and in fact almost every kind of Greenhouse hard-wooded Plant, should be at rest, and ready to start into flower when the proper period arrives. On reading the reports of the London Horticultural Exhibitions we are often surprised at the large dimensions of many of the plants therein mentioned, especially when we read that many of them are only two or three years old! There cannot be a doubt that this is accomplished by placing them in a strong genial heat, at certain periods, and will serve to show what can be effected in a short time under proper management.

Although the treatment recommended above is applicable to all hard-wooded plants, there are some beautiful things that will not thrive at all unless they are annually placed in a higher temperature to make their growth, and for want of such treatment are rarely seen in good health. Crowea saligna is a striking instance of this neglect, as it is generally seen starving in Greenhouses all the year round; instead of which, it should be removed to the plant or pine stove in January, and allowed to remain till May or June, when it will grow like a willow, making shoots from 8 to 16 inches in length; and when removed to the Greenhouse it will continue to flower all through the summer, a perfect gem, with flowers twice the size we generally see it produce under the ordinary treatment it receives.

As early as the month of January attention should be directed to such plants as have done flowering and are beginning to grow; these should be removed to a higher temperature without delay, and if necessary, it is the best time to shift them into larger pots, and when the young shoots have grown two or three inches in length and taken off with a heel, they will srrike root better than at any other time. By attending to the gradual removal of the plants all through the spring months, and when having completed their growth, gradually to harden them for a week or two, and when ready to be placed out of doors for the summer, they may then, with perfect safety, be placed in a shady situation, and remain out as long in the autumn as they may be safe from severe frost. In large establishments a house entirely devoted to this purpose would be very useful; where this is not the case vineries, pine-stoves, pits, &c., may all be made available, and without much inconvenience, for this purpose, and even a brick pit without artificial heat, if kept pretty close, would be very useful in forwarding the growth of palms. I have been induced to dwell at some length on the above subject, from a firm conviction that it is not so generally or extensively put in practice as it deserves to be.

[*Robt: Reid.*]

NUTRITIOUS FOOD.—A very interesting report on the comparative nutritive properties of food was lately presented to the French Minister of the Interior by Messrs. Percy and Vanquelin, two members of the Institute. The result of their experiment is as follows: In bread, every hundred pounds' weight are found to contain 80 lbs. of nutritious matter; butcher meat, averaging the various sorts, contain only 31 lbs. in 100 lbs.; French beans, 25 lbs.; peas, 23 lbs.; lentiles, 94 lbs.; greens and turnips, which are the most aqueous of all vegetables used for domestic purposes, furnish only 8 lbs. of solid nutritious substance in 100 lbs.; carrots 14 lbs.; and what is very remarkable, as being in opposition to the acknowledged theory, 100 lbs. of potatoes only yield 35 lbs. of substance valuable as nutritious. According to this estimate, 1 lb. of good bread, is equal to 2½ or 3 lbs. of best potatoes; and 75 lbs. of bread, and 30 lbs. of butcher meat are equal to 300 lbs. of potatoes. Or, again, 1 lb. of rice or of broad beans is equal to 3 lbs. of potatoes; while 1 lb. of potatoes is equal to 4 lbs. of cabbage, and to 3 lbs. of turnips. This calculation is considered perfectly correct, and may be useful to families where the best mode of supporting nature should be adopted at the least expense—*Chambers's Edinburgh Journal.*

DRAINING LANDS.—Nothing is more satisfactory than the demand for the means of draining lands as evinced by the constant efforts which are making to provide tile-machines which shall manufacture them cheaply and well. We have to direct the attention of our readers to an advertisement in last week's number, which states that a machine capable of delivering 800 feet per hour of tiles 3½ inches by 3½ is on exhibition at No. 14 South-street, Manchester-square, London, where any one interested in draining land may attend and judge of its efficacy. Messrs. B. Denton and Charnock, who are connected with it, are well known by their useful writings on the subject of drainage.—*English paper.*

PANCAKES.—Pancakes are made of eggs, flour and milk, in the proportion of a table-spoonfull of flour to each egg. To make two small pancakes, take two eggs and beat them well, and add to them a little milk. Then take two table-spoonfulls of flour and work it into batter with the egg and milk; add a little salt. Set a clean frying-pan on the fire, put a piece of butter or lard into it. When the butter is quite hot, pour in the batter. Shake it frequently to prevent it from sticking. When the under side is of a light brown, turn it. Serve the pancakes folded, with sugar strewed between the folds. This is the way of dressing the common pancake: when required to be lighter, use more egg and less flour; and grated nutmeg may be added.

FRITTERS.—Make a batter of eggs, flour and milk, as for pancakes, but with a little more flour. Apple fritters are made by cutting large pared apples in slices, dipping the slices in the batter and frying them separately. They are done when slightly browned on both sides. Another, and perhaps more common way, is to cut the apples in small pieces, and mix them with the batter, frying them, a spoonful in each fritter. Fritters may be made with currants in the same manner. Serve all fritters with sugar sprinkled over them.

MANURE FOR ONIONS.—I have always succeeded in the following way, being the surest and most economical: Take off about 4 inches of the earth on the surface, the length and width of your bed, so that the ground under be solid. Spread stable-dung well over, about 4 inches in thickness, and then cover the same over with the earth taken from the surface.—Sow your seeds rough, and you are almost sure of an abundant crop; and the land is the best for parsnips and carrots the following year.—*R. J. F. Ottery.*

EGOTISM.—"When a man knows not what to talk of, it is a hundred chances to one that he speaks of himself; it is thus so many good sort of people are unconsciously intruding on their acquaintances personal concerns and domestic details, wholly uninteresting save to their own feelings. It is very observable to see when two magnates of this class meet, how their peculiarities clash and strive for the mastery; nor are their subsequent criticisms on the failings of each other the least pitiable trait of the blinding influence of egotism."

A DIVE FOR A HUSBAND.—A young lady was told by a married one that she had better precipitate herself off the Niagara Falls, into the basin below, than to marry. The young lady replied, "I would if I thought I could find a husband at the bottom."

RUM FOR THE NAVY.—The distillers, says the Worcester Transcript, have one good customer left. The Government, we perceive, has advertised for *sixty thousand gallons of rum* for the navy alone.

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1844, and arranged to suit the Southern States.

CALENDAR FOR MAY.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months. This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

The best fresh manure for the meadow, is a well mixed compost. All the new barn yard manure should be scattered over the ground before plowing, and plowed under, and if any of it is too long to be turned in conveniently, let it be placed in the furrow with a fork and covered by the succeeding furrow slice. It is a common error to manure in the hill. This ought seldomly to be done. If the land is well pulverized, as it always ought to be, the rootlets of the plants will find their proper food, if planted within suitable distances; and instead of the manure yielding all its nutriment to the young plant, it will be thus held in reserve to be given up as required during the whole growth of the season. Corn, perhaps, is the most important crop in the United States, and is particularly deserving the farmer's attention. It is computed by Mr. Ellsworth, that the crop of 1842 exceeded 441,000,000 bushels, which is, perhaps, an over-estimate. The stalks of this invaluable grain are, in many parts of the country, worth the expense of cultivation, thus leaving the whole crop of grain for profit and the use of the ground. To procure the best seed and cultivate properly, is surely, then, a great object for the farmer. A rich soil should be used, sufficiently dry, and well pulverized. Mr. Young, of Kentucky, who has raised the astonishing amount of 190 *bushels of shelled corn to the acre*, says, he plows his land in the fall, cross-plows it in the spring, and plants from 8 to 12 grains in each hill, at a distance of three feet apart each way; covering six inches deep. As soon as the corn is up he starts a large harrow with a double team directly over the rows of corn, letting the horses walk in the adjoining furrows. A few days after, he plows with the bar next the corn. This again completely stirs the soil. He then thins to four stalks in a hill, and plows three times more. The choicest kinds of corn only ought to be used for seed, and if steeped in a strong solution of saltpetre before planting, it will protect it from crows and grubs, and give it an early and rapid start. Potatoes are a very important crop, and as they furnish so large a share of our vegetable food, it is of great consequence to get the best seed, which may be such as give a good yield, and afford a solid, mealy root, of pleasant flavor when boiled. In dry land they may be planted in furrows; if cold or wet, they should be planted on ridges. Rich land is best suited to them. Meadows should now have attention. When the waste of the barn, or house, or roads, can be led to them, they will be found to thrive very much from it. Where the meadows have been laid down long in grass, the roots should be particularly examined, and if found thin or mossy and the sod hard, a fine compost ought to be spread on it, at the rate of eight to sixteen loads per acre; then grass seeds of the kind required, then harrowed with a fine, sharp-toothed harrow. Ashes are peculiarly suited to grass land, as potash and its silicate are the principal materials of which the ground is exhausted by this crop, which are contained in them in large proportions. If herds-grass or timothy occupies the ground, it is best to omit the use of plaster. When it is desirable to promote the growth of the clovers, plaster may be sowed freely. If not before done, finish sowing hemp seed and planting tobacco and castor beans.

Kitchen Garden.—In the fore part of this month all the early cucumbers, melons, cabbages, cauliflowers, lettuce, radishes, &c., which have been taken out of the hot bed, remove and transplant into the open ground. All kinds of table vegetables, as peas, beans, beets, onions, parsnips, carrots and esculent herbs, should be sown early. Tomatoes, egg-plants, peppers, &c., can be planted out.

Fruit Garden and Orchard.—All kinds of fruit and forest treees and shrubs that have not leaved out, transplant immediately. Spring inoculating may still be performed in the early part of the month. Strawberry beds may also be planted out, and the suggestions in the calendar for April concerning pruning be observed.

Flower Garden and Pleasure Grounds.—The borders of the flower garden should be finished, and perennial herbaceous plants transplanted. Sow seeds of autumnal flowers in seed beds, to be transplanted at a future time. Set out box edging early in the month, or it will be liable to sufer from the drought. Trim hedges and shrubs. Give the lawns and pleasure grounds a top-dressing of ashes or stable manure, and put the gravel-walks and carriage-ways in order.

Plantation.—Much of the work for this month is influenced not only by the good management of the farmer in cleaning such portion of his crop as demands it, but by the quality of the plowing, done previous to planting.

The month of May is considered the most important of the whole year, when we take into view the cultivation of a growing crop; because much of the labor is depending on the quality and quantity of work done now. If done well, as it should be, the crop will not become foul so soon, and if much of it be done, the husbandman will be able to receive his return so much the earlier.

The cotton plants must be cleaned out as early as possible, with the turning plow, after the first leaves are developed. Throw the earth from the plants, leaving a portion of the bed, which must be thoroughly cleaned, whether it be covered with weeds or not. Make it your object to return to your cotton fields as early as possible, not exceeding a week. Run around through the rows with a bull-tongue plow, and at the same time plow deep near the plants. A few days after plowing draw the earth around the stems with a hoe. If this second working be done early, and the plants be left in good condition, you will find much of your after work comparatively easy. Before the end of the month, the plants will be large enough to dirt with a large shovel plow, which should be now used, and the entire middle broken out deep and thoroughly.

Keep your corn fields in good order, and at the second plowing, drop peas, ten to fifteen in number, between the hills of corn, so that the plow will cover them, and you will "*kill two birds with one stone.*" See that your cane fields are kept clean; and that your tobacco plants are not eaten by worms. If previously neglected, rice may be sown this month. As large crops, however, cannot be expected from it as if planted in March or April.

When cane has grown about 18 inches high, a small quantity of earth should be drawn back to the plant; and in the course of the two succeeding dressings a bed should be formed for them five or six inches in depth. In new lands notwithstanding the weeds, much less hoeing is done on account of the luxuriance of the cane.

Most of the winter grain that was sown in October will require cutting this month. That to be used for feeding stock should be cut just before it begins to turn yellow, and that for seed leave until fully ripe.

Those who have bedded out their sweet potatoes must set out the drawings every rain, having hills or ridges already prepared.

Silk worms will have wound their cocoons from the 1st to the 20th of this month. Those you wish to reel, put in the hot sun a day or two, or place them in a close vessel, with a little gum camphor, in order to kill the chrysalides, and they can be reeled at leisure. Those intended for producing eggs for the next crop, must be selected and placed on a moist paper, in a cool dark room.

The garden is an indispensable requisite, and all that is necessary at this season, is to keep it clean, well stirred, or to sow occasionally endive, or cabbages for fall; radishes, lettuce and peas, so as to give a succession of these vegetables. Keep them well watered in dry weather, and protect them by shade if necessary.

Agricultural Correspondence.

Col. Alex. McDonald, Eufaula, Ala.:

Dear Sir:—Your exertions in the cause in which I love to labor, induce me to ask—is there any good and sufficient cause why we may not be acquainted? If not, I ask that we may at once be, as if we had been personally introduced. I know not the whereabouts your residence is, and suppose Barbour county is in a portion of the Cherokee country. I have a number of acquaintances and friends in Alabama, and would refer you to some of them, that you might learn "of whom is this man who asks my acquaintance." Until you meet with some one, I beg to be my own spokesman. I am 40 years of age, neither rich, talented or good looking; but I possess as much zeal for our cause as any other, and regret my want of ability to carry out my heart's desire. I am well known to H. W. Hilliard, to S. J. McMorris, in Wetumpka, Col. Carter, (my brother-in-law,) at Mt. Meigs, and others scattered about. I have no pretensions to much knowledge. I have learned much from the field, from book,s and knowing that others are, where I was, my object is only to excite in them a spirit of inquiry, believing that our Great Master has given to the larger mass of my fellows as much intellect as he has awarded to me, I only ask of them to use the talents so given and then to try to induce others.

I have perused, with pleasure, many of your writings, probably all of them, and hope you will not regard me as intrusive in this matter. There are so very few in this country who take any interest in the welfare of their fellows, or in the true success and glory of our country, that my heart yearns towards an acquaintance. As I am a Southerner by birth and education—born and educated in Columbia, S. C.—I presume my advance will be attributed *only* to a desire of forming an acquaintance, with the two-fold object of knowing you, and to learn. Now sir, is this sufficient.

Well. In your statements as to your past crop, I observe you plant 120 acres in corn, and gathered 1300 bushels; also, that you plant corn 6 by 2, with a row of peas between. Allow me to ask, why so much distance? I began planting on this place, (within a mile of Big Black, about 15 miles east of Vicksburg,) in 1831, and then planted corn 5 by 2. For several years I was scant, until, by accident, I began to plant 4 by about 20 inches or under The difference from 15 bushels to full 30 or 35. Last year I had 85 acres in corn, 15 of it new ground, that I gathered very little from, feeding it in field—I housed 2400 bushels. In 1844, I had 110 acres in corn, and had from 20 acres, not over 150 to 200 bushels, the stand injured from overflow, and I did not cultivate—I housed 3050 bushels. I gathered this year, from the oldest land on this place 50 bushels per acre. My plan is to flush deep, cover shallow, push early, lay by early and sow peas at the rate of one-third of a bushel per acre, as early as I can lay by. The peas cover the land, and assuredly have enriched my land. I also use all my cotton seed not wanted for planting, as manure, and use them for cotton.

I think, with a soil that contains lime, I can improve land in five years from twenty to thirty bushels. The evidence is on this place. In 1837 and '38, with ordinary overseers, land manured with cotton seed, yielded not 20 bushels; in 1844, the same land, without manure, yielded 35 bushels. I plant thin land two years in corn and one in cotton, and feel well assured that with peas I improve my land, and my neighbors admit it.

I am not in a condition to drain my land; if I could do so effectually, I think it would never wear out. I am living in comparatively a new

country, and yet there are many who cannot make within one third of what they did ten years ago, whilst this farm is certainly improving. My reliance has been the cow pea; true, I use cotton seed, stable, cow-lot and hog pen manure, but what are all these to 100 acres in cow peas?

I have reserved all my cotton seed this season to use in the drill for cotton. I have 40 acres intended for an orchard, the most of it planted; I wish to improve the land and think by planting in the drill that I can manure the 40 acres yearly and thus keep it all up—and no doubt but what I will increase the yield somewhat. My orchard lot is the oldest cleared land here. I did gather in 1833, *not* 900 lbs per acre—this last year I gathered over 1500 lbs, from a part, and 50 bushels of corn from another part. This done principally with cotton seed sown broadcast, and sweet potatoes planted two years in one place.

I have been planting since January, '31—you are an older planter—I cannot give you any information, but would like to have your experience.

If convenient and agreeable, I would ask of you an answer, and I would add, a permission to use any thing you may deem worthy of your time in writing me. Which permission I cheerfully grant you may use any thing herein, that you may deem worth your attention.

I am, dear sir, very respectfully yours,
M. W. Phillips,
Hinds Co., Miss., Feb., 1846.

M. W. Phillips, Esq.—

Dear Sir—Your very interesting letter of the 20th ult, came to hand by the last mail. Will you here permit me to thank you for doing what I feel I should have long since done, to wit—the breaking through the ice, and, at once commencing a correspondence on the highly important subject embraced in your letter. It is no flattery, because it is true, to say that I have for the last three years been instructed, and I hope benefitted, by the many able productions from your pen which I have found in the Tennessee Agriculturist, as well as other Agricultural papers I take. I have twenty times had a mind to sit down and write you, but have as often neglected to do so. Thus you can readily form an opinion of the pleasure your letter afforded me. In giving an account of yourself, you have drawn a very correct picture of the individual you address, with the exception that 14 additional years have marked my appearance. Still, I consider myself much your junior in the highly important and interesting subject of Husbandry. I am with yourself, a Southerner, by birth and education--I never lived any where, except in the State of Georgia, until I settled in this town nine years past.

I find you are mistaken as to the location of my residence. The beautiful town of Eufaula lies on the bank of the Chattahoochee river, in latitude 31½. My small farm (much of it broken and all of it poor pine land,) lies within 4½ miles of the town. It is about equally divided by the Barbour creek, which runs directly through it. On one side of the creek the land is level, and is what we call, in this section, pine flats; there is no timber, except the long leaf pine, with an occasional oak and hickory. The other side of the creek is very broken and poor. This broken land is the land I planted in corn 6 by 2 feet with peas in the centre. I plant it in drills, on the horizontal system. It is my intention to abandon the cultivation of this broken land as soon as I can, (and think I will be able if spared, to effect my object,) and bring up the level land to 50 bushels of corn and 2000 lbs of cotton per acre. I am, at this time, making an effort to accomplish this object. I have hauled out, since the first of January, with a team of mules, two carts and steers, 35,000 bushels of compost manure, and have yet much to haul.—This compost is prepared by hauling into a lot, (previously arranged for its reception, by sinking it in the centre and raising it round the outer edge,) equal parts or nearly so, of blue marl, which abounds in this section of the country, and the long leaf pine straw, raked up in the woods, with the treading of cattle, which are regularly penned, to the number of forty, every night in the lot; I have also hauled in the lot, quantities of cotton stalks, which are trodden to pieces by the cattle. As this system of manuring is, entirely an experiment, I would thank you for your opinion of my plan of manuring. But first, I will give you the manner I have adopted in placing the compost on the land. I first spread it broadcast, turning it under with the turning plow as deep as possible with one mule—we then lay off the rows four feet, with a wide shovel plow as deep as we can, filling this furrow and bedding on it. You will find the analysis of the blue marl, at page 167 of the 2d vol. of the Southern Cultivator.

I would thank you for your opinion of the Bermuda grass for pasturage. Will it do well in this climate on poor land?

I am well acquainted with one of the gentlemen you mention--H. W. Hilliard—he represents this district in Congress. He has recently sent me some seeds from the Patent office.—I have taken the liberty, as I find he takes an interest in agriculture, of urging him, (should he take the same view of the subject I do,) to interest himself in the passage of a law by Congress, to appropriate the Smithsonian Bequest for the establishment of a model farm, to be located in some central point in the United States. Such an establishment as this, would be of infinite importance to the American people. The operation of different kinds of manure on different soils, the trial of the various kinds of Agricultural implements, the comparison and value of the different kinds of stock, could all be tested, together with many other highly valuable experiments. Indeed, there is no telling the great value that such an establishment would be to American Agriculture.

With the greatest respect, &c.,
Alexander McDonald.
Eufaula, Barbour Co., Ala., Feb. 12, 1846.

From the American (Griffin, Ga.) Whig.

Deep Plowing.

Various experiments have been made in this part of Georgia, by plowing deep, and those who have tried it with the kind of plow in common use, so far as we are informed, report against the experiment. We had a conversation some time since with a friend on this subject, who stated that the theory of deep plowing, and the arguments used by many in favor of that mode of culture, had induced him to try it on a piece of ground of several acres, which he described as being what we call "hickory flat," which before it was cleared was covered with a growth of post-oak, and red oak and hickory, and most of the undergrowth were of hickory, with large "stool grubs." This kind of growth our farmers know is generally considered as indicative of a free productive soil, and amongst the best of our uplands. Our informant stated that the piece on which his experiment was tried, had been cleared about two years, and was in preparation for the third crop. The plow used was the common turning plow, by the use of which all the earth loosened by plowing was turned bottom up, and the effect was that the ground failed to produce as well as the surrounding fields for several years afterwards.

We have known of another experiment upon stubble land that had been cleared a number of years. After the crop of small grain had been cut off in the summer the grass and weeds were left to grow till late in the fall, when a turning plow was used for the purpose of covering up all vegetable matter on the ground. This, like the other, proved an injury from which the land did not recover under two or three years. Experiments like these have deterred our farmers in this section of the country, from adopting the system of plowing deep, so advantageously used in other parts of the United States. That plowing deep with a turning plow, in some places, has been done to advantage, none can deny, who are at all disposed to believe what they read: but that the same mode of culture will prove advantageous in all kinds of lands, is a theory that our reason will not permit us to admit as true. As well might we expect to cure all kinds of diseases of the human system with the same medicine, as to use the same mode of culture, in preparing the different kinds of earth for production, with success. That a great deal can be done in preparing ground for cultivation, reason would teach us is true; but, that such preparation should be according to the formation and nature of the soil, is equally true. We have read and reflected a great deal upon the experience of others; and when we read of a certain mode of culture having proved successful, our mind, as by instinct, seems to inquire, on what kind of soil the experiment was tried. From the experiments we have read of, in all the different kinds of soil, we have come to the deliberate conclusion, which seems to be well supported by reason, that all lands, of whatever kind, should be plowed deep, in order to produce to the best advantage. Lands which have a deep soil, may be plowed to advantage with a turning plow; but the clay, or the strata of earth which usually lies immediately under the soil, should never be turned on top. If, therefore, the soil is deep enough to admit the plow as deep as may be desired, without reaching below it, a turning plow is perhaps the best; but such land as we usually cultivate in this part of the country, has a soil too thin to use such plows with a good effect. We should therefore adopt the sub-soil plow, or one that will pulverize and loosen the earth to a considerable depth, without turning the soil underneath. Our red lands have been found, by experience, to show the effect of drought sooner; and the crops growing on them to suffer more severely, than a light gray soil. And the reason is obviously this: It will be found from examination that in all our red lands the clay comes very near the top of the ground, and is generally very close and compact, so that without a great deal of rain, it never gets thoroughly wet. The loose soil on the top of the clay, which is usually stirred with the plow, receives the water when it rains until it is properly wet, and would impart it to the clay beneath, were it in a situation to receive it; but the clay being so firm and close, the water is forced to remain above it, which, after properly saturating the loose earth, stands in puddles on the top of the grounds, from whence it is soon evaporated by the air and the rays of the sun. And so soon as the heat of the summer's sun penetrates to the depth that the earth is loosened by the plow, and by its evaporating influence extracts the water above the clay, the crops begin to suffer for the want of more rain. In such lands, if the clay could be properly broken and pulverised to a considerable depth, by means of a sub-soil plow, without turning it on top of the ground, and put in a condition to receive and retain moisture from the falling of rain, and to such a depth that the drying influence of the sun and air would have but little impression on it, the moisture thus secured would be naturally imparted to the loose earth above, where the roots of vegetation would receive their support from it.

Southern Folly.

From the Southern Miscellany.

Mr. Editor:—I promised, in my former communication, to point out in this some means by which, in my humble opinion, our general prosperity, as a people, might be advanced, by a change in some of the habits and occupations followed and pursued to make gain. I do not war in feeling with the common pursuits of our planters, whose ways and means in their regular settled policy has become to them a kind of second nature; they are doing as they have been taught by their ancestors, and whether right or wrong they are not so much to blame. They are generally striving very hard, and are

making all the cotton and corn they can---cotton to make England, the more Northern and Eastern States rich, and corn to subsist upon in making that cotton. It is true, they frequently have some thousands of dollars to spare: this they lay out in the purchase of negroes---to make more cotton to buy more negroes---and they prosper very much, sometimes, in the increase of servants, with which they wear out and destroy all the good land around them, and are generally compelled to move to new and fresh countries at that time of life when quiet and repose are necessary to relieve them from the anxieties of life—their sun too often sets amidst clouds and storms, and their evening of life is full of bitterness and distress.

The cultivation of cotton—which is almost an exclusive one in this section of country, from which to make income and profit—will both ruin the land, unsettle and remove every planter who follows it; it will depopulate every neighborhood of the kind of persons necessary for the prosperity of it---break up schools, stores and means of social intercourse, and in the course of time it will be found impracticable to have the districts of our cotton-making countries organized with judicial and military officers. I think the time is not far distant when new laws necessary for a provisionary organization of the countries and districts thus vacated will be absolutely required.

I could refer to several of the most prosperous farmers amongst us, who have only made cotton a secondary matter; they are now better off in every respect than those who have done otherwise; their lands and farms generally are in a better condition, and everything around them seems to be better provided for. The vast amount abstracted from our counties every year for pork and mules is enormous. It is a disgrace to us.

But to return to the subject of a vacated country. Some means must positively be made to regain the population of the counties, and I think there is only one way to do it, We must become manufacturers of our own great staples---particularly cotton. We are doing finely in the way of superior flour, but cotton goods and cotton yarns are the greatest articles to produce wealth---to give employment to thousands and to make our State in the course of time, (it we will energetically carry it out,) the finest country under the sun.

I rejoice that we have some noble-hearted men who have ventured in dark times, large sums in manufactories, and are still resolved to do so in spite of fires and trials enough to daunt ordinary men. They will not only enhance the value of everything around them, but will give employment, food and raiment to many who would otherwise scarcely eat a cheerful meal—for the people of Georgia are poor indeed! Little villages will, in the course of time, spring up in the neighborhood of all the factories, and prosperity will be seen on every hand; everything to spare for miles around will find ready sale, and much of the deserted lands will again "bloom and blossom like the rose."

I do not hesitate to say, that if every one of our up-country villages, had in them one or two manufacturing establishments—moved by steam power where water could not be had with convenience—it would soon make them show the difference betwixt work, money, trade, population and prosperity, and the present dull, gloomy, spiritless loafering seen in almost every up-country and low-country town in this State. We *must* wake up! We are just about as nearly below par as we can stand; and a few years more—sending off our cotton at from 3 to 5 cts. a pound, for Massachusetts to make it worth from one to three dollars, by their ingenuity and perseverance—and we are ruined beyond redemption. I will say more hereafter. R.

THE CONTRAST.—A lady writing from London says that she can always tell an American girl from an English one; there being the same difference between them as exists between a dish of "chicken fixins" and a round of beef.

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SOUTHERN CULTIVATOR.

VOL. IV. AUGUSTA, GA., JUNE, 1846. No. 6.

MARL.

A LETTER ADDRESSED TO THE AGRICULTURAL SOCIETY OF JEFFERSON COUNTY, GA.

BY J. H. HAMMOND.

DEAR SIR:—I embrace the earliest opportunity my other engagements have allowed me, of fulfilling my promise to comply with the request of your Society, to give them such information as I possess in regard to Marl. I am happy to learn that an interest in this matter has been excited in your county, and if in what I am about to say, I shall fail to meet all the inquiries which might be made, it will afford me great pleasure to communicate more fully on particular points, at any time hereafter.

Aware of the strong prejudice existing too generally among farmers against everything *new* in farming, it may not be amiss for me to begin by saying, that however new to us marling may have been a few years ago, it is in point of fact one of the very oldest agricultural operations of which we have any authentic record. Pliny, who wrote during the first century of our era, mentions marl as having been long in use among the Greeks and also in Gaul and Britain. He describes pretty accurately the appearance of all, or nearly all, the kinds of marl now known. He even specifies the peculiar effects of each on soils, and states the length of time these effects were supposed to last, which was from 10 to 80 years, according to the quality of the marl and the land marled. Varro, who wrote a century before Pliny, mentions having seen fields in Gaul covered with a "white fossil clay," and also describes several varieties of marl as in common use.

Although these writers, because ignorant of the discoveries of modern science, make great blunders in attempting to account for the extraordinary influence exerted by this earth on vegetation, and to discriminate between its varieties, still it is unquestionable that the "*leucargillon*" of the Greeks, the "*fossicia creta*" of Varro and the "*marga*" of Pliny, were no other than the same kinds of marl we find here, and which at this day so many enterprising farmers, both in Europe and America, are actively and extensively engaged in spreading over their fields, and which have been continuously used for that purpose more or less from the remotest ages. Marling, then, is certainly no novelty—no untried experiment, than can for a moment be classed among modern humbugs.

There is no question, however, that the want of chemical knowledge has in time past led to great errors in its application and consequent failures—often to serious injury from its use. When the element in marl which gives it its chief virtue, and also its certain and its probable chemical action on the soil and its growth, were all unknown, every new application of it was to some extent an experiment which might or might not succeed. It is a great proof of its universal value, that so many succeeded as to maintain its reputation and consequent use. Mr. Ruffin, of Virginia, was the first in this country to explain on scientific principles the true nature of marl, its mode of action, and the proper manner of applying it, and to carry his theory through the ordeal of successful experiment. He is the founder of the marling system among us, for which he will be long and deservedly ranked among public benefactors. His "Essay on Calcareous Manure," contains every thing that it is important to know about marl and marling. Throughout my operations, it has been my guide, and it is still, I believe, far in advance of anything that has yet been published in any country on the subject. If I thought every member of your Society would procure a copy of that Essay, and peruse it carefully, I might close my letter here, by earnestly recommending them to do so. It is with the hope of inducing some of them to do it, as well as to testify my respect for them, by responding to their inquiry, that I proceed.

Marl, as correctly defined by Mr. Ruffin, and now known in this country, is calcareous earth: that is, earth containing lime. The lime found in it is united for the most part with carbonic acid, and is therefore called carbonate of lime. It sometimes contains lime in other combinations, as sulphate and phosphate of lime. Azote, has been found in marl also, and magnesia is not uncommon. Besides these it contains sand and clay in various proportions, and occasionally a green sand highly prized as a manure on account of its being rich in potash. All of these constituents are valuable to the farmer. But it is the quantity of carbonate of lime which gives its character to Marl, and by which it is estimated when it is called rich or poor.

Nothing is more deceptive in appearance, and the most experienced are liable to mistakes, if they attempt to estimate its value by the eye, and without employing the proper chemical test. There is a rock found in abundance in your county, and which is of great value for other purposes, that has deceived many. It seems to be a mass of shells; but the fact is, they are only effigies, or casts from which every particle of lime has been long since washed away, and sand deposited in its place. There is also a fine, soapy earth, usually of a pale ash colour, though sometimes darker, that many have regarded as very rich marl. This is what was formerly, and by foreign writers is still, denominated clay marl. It seldom contains much lime, and is generally wholly destitute of it even when found in marl beds. This soapy feeling is a very uncertain indication of lime. Where it is observed in marl, it is usually owing to something else, chiefly to magnesia or alumina. A marl is found whiter and harder than the earth to which I refer, but of the same lamellated structure and a somewhat soapy touch, that is exceedingly rich in lime,—that at Shell Bluff containing 90 odd per cent. of the carbonate. It yields readily to the knife, crumbles when exposed to a severe freeze, and is altogether the most valuable marl we have. Unfortunately, it is not met with in large quantities in our formation. In our marl beds immense quantities of large shells are generally found. Inexperienced marlers have been known to spread these on their land. But they are of little or no value, unless burned or crushed. They were deposited where they are found before the human race inhabited the earth, and being for the most part sound yet, will yield little or no lime to the soil in our day. Even the masses of much smaller, conglomerated shells, though very rich in lime, are not among the most valuable marls, unless broken up and pulverised to a considerable extent. There is a marl abounding with us, which to the naked eye seems to be mere sand, that is much more valuable, though it does not contain two-thirds of the quantity of carbonate of lime; it mixes at once with the soil and exerts its full influence in a comparatively short period. The most valuable marl, practically speaking, that is found in any quantity at Shell Bluff—and will be found in your marl-beds, for the formation is the same—is composed of very fine shells, scarcely discernable, which are loosely cemented together and readily fall apart. It is of different colors; mostly white, sometimes purplish, yellow, or light brown. The most abundant marl found in our formation is hard and compact, of a grey color, containing 50 to 60 per cent. of lime, crumbles on exposure to the seasons and in handling.

But, as I have said, the value of marl cannot be estimated by its appearance. Between earth which contains 75 per ct. of carbonate of lime, and that containing 20 per ct, or even none at all the most experienced are far oftener than otherwise unable to distinguish without using the proper tests. These are so readily to be procured, and in fact the analysis of marl, so far as to ascertain the quantity of carbonate of lime, is so very simple an operation, that the marler should leave nothing to conjecture on this important point. Earth containing any notable proportion of carbonate of lime, will effervesce if thrown into vinegar or almost any acid. But the best test is muriatic acid: a single drop of it will produce immediate effervescence whenever there is carbonate of lime. To discover the precise quantity of carbonate of lime in any marl, it is only necessary to have this acid, a pair of common apothecaries' scales with weights, and a wide mouthed vial. Dry the marl thoroughly on a shovel over the fire, and pound in a mortar, to a fine powder. Fill the vial about one-third with the muriatic acid diluted with two parts of water to one of acid, and balance it exactly in the scales, with weights of any kind. Then add, very slowly, 100 grains of the powder previously weighed, taking care not to make it effervesce so rapidly as to throw any of it out of the vial. When the effervescence has completely ceased, blow gently into the mouth of the vial, with a common bellows, to expel any of the carbonic acid gas which may have remained in it in consequence of its being heavier than the atmospheric air. Weights to the amount of 100 grains must now be put in the opposite scale to balance the 100 grains of powdered marl put into the vial. It will be found that in consequence of the escape of carbonic acid in a gaseous form, the scale with the vial will rise: put weights into it then until the scales are once more exactly balanced—the number of grains put in the scale with the vial will of course indicate the weight of the carbonic acid that has escaped. Now, carbonate of lime contains in 100 parts very nearly 56 parts of lime and 44 of carb. acid. It then 44 grains have escaped in your analysis, the specimen is pure carbonate of lime. If only 22 grains have escaped, then it contains but 50 per cent. of carbonate of lime. And so in proportion to any quantity of carbonic acid which may have been expelled. In practice, it will be found most convenient to use 50 grains of the powdered marl. A very few trials will enable the most inexperienced farmer to ascertain in half an hour with sufficient precision, the value of his marl. That value depending mainly, as stated, on the quantity of carbonate of lime it contains.

The value of lime for agricultural purposes,

is not only established by the experience of all ages, and so far as we know, of all countries, but must be obvious, when it is known that chemical analysis has detected it as a constituent of every vegetable that grows on the surface of the earth. It is also the chief element of the bones of every animal—even of those that feed on grass only. It is therefore not only beneficial, but indispensable to the growth of all kinds of vegetation. The All-Bountiful Creator has diffused it over the whole globe, as extensively as almost any known substance. But like all His gifts, it has been, for wise and good purposes, no doubt, unequally distributed. That it is placed, in some form and to some extent, within the reach of all plants, is certain, since they all contain it. And a late scientific writer on Agricultural Chemistry in our country, has attempted to prove that all—even the poorest soils, possess an ample supply of it to furnish heavy crops of vegetation for countless years to come. If this were true, it would be worse than useless to expend labor in spreading it over our lands; millions of farmers besides myself have acted very foolishly, and you would do well to think no more of marling. But this is plainly not the case. There are a great many soils in which the chemical tests now known, have failed to find a trace of it. Such is the fact with regard, I believe, to all the land I cultivate. Such, I will venture to say, it is with regard to most, if not all of the lands in your county; though I am aware you have had pretended analyses made, which exhibited large proportions of lime. The reasoning of the writer alluded to: All soils are formed by the disintegration and crumbling of rocks. Most rocks contain lime, especially those which disintegrate most readily and form soils. He calculates the amount of lime in the quantum of rock necessary to create a soil of a certain depth, and thence infers that there is so much lime in the land. There is no doubt that the rocks from which your soil and mine were formed, contained lime to the amount estimated. But it is equally certain that these rocks, in their transition from one state to another, were subjected for an indefinite period to the action of water. I am speaking particularly of our immediate section of country. The ocean once undoubtedly covered it as high up as the falls of our rivers and the belt of sand-hills which runs through the middle districts of South Carolina and Georgia, and held it as permanent domain. During this period, our marl beds were deposited—possibly also our present surface of earth. But whether that be so or not, and whether the surface we now cultivate belongs to the Eocene formation, as these marl deposits are supposed to do, or to the Post Pliocene, or, as is most probable, to the Diluvial, it is evident, from the irregular inter-stratification of different kinds of earth, and the rounded pebbles on and in it, to a considerable depth, which could have been rounded only by the action of water, that the whole of it, like the sand and clay now constantly brought down our streams, has been at some remote period, "drift-ed from a higher region, and deposited by water here. The lime in the rocks being soluble under circumstances which must have attended the "drift," was retained and carried away in the currents. Our marl beds were probably deposited at a much earlier geological era, and have no connection with the soil on our present surface, but were upheaved or denuded in some of those great convulsions to which our globe has been every where subjected. That our lands are for the most part destitute of lime is certain. That it has been taken from them in this way, is more than probable. The masses of silicified shells to which I have alluded, and which are so abundant in your county, prove that the lime may be entirely carried off by water.

But if there is no lime in the soil, from what source do the growing plants derive this indispensible constituent may be well asked? It has been often asked. Nature has not revealed, and science has as yet failed to discover an answer satisfactory to all. Whether, as is conjectured by some, the unknown vital action of the plant is sufficiently powerful and comprehensive to *create* the requisite modicum—or whether it can, as others suppose, by some galvanic agency, extract it from sources where its existence has not yet been detected by chemical reagents, is yet a mystery. But this much experience has established and science demonstrated, that where lime cannot be found in fair proportions in a soil, the health and vigour of the plants growing on it can always be materially improved by a judicious application of it. And to this conclusion common sense, without experience or science, would lead every one who was aware that it is invariably an element in all vegetable matter.

The precise rationale of the action of lime on the soil, and the manner in which it benefits vegetation, has never been fully and minutely explained. Nature still holds many of the secrets of her laboratory undisclosed. Many, and many of the most important details of her wonderful processes of composition and decomposition and of the vast play of her chemical affinities, yet await the persevering investigation and penetrating thought of man. I will endeavor to lay before you, succinctly, what is known or rationally conjectured in regard to the operations and effects of lime, so far as may be material to the present purpose.

It is applied to land, either directly or mixed, in compost heaps, and carried out in manure. But for the additional labor the latter would always be the best method. Where it is used in large quantities, it is much cheaper to spread it at once upon the land, and apply manure, &c., afterwards, as circumstances may dictate or permit. It is sometimes put on land in the state in which it comes from the kiln, that is as quick or caustic lime. Sometimes it is first slaked in water, when it becomes a hydrate of lime.—Most commonly it is slaked by mere exposure to the atmosphere, when it assumes the form of carbonate or mild lime, that is, lime combined with carbonic acid, which it extracts from the air in the proportions I have already stated. It is in this form that it is found most abundantly in nature. Sulphate and phosphate of lime are also found, but quick-lime never. The lime in shells, marble, limestone, marl, &c. is usually all of it the carbonate. Its action, however, in the long run, is always the same, whether applied in the mild or caustic state, being dependent on its intrinsic properties as lime.—When caustic, it at first rapidly decomposes whatever of vegetable fibre or animal matter it comes in contact with. But its caustic quality is soon exhausted, or rather it soon becomes changed itself by the action of the substances it meets with, and thus loses its causticity. On lands containing a great excess of vegetable matter, such as peat and rich bog, and where rapid decomposition is desirable, quick-lime is the best form of application, if equally cheap, as it saves time, and renders the soil productive much sooner than the carbonate will do it.

Although lime is found most commonly combined with carbonic acid, the fact is owing more to the abundance of that acid which exists in the atmosphere, in water, and is continually arising from vegetable decay, than because it has any affinity for carbonic over other acids. On the contrary, it will yield it up and combine in preference with almost any other. Not only the strong mineral, but most vegetable acids, even vinegar, as I have before mentioned, will drive it off. The effervescence which takes place when carb. of lime is thrown into them, is caused by the carb. acid escaping in the form of gas.—From this great affinity of lime for all acids results one of its primary and most important effects in soils. Acids are antiseptic and arrest spontaneous decay. Lime combines with them wherever it finds them free from other combinations, and neutralizes their injurious effect.—Hence, on lands that we call sour—and on many that are really sour without our knowledge of the fact—all land covered with broom sedge for example—it is of inestimable value. It destroys the sourness, and thereby promotes the decay of whatever matter may have been locked up by acids, which is calculated to nourish useful vegetation. From this quality of lime, it is denominated an Alkaline Earth—alkali being the reverse and antagonist of acid. Whenever an alkali and acid meet, they neutralize one another in certain proportions, and form what is called a salt. For instance, our common salt is muriatic acid, and the alkali soda. So carbonate of lime is in fact itself a salt.

These salts, and especially those of which lime is a component part, are of the highest value in agriculture. Some of them are soluble in water, and these are the most valuable. It is in fact only when they are thus dissolved that they afford any direct nourishment to growing plants which can imbibe nothing by their roots, but watery solutions, and are fed altogether in this way from the ground. But the salts which are readily soluble in water are soon exhausted. Every shower dissolves them, and whatever surplus is left after the plants have absorbed the solution to the extent of their capacity, is liable to escape by evaporation, or to be carried by the water into the earth below the reach of vegetation, or to run off with it into the streams. Salts then that are not immediately soluble in water, if they can be made soluble gradually, are in the long run the most useful to the farmer. Of this class are most, if not all, of the salts formed by lime. Carbonate of lime is indeed wholly insoluble in pure water, and if lime remained forever in that state it would be of little value in the soil other than its mechanical influence on the texture of it. But if carbonic acid be added in excess—that is more of it than 44 parts in 100 which are required to make the carbonate, this salt becomes soluble This excess is in point of fact constantly furnished in small quantities by the air, by rain water, and by the decay of vegetable substances in the ground, and hence, one advantage from keeping lime near the surface. The lime thus dissolved enters into the plant and feeds it. In this way, and this way only, is it a direct manure. All its other influences are indirect, on which account it is most generally regarded as a stimulent rather than a manure. I am speaking, of course, of carb. of lime as it exists in our marls, and not of the sulphate or phosphate of lime.

Its indirect action however is as important as it is varied. I have already said it promotes decay by neutralizing acids. But while lime from its neutralizing power promotes decay, by arresting the influence of acids and giving efficiency to the legitimate agents which accomplish it, it is a watchful guardian over their action, retarding their wasteful haste, and sometimes wholly preventing further progress for a time. It expels, for instance, from decomposing substances, ammonia, which is the most active and rapid conductor of putrefying contagion, driving it into the air, to descend in future showers, or if they are at hand, into other substances less advanced in the stages of decay.

The ultimate result of the vegetable decomposition thus judiciously forwarded by lime, is a substance to which various names have been applied by chemists, such as, "*humus*," "*geine*," "*ulmin*," &c., which, so far as agriculture is concerned—their treatment and influence on the growth of vegetation, are one and the same thing; meaning, substantially, that residuum of decomposition which is familiarly known to us as "*vegetable mould*," without a sufficiency of which in our soils, we are all aware that compensating crops cannot be made. In the progress of decay the most soluble portions of this mould are exhausted and assume new forms, and what at last remains apparently fixed in the soil is the undissolved sediment. This is said to be wholly insoluble in water, but when plowed up and frequently exposed to the action of the air, it becomes so sparingly. Yet without aid from some other source than the atmosphere, water will not furnish it to plants in sufficient quantities for their vigorous growth. Now the alkalies and alkaline earths (lime being the most important of this last class) act directly on this insoluble substance. Their presence—and

it is a singular but well known principle in chemistry, that *mere presence is a power* called catalytic—induces it to absorb oxygen from the atmosphere, and to produce what is called humic acid. With this acid the alkalies immediately combine and form salts, called humates, which are soluble in water, and afford nourishment to plants. Thus when lime is properly applied to land, it brings into fruitful action the hitherto inert vegetable mould.

But it must be obvious that if no additional vegetable matter is given to the soil, the effect of lime will be to exhaust it utterly, in a shorter time than might otherwise be done by cropping. Hence the saying, that liming land enriches the father but impoverishes the son. It must not be forgotten, however, that the lime has enriched the father, by giving abundantly to his crops food that would otherwise have remained dead in his soil, or been eliminated by other agents, through a series of years, in feeble proportions, to scant, and therefore profitless crops; while, if it impoverishes the son, it is because a wretched husbandry has taken all from the land, and given nothing in return. The exhausting effect of lime is mitigated, however, by another highly important intermediate condition of the process. As the mould disappears, the proportion of lime to mould of course increases, and the lime becomes excessive. When this is the case, the humate, which before was soluble, becomes wholly insoluble in water. The process of decomposition then ceases for a time. And such is the case very soon, wherever lime or marl, in very large doses, is put on land possessing but little vegetable matter. It is called "marl burnt," among the marlers—many instances of which I can point out on my plantation. In course of cultivation, however, the lime being constantly exposed to the atmosphere, absorbs carbonic acid, which combining with a portion of it, converts it into carbonate of lime again, and thus freeing the humate, or a part of it, of the excess of lime, renders it soluble once more. But this is a very slow process, and unless there are immense quantities of vegetable mould which have been thus locked up by an extraordinary and injudicious application of lime, and probably even then, the proper plan is to remedy the evil at once, by a heavy coating of vegetable matter brought fresh from the woods. When this cannot be affected we should give the land a long and absolute rest, allowing every particle of vegetation it produces to rot upon it, and if it can be conveniently done to plow it in. The best of all methods, however, to restore the land, and not always the most expensive, would be to add a sufficiency of compost manure. Besides the amount of decayed vegetation which such manure would supply, the alkalies potash and soda are always generated in compost heaps.—These act directly on the insoluble humate of lime, decompose it by their greater affinity for the humic acid, and form new salts, quite soluble.

Instead of objecting to this action of lime in locking up the food of plants, and its constant tendency to do so when that food is not made abundant by good husbandry, we should rather regard it as one of its most valuable properties. The vegetable mould was dead in the soil. It could not be carried away, but it was of little value as it stood. The lime by its presence causes it to decompose in sufficient quantities to nourish a luxurious growth of plants. So soon as the mould begins to become scarce, the lime confines it in its embraces and preserves it from the wasteful influence of heat and moisture. Yet to the industrious farmer, whose constant furrows give access to the atmosphere, it yields up what a prudent economy would dictate under existing circumstances, to promote the growth of vegetation. If that vegetation is permitted to remain and decompose on the land, "vegetable mould," in time, becomes abundant again, and the lime prepares it to furnish ample food for heavy crops once more. If all the produce is taken off, the lime, more provident than the farmer, and more generous too, still preserves what remains in the soil, for the exclusive use of the crop, and doles it out until all is gone.

The influence of lime upon the mineral substance of the earth is scarcely less powerful and important to the farmer, than on the vegetable. The chief mineral constituents of the soil are, as you know, sand and clay. They are usually resolved by agricultural chemists into what they call silica and alumina, which are silicon and aluminum, their ultimate principles, with a little oxygen absorbed from the atmosphere.—Of these two silica is much the most abundant as well perhaps as most valuable. After what we call clay has been deprived of its sand by washing, in which state it is usually denominated pure or agricultural clay, it still holds in chemical combination from 50 to 60 per cent. of silica. The purest pipe-clay we find, is half silica; and the stiffest red lands of your county probably contain, at least 70 per cent. of it, and not more than 15 per cent. of alumina. Lime and alumina have a strong affinity, and from their combination and subsequent decomposition results the important and well established fact, that the stiffest clay lands are rendered light and mellow by liming. The rationale of this process has never been satisfactorily explained. The effect is usually referred to the mere mechanical operation of the lime. But this cannot be so, since an hundred, or at most a few hundreds of bushels per acre of one earth, could not materially alter the texture of another to any depth. It is probable that the crumbling of the clay, after liming, will be found to be owing to the condensation by severe cold of the carbonic acid supplied by the lime, and its extraordinary power of expansion under the influence of returning heat, since this disintegration of stiff lands has never been observed until a winter has elapsed after the application of lime or marl.—Alumina will not combine with carbonic acid; and it may be that clay lands are opened partly by the incessant changes occasioned by the affinity of lime for both. Being insoluble in water, alumina furnishes of itself little or no aliment to the growing plant, though it has other indirect influences fully in proportion to its conspicuous position as a constituent of soils.

Silica, on the contrary, enters largely into the formation of the plant. It has, as I have mentioned, acid properties, and combines with the alkalies and alkaline earths and metals, forming salts of the greatest value in numerous points of view, which are called silicates. It is the silicate of potash, sometimes replaced by that of the soda, and to some extent by that of lime, which forms the outer coating of straw, stems, stalks, &c., giving both strength and protection to the plant. These silicates are insoluble in water, so much so that they constitute the chief ingredient of rocks. But that universal and inexhaustible agent, the carbonic acid of the atmosphere, acting on the alkaline bases of the silicates, decomposes them; hence the gradual breaking down of rocks under atmospheric influence.—The presence of lime is also known to influence the decomposition of the silicates of potash and soda, and at the moment of decomposition, both the silica and alkali are soluble. Thus, lime aids materially in supplying these essential elements to plants. Whether it does so by its alkaline properties, or by concentrating carbonic acid, or merely by its catalytic power, has not been settled. The silicate of lime itself, when rendered soluble by the decomposing influence of carbonic acid, sometimes, as I have stated, becomes, in their absence, a substitute for the silicates of potash and soda. It is this combination also, that renders light sandy lands more consistent, which is one of the most important effects of lime on such lands—particularly on the light uplands so extensively planted on this side of the Savannah, and in your county. The fact is unquestionable. It is usually referred, as is the opening of stiff lands, to the mechanical influence of the lime, but the cause assigned here, as in that case, is not adequate to the effect.

The red and brown lands in your county are colored, as they are every where else, by iron. You have no doubt observed that, after continued cultivation, some of the best of them cease to become productive without much apparent loss of vegetable mould, and are not rapidly restored either by rest or manure. Among other causes, this is owing, to a considerable extent, to the excessive oxidation of the iron in consequence of its exposure, from plowing, to the atmosphere, whence it extracts oxygen, a process you see constantly exemplified by the rusting of old iron. It becomes what is called a peroxide of iron, which is very injurious to vegetation.—Lime neutralizes all acids, and if put upon these lands in proper quantities, it will neutralize a portion of the acid in the iron, and convert the peroxide into a protoxide of iron, which, if not actually beneficial, is at least harmless to plants. You have, too, in some of your soils, the sulphuret of iron, so often taken for gold ore.—This, on exposure to air, absorbs oxygen, which produces sulphuric acid, and then forms the sulphate of iron or copperas, which is poisonous to plants. If lime is put on the land it will arrest the accession of the sulphuric acid, thus formed, to the iron, and prevent the formation of copperas. But what is more, combining with the sulphuric acid itself, it forms sulphate of lime, commonly called plaster of paris, one of the most highly prized of all mineral manures, and an element in all, or nearly all plants.—Lime has also the power of forming plaster in the same way when it comes in contact with sulphate of silicon, which is supposed to exist in all soils. It combines also with sulphuric acid, arising from vegetable decomposition or any other source, and produces this valuable salt.

The sulphate of lime, called also gypsum, as well as plaster of paris, must exist to some extent in all soils, as it is found in almost all plants. But, like the carbonate of lime, it is seldom to be detected by chemical tests. It may also be eliminated from unknown combinations by the vital action of the growing plant. But in the way I have mentioned, it will undoubtedly be formed in greater abundance in all soils, by the application of lime. Sulphuric acid itself is often used as a manure, but experience has fully established the fact, that it is of little value except on calcareous soils; and what is more remarkable, that sulphate of lime will also act with far greater effect on limed lands. I tried some of it myself the past year on marled land. I rolled the cotton seed in it, previously to planting them, and thus applied it at the rate of only one peck of the plaster per acre. I am satisfied that the product, on the few acres to which it was applied, was one third greater than on similar adjoining land, marled also, but not plastered. I anticipate, therefore, the greatest benefit from the use of plaster after marl. I should remark, however, that it has not been found invariably beneficial even on limed lands. In England, and on our coast, south of Long Island, little advantage has been derived from it. Two probable causes have been assigned for this; the influence of sea air, which has not been satisfactorily explained, and the probability that the lands in the regions mentioned have derived a sufficiency of gypsum already from the sulphurate of iron, or other sources. Very little is required for plants; one peck per acre applied to the moistened seed will probably have as much effect, for one year at least, as any other quantity. In the last dry season it had, on my land, double the effect of a bushel sown broadcast. Five to ten bushels are sometimes applied.

Phosphate of lime is even more esteemed for a manure than the Sulphate. It is sometimes called the "Earth of Bones," as bones contain over 50 per cent. of this salt. Being less abundant than sulphate of lime, it is much more costly. Bones are transported across the Atlantic to England, to be used as manure. Several hundred vessels are now engaged solely in transporting bones from various parts of the world to England. This phosphate is also an essential constituent of plants, though rarely to be detected in soils. But phosphoric acid, like sulphuric, arises from vegetable decomposition, from phosphuret of silicon, and perhaps from other sources. If lime be present in the soil to fix it, not only is the vital action of the plant relieved from producing it, but much is probably saved that would

otherwise be lost. The ash of cotton seed contains considerably more of this acid than bones do, and hence the immense value of this seed as a manure. But its effects are proverbially transient. With lime in the soil sufficiently abundant to fix the phosphoric acid, cotton seed would be a manure almost as permanent as bones. [*Concluded in our next.*]

From the Southern Planter.

GUINEA GRASS,--CORN, &c.

Mr. Editor:--For the roots of Guinea grass obtained from the lamented Garnett, and by your kindness sent me to Hillsborough two years ago, accept now my cordial thanks. From the result of an experiment, made under very unfavorable circumstances, I am convinced that the Guinea grass will supply the important desideratum for which I was so anxious to procure it. I find the product very great. On rich upland, even in so unpropitious a season as the past summer, it will bear cutting three times, at from four to five feet high; and though coarse, it is very palatable both to cows and horses when cut or wilted, and makes no despicable hay. The grand desideratum was, something to supply the only defect of Lucerne for soil-feeding, viz., its failure in hot and dry July and August.

Farming is altogether a subordinate business with me. Myself and assistant devote ourselves to the "delightful task" of rearing the tender thought, and "teaching the young idea how to shoot," a task in which I find great pleasure and profit. Still having been trained as well to agricultural as scholastic labor, I feel much interest in the farmer's pursuits, and am ambitious of making my own bread and meat. Farming is certainly a profitable business as subsidiary to professional pursuits, when rationally conducted on a *suitable scale*. An active, industrious, and honest, sensible young man, son of one of my neighbors, *leads*, does not drive, but *leads* four or five negro men, for $150 per annum. I project and he executes. I am more the school master and less the farmer in the country than I was in town. Then having only eleven acres to operate on, and these immediately under my own eye, I needed no steward, but directed, and in good degree superintended every operation myself. Here a weekly stroll over the fields on Saturdays, enables me to chalk out the next week's labor for my steward.

Bye-the-bye, I gathered in 1843, from two measured acres, sixty barrels in the ear, or thirty when shelled, of good sound bread corn, after no considerable abstractions made by feathered and unfeathered bipeds. With favorable seasons I am convinced the product would have been a third larger. I am satisfied that the soil and climate of Orange county, in the good old North State, are capable of yielding one hundred bushels of Indian corn per acre. I planted four feet by two, in drills opened by a heavy two horse plow, followed by a subsoil plow, and manured in the drill from the stable and cow yard; one half one stalk; the other two stalks in the hill. Product about equal, but the *one* stalk half the best corn. The two stalk half, but for a drought at a critical juncture of silking would have out-yielded the other considerably. Used first the Teague bull tongue and hoe when the corn was three inches high, afterwards the cultivator was run, leaving the ground level, and pulling out the weeds in the row by hand. The same two acres yielded the next year nearly sixty bushels of Cape wheat, weighing 64 pounds to the bushel, which was cut not green, but ripe, in the month of May. The seed was obtained from Hon. E. Pettigrew, of Tyrrell county, one of the most enterprising, successful and useful citizen farmers. After taking off the wheat I planted corn for my hogs in the fall. The stand was very bad; and seeing it would mature I suffered it to do so, and gathered fifty bushels of shelled corn from the two acres—species known by the name of Collin's corn, and much valued in the eastern part of this State. W. J. Bingham.

Big Oaks, Orange co., N. C., Nov. 15, 1845.

Agricultural Meetings.

PROCEEDINGS OF THE S. C. STATE AGRICULTURAL SOCIETY.

Columbia, Monday, Nov. 24, 1845.

The State Agricultural Society held its preliminary meeting this evening, at 7 o'clock. The President called the meeting to order.

The members and delegates having enrolled themselves, the Society then proceeded to regular business.

Hon. John B. O'Neall offered the following resolution:

Resolved, That a committee of five, of whom the President shall be Chairman, be raised, for the purpose of ascertaining the quantity of corn necessary to supply the wants of the people of the State, the minimum prices at which it can be obtained in Charleston, Hamburg, Columbia and Camden, and the time when it can be most conveniently obtained.

Agreed to, and the following were the committee appointed: F. B. Higgins, Newberry; James A. Black, York; Wm. J. Allston, Fairfield; B. F. Perry, Greenville.

It was then moved that an appropriation be asked from the Legislature, for the publication of the proceedings of this Society, the addresses, reports and essays which the Society may select for publication, and also, for such prizes as may be annually awarded.

Agreed to, and the following appointed as the committee to petition: Hon. J. B. O'Neall, Dr. Thomas Legare, J. H. Means, Jas. Rhett, J. C. Chesnut.

The Secretary then stated, that it was proper to remark, as one of the executive committee, that the committees could make no awards for anything but stock—the means of the Society not being sufficient.

The following are the committees appointed by the President:

On Domestic Fabrics.—Dr. R. W. Gibbes, Richland; J. C. Chesnut, Kershaw; John Rivers, St. Andrews; J. Y. Mills, Chester; P. E. Ware, Greenville.

On Corn.—Edward G. Palmer, Fairfield; J. M. Felder, Orangeburgh; P. S. Brooks, Edgefield; Wm. Summer, Newberry; Jas. Gregg, Richland.

On Rice.—R. F. W. Allston, Prince George; B. F. Dunkin, All Saints; Jas. S. Rhett, Christ Church.

On Short Staple Cotton.—Wm. J. Allston, Fairfield; J. P. Neel, Newberry; L. A. Beckham, Chester.

On Long Staple Cotton.—W. M. Murray, St. Johns; John Rivers, St. Andrews; J. Fickling, St. Lukes.

On Small Grain.—J. B. O'Neall, Newberry, P. E. Dunkin, Greenville; Joel Smith, Abbeville.

On Marl.—J. H. Hammond, Barnwell; W. T. Ellerbe, Pedee; Dr. P. Palmer, St. John's, Berkley.

On Potatoes.—A. G. Summer, Richland; Dr. Fickling, St. Lukes; J. H. Means, Fairfield.

The following communications were read by the President:

Greenville C. H., Nov. 17, 1845.

To the Hon. W. B. Seabrook, President of the Ag. So. of the State of S C:

Inasmuch as the undersigned has, by unforseen contingencies, been denied the pleasure of attending the meeting of the Society, he begs most respectfully to offer through you the following resolutions for the consideration of the Society.

1. Resolved, That, hereafter, all competitors for the premiums offered by this Society for live stock, shall, in addition to the age and pedigree of the animal so offered, report the general management of the animal, manner of feeding, articles used, &c. &c., with such other remarks pertaining to that kind of stock as the applicant may see fit to offer, and the premium shall be awarded to the competitor who shall offer the animal and report, which, taken together, are best calculated to promote the objects of this Society.

2. Resolved, That hereafter, all competitors for the premiums offered by this Society, for the best crops, shall, in addition to the amount of the crop for that year, report as near as he can, the crop of the previous year, the condition of the land, manner of improving, preparing land for planting, cultivation of the crop offered for competition, and such other remarks pertaining to the improvement of land and the culture of that particular crop, as he may think fit; and the premiums shall be awarded to the competitor, whose crop and report, taken together, are best calculated to promote the objects of this Society.

The importance of adopting the above resolution, is, to the undersigned, obvious; but as others may not think so, on first presentation, a few words of explanation will be offered.

The economy of raising fine animals, and improving land, are matters as interesting to this Society as any others. One class or variety of domestic animals may suit the particular circumstances of one individual or one neighborhood, better than any other. Different soils and localities require different means for their increase of fertility. The adoption of the resolution offered would, no doubt, bring out a large number of facts, well calculated to elucidate both these classes of subjects, and speculations that would lead to further useful investigations and experiments. Competitors would take more notice of what they did, and keep more accounts, so that the expense and profit of each agricultural operation would be better known. This is something much needed. In this way, a large amount of desirable information could be collected by the Society, and diffused among the farmers of the State. Premiums could not then be awarded to any one, who by accident, had a large crop, or a fine animal, but be bestowed, as they ought to be, on those persons who had, by their industry, talent and capital, done most to promote the great and good cause. The contest for premiums would not be merely who should have the fattest animal, or the largest crop, but turn on the important *principle* of who could *accomplish most at least expense.*

A spirited competition, conducted on these principles, would, in the estimation of the undersigned, increase vastly the benefits the farming community have received from the plan heretofore adopted.

With a feeling of deep interest in the welfare and success of the Society,

I am, most respectfully, A. B. Crook.

To the State Agricultural Society of So. Ca., in the United States of America:—The Russian Imperial Economical Society, established in St. Petersburg, in the year 1765, having for its object the improvement of different branches of Rural Economy and National Industry, desire to enter into correspondence with your honorable Society, for mutual exchange of different experiments, observations and discoveries, in order to promote the National welfare of both countries. The Almighty having blessed the United States and Russia with immense tracts of fertile lands, has pointed out to us that the principal occupations of both countries should consist in rural pursuits. Therefore, we feel real sympathy towards your great nation--and the more so, because our Society has the honor of counting amongst its active and useful members, one of your distinguished citizens, the Hon. Mr. Todd, the representative of your country in Russia.

The Russian Economical Society has, for a long time, expressed the wish of communicating with the Agricultural Societies in other countries; but as the transactions of our Society are published in the Russian language, which is very little known abroad, the Society commenced publishing extracts of the annual reports and of the transactions in the German language, which is generally understood in ci-

vilized countries. The Society conceiving that these publications will be the means of communications between the two countries, has, therefore, charged me as its perpetual Secretary, to forward to you a copy of our transactions, published in German.

I take this opportunity to add, that I am very happy to be the organ of expressing the sentiments of our Society towards your enlightened nation. ALEXANDER DJUNKOOSKY,

Perpetual Secretary of the Russian Economical Society, Actual Counsellor of State of H. I. M., the Emperor of Russia.

St. Petersburg, Russia, Aug. 30, 1845.

TUESDAY, November 25, 1845.

The Society met at 7 o'clock this evening.

The President having organized the meeting, several communications were read from individuals contending for premiums.

Hon. A. P. Butler moved,

That the next Annual Fair be held at old 96, in the Abbeville District, Cambridge; which was agreed to, and the 3d Wednesday in July appointed.

On motion of the Hon. J. B. O'Neall, R. F. W. Allston was appointed to deliver the address at the Cambridge meeting.

It was then moved, that the sum of one dollar be forthwith contributed by each member, for the purpose of providing premiums for the domestic fabrics. Agreed to.

On motion of Mr. J. Allston, a committee of five was appointed to nominate officers of this Society for the ensuing year, and that the committee report on Thursday evening.

The following were appointed: W. J. Allston, A G. Summer, J. C. Chesnut, jr., F. B. Higgins, R. F. W. Allston.

Col. M'Carthy then moved, that the ladies be invited to seats on the floor of the Hall, on Thursday night, the 27th inst., to hear the address of the Hon. Joel R. Poinsett. Agreed to.

The following report from the Chairman of the Committee on Rice, R. F. W. Allston, was read:

To the Agricultural Society of So. Carolina.:

The Committee, to which was assigned the duty to report on Rice, have to regret that they have not been furnished as they desired, with the results of the experiment in the culture of this grain, which was simply mentioned the last year, viz: the planting on beds or pea-ridges, at some three feet distant from each other. This method they considered as peculiarly applicable to inland plantations, which are liable to be sobbed by heavy rains; and the soils of which are compact, admitting the free use of the plow; and by this implement the beds may be thrown up and almost completed. They deem it applicable also to very old lands, situated high up the rivers in the tide water region, which are generally too compact in texture, and frequently when the rivers are full and swollen by rains in the interior, sobbed in consequence of insufficient draining. These lands, worn and sunken by incessant cultivation, are almost universally polluted with "Goose Grass," or "Blanket Grass," as it is often called, which it has been often found is a good deal enfeebled by being bedded in with the stubble of the preceding year.

The undersigned, last year, planted a portion (lower than the remainder) of two irregular fields in this way, throwing up with the hoe, beds, at the distance of twenty-eight inches from each other, and sowing the grain broadcast on the top of the bed, at the rate of 1 bushel of seed per acre. The result of this imperfect attempt to equalize and level the surface of an irregular field, although the product differed but slightly from that of the year before, is, on the whole, considered satisfactory.

One measured acre, on which was sown one bushel of grain, yielded, on the product being thrashed, thirty-seven and a half bushels of sheaf Rice, which is equivalent to near forty bushels per acre. The whole field produced at the rate of 50 bushels per acre; the remainder of the field (not in beds,) being trenched at the distance of 14 inches, from row to row, and planted at the rate of 2½ bushels of seed to the acre.

The year preceding, the same field produced a little over 48 bushels per acre, and the portion in question did not produce more than 36 bushels per acre.

The last was an uncommonly dry season; the tides in the early portion of it being short. The same method will be pursued on the same land next year.

It is known how universal was the drought last season throughout the State. The tide lands, on which Rice is cultivated, were affected higher up the River Waccamaw and Peedee, than was ever known by the oldest resident on them. On the former, the salt water affected the crops, either in quantity and quality, as far up as Butler's Island; on the latter, as far or high up as the plantation of Chancellor Dunkin, or a little below Schooner Creek. Cooper River, Sampit, Pon Pon, Combahee, Black River and Ashepoo, were affected in even a greater degree.

In consequence of the unprecedented droughts, the effects of which are thus indicated, it is estimated that one-fourth of the lands planted in Rice, viz: about 22,000 acres will prove to have been unproductive or nearly so.

The crop of 1843-4, was a little short of 130,000 barrels—1844-5, was about 117,000 barrels. The crop of 1845-6, will be about 100,000 barrels. It has been estimated at even less than this. It is confidently believed the crop will not exceed the estimates herein made.

Respectfully submitted,

R. F. W. ALLSTON, Chairman.

On motion, the above report was submitted to the Executive Committee.

The Society, on motion of Gen. Means, adjourned till half past 7 o'clock, on Thursday evening. J. B. DAVIS, Rec'g Secretary.

THURSDAY EVENING, Nov. 27.

The Society convened as appointed on the previous evening. The President called for the Reports.

The committee appointed to ascertain the amount of provisions wanted in the State, reported.

The Executive Committee, to whom was referred a letter from A. Djunkoosky, Secretary to the Russian Economical Society; communication from E. Ruffin, on Marl, and the Report of the Committee on Rice, respectfully report the following resolutions for the adoption of this Society:

Resolved, That the Corresponding Secretary, be requested to present to the Russian Economical Society, the thanks of this body, for the two volumes of translations presented them, and that he forward to that Society, through the Hon. Alexander Djunkoosky, perpetual Secretary of the same, so much of our proceedings, from the organization of the Society, as may be useful or interesting to the Russian Society.

Resolved, That the Corresponding Secretary be also requested to tender to Mr. Ruffin the thanks of this body, for his valuable communication, and that the same with the report of the Committee on Rice, be published in the South Carolinian and Temperance Advocate.

Agreed to.

The Committee to whom was referred the resolution asking an appropriation from the Legislature, for the printing of the proceedings of this Society, from its organization, with the addresses, reports, &c., thereof, as well as for the prizes that may be awarded at the annual meetings, report that they have considered the same, and would state, that it appears to them extremely desirable both for our own sake and that of the people in general, that the documents alluded to, should be preserved. It is also of great consequence, that we should be able to meet the kind offering annually made to us, by the Agricultural Societies, of their proceedings, by presenting to them our own. To do this we have no funds; and hence we must ask the aid of the Legislature. So, too, at this meeting, premiums are to be offered on domestic fabrics, and on crops. The want of means, may hereafter prevent this, unless the Legislature will make a small appropriation. Believing that these objects are essential to the agricultural interests of the State, and that the Legislature can do nothing more acceptable to their constituents than to contribute to them, by making such an appropriation as that contemplated, your committee recommend that the President be requested to address the Legislature by letter or memorial, asking an appropriation of five hundred dollars for the objects pointed out.

JOHN BELTON O'NEALL, Chairman.

The above report was sustained by the chairman and Mr. Rhett, and opposed by Major Felder, but agreed to.

Mr. James Rhett introduced the following resolutions:

Whereas, from the accounts rendered by Capt. Charles Wilkes of the United States Exploring Expedition, it appears there are eight kinds of Rice, cultivated at Manilla, in the Philipine Islands—forming the chief articles of food and profit to the inhabitants—the different varieties being distinguished by the size and shape of the grain; three belonging to the low lands and five to the high land culture—and as it is important that they be procured for the purpose of testing their value, as staples in this State;

Resolved, That the chairman of the committee on Rice, be authorized and requested to apply to the proper authorities at Washington, in the name of the State Agricultural Society of South Carolina, to procure for us, from these Islands, the seeds of the various kinds of Rice, above referred to, so soon as the same can be effectively done.

Resolved, That the members of Congress from this State, be requested to lend their aid in promoting the objects of this application.

Agreed to.

Mr. Wm. Summer moved, That this Society memorialize the Legislature upon the propriety of laying a tax on dogs, for the purpose of protecting the sheep growing interest in South Carolina. Wm. Summer, Wm. J. Murray and W. J. Allston, were appointed to carry out this resolution.

The time now arriving, the Hon. Joel R. Poinsett, was called on to deliver the Anniversary Address, which he did to the great delight of a numerous and attentive audience. At the conclusion, it was unanimously resolved, on motion of Mr. Rhett, that the thanks of the Society be tendered to the Hon. Mr. Poinsett, and that his address be published.

The committee appointed to nominate officers, reported the following for the ensuing year:

Hon. WHITEMARSH B. SEABROOK, Pres't.
Chancellor B. F. DUNKIN, 1st Vice Pres't.
Chancellor Harper, 2d " "
Hon. J. B. O'Neall, 3d " "
Hon. A. P. Butler, 4th " "
Col. R. F. W. Allston, 5th " "
Hon. J. M. Felder, 6th " "
Dr. R. W. Gibbes, Corresponding Sec'y.
Dr. J. B. Davis, Recording Secretary.
Hon. J. C. Calhoun, Anniversary Orator:

which report was unanimously agreed to.

The President returned his thanks, and at considerable length, congratulated the Society upon its success, and detailed the interest to result from the efforts of this meeting, &c.

It was moved and agreed to, that the Executive Committee invite delegates from other State Agricultural Societies, to attend the next meeting of this Society.

The Secretary called the attention of the Society to an omission, to wit: that three members were to be appointed by the President, as forming with the officers, the Executive Committee, and A. G. Summer, Wm. J. Allston, and Wade Hampton, were appointed.

The Secretary then moved that the Executive Committee, be required to investigate the pecuniary condition of the Society, and report in full at the summer meeting. Agreed to.

The committee on Domestic Fabrics, report to the Society, that a number of beautiful and useful specimens of silk, cotton and worsted articles, have been submitted to their examination, among which they would specify the following:

By Mrs. and Miss Galliard of Pendleton, a piece of woollen and cotton goods, a coverlet of wool and cotton, and several specimens of vestings.

By Col. J. Martin of Pendleton, a fine fur hat, of neat and durable appearance.

By Mrs. Frances A. Dickson, of Abbeville, a fine piece of worsted cloth.

By Mrs. Spear of Abbeville, two pieces of colored cotton cloth, suitable for ladies' dresses, and a specimen of worsted.

By Mrs. Murphy, (68 years of age,) of Union, two large worsted shawls.

By Miss Hamilton of Pendleton, a vest pattern.

By Miss M. Lee of Anderson, a specimen of silk for ladies' dresses.

By Miss Mary Ann Evans, of Charleston District, two large silk shawls, three small silk shawls, one pair of silk gloves, two pair of silk mits, one pair of half hose, 100 skeins of sewing silk, and a silk purse.

By Mrs. Elizabeth Dantzler of Charleston District, a very handsome white silk shawl.

By the Misses Fleming of Spartanburg, a fine silk banner.

By Miss E. J. Harkness of Anderson, a pattern of colored cotton for ladies' dresses.

By Mrs. Perry of Greenville, a pair of handsome worked slippers.

The Committee respectfully recommend to the Society, the following ladies as entitled to premiums, for their fabrics, and regret that the finances of the Society, will not allow of a more extensive award. The various specimens of the skill and industry of our fair country-women, are deserving of the high respect and thanks of the Society:

To Miss Evans, for her several articles of silk, a cup, valued at $7.

To Miss Galliard of Pendleton, for her vesting, a cup, $3.

To Mrs. Murphy of Union, for her shawls, $3.

Mrs. E. Dantzler of Charleston District, for a beautiful specimen of a silk shawl, a cup, $3.

To the Misses Fleming, for the silk banner, a cup, $4. ROBERT W. GIBBES, Chairman.

The following was read by W. Gilmore Simms:

The three specimens of domestic wine, herewith submitted to the State Agricultural Society of South Carolina, was made by Mrs. R. C. Roberts, of Barnwell District, and belongs to three several vintages, as labelled. It is produced from the grape called the Scuppernong, according to a recipe found in the periodical called the "Silk Grower."

A fourth specimen herewith submitted, is made from the native wild grape, of the kind so common with us in the middle Districts. It is of a darker colour than the other specimen.

A single bottle of sweet oil, drawn from the rich seed of the Bene, a native and well-known plant, is also submitted.

This plant will grow in our poorest soils, and is well worthy of our cultivation. Four bushels of seed are found to yield about three gallons of oil.

The sample submitted is now twelve months old and will be found to retain all its original sweetness.

The process for extracting the oil from the grain, is a very simple one. The seeds were crushed in a common mortar, then thrown into boiling water—after being sufficiently boiled the oil was skimmed off, transferred to another vessel, and put to simmer upon the fire, until every particle of water had evaporated. It was then bottled, suffered to settle, and was subsequently clarified by rebottling and by age. The experiment was worth making by every family, who, by this easy method, may obtain a sufficiency for home consumption, of an oil which is really preferable to the oil of olives.

The above was accompanied by a very entertaining address from Mr. Simms, and after farther complimentary addresses, in honor of Mrs. Roberts and ladies generally, the specimens were handed around to the ladies and gentlemen, and an award made to Mrs. Roberts, of a silver cup, valued at ten dollars.

With this, the Society adjourned to meet by a subsequent alteration of the appointment of Tuesday evening, at Aiken, on the 3d Wednesday in July--instead of Cambridge.

JAMES B. DAVIS, *Secretary.*

Agricultural Society of Chatham, Bryan and Effingham Counties.

An adjourned Meeting of the Anniversary of the Agricultural Society for the counties of Catham, Bryan, and Effingham, was held at the Court House in Savannah on the 2d April last, at which, a good number of members were present. The President being absent, John Lewis, the 1st Vice-President took the Chair, and in the absence of the Recording Secretary, George J. Kollock, acted as Secretary.

The minutes of the last meeting were read and confirmed; after which, the reports of the various committees were called for in order.

The Chairman of the Committee on Stock responded in a report of some length, in which it was contended, that there was an utter want of system in the breeding and management of stock amongst us: that we have a good stock of cattle to build upon, being hardy and acclimated; but that the custom of keeping so large a number prevents the farmer from attending to their food and comfort, and destroys more than one half their value both to the farm and the farmer; and the fact of the stock being allowed to roam at large, (indeed by their numbers,) forbids the possibility of keeping a pure breed.—The possibility of supplying the market at Savannah to some extent, was touched upon. The report closed by strongly recommending periodical exhibitions of stock, as a means of improvement, by creating emulation amongst the breeders, and bringing the subject more fully under view.

Such of the other Committees as were present, stated that owing to unavoidable circumstances, they were unprepared to report, but it was hoped they would not have to encounter similar difficulties in future.

A letter was presented by S. C. House, Esq., received from L. Bradish, Esq., of New York, on the subject of application of electricity to agriculture, which was ordered to be filed.

A letter was also received from Joseph M. Shellman, Esq., accompanied by a present to the Society of a small bag of seed, being a new kind of pea, called the "Oregon, or Rocky Mountain Pea," and said to be very prolific, affording a very nutritious food for stock of all kinds, in the leaves and stalks, as well as in the fruit, without the deleterious qualities of the common pea.

The Plant is herbaceous and not climbing as other peas, resembling somewhat the Cotton plant, and it is stated that if sown early in the spring, it may be cut constantly during the summer as food for cows, &c., and one peculiarity which gives it a preference over the common pea for fodder, is, that when cut and cured, it does not drop its leaves. The pods should be gathered as soon as they turn black, as they burst and scatter their contents upon the ground if suffered to remain too long. Milch cows fed on this food yield rich milk in great abundance, and it is fine for poultry.

This present was received with manifestations of pleasure, and the thanks of the Society were voted to Mr. Shellman, and the Secretary requested to furnish him with a copy of the resolution.

A package of seeds, containing different varieties of wheat, tobacco, &c., was also received through the hands of the Corresponding Secretary, from the President, the Hon. J. M. Berrien, obtained by him from the Patent Office.—On motion, the thanks of the Society were voted to our President for the valuable seed sent.

It was also Resolved, That the Board of Managers be authorised to take into consideration the propriety of offering premiums for the purpose of promoting emulation in the various branches of Agriculture, and if deemed advisable, to publish the same.

Also Resolved, That the Editors of daily Papers of the city of Savannah, be requested to devote two of the outside columns of their papers to the subject of Agriculture, as in the opinion of this society, the interest of a great number of their subscribers would be thereby greatly promoted.

The Society then proceeded to elect officers for the current year, when all the old Board were re-elected, viz:

JOHN M. BERRIEN, President.
JOHN LEWIS, 1st. Vice-President.
Thomas S. Clay, 2d. Vice-President.
Clem Powers, 3d. Vice-President.
George J. Kollock, Corresponding Secretary.
George Paul Harrison, Recording Secretary.
Samuel C. House, Treasurer.
Robert G. Guerard, Librarian.

Board of Managers—William H. Cuyler, George Jones, William B. Hodgson, William P. Bowen, and John S. Law.

The business of the meeting having been closed, a very interesting conversation arose on the subject of the management of stock, and much practical information was elicited from the experience of the different members in relation to the raising of hogs, &c.

The seeds were then distributed amongst the members, after which, on motion the Society adjourned. JNO. LEWIS, Chairman.

GEORGE J. KOLLOCK, Sec'y pro tem.

State Agricultural Association.

The following gentlemen have been appointed on the several committees to report at the next annual meeting, which will be on the 3d Monday in November:

1. On the best method to prevent the washing of hilly land by frequent heavy falls of rain—H. T. Landrum, Wm. Lumpkin, J. H. Echols, of Oglethorpe.

2. On the practicability of reducing to a profitable state of cultivation, the wet lands on the margins of creeks and branches, and the best method of ditching the same—Wm. Terrell, R. J. Sasnett, Jas. Thomas, of Hancock.

3. On the best method of preparing land for planting and cultivating Indian corn—Samuel Pearson, Nathan Bass, John Farrar, of Putnam.

4. On the best method of planting Cotton, and mode of culture; with suggestions as to the practicability of reducing the number of acres and retaining an equal result as from a greater number—J. P. C. Whitehead, M. Marsh, Jas. Grubbs, of Burke.

5. On the best method of preparing land for wheat, oats and barley, the method of sowing the same, and the variety most likely to succeed in our climate and soil—A. W. Redding, Jas. Dickson, R. M. Orme, of Baldwin.

6. On the practicability and importance to the State of growing our own bread stuffs, raising our own horses, mules, pork and beef; and whether the wealth of the State would not be promoted by pursuing such a course, and cultivating less cotton--Tomlinson Fort, Baldwin; John A. Jones, Paulding; John Harris, Warren.

By the President of the Association.
J. R. COTTING, Cor. Sec. S. A. A.

Root Crops For Stock.

This important and profitable branch of agriculture is totally neglected by a large majority of the farmers of North Carolina. A few raise turneps, and beets on a very small scale; the sweet potato is the only root crop cultivated to any great extent among us; and this, for the use of stock, is confined to a comparatively small portion of the State.

From what we have learned from the successful practice and experience of many intelligent practical farmers, we are firmly convinced that a just regard to economy and bountiful supply of provisions for all of our domestic animals, as well as for our families, requires that we adopt the plan of raising *largely all* the various kinds of root crops, which are adapted to our soil and climate. They help astonishingly a short crop of grain, and save it surprisingly when it is abundant. They, moreover, are cultivated with less labor and expense in proportion to the product of a given quantity of land; their cultivation aids in carrying out a judicious system of rotation of crops; tends to preserve the land from rapid exhaustion; and, in the event of the failure of other crops, may, to some extent, supply the place of both corn and fodder. Among those which grow well in North Carolina, are carrots, ruta-baga, beets, potatoes, and turneps. A little calculation, founded upon facts, will readily show whether it will be profitable or not for the farmer to raise these articles. Let us then compare their respective nutritive values, together with their cost in raising, with hay. It has been ascertained that they compare with hay in value as follows:

276	pounds of	carrots	equal 100	pounds of hay.
300	do.	ruta-baga	do.	do
317	do.	mangle-wurtzel	do.	do.
201	do.	Potatoes	do.	do.
294	do.	common turneps.	do.	do.

This shows their comparative value. Now let us look at the expense of raising. The Albany Cultivator, to which valuable paper we are indebted for this table, says the same degree of fertility in soil will give about 250 bushels of potatoes, 500 of carrots, 600 or ruta-bagas, and 700 mangle-wurtzel—the expense of raising an acre of each nearly equal. Carrots, mangle-wurtzel and ruta-baga stand on nearly equal ground as to merits; but the far greater avidity with which horses will eat carrots, the excellent butter which results from their use when fed to cows, and the little injury they receive from frost even when the crop, or a part of it, is left to winter in the ground where it grew, give this crop most eminently the preference. Examine next their cheapness compared with hay. A ton of hay is equal to 5500 pounds of carrots, which, at 60 pounds to the bushel, would be 91 bushels. One acre of carrots. or 500 bushels, would be equal to 5½ tons, or 11,000 pounds of hay. Such a crop may be raised and harvested for 12 to 15 dollars: which would make the carrots a cheaper food than hay, if the hay were only $3 a ton; but the superiority of the condition of horses and cattle, when fed freely on carrots *with hay*, is an important additional advantage.

Those of our readers, and we hope they are few, who *think* they "know as much about farming as they ought to know," will treat these statements as "nothing but *book-farming*," and go on as they have gone for years, making nothing but corn and potatoes, or corn and peas, and scarcely enough of them to keep the bones of their plow nags together; but those who seek for practical knowledge from every enlightened source, and practice what they learn, are ever ready to profit by the experience of those who are ahead of them in the science, and will, we doubt not, try the culture of root crops themselves; and for their benefit we further state, it must be borne in mind that all the roots above mentioned require neat and thorough culture—that they must be sown in drills from 2 to 2½ feet apart—that the ground must be previously well plowed and harrowed—that they must be well hoed (or *carefully* plowed *and hoed*) soon after they are up, and when about 2 inches high thinned out, leaving about 4 inches space between each plant for carrots—six for beets.—Weeds and grass must be kept scarce, and the ground light and well pulverized. A writer in the Cultivator says he raised upwards of 1200 bushels of carrots to the acre. He sowed rows only 18 inches apart, and cultivated with the hoe. Sow in March or April. We care not whether the nights are dark or moonlight, so he ground is well and duly prepared.

From the New Orleans Commercial Times.

Sunflower Seed.

HELIANTHUS ANNUUS ET PERENNIS.—From experiments made by the Moravian Brethren at Bethlehem who were the first to introduce its manufacture, it appears that a bushel of sun flower seed will yield, on expression, near a gallon of mild oil. The process is the same as that for making linseed oil. The oil-cake is believed to be quite as valuable for stock-feeding. The per centage of oil is not so great as that from many other seeds, being stated by Ure at fifteen per cent. But the number of bushels of seed per acre is great, being variously stated at from 50 to 150—the lowest estimate being, perhaps, the nearest the truth. Even at that rate, and as food for stock, this must be one of the most valuable of crops. A letter, now before us, from our observant old friend, Thomas S. Hinds, of Mount Carmel, Illinois—one of the few pioneers who have kept a record of events during the early settling of the West; and which, he informs us, he is about giving to the world—states that "Mr. John Matthews, of Urbana, Ohio, informed me that he was offered 4,000 bushels of sunflower seed, to be delivered him, from the banks of the Scioto, forty or fifty miles distant, at twenty-five cents per bushel." Mr. H. makes the deduction that as it can be produced so cheap, and as stock of all kinds are fond of it and thrive on it, it will prove a profitable crop as food for stock; the more as the leaves make capital fodder. Mr. H. promises us a supply of seed, of a superior variety, to test its growth in the South.

Since writing the above, we found an article in the *Western Farmer and Gardener*, (Indianapolis, Ia.) from the pen of its editor, from which we make the following extracts:

"SUNFLOWER SEED.—To some extent this is likely to become a profitable crop. Mr. Clark Kitchener in this (Marion) county, tried about an acre of it this year. A part of it did not do well; but off from one-half acre he raised *thirty-five bushels;* or seventy bushels to the acre. Medium lands will yield, on an average, fifty bushels; while first rate lands will yield from seventy to one hundred bushels.

Mode of Cultivation.—The ground is prepared in all respects as for a corn crop, and the seed sown in drills four feet apart—one plant to every eighteen inches in the drill. It is to be plowed and tended, in all respects, like a crop of corn.

Harvesting.—As the heads ripen, they are gathered, laid on a barn floor and threshed. The seed shells very easily.

Use.—The seed may be employed in fattening hogs, feeding poultry, etc., and for this last purpose it is better than grain. But the seed is more valuable at the *oil mill* than elsewhere. It will yield a gallon to the bushel without trouble, and by careful working, more than this. Hemp yields one and a fourth gallons to the bushel, and flax seed one and a half by ordinary pressure; but two gallons under the hydraulic press.

The oil has, as yet, no established market price. It will range from seventy cents to a dollar, according as its value shall be established as an article for lamps and for painters' use. But at seventy cents a gallon for oil, the seed would command fifty-five cents a bushel, which is a much higher price than can be had for corn.

It is stated, but upon how sufficient proof I know not, that sunflower oil is excellent for burning in lamps. It has also been tried by our painters to some extent; and for *inside* work it is said to be as good as linseed oil. Mr. Hannaman, of this place, who has kindly put me in possession of these facts, says, that the oil resembles an *animal*, rather than a vegetable oil; that it has not the *varnish* properties of the linseed oil. We suppose by varnish is meant the albumen and mucilage which are found in vegetable oils. * * * * * *

The existence of impurities in oil, such as mucilage, albumen, wax, gums, etc., which increase its value to the painter, diminish its value for the *lamp*, since these substances crust or cloy the wick, and prevent a clear flame. All oils may, therefore, the less excellent they are for painting, be regarded as the more valuable for burning. *Rape seed* is extensively raised in Europe, chiefly in Flanders, for its oil, and is much used for burning. Ten quarts may be extracted from a bushel of seed. It is beginning to be raised in Ohio for this purpose." T. A.

Rural Manners in England.

The true English gentleman, living remote from the din of cities, and abstracted from the turmoil of political life, upon his own acres; managing his own estate, seeking the best means for its improvement, and superintending, under his own personal inspection, their application; doing what good he can to all around him; making those dependent upon him comfortable and contented; giving labour, counsel, encouragement, and all needful aid, to his poor neighbours, and causing them, and their wives, and their children, to look to him as a friend and a parent, to whose kindness their good conduct is always a certain claim; whom when the eye sees, it sparkles with grateful joy, and when the ear hears his footsteps, the sounds go like melody to the heart; who is in his neighborhood the avowed and unostentatious supporter of good morals, temperance, education, peace, and religion; and in whose house you find an open-hearted hospitality, and abundant resources for innocent gratification, and for the improvement of the mind, with a perfect gentleness of manners, and unaffected piety presiding over the whole;—I say, such a man—and it has been my happiness to find many examples—need envy no one save the possessor of more power and a wider sphere of doing good; and need not covet the brightest triumphs of political ambition, nor the splendors and luxuries of royal courts.

Whatever contributes, then, in any way, to elevate the agricultural profession, to raise it, from a mere servile or mercenary labor, to the dignity of a liberal profession, and to commend it not merely for its profit and usefulness, but as a delightful resource and recreation for a cultivated mind, will certainly find favor with those who form rational views of life, who wish well to the cause of good morals, and would multiply and strengthen the safeguards of human virtue.

The class of individuals whom I have described—and I assure my readers I have drawn from real life, and deal in no fictions—find often their own efforts seconded and aided by those whose encouragement and sympathy always give new life and vigor to their exertions, and new pleasures to their pleasures,—I mean their own wives and children; and the farming operations, in all their history and details, and all their experiences and fitness, are as much matter of familiar and interested discussion at the fireside, as, in many other circles, the most recent novel, the change in fashion, or the latest triumph of party. Indeed, I have seen, in many cases, the wives and daughters—and these, too, often persons of the highest rank and refinement—as well acquainted with every field and crop, their management and their yield, and with every implement and animal on the place, as the farmer himself; and I always put it down to the credit of their good sense.—*Colman's Tour, No. 3.*

RICE CAKES.—Boil a cup full of rice until it becomes a jelly, while it is warm mix a large lump of butter with it and a little salt. Add as much milk to a small teacupful of flour as will make a tolerably stiff batter—stir it until it is quite smooth, and then mix it with the rice. Beat six eggs as light as possible, and add them to the rice.

Serve them with powdered sugar and nutmeg. They should be served as hot as possible, or they will become heavy.

The best fertilizer of any soil is a spirit of industry, enterprise and intelligence—without this, lime and gypsum, bones and green manure, marl and guano, will be of little use.

The Southern Cultivator.

AUGUSTA, GA.

VOL. IV., NO. 6.....JUNE, 1846.

Marl.

Gov. Hammond's letter on Marl, we commend to the especial attention of the readers of the Cultivator. We can assure them that they have not had such a treat in a long time.

The Grain Crop.

Up to this day (May 20th) accounts, from nearly all parts of the Southern country, represent the prospects of the grain crop as promising beyond anything that has been seen for many years. In the Cherokee counties of Georgia, and in Virginia, we hear complaints of the wheat crop being injured by the fly.

American Plowing.

The very high praise bestowed by Mr. Colman on English and Scotch plowing, has set our Agricultural editors to looking into the manner in which this most important operation is performed in America. The consequence is, that though good plowing is by no means so common here as in England, yet there are many instances in which it is just as effectually done as in any case England can boast of. Mr. Botts, in the April No. of the *Southern Planter*, says: "It is very probable that, as a general rule, the English Farmer gives more attention to appearances than we do, but in all the essentials of good plowing we doubt whether some of the work done upon our James River plantations is excelled any where. If Mr. C. had seen, as we have, a large four-horse Davis plow whirling the dirt over to the depth of ten or twelve inches, completely subverting the earth, and hiding weeds as tall as the plowman's breast, we are inclined to think he would have witnessed the exhibition of a higher degree of the plowing art than any he has seen in England, or than any that the nature of the country could afford. We can tell Mr. Colman a secret that will surprise him and many of his countrymen—there are thousands and thousands of acres in Virginia so deeply and thoroughly cultivated that the largest and best Northern plows are looked upon as mere toys and playthings. There is no subject on which more erroneous opinions prevail at the North than as to the character of Virginia Agriculture."

Mr. Allen, editor of the *American Agriculturist*, next, gives us an account of plowing which he lately saw on the farm of Mr. E. J. Woolsey, near New York: "Mr. Pate, the manager, is a Scotchman, and having several Scotch plowmen, with Scotch plows at work, to gratify our curiosity he invited us to see them operate. The work was not done for show, but was such as characterises the every day operations of good plowmen in Scotland, and if all were not as well done at home, they would be dismissed by their employer for awkward workmanship. The field in which we found the men at work was about 40 rods long, of a rich loamy soil, and coated with a tough old sward. Here the men set in and run their furrows from end to end, as straight as one could draw a line, turning them 6 inches deep, and 11 inches wide, slightly lapped, and packing them up; one after the other, all day long, with a single pair of horses, each plowman driving his own team, and not varying throughout their work, as we could discover, a single inch in the thickness or width of their furrow slices. We have seen as good plowing in Great Britain, but never anything like it before, as a whole, in the U. States, though we have often been present at the most celebrated plowing matches. There were no snake trails, or ram's horns here, or half turned sods, or untouched ground, or skipped places, but the whole was as thoroughly and evenly done as it would be possible to accomplish with the most careful spading, and when harrowed with the fine double harrow, the surface of the field had the appearance of a *well dug* and *fine raked* garden.

"People may say what they please, yet we contend that good plowing is not only the first, but the most important part of the operations on the farm, and without it nothing else can be thoroughly well done for the crop. It would be well for our farmers if they would take lessons on plowing, at least so far as to enable them to draw straight lines (for these are rarely seen in the U. States,) and stir and pulverize the soil well."

The Right Spirit.

If those who are connected with the Agricultural press in the Southern States are compelled to submit to the disgust produced by the public apathy here, there is yet left for them a very high gratification derived from the knowledge of the fact that Agriculture and Agricultural papers are, in other parts of the U. States, properly appreciated.

A gentleman of Wyoming, N. Y., writes thus to the editor of the *Albany Cultivator*:

"I have taken your paper for three years, and would not now do without it for three times its cost. In 1844, I raised 229 bushels of ears of corn on an acre of land, and I do not think I should have done it, if I had not taken the Cultivator."

A young man in Vermont, who had interested himself in getting subscribers for the same paper, writes:

"I am a boy of only 18. The interest I take in agricultural improvement is great. I should be glad to be one of the best farmers in the United States, and I mean to be, if Providence smiles on my efforts and grants me the blessings of health and strength, although I am without capital, and am situated in the midst of the Green Mountains."

That's the sort of boys, who, when they become men, are to save this country from ruin, if such salvation be its destiny. We wish our Southern boys were, more of them, like this Green Mountain boy. We would then have less demand for Prince Albert coats and long-toed boots, but a higher appreciation of the moral and intellectual qualities that make a man of the right sort.

So too is it in Ohio. The editor of the Ohio Cultivator of 16th May, says: "We received a letter a short time since from J. W. Putnam, of Centre Belpre, Washington county, Ohio, enclosing payment for the Cultivator for himself and three others, and stating that all four of the subscribers are young men not yet out of their minority; but, the writer adds, we are determined to be *farmers*, and we wish, in addition to the benefits of our fathers' experience, to obtain a knowledge of the improvements that others have made in the art of cultivation."

Thereupon the editor remarks:—"Let this spirit become generally diffused among the farmers' sons of Ohio, and in ten years time we challenge any other State in the Union to equal her in agricultural wealth and prosperity."

Morgan Horses.

The editor of the *Albany Cultivator* is altogether wrong if he supposes the article in the March No. of the Southern Cultivator was intended to throw doubt or discredit on Mr Weissinger's account of the Morgan horse, which we had copied in our February No. By no means. It was intended, as was distinctly stated, as a sort of counter-blast to the article of February—not to discredit it, but that if any one, by it, should be induced to think about getting a Morgan horse, he should look sharp with whom he is about to deal. That was all. Our caution was not against alleged misrepresentations about the existence of this celebrated stock, but against the tricks of jockies, who would sell the veriest jackass for a Morgan horse, to any one who would allow himself to be thus cheated, and then make a boast of it, especially if the sale were made to a Southern green-horn.

Southern Independence.

The *lime* sent from the Conasena Kiln, in Cass county, by Mr. Brown, we have received, examined it carefully, and tried it sufficiently to satisfy us that, for all the purposes of the builder, it is just as good as lime need be. Such, too, we understand, is the character given to it by every one who has tried it. In Augusta, we have heard it pronounced to be equal to the best Northern lime, in all respects; and in one greatly superior, that is, in its freshness, owing to the short distance it has to be carried to that market, compared with the other.

Some one has suggested, on the authority of Dr. Troost of Nashville, that the rock of which Mr. Brown makes his lime is an inferior variety of limestone, known by the name of oolite. This is an error, both in Dr. Troost and those who rely on him as authority. Mr. Brown assures us that his rock is not an oolite, and any one who chooses may satisfy himself by examining the small pieces of imperfectly burnt rock, that are sometimes found in this lime, that Mr. Brown's limestone has nothing of the oolitic character about it.

Figs.

Surely we may have as good—nay, better—dried figs of our own growth and preparation than can be produced any where. The world does not produce finer figs than these same Southern States; and they can be prepared for keeping and for export, just as easily as in Asia; and thus we can have an article that we know to be clean. We can't look upon an imported dried fig without a feeling of nausea. Why, the process of preparing them for market is tenfold more abominable than that used in making Foreign Madeira or Port Wine, of which we gave an account some time ago:

From the Savannah Republican.

DRIED CAROLINA FIGS.—*Messrs. Editors.*— For some time I have been of the impression, that as good figs could be prepared in Georgia and Carolina as the imported. Accordingly, last season I prepared a quantity, not for market, but for family use. As fig scason is approaching, and as the crop has the appearance of being an abundant one, I give you, for the benefit of fig growers, my plan of preparing them. Gather the figs with the stems to them, before they are fully ripe; have a syrup prepared either of brown or white sugar; and while boiling, put in your figs and let them remain till they become flat, which will be in a few minutes; take them out, put them on a dish or tray, and place them in the sun; after they have drained, place them in another tray, taking care to turn them; let them be turned and gently pressed down twice a day. Two or three days sunning is sufficient to cure them. Before boxing them, have some well dried loaf sugar sifted upon them—box them, and they are ready for use. It is important that they are not allowed to stay too long in the boiling syrup—if they do, they can never be properly dried.

I contemplate sending you a box this season for exhibition in the Savannah market.

CAROLINIAN.

Books for a Farmer's Library.

In the *Ohio Cultivator* we find a list of books on Agriculture, and kindred subjects, prepared by request, for the use of Farmers, Clubs, or of individuals having the inclination to spend a little money in the purchase of such things as books. We transfer it to our columns for the benefit of our readers, having first made such corrections and additions as were necessary to make it suit our purposes and views.

AGRICULTURAL PERIODICALS are unquestionably the cheapest and best foundation for a farmer's library, embracing, as they do, the whole range of practical and scientific knowledge on almost all subjects relating to the farm, the garden, and the household. We would, therefore, commence by subscribing for two or three or more of the following works, (supposing, of course, that the SOUTHERN CULTIVATOR, is on hand:) The Albany Cultivator, ($1 per year) including the two past volumes; The American Agriculturist, ($1) with the three past volumes; The Genesee Farmer, (50cts,) current volume; Skinner's Farmers' Library, ($5) current volume—this embraces republications of several foreign works of great value, and should by no means be omitted; The American Quarterly Journal of Agriculture and Science ($3,) with past year's volume—a work of high order. To these should be added any journal that is particularly adapted to the region or style of farming, as the Prairie Farmer, for the West, the Southern Planter, and Southern Agriculturist, for the South, &c.

On Agricultural Chemistry, &c.— Johnston's Lectures is the best work—2 vols, $1 50 or 1 75. As introductory to this, and especially for young persons, and those not familiar with chemical science, the Catechism of Agricultural Chemistry, (25cts.) and a little work called Elements of Agricultural Chemistry and Geology, by the same author, (50cts.) are very useful. These embrace all the valuable discoveries of Liebig, and other chemists, and are much more easily comprehended by farmers—though persons who wish to become thoroughly scientific farmers, should of course add to these, Liebig's Chemistry of Agriculture, and his Animal Chemistry—the cost, in good style, is $1 or $1 25 each. Next, we would add a recent work, called Rural Economy, by Dumas and Boussingault—$1 50. Then there are several excellent little works on the subject of manures and tillage, such as Dana's Muck Manual, Smith's Productive Farming, the Farmers' Mine, &c., costing only 25 or 37 cents each, and well worth a place in the library.

On general subjects, the Farmers' Encyclopedia, by C. W. Johnson, a very large and comprehensive work, is indispensable to a good library—price $4; and Gardner's new work, the Farmers' Dictionary, ($1 50) must also be included. Then there are a number of smaller works of much practical value, such as Buel's Farmers' Companion, American Farmers' Instructor, by Wiggins. The Complete Farmer, (by Fessenden,) &c, costing 75 cents to $1 each; Ruffin's essay on Calcareous Manures; Hammond's letter on Marl; Reports on the Geological and Agricultural survey of South Carolina by Ruffin and Tourney; Essay on the soils and available manures of Georgia, by J. R. Cotting.

On Cattle, Sheep, &c.—Youatt's Treatise on Cattle, is the most complete—$2 or 2 50; Skinner's edition of Clater and Youatt's Cattle Doctor—50 cts. Stewart's Stable Economy 1 25; 'Every Man his own Farrier,' (Clater's) 50 cts.; 'Morrell's American Shepherd,' $1, and last, though not least, 'Bement's American Poulterer's Companion, $1 25.

On Horticulture.—We would have 'Bridgeman's Young Gardener's Assistant,' $1 50, or 'McMahon's American Gardener,' 2 25, [and we should like to add 'Downing's Landscape Gardening,' if it were not for the expense,] 'Downing's Fruits and Fruit Trees,' must certainly be included, $2; though, if this cannot be obtained, 'Thomas' Fruit Culturist'—50 cts.—can be made to answer as a substitute; or Kenrick's American Orchardist, which is better. Nurserymen and Florists will need to extend this list.

To the foregoing list, there might, with propriety, be added works on sciences intimately connected with agriculture—as geology, botany, entomology, mechanics, philosophy, &c.—some knowledge of which, should be possessed by every well-informed, scientific farmer.

But we find that our list already embraces about 35 volumes, the cost of which would be about 50 dollars; and fearing that a larger list might alarm those for whom it is designed, we will add no more at present.

Public Property.

We like very much the following suggestions, made by the Rev. Mr. BEECHER in the *Western Farmer and Gardener*, of which he is the editor. Every one living in a town or in the country may consider them as addressed directly to himself.

It is positively a sickening sight to see the condition of the streets, side-walks, public squares and shade trees of many of our villages, and of the roads, fences, and yards, around many houses of great pretension in the country; so much so, indeed, so far as the villages are concerned, that travellers from parts of the U. States where these things are properly attended to, will often turn away with loathing and disgust, preferring to lodge in country taverns.

It is still more sickening to see such advertisements as have lately appeared in the newspapers of Macon and Athens, about depredations committed on the new cemetry of the former, and the Botanic Garden of the latter. Both, we fear, will have to be given up in despair, simply because people, pretending to be respectable, will not keep their hands off what does not belong to them, and what, therefore, they have no right to touch.

[From the Western Farmer and Gardener.]

PROTECT PUBLIC PROPERTY.—What if it does concern every body else as much as it does you? Some one ought to see that the fences about the square or common are kept in repair. Some one ought to save the trees from cattle. Some one ought to have things in such trim as that the inhabitants can be proud of their own town. Pride is not decent when there is nothing to be proud of; but when things are worthy of it, no man can be decent who is devoid of a proper pride. The church, the school-house, fences, trees, bridges, roads, public squares, side-walks—these are things which tell tales about people. A stranger can hardly think well of a place in which the distinction between the house and the hog-sty is not obvious; in which every one is lazy when greediness does not excite him, and where general indolence leaves no time to think of the public good.

When politicians are apparently on the point of dissolving, in the very fervent heat of their love for the public, it would recover the fainting soul quicker than heartshorn or vinegar to ask them—Did you ever set out a shade tree in the street? Did you ever take an hour's pains about your own village? Have you secured it a lyceum? Have you watched over its schools? Have you aided in any arrangements for the relief of the poor? Have you shown any *practical* zeal for good roads, good bridges, good sidewalks, good school-houses, good churches? Have the young men in your place a public library?

If the question were put to many distinguished village patriots, what have you done for the public good?—the answer would be, "Why, I've talked till I'm hoarse, and an ungrateful public refuse me any office by which I may show my love for public interest in a more practical manner."

In the same paper, Mr. BEECHER gives us a short, pithy article on spring work for public-spirited men, as follows:

From the Western Farmer and Gardener.

SPRING WORK FOR PUBLIC-SPIRITED MEN—*Shade Trees.*—One of the first things that will require your action is the planting of shade trees. Get your neighbors to join with you. Agree to do four times as much as your share, and you will, perhaps, then obtain some help. Try to get some to do the same in each street of your village or town.

Locusts, of course, you will set for immediate shade. They will in three years afford you a delightful verdant umbrella as long as the street. But maples form a charming row, and the autumnal tints of their leaves and the spring flowers add to their beauty. They grow quite rapidly, and, in six years, if the soil is good and the trees properly set, they will begin to cast a decided shadow. Elms are, by far, the noblest tree that can be set, but they will have their own time to grow. It is best, then, to set them in a row of other trees, at about fifty or a hundred feet apart, the intervening space to be occupied with quicker growing varieties.

The beech, buckeye, horse-chestnut, sycamore, chestnut, and many others may be employed with advantage. Now, do not let your court house square look any longer so barren. Will not the commissioners do, as they have done in Marion county, set out the space in shade trees at the public expense? If they will follow so creditable an example, pray don't imitate the *manner*. Some twenty rows of trees stand up with the most distressing exactness. They were laid out by a surveyor with his chain, and do not vary, we believe, an inch from a straight line.

Avenues may be lined with rows of trees; but squares and open spaces should have them grouped or scattered in small knots and parcels in a more natural manner.

Mutton.

We sincerely hope Mr. ALLEN will be as good as his word. The habits of our people in regard to diet need reform, nearly as much as in any other respect. If Mr. ALLEN shall succeed in expelling from use the never-ending hog and hominy of the West, and the bacon and collards of the South, he will be entitled to the never-ending gratitude of the people. In a late number of his paper, the *American Agriculturist*, he pledges himself thus:

"We mean to repeat at least a thousand times, or till what we say has some effect upon our countrymen, that a pound of lean, tender, juicy mutton can be raised for half the cost of the same quantity of fat pork; that it is infinitely healthier food, especially in the summer season; is more agreeable to the palate when one gets accustomed to it; and that those who eat it become more muscular, and can do more work with greater ease to themselves than those who eat fat pork. We know nothing more delicate than smoked mutton hams of the Southdown breed of sheep—venison itself is not superior. Sheep can be kept in fine growing order, where other domestic animals will scarcely exist, and thousands of acres in the State, under an enlightened system of sheep husbandry, may be made to pay a good interest, where now they are nearly dead property in the hands of their present owners."

Plowing.

We give the following article from Dr. Lee's paper, the *Genesee Farmer*, a prominent place in the Cultivator, because there are ideas in it about plowing, and the nourishment of plants, which cannot be too strongly impressed on the minds of southern readers. That there is something of science in it can be no objection, for it is presented in so clear and simple a manner as to be easily understood by every one.

From the Genesee Farmer

We spent an evening, not long since, in company with a very intelligent practical and scientific farmer, who was discussing with his son the subject of *plowing*, which incidentally brought under review a variety of topics of great interest in the art of cultivating the soil. The son advocated the propriety of turning the earth by the plow directly bottom upwards, so as to present a smooth and even surface when the work is done. It was urged that this method had the merit of killing all grass and weeds better than any other that can be adopted.

The father thought differently, and drew with a pencil, in illustration of his views, a diagram representing furrows seven inches deep and fourteen wide, lapping the edge of one on to the next only two inches. By this process, he said, you expose to the decomposing and mellowing influence of the air, *fifty inches of surface*, to every inch in length of each furrow.

Son.—I don't understand how that can happen, seeing that the furrow is only fourteen inches wide. Will you explain?

Father.—Certainly. As each furrow laps but two inches on the upturned surface of the preceding one, it is plain that twelve inches of each sod will be exposed to the air. Then you have seven inches more at the end of the furrow, being the depth at which the plow was driven—making nineteen inches exposed on the upper side. On the under side, you have seven inches at the other end of the furrow, twelve on that which has been turned over, and twelve inches more on the bottom from which the sod or earth has been lifted. This gives a surface of thirty-one inches below, and altogether a surface of fifty inches. If you do count the laps anything, (and they are only two inches,) then, by plowing after my plan, you get three surfaces of fourteen inches each, besides two of seven inches each, at the ends of the furrow, in the place of *one surface only*, of fourteen inches, when you turn each furrow upside down.

S.—I concede that you get about three times as much surface exposed to the atmosphere by your system, as is attainable by mine. Nevertheless, you must admit, that on dry, gravelly soils, it is important to keep the earth as compact as possible. Under such circumstances, is my plan not better than yours?

F.—On loose sandy, or gravelly soils, the portion of earth raised by the plow, will not hold together in the manner I have indicated. If it has turf and compactness enough to lie up at the angle and in the manner I have spoken of, it will be better to have it so than otherwise. If the ground is too loose and porous at the time of seeding, the roller can be, and should be applied.

S.—I see that you understand the subject of plowing much better than I do; and I should be happy to learn what the mere drawing of a plow through the field, and thus breaking up the soil, *adds to it* or takes *away from it*, so that crops should grow in the one case, and not in the other?

F.—This question strikes at the root of the art of culture, and can only be answered by calling to our assistance the light of modern science. That the thorough stirring of the soil to a considerable depth, either with plow, harrow, cultivator or spade, is extremely beneficial to all cultivated plants, is a fact which was settled thousands of years ago, and has ever since been verified, by all practice and experience. Whether the earth be stirred with a clam-shell, a wooden stick, or an iron plow, nothing is thereby added directly to the soil. The important results that follow, are all purely chemical changes in the combinations of matter, a knowledge of which is of incalculable value to the practical farmer.

S.—What are the changes in the ingredients of the surface of the earth, which supply plants with much additional food, when the soil is well pulverized by the skilful use of rural implements?

F.—As a key to these mutations, you must ever bear in mind these two facts: First, that no *undissolved* earthy substance can enter the minute pores of the roots of plants to nourish them.—All such solid food must be dissolved in water, to be available. Secondly—that when earthy substances like common salt, the salts of lime, potash, silica, &c., are dissolved, no mere filter like the soil, or a barrel of wood-ashes put up to leach, can prevent *salt water* from running away from the roots of plants, and thus at once depriving them of their proper nourishment, and robbing the soil of its fertilizing elements.

S.—Let me fully understand what you mean. Do you say that, all solid matter in the earth must be dissolved in water before it can pass through the very small tubes in plants; and when solids are dissolved, they are prone to pass with water deep into the subsoil, and into ditches, brooks, and ultimately into the ocean?

F.—Yes. The water that falls from the clouds in rain and snow, and passes no more than twelve or fifteen inches into the surface of the earth, and then runs into creeks and rivers, takes with it in solution, some of the earthy salts used by cultivated plants in organizing their living tissues. If a field be plowed and harrowed repeatedly, at short intervals, and nothing allowed to grow upon it, its cultivation will impoverish it, by increasing the solution, and the washing away of the mineral elements of all crops.

S.—What evidence have you that soluble salts like those in the dung and urine of animals, guano, and other fertilizers, pass with rain water through the surface soil, and into brooks and ditches?

F.—Common salt applied to land at the rate of only three bushels per acre, has been found in the water of ditches after a rain, that fell soon after the salt was sown. Any soluble salt placed on a barrel filled with leached ashes or soil, and then dissolved with water, will pass through the earth, and come out through the bottom like ley. Coloring matter, like that in the liquid which flows from dung heaps, may be separated by a good filter, but the salt in brine cannot.

S.—What practical inference do you draw from the several facts you have stated?

F.—First, that all soluble minerals, like salt, ashes, lime, guano, and stable manure, should be applied as close to the mouths (or spongioles in the roots) of plants as possible. Secondly, that a sound judgment must be exercised to avoid commencing too soon to plow, harrow, and otherwise stir the soil for a future wheat, corn, or other crop.

S.—What salts are most likely to be lacking in ordinary soils, which are needed in forming grain and root crops?

F.—They are the soluble salts of potash, soda, magnesia, and lime: being sulphates, phosphates, carbonates, silicates, and chlorides of those bases.

S.—What articles will cheaply supply these mineral substances?

F.—Unleached wood-ashes, lime, salt, plaster, and bones. Plants that have long tap-roots, like clover, aided by a little gypsum, lime, and wood-ashes, together with deep plowing, can do much to fertilize a poor soil, by drawing many important minerals from a greater depth in the soil than the roots of wheat, &c., can penetrate?

To Prevent Lamps from Smoking—An exchange says, soak the wick in strong vinegar and dry well before using, and it will then burn sweet and pleasant, paying well for the trouble.

Original Communications.

The Right Spirit.

Mr. James Camak:—The mail having reached our town at a late hour last night, I was early at the post office this morning, hoping to find the May Nos. of the agricultural papers, and was so fortunate as to meet the *Southern Cultivator*, the *American Farmer*, and the *American Agriculturist* for the present month. On looking into the Southern Cultivator, I found matter of sorrow and pleasure mingled together—of sorrow, at the just but severe rebuke of the editor of the *Maine Farmer*—of pleasure, at the waking up of the farmers in support of the Southern Cultivator. I am glad that this matter has been started so early in the year. I was pleased to find, in the April No., the letter from Mr. Hurt, of Alabama, in which that gentleman evinced a disposition to step forward at once in support of the Cultivator. In the number now before me, I am delighted to find Mr. Farrar out with a proposition that I am highly pleased with. Now, Mr. Editor, I will make a proposition, and in making it, I do so with a full determination (if spared,) to carry it out to the letter. I will be one of one thousand farmers who will undertake to procure and send to the publishers of the Southern Cultivator (they paying the postage on the letters enclosing the money,) twenty subscribers each, for the fifth volume of the Southern Cultivator. Twenty thousand subscribers is the number that I have desired to see taking that valuable agricultural paper; and there is nothing easier than to procure that number if the farmers will only determine to do it. Since the commencement of the publication, I have sent some two hundred dollars to the publishers, and I know I could have done much more by a greater effort. Now, I do hope that the cultivators of the soil of my native State, (Georgia,) will rally around the Cultivator. I make the above proposition from long experience of the profit as well as pleasure of reading agricultural papers. I now receive, monthly, some six of those works, and indeed I would be at a complete loss without them.

I was highly pleased the last summer in visiting the editors of the different agricultural papers, at the high, the very high stand that the Southern Cultivator held among the farmers in different parts of the United States.

Mr. Editor, there is a thousand ladies that would pay their dollar for the Cultivator to aid them in the management of their gardens, if the subject was only brought before them. There is a thousand lawyers that would, each, give a dollar for the Cultivator to enable them to enter into conversation on the highly important subject of husbandry, if for no other object; for no man wishes to be dumb when the subject of agriculture is mentioned. Now, Mr. Editor, if one thousand can't be had to enter into the above proposition, I will be one of five hundred, or any number that will come up to the mark. Any sacrifice sooner than for the Cultivator to stop. Where is the Southern farmer that would not feel his pride touched in a moment by such attacks as Mr. Holmes, of Maine, is throwing at us.

One word as to the seasons, in conclusion. The month of April has been a complete antipode of the same month last year. April of '45 was a continuation of dry weather. April of '46, a continuation of rain, and some considerable cold, and washing rains, that upon the whole the stand of cotton is poor generally. The corn crop, the gold of the farmer, looks well. The wheat crop, it is thought, has been somewhat injured by the large amount of wet weather.

Hoping your efforts to improve the agricultural interests of our common country will prove successful, I am, sir, your friend and obedient servant, Alexander McDonald.

Eufaula, Barbour Co., Ala., May 9, 1846.

Agriculture---Horseley's Wine and Nursery.

Mr. Camak:—It is doubtless very gratifying to every old Georgian, who, like myself, has long deplored the lethargy which oppressed the energies of his native State and kept her in the rear of many of her confederates in the race of improvement, to see her at length waking up to a proper appreciation of her vast capabilities. But, while he rejoices at the improvement in her moral and social condition, and at the progressive development of her natural resources, which have been effected within the last ten or fifteen years, as illustrated by the increase of her colleges and other seminaries of learning; her rail roads and steamboats; her numerous fine flour mills and cotton factories; her iron foundries and gold mines, besides many other things that might be mentioned, as evidences of her advancement in science, commerce and arts, he is mortified by the reflection that the hand of improvement has lent but little aid to agriculture upon which all other interests depend.

He sees this great and important interest still languishing and degraded, and the planter still pursuing the old wear-out and break-down system which has already brought his class to the verge of bankruptcy. And it is much to be feared that neither the very able and praiseworthy efforts of the Southern Cultivator, nor the wailing Jeremiads of its correspondents. will prove competent to arrest the onward and devastating course or to overcome the numerous impediments to agricultural improvement. It would be inconsistent with my present purpose, even if it were thought profitable to do so, to inquire particularly into the various causes of the drooping condition of this noble branch of industry. None, it is believed, however, has operated more fatally than the want of sufficient incitements to a proper division of labor, and of adequate patronage to new enterprises. Whether indeed this may not to a great extent be regarded as the effect or natural consequence of the many humbugs of which the planter has been made the victim, might form a very proper subject of investigation. It is nevertheless true that there is not sufficient encouragement afforded to those who manifest a disposition to withdraw their labor from the cultivation of our great staple, and to engage in new pursuits. There is something radically wrong in the spirit and tone of public feeling in regard to this matter. Until a change is effected in the tendency of this feeling, there is little prospect that any efforts to give a new direction to a portion of the labor devoted to agriculture, will prove successful Believing patronage of new pursuits to be essential to success, and that a proper division of labor is strongly demanded by the present condition of the planting interest, I would respectfully suggest to you and your many useful and talented co-laborers, the necessity of continued and increased exertions to effect, however Herculean the task may be, a change in public feeling and taste upon this subject.

In other countries the cultivation of the vine and of silk has proved eminently successful and lucrative—and experience in this country, and in our own State, has demonstrated that they may be cultivated as advantageously here as any where else. Why, then, is their culture almost abandoned in Georgia? Again, in other States the publication of periodical papers devoted to the cause of the planter, has been found a profitable as well as a useful occupation. Why then does it become probable that your publishers will be compelled to discontinue the "Cultivator," a paper creditable alike to the talents of its editor, the enterprise of its publishers, and the cause to which it is devoted?

The want of sufficient patronage is the answer to both interrogatories. No wonder then that agriculture languishes in Georgia!

In the March No. of the Cultivator, you have taken occasion to speak in high terms of commendation of samples of wine made by Mr. Peabody, of Ala., and Mr. Speed, of Ga.

The first of these gentlemen, it seems, has had the good fortune and good *sense* to find and introduce to public notice a valuable native grape. Well now, I beg leave to inform you and your readers, that Mr. James Horseley, a very intelligent and enterprising neighbor of mine, has been for a number of years engaged in the nursery business, has cultivated the vine successfully, and made wine from many varieties of foreign and native kinds of grape. He manufactured the last season from the Scuppernong grape alone, some 200 to 250 gallons of wine. After several years' experience with different kinds of grape, Mr. Horseley pronounces the Scuppernong superior to any other variety known in this climate, as more hardy, more certain and more productive—the fruit too, it may be added, stands almost without a rival for deliciousness of flavor.

I have had the pleasure of tasting some of Mr. Horseley's wines, but not being a connoisseur in such matters, I am not prepared to speak critically of their merits. This much, I do know, however, that to my unpracticed palate, their flavor is exceedingly pleasant. And nothing prevents you, sir, from having a chance of smacking your lips over a bottle of this excellent and unadulterated *juice* but the want of a suitable conveyance. But Mr. Horseley is without a market! He has not sufficient encouragement to dress his vines and prepare for another vintage. Now, if one-tenth part of the hundreds of thousands of dollars which are annually sent abroad for the purchase of the abominable compositions which pass under the name of wine, were expended for the pure, undrugged domestic article, the above named enterprising gentlemen, and others, would be encouraged to prosecute their labors, and to devote their time and attention to a much neglected but useful branch of business, whereby they would attain to greater proficiency in the manufacture of wine. Further, if those who desire to raise vineyards or orchards of fruit trees would send their orders to Mr. Horseley, they would be served with fidelity, and another useful branch of business would be encouraged and sustained. His nursery contains, perhaps, a greater variety of fruit trees and vines than can be found elsewhere in Western Georgia, which he offers at prices lower than they are usually sold for by nursery men. Say, for rooted vines, 6 to 10 cents; fruit trees, $7 per hundred.

But such is the prevailing bias for everything foreign, that consumers of wine in this State will scarcely be induced to prefer the domestic unless it were offered to them under some outlandish name or unintelligible brand—or those who need fruit trees to believe they can do as well at home as to send their money abroad—or those who subscribe for Northern agricultural papers, that they can do better for themselves and their own State by subscribing for and sustaining the Southern Cultivator.

Respectfully, D. Kendall

Franklin Academy, Upson Co., Ga., April 11.

The Squash Crop--Measures.

Mr. Camak:—Among all the articles contained in your valuable paper about raising food, both for man and beast, I don't find that any of your contributors have taken notice of this important crop. I say important, because I consider them valuable for family use, and a most excellent article of food for hogs.

In July and August, when most other vegetables have failed, nothing suits my taste better than a large dish of well served up squashes. They are excellent and cheap food for negroes. But above all, I value them for my hogs. I have a large pot filled up full at night and boiled, ready for my hogs in the morning, then pour them into a large trough, and the hogs will devour them greedily to their great benefit. I prefer boiling at night on account of getting the liquor, in which dinner was boiled, which I consider valuable, not only as food for them, but serving to free them from the mange. The squashes should be chopped up so as to make them boil quicker, and a little salt added.

The mode of cultivation is quite simple—the same as for pumpkins. I prefer planting early so as to have them ready for use as soon as possible, but May will do for them. A late crop is better than none at all. All who will take the pains to plant a spot of ground in squashes and feed them to their hogs, will not regret it next September.

The best of all is, they come when corn is scarce, and hogs fed on them will improve rapidly, and will be already in an improving condition by the time your fields are ready for them. After having the run of your pea-fields they will be nearly ready to kill. And in the end, a vast amount of corn will have been saved. I raise the large white squash. I think they are the best.

Measures.—I thank you, friend Camak, for the notice of my mistake in the size of the bushel. You ask for my authority to make the bushel to contain 2,160 cubic inches. I simply answer that I had as much right to make a wrong measure as anybody, but did not do it designedly. I have always heard it said that a foot and a fourth made a bushel, and made my measures accordingly, but however I will say no more and make corrections.

I am sorry to learn that your paper is not well supported. For my part I would rather pay five times the subscription price, than for the paper to be stopped. Brother farmers, let us all try; none of us know what we can do until we try. Each of us can get one of our friends to subscribe, a great many can get five, and many twenty-five. I firmly believe that in supporting the Southern Cultivator we are greatly benefitting ourselves and the country at large.

Your humble servant, Pedro.

Baldwin County, Ga, April 14*th*, 1846.

Bermuda Grass.

Mr. Camak:—Desirous of procuring a good summer pasture grass, I have this spring planted something like a bushel of the roots of the Bermuda Grass. My place is twelve miles above this village, and about the same distance from the foot of the Saluda mountains. This grass has not, so far as I know, been tried before in this climate. I know of none higher than the neighborhood of old Pendleton. Since I have planted it I have received many *alarming* lectures on the impossibility of extirpating, and of preventing it from spreading. Although I have not heard anything I did not know before I planted it, yet the lectures have had the effect of causing reflections which perhaps would not otherwise have occurred, and I now propose to give the readers of the Southern Cultivator a part of the result of those reflections.

For physiological reasons I should suppose that Bermuda Grass might be extirpated by the cultivation of the long Jerusalem Artichoke. The artichoke puts up in the spring rather earlier than the grass. The top grows rapidly, and by proper management can be made to shade the ground perfectly. The artichoke will grow in the fall as late as the grass. The light and free access of atmospheric air, are indispensable for the healthful growth of the grass The artichoke can be made to exclude both these. Cannot the grass be choked out by it? As the artichoke will need only to be *worked* the first year, in this way it seems to me the grass may be expelled from any spot of land without much trouble or expense.

This, I admit, is all theory, for I have had no opportunity of making the experiment, but should be glad to hear the result of such trial by some one who has Bermuda Grass.

Yours, respectfully, A. B. C.

Greenville Court House, S. C, April 10, 1846.

Drought--Short Crop--Fertilizing Deposit--Analysis.

Mr. Camak:—I have been a subscriber to your valuable agricultural paper for three years, much to my gratification and interest as a farmer, and have, during the time, endeavored to impress on the minds of my immediate associates and friends (farmers) the importance of such a work, and more especially one adapted to our clime as yours is—and I hope success has attended my efforts to some extent, from what your agent, Mr. Goulding, informed me at our February Superior Court. I am nothing but a plain, uneducated man, not in the habit of writing anything for the inspection or criticism of the public, But I discover your views and feelings are *republican*, in relation to your patrons and correspondents; therefore, I take the privilege to write to you on such subjects as I feel interested in, and perhaps others of your patrons also.

My first inquiry is, has not the unprecedented drought throughout the State been, or will it not be, a general benefit to the community ultimately where it existed? Judging from my own feelings and necessities, I would say it would be decidedly so Until the year 1845 I have been fortunate enough to make and raise

everything in abundance necessary on a plantation for all the purposes desired; but to my great mortification I did not the past year make, on my farm, on good tillable land, half a support for my family. These facts were fully developed to me during the drought of last summer; consequently, I began to devise the means of living the present year, by arranging in my own mind the most economical measures, to that effect, and forthwith ordered a corn and cob-crusher mill, and a portable burr stone for grinding corn into meal; both of which I received and have now in successful operation, and to the advantage of a large family. &c.

During the drought, the past summer, a lake situated on my premises a half mile from a large creek, and on a level with the same, became entirely dry, which led to an investigation of its composits. From the inspection I gave it, it appears to be very valuable as a manure; consequently, I submitted it to the analysis and tests of scientific gentlemen, and amongst them Dr. Cotting, formerly State Geologist, the result of which I give you below, which you are at liberty to dispose of as you may think best for the cause you are engaged in.

Wishing you every success in the cause of agriculture, I am very respectfully, yours,

D. C. Rose.

[Copy.] Geological Department, Milledgeville, March 3, 1846.

Dear Sir:—Agreeable to your request, I have analyzed the specimen of "humus," &c., you sent me, and find it to be a very excellent fertilizer. From its constituents, I am convinced that, if properly and scientifically applied, it will be found to be the most powerful stimulus to vegetation of any substance hitherto used in agriculture in the State. If you can obtain it in sufficient quantity it will prove a most valuable acquisition to your agricultural interest. In my opinion it is far superior to any artificial guano hitherto prepared, and nearly equal to the natural. But in order for its producing its greatest effects in vegetation, it should be intimately mingled with 10 per cent. of lime or ashes. It should be covered by the soil 2 or 3 inches to prevent a too great evaporation of the gasses and other volatile matters, which are the greatest fertilizing principles in all manures.

Its origin appears to be a decomposition of vegetable and animal substances, mostly vegetable. The following is a correct analysis made with genuine tests and re-agents, atmosphere at mean pressure and temperature.

Quantity 1,000 *Grains Troy.*

Water of absorption	110.
Organic matter, principally humus and oxalate, crenate, apocrenate of ammonia, &c., volatilized by heat	296.
Silica	270.
Oxide of Iron	16.
Phosphate of Lime	98.5
Apocrenate of Alumina	150.5
Phosphate of Magnesia	25.
Oxide of Magnesia	5.
Crenate of Potassa	29.
	1,000.0

It will be seen by the above that almost every constituent in the composition is a fertilizer for most vegetables, and in greater or less proportions enter into their composition.

Yours respectfully, J. R. Cotting, S. G.

To Maj. D. C. Rose, Meriwether Co, Ga.

Perhaps these discoveries may lead others to an investigation of Nature's works and resources. If it should, my object is accomplished.

One other inquiry: Was it not a great oversight in our State Legislature to have discontinued the services of Dr. Cotting? or rather not to have continued the services of some one professing his knowledge in that way. I, as an humble individual and a planter, would freely be taxed 25 per cent. on my estate to know something more of our resources—Texas, Oregon, Californias, or even Mexico, attached to our republic, to the contrary notwithstanding.

Very respectfully, your obedient servant,

D. C. Rose.

P. S. This composit (from the examination I have made,) I consider inexhaustible, so far as my farm, consisting of some three or four hundred acres in cultivation is concerned, and a half dozen others of the same extent. R.

"*Guano Island*," *Meriwether Co., April*, 1846.

Taladega County Agricultural Society.

Mr. James Camak:—*Dear Sir*,—Having read, with much pleasure, several numbers of the Southern Cultivator, of which I perceive you are the Editor, I take the liberty of sending you a copy of a resolution, unanimously adopted by the "Taladega County Agricultural Society" at its last meeting, and giving you some account of the Society itself. The resolution to which I refer is as follows:

"Resolved, that this Society highly appreciate the value of agricultural periodicals, as a means of agricultural improvement, and especially do they appreciate the value of the 'Southern Cultivator,' published in the city of Augusta, under the editorial direction of Mr. James Camak, and pledge themselves to use all reasonable exertions to encourage its circulation."

The *Taladega County Agricultural Society* was organized on the 16th of August last. The officers then elected were, Col. Wm. Curry, President; John A. Brown, and Green W. Penn, Esquires, Vice-Presidents; Dr. B. W. Groce, Recording Secretary; A. Bowie, corresponding Secretary; Rev. James Stockdale, Treasurer, and Walton D. Riddle, Allen, Elston, Joseph Camp, Daniel Rattier and Thos. L. Best, an executive committee.

We are likely to have some difficulty in keeping up a proper spirit amongst our members: but we shall not yet despair of accomplishing, something for the too much neglected cause of agricultural improvement. We occupy a young and favored country; and we shall surely be criminally blind to our own, and the interests of those who are to succeed us, if we suffer our virgin soil to fall a victim to the wretched system of culture, which in Carolina and Georgia, have almost ruined the fairest and most fruitful fields of the sunny South. I hope the spirit of scientific and rational improvement, on this subject, has been at last aroused, and will never sleep again.

I regret that, notwithstanding our "resolution," I cannot encourage you to hope for many subscribers in this region. Our people are endeavoring to practice a rigid economy, to relieve themselves from the heavy pressure of the times; and although the price of the Cultivator is exceedingly low, it is difficult to pursuade honest men, who are in debt, to increase their burthens, unless for strict necessaries. A few names will, I understand, be soon forwarded to the publishers.

With great respect, your obedient serv't.

A. Bowie.

Taladega County, Ala., May 3, 1846.

More of the Right Spirit.

To the Editor—*Sir*: I am no writer, neither do I exercise any pretensions in that way, yet feeling as deep an interest in the cause of agricultural improvement as any man, perhaps, south of Mason & Dickson's line, and perceiving a probability that the Southern Cultivator will be discontinued at the end of the present volume, unless more liberally patronized, I am induced to address a few lines of condolence, designed not for yourself, however, but the entire Southern States. Is it possible that these States, claiming the highest seats in the temple of civilization and refinement, will suffer this, their great Agricultural lever, to become extinct, through a culpable apathy or niggardly parsimony. Let us hope for the better. Should it however be the case, (which my humble energies shall be exerted to prevent,) it will afford evidence, clear as demonstration, of the extreme blindness of the Southern people, to their highest and most substantial interests, and of their willingness, patiently to grope their way through the same labyrinth of agricultural darkness which enveloped our ancestors, who, though pure, honest, and patriotic, have platted and settled upon us, their posterity, as a heritage, such a multitude of unsightly sedgefields and yawning gullies. We call upon Georgia to wake up to this important matter in her own bosom. Let her citizens match up to the support of it is paper, in solid phalanx, as they would to the ballot box; let all, every one, put his shoulder to the wheel, to redeem it from impending dissolution. If Georgia will furnish us such an example, I have confidence that South Carolina, distinguished, as she ever has been, for magnanimity and patriotism, will tender her support freely. We call upon all the Southern States and every individual in those States, to rally to the rescue, and avert the pending disgrace, for it could be nothing less. The terms of the paper are within every man's reach, and every man who tills one acre of ground should have a copy.

Should this be the state of affairs, Mr. Editor, (and we hope to see it realized in a great degree) but a few years will roll around ere we will not only perceive but reap the advantages—when the unsightly sedgefields, to which I have alluded, would disappear, and those sections so deeply marked by the blighting hand of unskilful husbandry, be made to "blossom as the rose." I am much flattered with the belief that the long night, which has shrouded the people of Anderson on the subject of agriculture and book-farming, is passing away, and that we can even now perceive the dawn. The shackles which have heretofore bound them, and the imputed obligation to do as "daddy" did is giving way, and a new set of corrected principles, based upon the discoveries and improvements of scientific men, are being generally adopted.

On sale day in May, a number of the citizens of the District met in the Court House for the purpose of forming an Agricultural Society. Although the notice was short, and not perhaps generally understood, there was no difficulty in procuring thirty subscribers as members. This, I think, augurs well for the cause. I am flattered with the impression, that at the next meeting (sale day in June) our number will have been doubled, perhaps trebled.

In conclusion, Mr. Editor, I wish to add myself to the list of Mr. Farrar's "few" who will take the back numbers of the Cultivator. You will please forward Vol's 1, 2 and 3 to Anderson C. H., S. C. A Carolinian.

Anderson District, S. C, May 13, 1846.

Dogs.

Mr. Camak: Buffon thought all these animals descended from one and the same stock—the wolf. That may be probable; and domestication and the different climates in which they are found, may have given them their various outlines of conformation. Like the wolf they are all, or nearly so, beasts of prey, when not taken care to be plentifully fed; and as the sheep is the most easily caught, by consequence, that is the animal they most prey upon.

Mankind have put dogs to various uses.—While in China they are butchers' meat and used just as we do hogs, in Kamskatka they are horses—harnessed to the sledges, and the only coursers in that cold country. In some countries, in northern and middle Europe, they have wool like sheep, from which hats have been made and from which cloth can be, if the odor were not, I think, somewhat detergent. Again, under the equatorial line, especially in Africa, they are hairless, and seem as naked as my hand. In Scotland is the terrier, in Paris the diminutive lap-dog, in England the bull-dog, so serviceable in catching beeves, and the mastiff that guards the house. In Cuba the well known blood-hound, and in other countries the fleet grey-hound—here the generous Newfoundland dog, and there the valuable shepherd. Moreover, apparently scattered abroad over the habitable world, are that numerous class called curs—which, as the commonalty, thicken over the land, even of our country; and whose services seem to be more demonstrated in the assistance they give man in consuming his bread, and in the act of diminishing the amount of his fleece in the destruction of flocks of sheep!

Every dog seems to be serviceable but the cur—and, as an aristocracy among these animals,

all, except curs, very sparingly exist. Whether in fact these several breeds, so divergent in shape and appearance, be really the progeny, in the long run, of the identical wolf stock, would be enough, I apprehend, if all were before his view, to stagger the philosophy of Buffon. But howsoever the matter of ancestry in this species of animated nature be settled by *savans*, it is certain they have become adapted to multifarious purposes, and in some instances to none at all; and men of any show of real capacity or wisdom would attend to their necessities in this particular, by *making choice as companions*, of such alone as their mode of life and stress of cultivation may warrant.

To pioneers in a new country, where the merciless and cunning savage be next door neighbor; where vermin infest the forest and teem in the swamps; where wolves commit nightly depredations—dogs are wanted; and as poor people, such as compose our frontier inhabitants, have neither the skill nor ability to select or import the best breeds, they have to put up with the cur—which cannot fail, in the untried woods, of turning of service to the backwoodsman, in his remote solitudes.

As the progress of civilization comes round, and a dense population with cleared fields begins to seek the natural resource that is found in the sheep, the necessity for numerous dogs becomes no longer an excuse: or they must adopt the Turkish mode at Constantinople, retaining them for a use similar to that in this country of the turkey-buzzard, with this consideration, that the Turks seldom or never export fleece, and in that warm climate never have occasion for that article. In this climate, however, where wool appears indispensable to our clothing, the sheep would always be an important farming stock: and all that is requisite at this time to ensure a plentiful supply of warm garments, is for our farmers no longer to pursue the beaten track of the last century—no longer to follow the custom of ancestors which had been justified to them by a necessity that we cannot plead—no longer to put a mill stone in one pannel to balance the corn or meal in the other—but to bring about, a course of innovation upon the long mooted but now unavailing method peculiar to Pioneers.

In Mexico they have shepherd dogs, of a rare and valuable breed, introduced into that country from old Spain, where the finest merino and Saxony flocks feed in security, and from whence, formerly, the English woollen factories were (if I recollect aright) supplied with the raw material. How easily attainable by way of Texas are such dogs to our farmers? They are always faithful servants or guardians: not only repelling or slaying wolves, but every other dog that dare intrude within range of, or molest, sheep.

Contingencies of which we must first get rid, admonish us of the fact that operative laws would be necessary to teach the descendants of pioneers, that the same occasion environing their fathers no longer exists; and that newer modes of existence having now to be experimented, do not warrant the retainment of such numbers of dogs of little or no value, to the detriment of their more enterprizing neighbors. Men too often follow the same monotony of life, generation after generation, until some action from elsewhere introduce them, (at first amid their reluctance,) to some more prosperous enterprize. But I fear there is in Georgia, regarding the existence of worthless dogs, and the introduction of valuable sheep, a good deal of incipient opposition from those who see no good any where but in the soil, and who, always expectant of emigration elsewhere, do not care for the prosperity of the State, or for anything connected with the virtues of economy, good husbandry, or of unremitting enterprise—things that elevated other States to affluence—and things only that can mend our prevailing poverty. Is it the fear of this class of people, speaking at the polls, that turn our legislators into men of trepidation or time servers, making each some—

"——Hovering temporizer, that can
With his eyes discern both good and evil,
Inclining to them both?"

I hope not. I hope at least when a trial be made in our State, of appealing to the Legislature, something will be done in sympathy with the wishes of the best portion of our citizens—our men of enterprise, and, consecutively, of resources—of protecting their flocks from the rapacity of canine marauders, the undue breeding of which or allowing to breed, cannot but be reprehensible. Should this fail, and the interdictory tax amount not to a virtual inhibition, then let some of our people endeavor the election of some eloquent man *expressly for this design* to the General Assembly—a man whose eloquent representation can persuade or influence the enactment of the *required law*, and who having thus fulfilled *the intent of leaving his privacy*, can again retire, independent of the *consequences* of this proceeding, which, in a few years may have the hearty approval of present opponents.

Very respectfully, your obed't servant,
J. J. FLOURNOY.

Wellington, Jackson Co., Feb., 1846.

From the North Carolina Farmer.

Brief Outline of the American System of Wine Culture.

MR. LEMAY:—The following is at your service for some useful agricultural purpose:

1. Cultivate the best kinds of American grape fruit in your nursery. If not convenient to procure well rooted plants, the layers of the Scuppernong (as these not succeeding otherwise or by cuttings) and cuttings of other kinds or firm layers.

2. Plant the Scuppernong 20 feet and other kinds 10 apart.

3. Two or three years after take out the stakes and insert posts 10 feet each way cleeted at squared tops to hold the rails to support the scaffolding.

4. Keep the ground under the scaffolding clean, and incorporate all falling leaves and litter. And keep off all straggling vines from intercepting the free passage of wind, team or men beneath the canopies.

5. When grapes ripe and mashed and juice expressed, strain the juice through several folds of a woollen blanket, and add at least 2 pounds per gallon of sugar or one-fourth of good spirits, or say one pound of sugar (if wanting a sweet wine.) After the fourth of spirits added, and my word for it, you will have an excellent, safe keeping wine. Or, if wishing a first rate family medicinal cordial, after juice strained, put one-third good spirits and 2 pounds of sugar to the gallon.

Yours, &c.,
SIDNEY WELLER.

Brinkleyville, N. C., October 24, 1845.

From the Western Farmer and Gardener.

Degeneracy of Plants.

Both Van Mons and Knight believed in a degeneracy of plants; but the degeneracy of the one system is not to be confounded with that of the other.

Knight believed that varieties had a regular period of existence; although, as in animal life, care and skill might make essential difference in the longevity, yet they could in nowise avert the final catastrophe: a time would come, sooner or later, at which the vegetable vitality would be expended, and the variety must perish by exhaustion—by *running out*.

Van Mons believed that an improved variety tended to return to its normal state—to its wild type; and although he did not believe that it could be entirely restored to its wild state, it might go so far as to make it worthless for useful purposes.

Knight believed in absolute decay; Van Mons, in retrocession. According to Knight's theory, varieties of fruit cease by the *natural statute of limitation*: according to Van Mons, they only *fall from grace*.

There can be no reasonable doubt that Van Mons held the truth, and as little, that Knight's speculations were fallacious. Bad cultivation will cause anything to run out; no plant will perfect its tissues or fruit without the soil affords it elementary materials. The so-called exhausted varieties renew their youth when transplanted into soils suitable for them.

[From the Western Farmer and Gardener.]

Slitting the Bark of Trees.

This is a practice much followed by fruit-raisers. Downing gives his sanction to it. Mr. Pell, (N. Y.) famous for his orchards, includes it as a part of his system of orchard cultivation. Men talk of trees being *bark-bound*, and let out the bark on the same principle, we suppose, as mothers do the pantaloons of growing boys. We confess a prejudice against this letting out of tucks in a tree's clothes. We do not say there may not be cases of diseased trees in which, as a remedial process, this may not be wise; but we should as soon think of slitting the skin on a boy's legs, or on calves or colts, as a regular part of a plan of rearing them, as to slash the bark of sound and healthy trees.

Bark-bound?—what is that? Does the inside of a tree grow faster than the outside? When the bark is slit is it looser around the *whole* trunk than it was before? When granulations have filled up this artificial channel, is not the bark just as tight as it was before? Mark, we do not say it is *not* a good practice; but only that we do not yet understand *what* the benefit is.

"Why, the bark bursts sometimes."

Yes, disease may thus affect it; and when it does, *cut, if necessary*.

"Does it do any harm?"

Perhaps not; neither would it to put a weather-cock in the top of every tree; or to bury a black cat under the roots, or to mark each tree with talismanic signs. Is it worth while to do a thing just because it does no harm?

"But when a tree is growing too fast does it not need it?"

Yes, if it can be shown that the bark, alburnum, &c. *do not increase alike*. That excitement which increases the growth of one part of a tree, will, as a general fact, increase the growth of every other. In respect to the *fruit and seed*, doubtless, particular manures will develope special properties. But is there evidence that such a thing takes place in respect to the various tissues of the wood, bark, &c?

"But if a tree be sluggish, and bound, will it not help it?

Whatever excites a more vigorous circulation, will be of advantage. Whether any advantage from the knife arises in this way, we do not know. But a good *scraping*, or a scouring of the whole body with sand, and then a pungent alkaline wash, (soft soap diluted with urine,) would, we think, be better for bark-bound trees, than the whole tribe of slits, vertical, horizontal, zig-zag, or waved. But we should be glad to hear both the facts and reasonings on which the practice is founded, from some one who has implicit faith in its virtues.

THE RED ANT.—The little Red Ant, where he is disposed to make himself familiar, is one of the greatest of all pests that afflict a household. He is always on hand, in the sugar bowl, makes the preserve dish a sort of every-day lounge; and if a choice pie is set away any where for an extra occasion, this little fellow is sure to find it out and keep guard there. Several modes are recommended to drive him away. One is to strew sage leaves about the cupboard; another, to use cedar boughs instead, and a later one is to guard any particular treasure with common salt. For instance, says the New York Farmer and Mechanic, if a safe or cupboard is to be kept from them, set it from the walls, so as to touch nothing laterally; then place a cup containing salt under each leg, so as to oblige the animals to travel through it. They will not do it.—*Prairie Farmer*.

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1844, and arranged to suit the Southern States.

CALENDAR FOR JUNE.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months. This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

In the north, this is the most active month for vegetation of the whole year. It becomes the farmer, therefore, to be stirring with the lark, and watch attentively the whole circle of his fields. Nothing should be neglected. The potatoes designed for winter should now be planted; ruta-bagas sown, and if any vacancies occur in the sugar-beet and mangel-wurtzel beds, they should be filled up by transplanting. The ruta-baga is one of the most important crops of Great Britain, but though a useful one in this country, the uncertainty of it compared with many others, and its far inferior value to Indian corn, to which our climate and soil is perfectly adapted, render it but of secondary consequence. By many, who have tried each, the sugar-beet is much preferred for feeding stock; and it is certain the latter will keep longest without injury; and in most parts of the country, it is a much surer crop, suffering less from drought, and vastly less from insects. Davy, who analyzed them, gives for ruta-bagas, only 64 parts in 1,000 as nutritive matter, while he found 136 in mangel-wurtzel, and 146¾ in 1,000 in the sugar-beet. Where an early crop is taken off the land, ruta bagas, and even the common white turnep, may be raised to advantage, as they may be sown after any other crop, and still have time to insure a good growth. Ground bones are a most excellent manure for every variety of turnep, as is also lime. The last may be used to great advantage with almost all crops and soils when not already found in them in abundance. The plow, harrow, cultivator and hoe ought to be plied constantly, the surface kept finely pulverized, and all weeds exterminated. It will frequently save a vast deal of labor to the farmer, to go through his fields of wheat, oats and barley, and pull up all the noxious intruders, chess, cockle, charlock, red root, &c. The garden requires particular attention during this month. *Keep the weeds out and the useful vegetables in.* As soon as the early radishes, lettuce, &c., are taken off, supply their places with cabbage plants, turneps, late beans and peas. Leave no nook or corner unoccupied, and remember that it will require fifty times the labor to extirpate the progeny the following year, that is necessary for extirpating the weeds that are suffered to seed this. Weedy fields and hard sods intended for wheat in the fall ought to be plowed during this month, cross-plowed in July, and if necessary, again before sowing. Land intended for buckwheat, should be prepared, and though the old rule is to sow when the chestnut blossoms appear, it is a safer one, to get it in somewhat earlier, especially on lands subject to early frost. Sheep ought to be carefully looked at after shearing. Cold, drenching rains are peculiarly hurtful to them at such times. In 1842, large numbers, in the State of New York, were chilled to death in June. Unless they have dry, well-sheltered fields to run in, and are stout, well-fleshed and hardy, they should be driven home for the night at least, and provided with a little grain, beans or roots. A supply of salt in troughs, where it is not liable to waste from rains, should at all times be within their reach. Always have tar at the bottom of the trough. This last precaution prevents worms in their heads, and has a general healthful effect. Some of the early grasses and clovers may be cut, and when put up add salt to the extent required by the animal while feeding: animals like salt with their food as well as man. Renew your fields of broadcast or drilled corn for soiling. Look well to your bees. Use some of the improved hives, so as to secure your share of the honey without endangering the lives of the bees. Watch the moths closely, and kill them as they are found; and when they have made their way into the hives, get at them there and exterminate them as soon as possible.

Kitchen Garden.—The main point in this month is to keep the garden entirely clear of weeds, as their growth will now be very luxuriant, and if thoroughly subdued, will be much more easily kept out the succeeding months. This is especially requisite with cucumbers and melons, around which keep the ground entirely clean and loose. Sweet potatoes cultivate well, and draw the earth up about the roots. Cabbages for autumn and winter use can be planted out, and celery plants be transferred into trenches. Peas may be sown for late crops, although they do not bear so abundantly as those sown earlier in the season. Sow lettuce, and transplant every week, in order to insure a regular succession through the season. This should be done in moist weather, or if in dry weather, late in the afternoon, accompanied with a plentiful watering. During the month sow kidney and other beans, for successive crops, and in the early part of the month a few Lima beans may be planted for a late supply. Turneps for late crops may also be sown in this month.

Fruit Garden and Orchard.—During this month apple and other fruit trees can be trimmed. For this work, the present season is preferable to the winter, for the reason, that the sap being in full circulation, will exude, and covering the wound, heal it in a short time. On the contrary, in the winter, no sap can exude, and the branch will frequently be quite dead for some inches from the wound. All useless limbs and upright shoots cut away, and let the tree be trimmed to an open head. In plum trees, all black knots formed by the insect must be taken off and burnt, or the disease will spread rapidly. Cherries will not bear much pruning and it is generally best to allow them to grow naturally. Stone fruits frequently bear in such profusion, that the tree is unable to mature them all, and they are thus of comparatively small size. To remedy this, the cultivator should thin out the fruit by hand, leaving only a moderate crop; the nourishment of the tree being thus devoted to a limited quantity, will produce a larger and more delicious fruit. When trees are allowed to bear too abundantly, the great efforts made to mature all their fruit, will sometimes exhaust them to such a degree as to induce diseases, from which it will often take them several years to recover. During this month, insects will frequently attack fruit trees in great numbers. For some of these, as the slugs and others of the same nature, a sprinkling of ashes or lime is the most immediately destructive. For the aphis and smaller insects of the same habits, a solution of whale-oil soap, applied with a syringe, is the most efficacious. Caterpillars can be destroyed while they are yet in small clusters, by means of burning sulphur.

Flower Garden and Pleasure Grounds.—Plant out in the borders perennial and autumnal herbaceous plants, which have been sown in seed beds. This should be done near evening, and always accompanied with watering, unless the weather be moist or wet. Box edging can still be trimmed during moist weather, as also hedges of privet, hawthorn, &c., although for these latter, earlier in the season would have been preferable. The turf in the pleasure grounds and lawns keep well mowed; the oftener this is done, the more rich and velvety appearance it will assume. The gravel walks and carriage drives keep cleaned, and free from weeds and grass throughout the summer.

It is in this month that the numerous wild flowers of our fields and woods abound in the greatest beauty and luxuriance; many of these are exceedingly beautiful, and well worthy of cultivation in the private garden. The lobelia cardinalis, which abounds in the swamps, is one of the most splendid of these, and with many others has been transferred to our own garden with entire success. To insure their living, a portion of the natural soil should be transplanted with the roots, and a moist day, or late in the afternoon, selected for the purpose. Apply frequent watering for some days after. There are few who have not admired these gems, which so thickly cover Nature's carpet; and when they can be so easily transferred to the parterre, neither the botanist nor amateur should be willing to deprive himself of so cheaply purchased a pleasure. In case of drought it would be advisable to make frequent use of water in the flower borders, and also in the strawberry beds, by which this fruit will be enabled more fully to develop itself, and the plants produce a more abundant crop.

Plantation.—Warm weather will now have commenced in earnest, and it is a "*merciful man who is merciful to his beast.*" Call all hands at noon, and after having fed and curried all the working animals, let them be allowed to rest until 3 o'clock; for they can do as much work in the remainder of the day as though they were at work the whole time.

By the first of this month the cultivation of a greater portion of the plant and ratoon cane will have been completed. Continue to plow among the cane in old land until July, but not too deep, for there will be danger of hurting the roots.

Keep cotton and tobacco clean—stirring the earth often; this not only keeps the weeds down but greatly assists it in *resisting drought.* The cotton will require the hoes to be passing through, so as to clear away grass and weeds left by the plow. Draw earth lightly around the plant, but leave no ridges as thrown by the plow; for there will be less surface exposed to the sun's rays.

Early corn will be forward enough to give the last plowing, which should be just before the time that the tassel makes its appearance. Plant peas between the corn as directed last month.

The grain crop not yet harvested now claims attention. After oats are cut and stacked, it would be a great benefit to the field and stock, to plow in all stubble and sow down with peas, at the rate of a half bushel to an acre and even more.

The first planting of sweet potatoes will now require the last working. Lay the vines on the ridges, and start the shovel plows to run three or more furrows between them. Draw the earth with hoes to the top of the ridges, and be careful the ends of the vine are not covered. Continue to plant out drawings of the vine all this month, whenever the weather is suitable. The vines make the best seed, and may be planted as follows: Cut them about a foot long; have a hole made in the ridge with a dibble; then either with a stick with a notch cut in one end, or with the finger, thrust down a vine or two doubled; press the earth well around, leaving an inch or two out of the earth. For winter's use of fresh potatoes, procure the long red variety, and plant in rich low ground. They are great yielders and ripen fully in a southern climate, and consequently prove a much better variety than at the north. They will make a good crop if planted by the middle of this month.

Clip hops for drying, and evergreens if they are much grown, but not otherwise, as the heat will be liable to dry them too much. Begin to sow carrots in drills, to facilitate the weeding of them. Sow endive for fall crop, and black runner beans. Soon after sowing water and shade the drills if necessary, until they have come up and are strong enough to bear the heat of the sun.

Organic Improvement of Domestic Animals.

Sheep and other animals were subdued and domesticated, long before their biped captors and masters were able to keep a record of their doings for the benefit of their posterity. Hence we know little of the original stock from which our domestic animals have descended, and less of the early treatment they received, at the hands of our own progenitors. Nor is this in-

formation important. It concerns us mainly to understand how a change of food, temperature, and of all surrounding circumstances, will either *improve* or *deteriorate* the organic structure and natural functions, which transform for the practical farmer his cultivated plants, their seeds and roots, into wool, beef, pork, milk, lard, butter and cheese. That there is a wide difference in the results obtained, by the operation of this living machinery in different animals, no observing man can doubt. Of two cows of equal weight, and consuming equal quantities precisely alike, one will elaborate for its owner 18 quarts of milk in 24 hours, while the other can form but 9 quarts in the same length of time. A pig, whose organization apparently is nearly perfect, will elaborate from a given amount of raw material, twice as much flesh and fat, as another whose respiratory and assimilating machinery are very defective. Experience and science alike demonstrate the truth of the remark that it takes 50 per cent. more food to produce a given amount of muscular strength and power of locomotion in one horse or ox, than is required in another. Animals that had a common parentage ten generations back, now possess not only widely different forms, but organic and constitutional peculiarities, of great importance to those that may become rich or poor, according to the well or ill management of their herds and flocks. Eminent success alone attend *skill* in the breeding and keeping of domestic animals. This valuable skill is acquired by close observation, and studying the uniform laws of nature that govern the growth, maturity, and decay of organic beings. The most important and material changes in the development of the organs of animals, and in the function of each organ, are made during the period that elapses from the first formation of the embryo, to the maturity of each living complex structure.

"As the twig is bent the tree's inclined."

The plasticity of young animals and plants, and the extreme changes that may be wrought in their forms and habits are truly wonderful. The human brain itself can be moulded in infancy into any shape to suit the whim or taste of a "flat-head" or a "round-head" Indian. Nor is there a single mental or physical function in the human system, that may not be either *improved or impaired* by the good and bad influences which are brought about to bear upon it. The science of physiology is a noble science. It enables cultivated reason to trace results—the products of animal life, such as flesh, fat, milk and wool,—back to their known causes and elements.

I can hardly expect to give you an outline of the organization and workings of this complex vital machinery. There are, however, a few cardinal points in this matter, which I will endeavor to make clear and intelligible. One is, that no animal or plant can possibly transmute one simple elementary substance into another. If a hen can be fed on food quite destitute of lime, the organ of her system cannot form an egg-shell; so if a child, calf or colt be kept on food that lacks phosphate of lime, its bones will be soft and cartilaginous. No other minerals can be changed to lime and phosphorus.

Animal fat is a compound made up of carbon, hydrogen and oxygen; and no other simple elements can possibly make it. Lean meat and wool contain the same elements, with the addition of nitrogen, sulphur, and several other earthly ingredients in minute quantities.

Knowing that no animal can create anew one particle of matter, and that each compound product has its peculiar constituent elements; knowing also how much of those elements is contained in any article of food, we can judge of its fitness or unfitness to produce either bone, muscle, fat, milk, wool, or any other animal product. In other words, we can wisely adapt our *means* to our *ends* we have in view.

Suppose a farmer had 100 hens in his poultry yard, and he desired them to lay as many and as perfect eggs as possible. Would it be an unreasonable prescription to say to him that "you must feed them liberally on food which contains not only lime, but all the elements of the contents of an egg-shell in a concentrated form?"—*Western Cultivator.*

Good advice to Farmers.

Consider your calling the most elevated and important; never be ashamed, nor afraid of the old hat or the working close apron. Put off no business for to-morrow that can be done to-day.

As soon as the spring opens and the frost is out of the ground, put your fences in order.

Plant no more ground than you can well manure and cultivate to advantage.

Never hire a man to do a piece of work which you can do yourself.

Every day has its appropriate duties—attend to them in succession.

Keep no more stock than you can keep in good order, and that of the best kind.

Never "run in debt" without a reasonable probability of paying at the time agreed.

Remember that economy and industry are the two great pillars of the farmer's prosperity.

Take some good family newspaper, and pay for it in advance. Also an agricultural paper.

Never carry your notes in your pocket-book, for the desk or trunk is a more appropriate place.

Keep them on file and in order, to be found when wanted.

Never buy any thing at auction because the article is going cheap, unless you have use for it. Keep a place for your tools, and your tools in their places.

Instead of spending a rainy day idle, repair whatever wants mending, or post your accounts.

By driving your business before, and not permitting your business to drive you, you will have opportunities to indulge in the luxury of well applied leisure.

Never trust your money in the hands of that man who will put his own at hazard.

When interest or debt becomes due, pay it at the time, whether your creditor wants it or not.

Never ask him to "wait till next week," but pay it. Never insult him by saying "you do not want it." Punctuality is a key to every man's chest.

By constant temperance, habitual moderate exercise, and strict honesty, you will avoid the fees of the lawyer and the sheriff, gain a good report, and probably add to your present existence years of active life.

When a friend calls to see you, treat him with the utmost complaisance, but if important business calls your attention, politely excuse yourself.

Should you think of building a house, be not in a hurry, but first have every material on the spot, and have your cellar as large as the frame.

Keep a memorandum book—enter all notes, whether received or given—all moneys received or paid out—all expenses—and all circumstances of importance.

In December reckon and settle with all those with whom you have accounts—pay your shop bills and your mechanics, if not promptly done at the time.

On the first of January reckon with yourself, and reckon honestly—bring into view all debts and credits, notes and accounts. Ascertain to what amount your expenses were the last year, and the loss and gain—make out a fair statement and enter the whole in a book for the purpose.

Having arrived at this important knowledge, you will imitate the prudent traveller who always keeps in view where he is next to move. You will now look forward and calculate in what way you shall best meet and prosecute the business of the ensuing season.

And lastly, when the frost of winter shall arrest your out-door labors, and the chilling blast shall storm your dwelling, let your fireside be for yourself and your wife, and your children, the happiest spot on earth; and let the long evenings, as well as the short days, be appropriated to the mutual preparations for that "eternal spring," which sooner or later shall open in all its freshness to those who have "done justly, loved mercy, and walked humbly with God."

Importance of the Farmer.

It is too much the habit of inconsiderate young men to think lightly of a farmer's life, and to prefer some more easy sedentary occupation, with the fallacious idea of appearing genteel in the eyes of the world. Official employment, a city life, large whiskers, white and delicate hands, with a display of gaudy jewelry and costly attire, seem to be prevailing objects with these languishing youths whose vanity prompts them to believe that they are the most brilliant meteors of fashion; on whom the fair will gladly bestow their smiles. The prevalence of these absurdities is an injury to society, and has done its full share in contributing to the embarssments of the country.

Man sprung from the earth, is supported by its products, and returns to its bosom again.—What then can be more appropriate than to devote all his faculties to its improvement? It is the farmer's toil that preserves his health and vigor, gives strength and elasticity to his spirits, developes more fully his mental energies, and makes him in reality one of the noblest of God's creation—a real substantial man, vigorous in body as in mind. Though manual labor is too often held in light estimation, there is dignity in all its applications, when directed by intelligence to some useful purpose. To cultivate the soil is an interesting pursuit; to increase its products a profitable study; it exalts the mind, which whilst quietly contemplating the result of its occupation, is lifted up with thankfulness to that Being who has ordained that our labor shall be so richly rewarded.

The enlightened farmer is an ornament to society; his path is open to prosperity, wealth and reputation, and he will always retain his steady value. To fill the place to which he is justly entitled, he should be well bred; it is the true test of excellence. What can be more worthy of respect than the venerable parents of a well bred family; their true worth cannot be overestimated; they have done their duty, and in the proud contemplation of a hardy and virtuous progeny, their earthly enjoyments are perfect.

How inferior is the value of the pompous ignoramus, linked to some proud dame, and puffed up by his wealth and imaginary importance. He is never satisfied, but always craving for something beyond his reach; for homage which is never paid; for respect which is never accorded. When stiffly seated in his gaudy equipage he imagines himself a superior being, and glories in his arrogance and pride. He mingles in the fashionable throng; his finery and show attract the giddy gaze, and gives food for reflection to the sensible and sedate, but he has no claim to the praise of good breeding; his sons grow up to be *dandies* and *coxcombs*, and his daughters to be *coquettes* and *prudes*. Behold them in the streets! they are the laughing stock of all. Pursue them to the drawing room; their self-approbation is the only support for their imagined superiority. Follow them to the grave; but few tears are shed to their memory, and their mother earth covers them with shame, for the bad example they have left to posterity.

Mark the contrast of good and bad breeding, and the comparison will hold good throughout the animal creation.

It is the noble faculty of reason, which gives to man his worth, power and dominion, and it is by its aid, that he has produced the most wonderful physical developments in those animals which are most necessary for his use; improvements which alone place the farmer amongst the greatest benefactors of mankind. Through his perseverance, his ingenuity and his labor in promoting good breeding in the animals necessary for his subsistence, and in bringing them to the highest state of perfection, the public welfare is subserved, and the farmer deserves to be regarded by all reflecting men, as one of the most important links in the chain of human society, and the main pillar of the social edifice.

Albany, N. Y., 1846. WM. H. SOTHAM.

CONTENTS OF THIS NUMBER.

ORIGINAL.

SELECTED.

METEOROLOGICAL JOURNAL FOR 1845.

Kept at Athens, Ga., by Prof. McCay, of the University of Georgia.—Latitude, 33d 58m N: Longitude, 5h 34m W.: Elevation about 870 ft.

JANUARY.

Days Mo.	Barometer. Sun-rise.	Barometer. 3 o'lk p.m.	Thermometer. Sun rise	Thermometer. 3'ok p.m	Clearness of sky. Sun rise.	Clearness of sky. 3o'k p.m	Course of wind. Sun rise	Course of wind. 3o'k p.m	Rain in inches.
1	29·36	29·25	41	52	4	0	0	e. 3	0·42
2	·11	·12	45	54	9	9	n. 2	w. 7	
3	·24	·16	42	55	2	7	w. 2	sw3	
4	·10	·13	30	55	1	9	n. 1	w. 1	
5	·24	·29	29	57	6	4	n. 1	ne.1	
6	·17	·09	43	58	0	0	ne.3	ne.3	1·24
7	·13	·20	42	48	5	9	n. 2	w. 5	
8	·27	·28	38	43	10	8	w. 1	w. 2	
9	·23	·26	39	43	9	6	w. 2	w. 6	
10	·27	·24	22	43	10	10	w. 3	nw4	
11	·13	·08	28	47	9	10	w. 2	w. 5	
12	·09	·14	30	50	10	10	nw1	w. 3	
13	·26	·33	22	48	9	8	n. 1	sw1	
14	·34	·34	23	53	9	5	nw2	s. 1	
15	·22	·09	40	41	0	0	ne.3	ne.5	0·41
16	·09	·09	42	57	0	4	sw1	w. 6	0·05
17	·09	·11	43	51	1	6	w. 2	w. 7	
18	·37	·35	25	46	9	8	n. 1	ne.4	
19	·42	·37	31	42	0	0	ne.2	ne.3	
20	·24	·11	29	32	0	0	ne.5	ne.8	·12
21	·00	·08	33	46	0	1	nw1	nw3	·12
22	·28	·38	32	49	10	5	w. 2	se.3	
23	·59	·55	25	45	10	10	n. 2	nw2	
24	·50	·51	24	51	9	5	n. 1	s. 2	
25	·50	·42	40	61	7	5	sw1	sw2	
26	·34	·25	46	63	1	4	sw2	w. 5	
27	·20	·23	48	61	7	8	sw1	w. 3	
28	·27	·29	28	61	10	6	sw1	sw2	
29	·26	·28	41	63	0	0	0	s. 3	
30	·20	·20	52	63	0	0	0	0	1·60
31	·16	·18	64	66	0	6	sw3	w. 1	
	29·25	29·24	36	52	average.		Tot'l	rain	3·96

FEBRUARY.

Days Mo.	Barometer. Sun-rise.	Barometer. 3 o'lk p.m.	Thermometer. Sun rise	Thermometer. 3'ok p.m	Clearness of sky. Sun rise.	Clearness of sky. 3o'k p.m	Course of wind. Sun rise	Course of wind. 3o'k p.m	Rain in inches.
1	29·21	29·21	45	59	5	6	w. 1	w. 1	
2	·41	·45	38	52	0	8	ne.3	ne.3	
3	·43	·38	36	56	0	8	e. 1	s. 1	
4	·38	·39	45	62	3	6	ne.1	0	
5	·37	·36	34	66	2	5	0	0	
6	·34	·20	47	44	0	0	ne.4	ne.4	1·08
7	28·93	·00	39	45	0	2	sw1	w. 6	·22
8	29·04	·17	45	62	9	7	nw1	nw1	·06
9	·12	·24	38	49	0	7	n. 1	nw2	·13
10	·42	·39	28	52	4	0	n. 2	ne.3	
11	·24	·20	42	58	0	2	sw1	ne.1	
12	·26	·27	36	58	10	10	n. 1	nw2	
13	·38	·31	35	45	5	0	ne.3	ne.2	·19
14	·00	·00	36	45	0	0	ne.5	ne.5	·58
15	·00	·08	38	43	10	6	sw4	w. 9	
16	·25	·27	30	54	8	10	w. 2	w. 7	
17	·35	·35	33	57	9	8	ne.1	s. 1	
18	·26	·24	40	63	2	0	se.1	e. 2	·04
19	·10	28·92	34	36	0	0	e. 7	ne.4	·36
20	28·96	29·03	34	38	1	4	w. 6	nw6	
21	29·09	·04	32	49	6	5	sw3	sw4	
22	·13	·16	31	48	10	9	w. 2	w. 3	
23	·20	·27	28	45	10	6	w. 2	w. 2	
24	·24	·29	40	68	4	5	n. 2	se.2	
25	·28	·30	54	66	0	3	se. 2	w. 2	·08
26	·44	·50	39	56	1	0	0	0	
27	·50	·44	37	38	0	0	e. 2	ne.2	
28	·24	·16	32	56	0	0	sw1	sw2	
	29·23	29·24	37	52	average.		Tot'l	rain	2·74

MARCH.

Days Mo.	Barometer. Sun-rise.	Barometer. 3 o'lk p.m.	Thermometer. Sun rise	Thermometer. 3o'k p.m	Clearness of sky. Sun rise.	Clearness of sky. 3o'k p.m	Course of wind. Sun rise	Course of wind. 3o'k p.m	Rain in inches.
1	28·94	28·91	38	42	0	0	ne.2	ne.9	·64
2	·97	29·13	39	58	0	1	nw2	nw3	·15
3	29·37	·42	38	60	9	9	n. 1	w. 1	
4	·50	·42	34	62	5	7	n. 1	w. 1	
5	·34	·30	45	72	9	10	nw1	sw9	
6	·26	·20	52	72	0	6	s. 1	sw7	
7	·25	·26	57	74	4	5	sw2	sw2	
8	·26	·26	44	79	8	4	nw1	sw4	
9	·25	·25	58	57	0	0	ne.2	ne.3	·54
10	·33	·26	48	60	0	0	ne.2	n. 3	
11	·27	·29	44	53	1	0	ne.2	ne.5	·50
12	·25	·23	55	64	0	0	ne.3	0	·29
13	·10	·04	63	68	0	0	sw4	w. 2	·03
14	·08	·12	42	60	10	8	w. 5	w. 6	
15	·16	·09	46	52	7	4	w. 2	w10	
16	·23	·26	42	56	10	10	w. 3	w 9	
17	·32	·34	34	64	9	7	n. 1	w 4	
18	·38	·35	51	73	1	4	w. 1	sw2	
19	·43	·35	56	78	3	8	w. 1	0	
20	·35	·35	64	72	0	0	0	sw2	
21	·41	·44	46	66	10	7	n. 1	se 1	
22	·53	·49	48	68	8	5	ne.3	e 5	
23	·42	·32	51	52	0	0	ne.4	ne 2	34
24	·12	·00	50	58	0	0	ne.2	ne 3	
25	28·94	28·95	52	61	2	7	sw3	sw 8	1·04
26	·94	·95	39	65	10	6	w. 4	w 8	
27	29·09	29·16	42	66	10	10	w. 2	nw7	
28	·19	·19	52	74	10	7	w. 3	w 8	
29	·27	·28	56	65	1	0	sw1	sw2	·05
30	·36	·39	37	63	4	7	ne.2	ne 2	
31	·40	·42	52	47	0	0	ne.4	ne 5	·95
	29·25	29·24	48	63	average.		Tot'l	rain	4·53

RAIN TABLE
With reference to the changes of the Moon.

	Day of change.	1st day after ch'ge.	2d day after ch'ge.	3d day after ch'ge.	4th day after ch'ge.	5th day after ch'ge.	6th day after ch'ge.	7th day after ch'ge.	Total.
Am't of rain for each day of the age of the moon in 1845 and 1846..........	2·67	4·41	9·16	5·33	9·41	4·17	1·86	1·61	38·62
Am't omitting light and short showers.	2·48	4·18	9·15	5·19	9·37	4·09	1·71	1·35	37·52
No. of days on which there was rain.	12	19	15	17	18	15	9	10	115
Number omitting showers..............	7	12	14	12	15	12	5	5	82
No. of days on which the rain began.	10	15	13	11	14	9	8	8	88
Number omitting showers..............	5	8	12	6	11	6	4	8	55

COMPARATIVE TABLE.

	1846.	1845.
Amount of rain in January..........inches,	3·96	4·48
" " February..................	2·74	·94
" " March.....................	4·53	·70
" " the three months........	—11·28	— 6·12
Average temperature for January.....deg.	44	46
" " February.......	45	48
" " March..........	55	54
" " the 3 months.....	—48	—49
Av'rge height of Barometer in Jan'ry.ins.	29·25	29·39
" " " February.....	29·23	29·37
" " " March........	29·25	29·42
" " " the 3 months......	—29 24	—29·39
" " " the whole year....	....	29·37

THE
SOUTHERN CULTIVATOR,
A MONTHLY JOURNAL,
Devoted to the Improvement of Southern Agriculture
EDITED BY JAMES CAMAK, OF ATHENS.

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MARL.

A LETTER ADDRESSED TO THE AGRICULTURAL SOCIETY OF JEFFERSON CO. GA. BY J. H. HAMMOND.

[*Concluded.*]

But to detail all the operations of lime in the soil, in assisting to prepare food for plants out of the vegetable and mineral substances which compose it, would require me to write a much longer letter than you would read with patience. I have touched on the most prominent only. The general consequences, however, which follow, and which are regarded as arising peculiarly from its application to land, require to be glanced at.

By opening stiff land, it renders it more permeable to the air, and more subject to atmospheric influence, while its surplus water more readily escapes. Quick-lime, when saturated, holds more water than common clay, such as yours, but yields it more readily to heat, and is therefore of great use in drying damp lands and rendering them warmer. But it does not give up its water so promptly as sand, and therefore renders that more retentive of moisture. In fact, marl containing 50 per cent. of carbonate of lime, and the residue chiefly fine sand, will absorb more water than the common clay of your lands, and retain it as long. During the extreme drought last year, at one time, the plow turned up dry dirt in a field of mine marled that year at 100 bushels per acre, and not yet sufficiently mixed in the soil, while several days later, without intervening rain in a soil equally sandy and having less vegetable matter, but marled four years ago with 200 bushels per acre, earth quite moist was turned up at the same depth. You will readily perceive and appreciate the value of marl in this respect.

By rapidly neutralizing the noxious, and vivifying the good properties of the subsoil brought up in breaking land, lime enables the farmer to deepen his soil more speedily and without risk. Mr. Ruffin's experience confirming the theory, is decisive on this point; mine, so far as it goes, is to the same effect. Lime undoubtedly hastens the maturity of crops. Writers abroad state that it advances them a fortnight. Before seeing these statements, my observation of my own crops had led me to the same conclusion. Two weeks gained to the cotton plant is equivalent to a degree of latitude —a very material gain to us.

It is also stated on good authority that lime in land improves the *quality* of every cultivated crop—and that it has the effect of increasing the fruit in proportion to the weed. It is well known, that while the straw, stalks, &c., of plants, contain more of the carbonates, the seeds contain more of the phosphates. If the application of carbonate of lime increases the fruit more than it does the stalk, its indirect influence in producing phosphates is greater and more important than has been generally supposed, and its value is enhanced in a corresponding degree. It is said also to extirpate many noxious weeds. However this may be, I can testify that it gives great luxuriance to the growth of all the grasses with which our crops are infested. This, to the mere corn and cotton planter, may be no recommendation of it. I will state, however, that in a field planted in cotton in 1844, and rested last year, which usually produces a heavy crop of hog-weed, when turned out, there came up, although it had not been plowed at all, an uncommonly fine growth of crow-foot; which I can only account for from its having been marled. The part longest marled had the best crow-foot.

Lime is thought in England to prevent smut in wheat—to destroy many injurious insects—to preserve sheep pastured on land after its use from rot and foot-rot—and it is every where regarded as improving the heathfulness of drained lands. In short, it is now generally agreed, not only by scientific men, but by the best and most experienced farmers in every part of the world where it has been properly tested, that "Lime is the basis of all good husbandry," in which opinion I fully and cordially concur.

In endeavoring to furnish you with something like a theory of the action of Lime, I have stated some—perhaps many—things which are questioned by men of great scientific attainments. Agricultural Chemistry—indeed, the whole science of chemistry—may be said to be yet in infancy. If it is difficult to penetrate the arcana of passive nature, it is far more so to investigate those active operations which are conducted in the air and under the ground, in the formation of plants, complicated as they are in addition by the yet unknown vital agency of the plant itself. Although, on the whole, the art of agriculture has been vastly advanced by the discoveries and experiments of chemists, and he who shuts his eyes to the light they are constantly shedding for the benefit of farmers, is now, and will soon be much farther, behind his age; still it is well known that great absurdities have been put forward, and with the utmost confidence, by the most eminent characters in modern science. In speaking, then, of the peculiar action of any of the elements out of which plants are formed, and its agency in the mysterious operations consummated in the production of a full-grown, matured and fruit-bearing plant, it is not only becoming, but necessary, that every one, most especially a mere farmer like myself, should express opinions with great diffidence and caution, and hesitate before drawing even from established facts, inferences of important and extensive bearing. In view of this, I ought not to omit to state to you, that within a few years past, a sweeping theory has been suggested by one of the first chemists and most popular writers of the age, that has found some able supporters, and which if true apparently upsets every thing that has been said of the effect of lime in furnishing food to growing plants out of decayed vegetable matter. Dr. Liebig asserts, that the decayed vegetable matter of the soil called humus, or mould, affords no direct nourishment whatever to plants. That they derive all their organic constituents from the atmosphere, and only their inorganic from the earth. The organic constituents of plants are those which are dissipated when they are burnt, and in most vegetables amount to from 97 to 99 parts in 100. The inorganic constituents compose the ashes which are left by fire, amounting usually from 1 to 3 parts in 100, in some rare cases to as much as 12 per cent. The only nourishment which, according to this theory, the soil affords to plants, being thus limited to from 1 to 3 parts in 100, the utmost direct influence of good or bad soils, of manure of all kinds—of lime, alumina, silica, and all mineral elements—can reach no further than to the modification of an hundredth or at most a thirty-third part of the crops we cultivate. It follows that the world has all this time labored under a most important error in estimating at such vastly different values, what we call rich and poor lands That the effects of manure are in a great measure fanciful, or at least that from 1 to 3 lbs. of ashes are equivalent to 100 lbs. of vegetable matter, as an application to the soil, and that it is useless labor to put on manure in any other form. Knowing as we do that a single drop of prussic acid will almost instantly extinguish life, it would not be fair to deny very great influence to even the smallest proportion of inorganic matter in the production of plants. And since Liebig concedes that until the leaves are formed, the plant derives its carbonic acid from an artificial atmosphere generated by the contact of humus in the soil with the air, it would not be safe to denounce this theory in the present state of science, as absurd. It is admitted too on all sides that plants do assimilate carbon from the atmosphere, and it seems established that ammonia descends in rain water. However true this may be, and though Liebig's theory was established as perfectly so in all its parts, I should think it most prudent to hold on still to what experience and rational deduction have taught us of the influence of vegetable mould on crops, in the hope that further discoveries might harmonize old facts and new truths, especially as none of us would set about improving the atmosphere, or desire to add more carbonic acid or nitrogen to it, since any material increase of these elements would render it fatal to animal life. Indeed, no scientific discoveries or force of logic can ever, I am convinced, for an instant, shake your confidence or that of any practical farmer, in vegetable mould and compost manure; or lead you to doubt that the amount of your crop, if properly tilled under fair seasons, depended in all other respects wholly and solely on the quality of your land. Whether the soil furnishes 1 part or 99 parts in a hundred—you have too often seen plants on the same acre, subject to the same identical atmospheric influences throughout, varying from good to worthless, according to the soil, to question the important fact that by improving your land you improve your crop in the same ratio precisely, and that by exhausting it you equally deteriorate the crop.

In fact, depth of soil, by which we mean depth of decayed vegetable mould mixed with sand, clay, &c., has been with you, as with all the world, heretofore, a criterion, and a never failing one, of the value of land, and so it will forever continue to be, I venture to assert. If then, as I believe, and you will probably agree, plants derive their most important constituents of all kinds from the soil and from vegetable mould, the value of lime in the soil is by no means limited to its action on the mineral or inorganic constituents of it, but extends to the production also of those organic elements which preponderate so immensely in all vegetation.

But your inquiry of me was in reference to Marl. I must therefore remind you again, that all which has been said of lime is true of marl. If it is slower than lime in its early operations, that is more than compensated by many advantages which it possesses. This is becoming so well understood, that wherever the same quantity of lime can be placed on land as cheaply in the form of marl, it is rapidly super-

seding the use of it in all other forms. Marl contains besides carbonate of lime other valuable constituents. Its silex and alumina though fine in quality are not of much consequence, since they are never thus applied in sufficient quantities to affect the soil materially. But some marls—those in Virginia, for instance—contain sometimes sulphate of lime and the valuable green sand of which I have spoken. As the sulphate of lime exists there in Eocene Marl it may be discovered in our formation. I have seen green sand in specimens from several localities in this State. A deposit of green sand, such as is found and used to an immense extent in New Jersey, would be more valuable in your county than the richest gold mine in the world. There is none of it at Shell Bluff. I have already spoken of phosphate of lime. In marl from Ashley river, in this State, which belongs to the same formation as our marls, 5 per cent. of this phosphate has been discovered. From some crude experiments of my own, I am inclined to believe it exists in some of the marls at Shell Bluff, and probably in yours—to what extent I would not undertake to say. But 5 per cent. of it would give you the equivalent of 9 bushels of ground bones in every hundred bushels of marl, which alone would be worth more than the whole cost of applying that quantity of marl, though the expense of it might be $5. We cannot, however, expect to find it in such quantity in all the marls we use. Those will probably be richest in it in which are found remains of bones and teeth. In the shell marls on the Rhine, recent analysis has detected an important proportion of azote, derived it is supposed from animal matter. This is the most powerful, as you know, of all manures. There is every reason to believe that a scrutiny equally rigid would disclose a valuable proportion of it in our shell marls here.

The duration of marl in the soil, is undoubtedly greater than that of lime. The question of the duration of calcareous earth applied to lands, is one of great importance itself, and about which you will no doubt desire to be satisfied before attempting to use it. I have mentioned already, that the ancients regarded marl as producing its effects from 10 to 80 years. Lord Kames states an instance of their being observable for 120 years, and Mr. Ruffin another of 60 years. Few or no records of such experiments have been handed down from generation to generation. In those countries where lime and marl have been used most extensively and for the longest period, it is impossible to say how the land produced before they were applied at all, in comparison with its production now. Of late years, more accurate accounts have been kept. The peculiar effects first observed to follow the application of lime, have been thought to disappear or materially diminish at various periods, reaching from 4 to 40 years, according to the amount applied and other circumstances. It is supposed by writers and farmers abroad, that about 3½ bushels of it are consumed per annum by the crop, and that in general the influence of any quantity will cease in from 12 to 20 years. But these conclusions are not to be relied on. It is certain that no crop will take off so large an amount as 3½ bushels, and the loss from other causes is altogether indefinite. While though at the end of 20 years, the same precise effects as at first may no longer be observable, it by no means follows that this may not be owing to the want of proper applications of other manures that would excite the lime again to its original action. Mr. Ruffin thinks that marl once placed on land, will endure as long as the clay and sand in it. Though we might not indulge fully in this belief, I am of opinion that it will last for a period which may be ealled indefinite, from its remoteness—particularly when crops are grown such as we cultivate. Irish potatoes consume more lime than any other crop, perhaps; nine tons, which are sometimes grown upon an acre, though not with us, abstract about 266 lbs. or say 3½ bushels—but 260 lbs. are contained in the tops, which we never take from the land. A thousand bushels of turnips, tops and all, consume about two bushels of lime. Wheat, the cultivation of which is extending among us, requires for a crop of 25 bushels, straw and all, about 9 lbs. or a half peck. Cotton and corn do not require more. Seed cotton sufficient to make a bale of 400 lbs.—that is 1400 lbs in the seed will consume about 3 lbs., and most of that in the seed which is invariably restored to the land. If we treble this amount for the stalks and leaves, which however usually rot on the ground, the exhaustion of lime by our heaviest cotton crops will not exceed half a peck when every thing is taken off. Thirty bushels of corn will consume only about 1¾ lbs. of lime; if we add six times this amount for the cob, shuck, blades and stalk, it will not require more than cotton or wheat. I am not aware that our cotton stalks, or our corncobs, shucks, stalks or blades, have ever been analyzed; but I have, I think, fully allowed for the lime they may contain. And at these rates of exhaustion, 30 bushels of lime, which is about the quantity contained in 100 bushels of marl that has 60 per cent. of the carbonate, will supply the wants of our usual crops, when much larger than we now average, for 240 years, if the land was cultivated so long without rest or restoring anything to it. The consumption of the crop then is next to nothing. The loss arising from other causes is undoubtedly greater. Quick-lime dissolves in 750 parts of water. A fall of 44 inches of rain, which is less than the annual average quantity that falls here, would afford water sufficient to dissolve 170 bushels per acre. Quicklime, when spread on land, however, becomes a carbonate, and nearly insoluble, too soon to lose to this extent. Still, a considerable amount might be lost in this way, by a heavy rain immediately after liming. Lime after being burnt, falls into a powder. Its minute particles are forced by showers, aided by deep plowing into the subsoil, and much may be thus carried off. When these things are considered, it is obvious that all the lime in land may in time be exhausted, as it has been from our "drifted" soils. But the chances of its duration are greatly increased by being applied in the form of marl. Being a carbonate, it is soluble by the carbonic acid in rain water only in small quantities, and ages must elapse before it could dissolve and carry off any great amount; and not having been reduced to a fine powder, its particles are too large to be readily driven down into the subsoil, below the reach of the plow. Without, then, assigning any precise limit for the duration of marl, I think it may be safely concluded, that the effects of a sufficient application, under proper culture, will last for a longer period than we can conceive ourselves to have any direct interest in the land to which we may apply it.

With regard to what is a sufficient application, there is a great diversity of opinion, and consequently of practice. Viewing it chiefly as a direct manure, in many parts of Europe, lime is applied at the rate of 8 to 10 bushels per acre annually—in others, at 10 to 12 bushels every third year; and again, in other parts, at 40 to 50 bushels every 12 years. But as its indirect effects are as important, and far more numerous than its direct, and it is therefore an invaluable elementary constituent of soils, the true rule for its application undoubtedly is to furnish the soil at once, if possible, with as much as its constitution will bear, and to repeat the dose as frequently as improvement of that constitution will permit, since the more lime, everything else being in due proportion, the larger the crops. Acting on this principle, many farmers in Europe put on 3 to 400 bushels of lime at once, and sometimes 1000. Such liming is probably excessive there, and in our climate would be utterly destructive. Marl, however, containing from 50 to 70 per ct. of carb. of lime, may be safely used in four times the quantity we can use quick lime. The usual dose of marl of that quality in Virginia, varies from 2 to 300 bushels. But more can be applied even in Virginia than here. The hotter the climate, the more caution is necessary in the first dose at least; though this is greatly dependent on the condition of the land to be marled. In the hot and dry climate of Egypt, the fruitful Delta of the Nile contains 25 per cent. of carb. of lime, which is equivalent in one foot depth of soil, to some 20,000 bushels per acre of marl containing 50 per cent.; but that soil is much deeper, and its vegetable mould inexhaustible. Depth of soil, and the amount of vegetable matter in it, must chiefly regulate the quantity of marl. M. Puvis has given an interesting table in reference to this. He thinks that we may give to a soil three inches deep, 40 bushels of marl, containing 60 per cent. of carb. of lime, or 50 bushels containing 50 per cent.; and to a soil six inches deep, 80 bushels at 60 per cent., or 100 at 50 per ct. He does not refer to the vegetable matter or other circumstances of the soil. I presume that the depths of the soils you cultivate range between the extremes stated, or at least that you seldom plow, and would not, therefore, mix the marl deeper than six inches. I think the amounts he specifies are very safe. As some of my lands are similar to yours, and our climates the same, I will give you my experience on this point. I began to marl by putting 200 bushels per acre, that averaged about 60 per cent. carb. of lime. On old mulatto land, with a soil about six inches deep, and containing about 4 per ct. of vegetable matter, I have not yet, after four years, perceived any injury from it. On lighter land, containing less vegetable matter, and a soil four to five inches deep, I discovered marl burns the second year. Previously to this discovery, however, I had taken the alarm, and reduced the quantity to 150 bushels, on land similar to the last mentioned. On all the thin spots I perceived the "marl burn" from this amount. I then further reduced the marl to 100 bushels per acre, from which I have as yet perceived no injury. Being now about to finish the marling of all my open land, it is my intention to go over it again, and to add 50 bushels per acre at a time, until I have given to all 200 bushels. I shall by no means, however, venture to do this until, by resting and manuring, I have also furnished to it additional vegetable matter.

I think I may safely recommend you to apply 100 bushels per acre, of the richest marl you have, to any land that now gives you remunerating crops, and 200 bushels, or more, to your best lands. If they are low and sour they will bear still more. I am now putting 240 to 300 bushels on some swamps I have drained, which have several feet of vegetable mould. I should not be afraid to put 1,000 bushels per acre on such land—though here I think quick lime would be the best application, as it would hasten decomposition.

It is always most convenient to apply marl to resting lands, and it is also a great advantage to secure, by this means, a new coat of decaying vegetation to start with. So new grounds should be marled the first year: if marled before clearing it would be better still. Very old and exhausted land should be rested two years previously to marling; and in all cases, thin knolls should, if possible, be manured when marled. But a little experience will furnish you the best guides in this regard—you will discover all the dangers and learn to apply all the remedies.

Experience will also teach you in a very short time, the best and most convenient methods of digging, carting and spreading marl. There are some difficulties connected with digging from marl pits, which, with the means of overcoming them, are stated in Mr. Ruffin's work. They arise chiefly from water, which must be drained off, or pumped out, according to circumstances. I have no experience on this point. My marl is cut from the face of the cliff at Shell Bluff. It is estimated that if a stratum of marl is 12 feet thick, 12 feet of covering may be removed to procure it, without hazarding too much. But should you find marl, you need not apprehend much danger of working through it. The great formation of which it is a part,

is of unknown depth. Over one hundred feet of it is exposed at Shell Bluff; it has been penetrated more than three hundred feet in Charleston.

In hauling out marl, the most economical method is to use carts with two mules or horses. In a cart properly made, they will haul 18 bushels at a load as easily as one mule will haul 6. The carts should be made with three shafts, so as to divide the weight of the load equally between the mules, and the tread of the wheels should be 4 inches—axle trees of iron. In putting on 100 bushels to the acre, the land should be divided by furrows into squares 28 yards each way. This will give 6 to the acre. A load of 18 bushels to each square will rather exceed 100 bushels per acre, but some will always be lost. The full effect of marl cannot be felt until it is thoroughly mixed with the soil. Hence the first year, little is to be expected from it, and it seldom reaches its maximum until the fourth crop—not always then. Its effects may be hastened, and what is also important, rendered equal, by spreading it with regularity over the land. It is best, therefore, to sow it broadcast with the hand. Each laborer should take his square and spread the pile, using a tray or board to assist him. A hand will spread nine piles of 18 bushels each, in a day.

The distance to which marl may be carted depends upon circumstances—one of which is the quality of the marl—another, that of the land—others, the facilities for digging, state of the roads, &c. Along the coast of Scotland it is transported by sea from 80 to 100 miles. I have been very recently informed, that at a single marl bank on James river, in Virginia, 10 rigged lighters are now engaged in delivering marl to a distance of from 8 to 20 miles up and down the river, receiving 3 cents per bushel for it, though it is much inferior to ours in quality. The marl I use averages about 60 per cent. of carbonate of lime. I cut the whole of it down at Shell Bluff, and boat it 12 miles up the Savannah river, re-land and cart it. I have marled about 700 acres within a mile of my landing here—but I have hauled some marl 4 miles, and have spread it on about 500 acres, the nearest part of which is over three miles from the river. This is of course very expensive; but I think it profitable, notwithstanding. If I could lay down any rule to regulate the cost of marling, it would be this: That where land is deficient in lime, it would be a safe operation to expend an amount equal to the present value of it, if so much should be necessary to marl it sufficiently. This rule I suggest upon the principle, that it would be profitable to pay twice for land, if you could thereby double its production without materially increasing the cost of cultivation.

You will naturally inquire, whether any one might reasonably calculate on doubling the production of his land by marling. I believe he may, if the marl is judiciously applied and the proper system of after cultivation adopted. I have seen but few statements of the actual results of marling in Europe. It is said in general terms to produce a great increase, though occasionally it is mentioned that the crops were doubled. So perfectly established is the use of lime and marl there, that every one who can procure them, uses them as a matter of course. It is not considered an experiment, and tables of results are not therefore given—at least, I have seen none. A few years ago Mr. Ruffin addressed interrogatories touching the effect of marl as exhibited in the crops, to a number of the most respectable farmers of Virginia, who had used it, and received answers from twenty-two, many of whom had marled extensively and for a number of years past. These answers were published in the Farmer's Register and in Mr. Ruffin's Report of his Agricultural Survey of South Carolina. Their marl was of various qualities, applied in various amounts per acre, and on different kinds of land, which had been subjected generally to very severe cropping before. No one of these estimated the increase of his crops from marling less than double, and some of them rated it as high as 400 per cent. I have no doubt that under favorable circumstances and good management, the last mentioned increase, enormous as it is, may be often realized. The prospect, however, of doubling the crop with reasonable certainty, is promise enough, one would think, to set every one to marling who can do it within the cost I have mentioned. I have not myself, yet doubled my own crop by the use of marl, nor might the practical results of it, which I ought to state, be so striking to a careless observer as he might expect, after all I have said on the subject. They satisfy me, however, and I feel perfectly certain that in a short time, the crops on all the land I plant, will be at least doubled, from the effects of marl alone, and much more than doubled, in consequence of other additional applications I am making. I commenced marling in November, 1841. I marled only 175 acres for the crop of 1842, the results of which I reported to our State Agricultural Society, as I did those of 1843, on the same land. They were published, and some of you may have seen them—I will therefore only repeat the tabular statement of those years, and add to it that of the past year. In 1844 these lands rested. The experiment marked No. 1 was made on mulatto land lying on the river bluff, which in appearance, and perhaps in most other respects, is much the same as the best upland cotton soils in your county which have been as long in cultivation. Experiment No. 2, was on light, sandy soil—the sand is very fine, but altogether, the soil is as inferior as any probably that you plant in cotton. I could scarcely have selected lands less calculated to give the marl a fair chance, both having been cleared more than a century ago—badly scourged, and of course greatly exhausted of vegetable matter.

EXPERIMENT NO. 1.—MULATTO LAND.

1842.	Seed cotton.	Less than unmarled acre.	More than unmarled acre.	Per ct.
Acre not marled.....	1,111 lbs			
Do. marled 100 bush..	816 "	265 lbs		30.
Do. do 200 " .	1,003 "	108 "		10.7
Do. do 300 " .	1,318 "		207 lbs	17.7
1843.				
Acre not marled.....	493 lbs			
Do. marled 100 bush..	654 "		161 lbs	32.6
Do. do 200 " .	759 "		266 "	53.9
Do. do 300 " .	841 "		348 "	70.
1844.				
RESTED.				
1845.				
Acre not marled.....	324 lbs			
Do. marled 100 bush..	481 "		157 lbs	48.4
Do. do 200 " .	584 "		260 "	80.2
Do. do 300 " .	642 "		318 "	98.

EXPERIMENT NO. 2.—SANDY LAND.

1842.	Corn.	Less than unmarled acre.	More than unmarled acre.	Per cent.
Acre not marled....	17 bus			
Do. marled 100 bush.	21 "		4 bus	23.5
Do. do 200 "	21 "		4 "	23.5
Do. do 300 "	18½ "		1½ "	8.8
1843.	S'd cot			
Acre not marled....	351 lbs			
Do. marled 100 bush.	451 "		99 lbs	21.9
Do. do 200 "	384 "		23 "	6.3
Do. do 300 "	173 "	183		108.6
1844.				
RESTED.				
1845.				
Acre not marled....	230 "			
Do. marled 100 bush.	317 "		88 "	37.7
Do. do 200 "	301 "		71 "	30.8
Do. do 300 "	159 "	71		41.6

The first thing that will strike you on looking at this table, will be, that the crops have regularly and excessively diminished, from the time the land was marled. It might be concluded that I had ruined my land by marling. Such I will candidly own would have been my own conclusion, if fortunately I had not kept these unmarled acres to test the success of my operations. Disastrous as have been the three last seasons in this section of country, I would not have believed it possible that there could have been such a falling off from seasons alone, and I should have abandoned marl, in spite of the experience of the rest of the world, as injurious at least to my soil. But great as has been the decrease of production on all the acres, it has been far greatest on the unmarled ones. That of the others, has comparatively steadily increased, except the 200 and 300 bushel acres in No. 2, both too heavily marled, but both recovering again under the rest of 1844. In No. 1, the acre with 100 bushels has increased from 30 per cent. below, to 48.4 per cent. above the unmarled one, making an actual comparative increase of 78.4 per cent. The acre with 200 bushels, has in the same way increased 90 9 per cent. Both these acres are decidedly inferior to the other two in No. 1, and have, I doubt not, produced this year double what they would have done without marl. The other two acres in No. 1, are a pretty fair test of the influence of marl, being as nearly equal in quality as could have been selected. The sandy land in time and with proper management, will, I am certain, exhibit results fully as favorable as the mulatto land. It was too far exhausted when marled. I did not reserve test acres on any other fields, but I feel sure that they have derived equal advantage from the marl, in proof of which I could state many facts to one present on the spot, which it would be tedious to mention and explain fully in this letter. I will only state one: The unmarled acre in No. 1 is one of the best acres I plant. In 1842, it yielded 1,111 lbs. The average of my whole crop that year was 666 lbs. per acre. The last year, the same acre, *after a rest*, produced 324 lbs. The average of my crop was 391 lbs. per acre. Thus, the yield of the unmarled acre, was in one instance 66.8 per cent. above, and in the other, 20.6 per cent. below the general average—making a difference of 87.4 per cent. in favor of the marled lands. Let me add that in 1842 the unmarled acre in No. 2 produced 8.8 per cent. less than the average of the crop. In 1843 it fell to 37.6 per cent., and in 1845 to 70 per cent. below the general average. If these facts may be assumed as data, on which to base a calculation, had the last year been as favorable in all respects as 1842, the average of my cotton crop must have been over 1200 lbs. of seed cotton per acre, and of my corn crop over 28 bushels per acre. This, however, is only a *paper* calculation, and 1842 was a fine crop year. Time will reveal the truth.

I cannot give you a better evidence of the firmness of my faith in the virtue of marl, than to state, that notwithstanding the discouragements of the last three extraordinary seasons, I have at great expense, brought up from Shell Bluff, within four years, over 300,000 bushels, carted it out, and spread it over about 2,300 acres of land; and am at this moment as actively engaged at it as ever. Nor do I look forward to a period when I expect to cease using it to a considerable extent every year, either on fresh lands, or in increasing the dose on those already marled. It would be leading you into error, however, to leave you to suppose that I rely solely on the marl to improve my lands. Rest, in connection with it, is indispensable, and manure becomes far more beneficial. I have, accordingly, by opening more land, and reducing my planting, enabled myself to rest, annually one-third of my fields. And I have already hauled out and mixed together, for the coming crop, 96,000 bushels of muck, and 48,000 bushels of manure from stables and stable yards, hog and ox pens, &c., having yet about 20,000 bushels more to carry out before planting. I shall not only endeavor to increase this amount of manure every year hereafter, but also, by clearing and reducing the land in cultivation, to rest, as nearly as may be requisite, each field, every other year. Indeed, the management of land, after it is marled, is of the utmost consequence to the efficiency and profit of marl. Though lime is itself a portion of the food of plants, and therefore a manure, this is perhaps the very least of its virtues. Its indirect operations are far more important. It is the grand agent that prepares for the crop nearly all the food which the earth furnishes. It is

the purveyor-general—no—the farmer must fill that office: it is the "*chef de cuisine*" that selects the ingredients, mixes and seasons almost every dish to suit the delicate appetite of the growing plant. It is from the materials placed in the soil by nature, or the industrious husbandman, that this skilltul artist draws the rich repasts it furnishes; and it could no more furnish them without these materials, than your cook could make your soup without joints and spices. The larder of the marl must then be amply supplied. The means of doing it are rest and manure. The great gain to the farmer is, that having once engaged in his service this powerful, untiring, and almost universal agent, he may safely exert himself to the utmost of his ability to supply it with everything necessary to carry on its important operations. Seizing on whatever is valuable, it preserves it from waste—combining with the utmost generosity the wisest economy, it not only yields to the plant all it requires, but stimulates it to ask more, while it is inaccessible to demands from all other quarters.

There is no fancy in this—theory and experiment unite to prove it true. And I trust that no great length of time will elapse before marl shall have written its own eulogy in indelible characters over all the broad fields of your county.

Permit me to conclude this letter, for the great length of which I owe you an apology, by returning my acknowledgments for the honor you have done me in electing me an honorary member of your Society, and by wishing each member of it the utmost success in his agricultural pursuits.

I am, very respectfully, your ob't serv't,

J. H. HAMMOND.

HAMILTON RAIFORD, Esq., Corresponding Secretary of the Agricultural Society of Jefferson County, Geo.

From the American Agriculturist.

Prepared Manures and their Effects on Crops.

The substance of the following remarks was lately delivered at the meeting of the American Agricultural Association in New York, by R. L. Pell.

Mr. Pell rose and said: By analysis it is known that all cereal grains, cruciferous and leguminous plants, trees and shrubs, require in the soil the same chemical substances, but in different quantities. These are eleven, viz: potash, soda, lime, magnesia, alumina, oxide of iron, oxide of magnesia, silica, sulphuric acid, phosphoric acid, and chlorine. If one be absent, the soil will not grow any cultivated plant. Hence analysis of soils is necessary for a proper and economical application of manure. In a barren soil one necessary ingredient alone might be absent. If then, ten ingredients be added and the eleventh kept back, the soil is still barren. Hence, the reason why so much of New York will not grow wheat, and yet will grow other grain: the requisite quantity of some one or more chemical ingredients necessary for wheat is absent, but in sufficient quantity for rye, &c. When, at last, cultivated plants cease to grow, the five-finger vine appears, as it requires still less of them. In such a stage it is not rare that an expense of $3 per acre will enable the soil to produce 30 bushels of wheat. I produced 78¾ bushels of wheat on a piece of worn-out ground, by fifty cents' worth of two ingredients. Like produces like; and hence if straw or wheat be given to the ground it will produce wheat; indeed, wheat may be grown on a pane of glass, if the seed be covered with wheat straw in a decomposing state. Hence the farmer may sell the grain but not the straw. The farmer who sells straw becomes poor; he who buys it grows rich.

I apply straw to the cattle yard; it absorbs the liquid excrement, and rots. What is long or partly unrotted I apply to hoed crops; what is fine I mix with the eleven requisites and apply as a top dressing. It may be advisable to apply the straw to the ground and plow it in when unrotted. To grow grains, give the soil straw of its kind; for potatoes, their vines; grapes, their vines; to apples, their branches: and so of all. The droppings of cattle are the best manure to grow grasses, as they feed on grass; those of horses fed on grain for the growth of cereals. Onions are grown year after year, by only returning the tops to the ground. In Virginia, had the refuse of the tobacco plant been returned to the soil, she would not now be barren. The bad farmer is injured by the vicinity of well manured land, as manure has an affinity for oxygen, hydrogen, ammonia, &c., floating in the air, and attracts them to the provident farmer's land.

Formerly, I applied composts of various things, and had wonderful results; I dared not omit any one, as I knew not which had produced the result. Now, science by analysis shows what is necessary. By these composts, I grew a squash to weigh 201 pounds, the heaviest on record; and a cabbage to weigh 44 pounds. By it I grew wheat to weigh 64 pounds, rye 60 lbs., oats 44½ lbs. When Sprengel made known his analysis, showing that eleven substances are necessary to all good soils, I found that my compost by chance had them all, and twenty other enriching ingredients.

Previous to 1840, my orchards bore only every other year. Since then I make them bear every year; and this year, a bad one for fruit, found my manured trees full, and those not manured barren. The drought of this year was fatal to fruit; yet my manured trees had abundant moisture and were fruitful. I prefer the manure of decayed vegetable matter to the excrement of cattle, as the material that makes and supports the animal has been extracted, and the excrement is not so rich on that account. If the vegetable matter be rotted and its ammonia fixed by charcoal dust, all the chemical substances are present. Thus, rotted vegetable matter is more beneficial than the dung of cattle, quantity and quality alike.

A most valuable manure is the liquid remaining after the boiling of bones. It is very offensive unless disinfected. When hot it is not offensive, but becomes so when cold. It is a jelly when cold. By the application of charcoal dust to the hot liquid, the jelly when cold is not offensive. In this state it may be made into compost with other substances. In that condition it is a most valuable manure. At present, large amounts of the liquid are thrown into the rivers. I prevailed upon a grinder of bones to save his liquid by charcoal, and he now sells what formerly he hired carried away. I have used it with great advantage, both on arable and meadow land.

Charcoal is one of the most valuable manures. It is the most powerful absorbent known. It takes from the atmosphere oxygen, hydrogen, nitrogen, ammonia, &c., and holds them while the weather is dry. During rain it absorbs 80 per cent. of water, and releases the gas to descend to the earth to fertilize it. When the weather becomes dry it parts with the water, and absorbs from the air the gases again. This it continues almost perpetually, and it is nearly indestructible. When applied to the earth, the trees, plants and grasses are found to have it adhering to their roots ready to impart gases and moisture as wanted. Trees packed in it have remained green for 80 days, while others without it have died in like circumstances. Hams and salt meats are preserved perfectly when packed in it. I preserved apples in perfect condition for one year in it. If spread over compost heaps, barn yards, stable floor, in privies, it absorbs the ammonia, prevents offensive smells, fixes the volatile gases, and thus makes a valuable compost.

Ashes applied to sandy soils are valuable, and on some soils leached are as good as unleached. I have known land too poor to grow 8 bushels of corn, made to produce 45 bushels by ashes alone; and they are more valuable on a sandy soil than any other manure except marly clay. They enable the sandy soil to retain its moisture—a great point. They are used to great advantage on Long Island and in New Jersey. They stimulate growth as does plaster. Sown broad-cast on grass, the effect is perceptible at a great distance. They yield the first year on sandy soils in grass and will pay the expense of applying 40 bushels to the acre. They give to the soil silicate of potash, which is needed to form stems.

Ashes have two actions on soils, viz: chemically by alkali they neutralize acids; and mechanically by rendering sandy lands more tenacious. Muck is made valuable by them, when mixed in compost; the acid of the muck is destroyed by the alkali, and fermentation follows.

Lime has been used by me to great advantage. I prefer oyster shell lime, as it contains no magnesia, which most stone lime does. I think oyster shell lime has a tendency to lessen in growth the stem and leaves, and increase the fruit and seeds. I put on barren or worn-out land 300 bushels of oyster shell lime, and it grew wheat to a weight of 64 pounds per bushel; with the wheat I sowed one bushel of clover seed and half a bushel of timothy seed per acre, and the second year three tons of hay per acre. I have found it of great advantage in potatoe culture; the potatoes do not rot in the ground, while neighboring unlimed ones *all* do. They are mealy and fine, and do not rot after gathering, and have been free of rot in dry, wet and average seasons. I think it destroys the fungus or insect, if either be the cause of rot.

Bone dust I have used and find it most valuable, and advise its use, especially on soils long cultivated, destitute of phosphate of lime; it is the most efficacious manure that can be used on an exhausted soil, but will do better on dry calcareous soil than on such as contain alumina. It should be mixed with earth to ferment before spreading. There should be used from 12 to 20 bushels to the acre. It seems best on turnips. In compost it is valuable, as it yields phosphates largely. It is said that in England, where on lands it had been applied 20 years before, its effect could be seen to a yard. I trust the exportation of bones from our country will soon cease.

I have used guano successfully and unsuccessfully. Mixed with earth and applied to plants in close contact, it was injurious; applied in weak solution to grass land and greenhouse plants, its effect was wonderful. My experience shows that *its method* of use will determine *its value*. In composts I have found it very effective.

Night soil is one of the most valuable manures. In this country as well as in England, great prejudice prevails against its use in agriculture or gardening. For ages it has been used in Asia, and particularly in China. In France, Belgium, Bohemia, Saxony, all the German Confederacy, and Sweden, its destruction or waste is prohibited by law. In England and America it is thrown into the rivers to befoul them, and the fish which devour it are eaten, instead of vegetables grown by it. As manure, six loads of it have been found to produce 650 bushels per acre of potatoes, while, on the same ground, 120 loads of horse manure yielded only 480 bushels.

In conclusion, I have to remark, that the main stay of the farmer is his barn yard manure. Yet, this varies in quality, according to the material of which it is made, and the manner of making. Thus the droppings of cattle fed on straw and turnips, are far less valuable than those of cattle fed on hay and oil cake; and it is economy to feed hay and oil cake rather than straw and turnips. So in manuring; that which is leached by rains and volatilized by the sun, is less valuable than the unleached and unsunned. But this is too extensive a subject to take up, and is so well understood by good farmers that it is unnecessary to say more on the subject.

Draining low lands will contribute to promote health and profit. Generally speaking, our wet and marshy lands are the richest in organic matters, and become the most profitable to the owner, when thoroughly drained.—*Buel's Far.*

From the American Agriculturist.

Necessity of a Knowledge of Chemical Principles to a Farmer.

It will be my object, in the few brief remarks I intend to make in this paper, to illustrate, by some familiar examples, the absolute necessity of a knowledge of the principles of chemistry, to every one who expects to carry on the operations of the farm, or even domestic affairs successfully.

Heat is one of the great agents of nature in effecting her changes and modifying her results. What heat is, whether matter, or some effect or result of matter, is yet unknown. Great heat is always attended with light, and it is probable that, in all its degrees, it is inseparable from electricity, and perhaps is identical with it. But it is my present object simply to show, by some practicable examples of every day occurrence, some of the laws by which it acts.

Heat expands, with some slight exceptions, all the objects into which it enters. Thus, a cold hand is shrivelled; but warmed, it is more plump and full. Every one knows that a boot or shoe that is too tight for summer use, can be comfortably worn in the cold of winter. An ordinary metallic pendulum that keeps correct time in summer, by its contraction, will beat too quick, and consequently produce fast time in winter. An iron bolt, when fastened while hot, will contract on becoming cold, and close up a seam, which the power of man with the lever and screw, could not effect. The blacksmith sets his iron on the wagon wheels while red hot, and immediately cooling it, he sinks it sometimes half an inch on every side in the wood. The common thermometer is another illustration of this principle.

Fluids partake largely of this expansibility by heat. But its effects are more strikingly illustrated in air or gases, than in any other substances. The particles of matter of which these are composed, are more easily separated and kept asunder, and they feel the influence of heat in a wonderful degree. A cubic inch of water when converted into steam occupies 1700 times its original space, even when nearly of the same temperature. The principle on which all steam engines are propelled, is solely that of the expansive power of water and vapor by the application of heat. Thus, the heat yielded by a handful of wood, passing through a half inch boiler into water, and then expanded into steam, will produce an effect that the combined strength of 100 horses could not accomplish. Heat produces nearly all the changes of weather, by the rarefaction (or expansion) of the air, and the consequent currents of that fluid which necessarily follow; for as the heated air becomes necessarily lighter by expansion, and rises, heavier air rushes in, frequently from an immense distance, to supply its place, and hence storms and sometimes hurricanes, whose violence is proportionate to their cause; and so if the air suddenly loses its heat, the neighboring warmer air hurries to supply the partial vacuum.

Heat (another form of electricity perhaps, or in all cases associated with it,) is also the great agent of vegetable life, giving direction and effect to the moisture and other elements of vegetables, when the embryo plumules and cotyledons burst from the germ; nor is its vivifying influence withheld for a moment from the growing plant, till the entire reproduction is accomplished, and the seed is fully matured which is to perpetuate other generations through the whole course of time.

The most striking exceptions to the expansive effects of heat, are in clay, and water below a certain temperature. The former contracts through the highest known temperature that can be given to it; and a thermometer for furnaces, called, from the name of its inventor, Wedgwood, has been constructed from this material, which is not injured by the most intense heat known. Water continues to contract till it reaches a temperature of 39° Farenheit, when, by a merciful exception to the general law, it begins to expand, and continues till it reaches 32°, the freezing point, when it congeals. This keeps the cold water on the surface till it freezes, and this change of the liquid into a solid still farther diminishes the density, thus keeping the whole body of water in lakes and rivers beneath, in a condition to minister both support to its inhabitants, and allow the surplus water to pass off towards the ocean.

The admission and retention of heat in bodies, is much affected by their substance and surface. A dense body will receive and retain more heat than such as are light and porous. A rough surface imbibes heat much quicker than a smooth one, when exposed to the rays of the sun or a fire; and when at a higher temperature than the surrounding atmosphere, parts with its surplus heat more readily than such as are smooth. The color of bodies has much to do with receiving and repelling heat, and retaining or parting with it. A black surface, when exposed to a high temperature, soon becomes hot, while such as are white, require a much longer time, under similar exposure, to reach the same temperature. Many substances of nearly equal density *conduct* heat with much greater facility than others. Let us consider, for a moment, some beautiful examples of the application of these laws.

Animals and birds inhabiting the arctic regions, where the cold is intense, are not only covered with thick fur and down, both of which are the best known conductors of heat, but on the approach of winter most of these change to a white color, which of all others is the worst conductor. During a great portion of an arctic winter, there is absolutely no sun, and for the remaining portion but a mere glimmering of its rays. All the warmth of living things in that region, therefore, is generated within the covering of fur or feathers, by the combination of the carbon of the blood derived from their food, and the oxygen of the air inhaled into the lungs, and all of which heat is most economically husbanded for the comfort and preservation of the living being.

The warm blooded animals that live in the Arctic ocean, whales, porpoises, seals, walruses, &c., are not less protected than those on land, though in a different manner. Fur or feathers, if constantly immersed in water, would, after a time, admit it next the body, when a rapid lowering of its temperature would take place. Almighty wisdom has guarded the animals which live in that element in a manner totally different, yet equally effectual with such as live in the air. They have a smooth, naked skin, or sometimes covered with a thin hair, which is no impediment to their rapid passage through the water; and underneath is a thick covering of *fat*, which, though vastly denser than fur or feathers, is nearly equal in its non-conducting properties. So, too, in our own climate, the hog, which is the only animal not sufficiently protected against the rigors of winter by an external covering, takes care to supply this deficiency effectually, if allowed to indulge his gormandizing propensities, by loading the exterior of his carcass, immediately under his skin, with a thick coating of fat.

The temperature of the human being has to be provided for, through the extremes of winter and summer, by external clothing, though in extreme hot weather, a portion of this excessive heat is carried off by perspiration, which involves another beautiful principle of chemistry, that we have not time at present to illustrate. *Black* is the warmest clothing when exposed to the sun's rays, and the coolest when deprived of them; *white* is directly the reverse. Consequently, there is no more unsuitable color for clothing, where temperature alone is regarded, either for winter or summer, than *black*, and none more proper than *white*. The effect of black is somewhat obviated by using white linen and under-clothes.

Black soils are more productive than such as are light colored, when in other respects they are equally charged with the elements of vegetable nutrition. They rapidly absorb heat when exposed to the rays of the sun, and as rapidly cool when they are withdrawn. Both of these effects are highly beneficial to vegetation. The heat which the soil acquires during the day, stimulates the action of the roots and growth of the plants; and the rapid cooling of the surface causes the dew with which the air is charged to be deposited early, and in large quantities, during the evening. Some gardeners use white sand on the top of the soils, "because," as they say, "it is so heating." Had they a knowledge of some of the first principles of chemistry, they would at once see the absurdity of the practice. Were the sand black, or of a dark color, the practice would be commendable, as it would *conduct the rays to the roots of the plants*, which its white color *reflects*. The sand is highly useful when *mixed* with many soils, but is objectionable when placed on the surface. Pure sand is frequently hotter than dark earth in similar situations; but it is because it is *drier* and a non-conductor, and retains what heat is imparted to it, while the evaporation of the moisture, and the *heat-conducting* properties of the dark soils, carry off the heat. A pure white or very light colored earth can never be fertile. Very luxuriant vegetables are always dark colored when growing, and their color helps their growth in two ways--and for the same reason that dark soils do, viz: by conducting the heat into the plant while the sun is up, and again conducting it off when down, by which there is a rapid and plentiful deposit of dew upon it.

White buildings reflect the sun's rays, while darker colors absorb them; consequently, those which are white are vastly more durable than such as are very dark. It would be more economical to use white for all buildings, fences, tools, &c., used about a farm; even carts and sleighs and carriages would last much longer by substituting drab or light colors, for the black or dark brown usually adopted. When black is used for carriages, its bad effects are in a considerable degree prevented by the use of varnish, thus leaving a smooth polished surface, which reflects much of the heat. When not exposed to the direct rays of the sun, of course, there is no difference between this and other colors. The philosophy of placing plants that require much heat on the south side of white walls, is obvious. They reflect the rays of the sun upon the plants and soil covering the roots, thus affording them a double supply of heat. The white exterior of the wall arrests and sends back the rays that fall upon it, precisely as the amalgam, or quicksilver, on the back of a looking glass arrests and sends back those which would otherwise be transmitted through it. A kettle or pot covered with soot, has the greatest advantage for absorbing heat, and when exposed to a fire, it will raise a liquid contained in it to the boiling point in half the time that a bright polished surface would, if similarly exposed; and it will cool, when withdrawn from the fire, in equally less time. The blackened tea-kettle is, therefore, the proper vessel to heat the water, and the white porcelain, or highly burnished metallic tea-pot, the proper one to maintain it hot for the longest time. R. L. A.

Buffalo, February, 1845.

From the Genesee Farmer.

Science with Practice.

Every farmer should adopt for his motto, "Knowledge with Labor," or, "Science with Practice." Knowledge without labor, and labor without knowledge are alike nearly worthless. But knowledge with labor, or science with practice, gives to the honest cultivator of the earth the best possible chance to acquire both wealth and distinction as a successful agriculturist.

Suppose a farmer wishes to sow land enough this fall to yield him, at the least possible expense, 500 bushels of good wheat, free alike from *rust*, *smut* and *chess*—what knowledge does he need to accomplish this object? Will any experienced farmer say that, to produce this amount of grain at the least cost in land and labor, no knowledge of the mineral constitu-

ents of his soil, of vegetable mould and muck, of an excess of moisture in the surface or subsoil—no knowledge of the substances that Nature *must* have to form a perfect wheat plant, and the condition in which those substances should be placed, is useful to the wheat-grower?

It is a sad sight to view forty acres of wheat all blackened and shrunken with rust, involving a loss of several hundred dollars, because the owner despised a knowledge of those simple laws of nature, which produce this parasite plant on the stems, leaves and heads of his wheat. It is painful to witness the toiling husbandman, harvesting fifteen bushels per acre, where the amount of seed sown, the thorough tillage, and the hard work performed, would, by the aid of a little more knowledge of the nature and properties of wheat, have given him 30 bushels per acre. Thousand of farmers will reap this season an average of 30 bushels of corn on land that might grow 70 quite as well, with an equal amount of labor, if scientifically applied.

Too many farmers unwittingly prepare their wheat crop just right to be stricken, as it is termed, with rust. They fail to drain their wheat fields most thoroughly, and thereby induce the growth of sickly imperfect wheat plants, which fall an easy prey to parasites. They place their seed in soils that contain too much vegetable mould, and too little of the alkalies, potash and soda, too little of the alkaline earths, lime and magnesia; and too little phosphorus, sulphur and chlorine. The young wheat plant finds its nourishment as a lamb would find his, provided you give it a gill of its mother's milk a day, diluted in a pint of bad water.

There is but little study, little knowledge, and no science brought to bear on the feeding and raising of wheat plants in the State of N. York, which makes twelve million bushels of grain. The habits of this head-bearing plant, and what it needs to form a *firm, bright, glassy stem*, which *Uredo—rust*, cannot grow upon: and what it needs to develope a long ear, well filled with plump kernels, are matters that pertain to wheat culture, most sadly overlooked by those that toil too much with their hands, and exercise too little those nobler faculties of reason and common sense, which God has given them.

Every rational being that happens to have a mouth to feed should study the science of transforming earth, air, and water into good, light, wheat bread. It is hardly possible that this knowledge will be utterly valueless to any one during the whole period of his existence, whatever his pursuit in life.

As a general rule, it is cheaper to grow 30 bushels of wheat on one acre than two, provided the use of the land was given to the cultivator. On an acre of well drained, well pulverized soil sown in wheat, scatter broadcast with a shovel, ten bushels of unleached ashes, five of lime—(ten will be better if not too expensive,) two and a half of gypsum and an equal quantity of common salt. If possible, the ground should be entirely free from the seeds of weeds, that nothing but clean wheat plants may grow. The above compound will serve to make bright flinty straw, so little subject, as every observing man knows, to be attacked by rust. Deep plowing, thorough harrowing and early sowing, constitute prominent features in the practice of those wheat growers, whom the editor has lately visited, because of their notable success in this branch of husbandry. In Scipio and the adjoining towns in Cayuga county, the good effects of underdraining wheat fields, have been most signal this season. During the last four weeks we have collected many interesting facts relating to rust, smut, &c., in connection with shale, sand stone, clayey and muck soils. These will be embodied in our official report to the N. Y. State Agricultural Society.

Any gentleman that has made or shall make any discoveries relating to insects injurious to wheat, potatoes, apple, pear or peach trees—relating to the *blight* which is now injuring, if not destroying so many quince trees as well as others, will confer an especial favor by communicating an account of the same to the Corresponding Secretary of the State Society, for publication in the current volume of its transactions, or to be made public through some other medium.

The study of Entomology—the science of insects—is becoming every year more and more important to the practical farmers of this State. The popular work of Harris should be in the family library of every cultivator of the soil. Let every young man that reads this article, begin at once the systematic *study* of his noble profession, if he designs to be a skilful and successful farmer. Let him unite knowledge with labor—science with practice—and the great Fountain of all knowledge will reward him a thousand fold for his well directed efforts.

From the Farmers' Library and Monthly Journal.

The Amateur Gardener.

There is no pursuit to which man is more evidently led by the hand of his Creator than the cultivation of the ground. Our necessities render the spade and the plow of the first importance to every community, and a high or a low state of husbandry will always be the distinctive mark of a flourishing or a declining people. In an occupation whose principal capital is industry, and whose object is the supply of our natural wants, the greater number of human beings must always be engaged. With the variations of fashion, and the mutations of ages, other pursuits, once sedulously followed, may become obsolete; but imagination cannot conceive a state of things in which the benignant stores of mother Earth will not be sought after.

The cultivation of the ground, in all its departments, manifests the high honor which is attached to human wisdom and skill by the great Lawgiver of the universe. Nature, wild and unattended, will produce luxuriantly the indigenous fruits of the soil, but demands forethought and labor from her dependents, before she yields to them her most valuable riches. By observation, man has improved upon the past, and better methods of cultivation are constantly discovered. Now, in this process of induction, or the Baconian method, as it is called in philosophy, the amateur gardener has employed efforts which have often been crowned with eminent success. Those who till hundreds of acres as the means of subsistence have seldom the courage to perform experiments on a large scale; but the owner of a small garden can do so with pleasure unmingled with the fear of loss. Agriculture has thus been indebted to the lovers of gardening for many discoveries, by which the wealth of nations has been increased, and every amateur, however limited be his domain, may hope to add to the mass of knowledge If, by the application of manure in some novel manner, or by experiments in hybridizing or crossing, a vegetable may be made more productive, the application of this principle may result in a grand national benefit. I have a great respect for working gardeners of all grades, for this reason, that they are the silent and modest precursors of those great changes by which the vegetable property of a country acquires an enhanced value. Whether, therefore, you are delighting in an exclusive garden adjoining a country residence, or looking proudly on the beauties of a suburban retreat, I thus remind you of a very important argument to be employed in the defence of your pursuit.

But I turn with pleasure from the objects contemplated by the spade and the plow to flowers, those luxuries of Nature, given to reward man for his obedience to the law. "In the sweat of thy brow shalt thou eat thy bread." These emblems of purity and innocence are like the bright eyes which animated the knights of the tournament, calling forth their exertions and rewarding their conquests. The matchless charms of flowers force the attention of the most tasteless of mortals, and win the hearts of the susceptible and refined. A child once said that the stars were little holes pricked in the firmament to let Heaven's glory through; a truthful idea though linked to a physical error. Apply the same mode of reasoning to flowers, and what can they be but emanations of the beauty and happiness which reside in the mind of an Infinite Being? Their utility is less manifest than their subserviency to the wants of our intellectual nature, since they appeal almost exclusively to what is refined and sentimental and poetic in our constitution. Seed is produced without the accompaniment of a splendid corolla, with its wondrous sanctuary of stamens and pistils, as in the case of all kinds of corn, so that utility is rather associated with that which is plain and unattractive. But the most glorious structures of the floral world belong to plants which, in reference to a man's bodily wants, may be called useless. Trade would go on, and fortunes be made, if the world did not possess a Carnation, a Tulip, or a Rose; and yet they are here, winning our attention and riveting the emotions of our hearts. Why are they here? Doubtless to recall us from pursuits carried on in reference to our lower nature, and to lead us to that which is gentle and good. The amateur gardener is thus evidently a respectful observer of the will of Heaven, when he receives these gifts with thankfulness, and bestows on them a portion of his intellectual worship. To think lightly of floriculture is almost to disparage the wisdom of our Maker, who calls the attention of the child and the man by enameling the earth with the rich colors and lovely forms of these universal favorites. This is a second and convincing argument which you may use in refuting detractors, and justify yourself. You may not succeed with the former, for some men are destitute of the power of appreciating such reasonings as I have endeavored to unfold. But be contented if you are able to satisfy yourself that in loving your garden you are acting right. Hear what has been written of wild flowers, and be sure that such sentiments are still more appropriate to those who have had something to do in the production of the beauty they admire:

"Oh chide not at the simple theme that wakes the minstrel's lay;
Earth were less bright without the flowers that blossom by the way;
He at whose words the universe her ancient might did yield,
Hath taught proud man a lesson from the Lilies of the field.
I thank thee, God! for every boon thy hand in mercy showers,
And oh, not least among thy gifts, the beautiful wild flowers!"

From the Floridian.

Potatoes.

Mr. Editor:—It appears to me that if the farmers of Florida would turn their attention to the cultivation of Potatoes, they would realize a more general benefit from their farms than at present, for the climate of this State is more congenial to the growth of that excellent article of husbandry, than of most other articles grown by the planters on our soil. It is a true maxim, perhaps, that an acre of land that will yield 30 bushels of corn, will, with the same industry, yield to the planter 300 bushels of potatoes. The corn sold at 50 cents per bushel, will bring him $15; the potatoes at 50 cents will make him $150, and that price may always be had, if care should be taken of the potatoes till spring, and they are as easily preserved as the seed till that time of year, and the cost of making them not more, nay, much less, for draws and vines will do well to plant out till June or even July. I have even known a farmer to plant an early field of corn, which was forward when laid by, say any time in June, and at the first season thereafter, to set out in the centre, between the hills of corn, potatoe vines, and make a crop of small potatoes for his hogs when the corn is gathered, which prepared his hogs for fattening, and cost him much less to make his pork, than the usual way of neglect, or even growing peas for hogs. The potatoes are much the best article for hogs, for peas often kill hogs, and potatoes always agree well with them.

The former way of either making hills or large ridges for potatoes, should be exploded; and good farmers are finding it out, for the hill or the ridge only shed the water from the young plant and hinders its growth, makes it later and less productive in the end; whereas breaking the land deep, (which is no trouble in the soil of Florida,) throw three furrows together with a winged plow, and instead of pulling up the earth as usual to a sharp ridge or point, just strike the hoe on top till it is flat, just as the planters prepare for the ground-nuts, and plant nearly level, the furrows on either side will preserve the plant from the spring rains, and by the time they are over, you may plow and hoe as you would other articles—corn or cotton. Perhaps twice over may be quite sufficient, and in the end you have a richer crop or harvest than in the old farming way, for the potatoes get much more the benefit of the summer rains, (which in Florida are generally rather scarce,) than they ever get when planted in hills or high ridges. The beds for potatoes should never be more than from two to four inches above the level of the common earth.

Try it, my fellow-citizens, and you will find good results. HERMON MERCER.

St. Andrews, April 20, 1846.

From the American Agriculturist.

A Chapter on Apples.

The great advantage of fruit raising to the farmer has been often commended through our columns. It is not our intention to enlarge upon its general merits at present, but to confine what we have to say to the subject of apples alone.

The apple is, beyond all question, the king of fruits; as wheat and the potatoe are of grain and roots. In some one or more of its varieties, it keeps throughout the three hundred and sixty-five days of the year; and long after the earliest june-eating and sweet-bough, with their glossy sides and fragrant odor, are offered in the market, the piles of smooth greenings and pippins, and rough golden coated russets, with all the firmness and substantial merits of veterans of '76, are tempting the eye and olfactories of every beholder by their plump and but just matured perfections. It is to this quality of enduringness, that much of the merits of the apple are due. But much more it may justly claim, in its luscious flavor and healthful influences, and its peculiar adaptation to so large and varied uses. Besides the thousand-and-one varieties of dishes of which it forms the sole, principal, or a subordinate part in the economy of the skillful housewife, it contributes greatly towards the interest of the farmer by the profits from its sale, and its use as food for his stock.

The profit from feeding the surplus of an extensive orchard of fine fruit to stock (for fine fruit is as much better for animals as it is for their owners,) has become an item of careful estimate, since the nearly general abandonment of the wasteful, sottish system of cider-making. It was the rule, we believe, that 8 to 12 bushels of apples would make one barrel of cider, and 8 to 12 barrels of cider, one barrel of cider brandy. The former was made to the halves, while, perhaps, 2 gallons of the latter might be returned as a full equivalent for a barrel of the former. Two gallons of miserable liquid poison, under the name of cider brandy, was, within less than a generation since, the product of 8 to 12 bushels of apples! Let us see how the case stands by the touchstone of figures. Eight bushels of good apples (and it is cheaper raising good apples than poor,) are worth in an average of seasons, 37½ cents per bushel in the orchard, or $3 for the whole; while the two gallons of brandy would be worth about the same price of whiskey, say 50 cents—difference in favor of selling the apples, or using them for some appropriate purpose, six to one. Verily, the present age has improved some in pocket, as well as morals.

The value of apples, however, for feeding to stock, is not equal to that for selling, whenever a good market is within reach. The early droppings from the trees should be invariably fed to stock; as besides their general worthlessness for other purposes, from their immaturity, they frequently contain worms, which their consumption by stock effectually destroys. The most economical way for providing for this is to allow swine to run at large in sufficient numbers to consume all the first droppings. These, with the offal of the dairy, and a good clover pasture, with a trifle of meal, thoroughly soured with the whey or slops, will put *a good breed* of hogs into fine condition, *if kept out of the road*, by the time peas, potatoes and corn are sufficiently matured to begin their fall breeding. If there should be any surplus of apples, beyond what may be more profitably disposed of, these may be fed to the fattening porkers, either raw or cooked, with certain advantage. The exact equivalent in grain or roots, for pork or beef making, has not been ascertained with sufficient accuracy to be here stated, but that they stand high in fattening properties, is beyond a doubt; while the quality of meat they produce, is of the highest order.

Sheep may be substituted for swine in ranging through the orchard and picking up the diseased and immatured fruit. They will not hurt store sheep either in flesh or fleece, but they are more particularly profitable for such as are intended for mutton. A run in the orchard is an excellent preparation for heavier feed at a later period in the season, and richer or more highly flavored mutton cannot be produced than is afforded from such as have this food continued to them, till ready for the shambles.

Milch Cows thrive on them exceedingly, though they should never be allowed to run among the trees, from their injuring the limbs, and their liability to be choked in taking the apples from an elevated position. The milk from cows so fed, is noted for its richness and deliciousness of flavor. For working cattle and such as are intended for beef, they are nearly as valuable.

Horses are also exceedingly fond of apples, and few kinds of stock are more benefitted by their use. They are a full substitute for grain, with hay, when not too hardly used, and it has been found from long experience and careful observation, that their health is better when so fed, their coat is smoother and more glossy, and that they are equally spirited.

The quality of apples has much to do with their value; though probably not more than that of roots and grain. Such kinds should be selected for feeding; if that be the object, which are, as a general rule, the most profitable for sale; as they will be found to combine the best flavor with the most substance. Sour apples have been proved from careful experiments to be equally nutritious for stock as sweet, but it must be remembered, that they soon set the teeth on edge, and cannot be continuously fed in considerable quantities, with advantage to the thrift of animals. Boiling would remedy this objection, but it is more easily obviated by alternating sweet with sour; or if an orchard is to be set out or grafted, expressly in reference to this object, sweet apples may almost entirely predominate.

Poultry comes into the long list of consumers of the apple orchard; and no less good does it do them, than the other tenants of the farm. Of apples, of a soft, delicate, delicious pulp, we have had more than a peck per day consumed by a small flock of hens and chickens. Turkeys, ducks and geese are equally fond of them.

Some prejudice has been created against the use of apples for stock, from the fact, that when a hungry cow happened to break into an orchard and filled herself to repletion, a fever ensued, and her milk dried up. The same rule would hold good against allowing a horse a ration of grain, because one had died from an unstinted feed of corn. The true course is, to commence feeding in small quantities, and gradually increase the allowance till put on full rations.

When the apple is fed to the larger animals, hay and grass should always accompany it; and when fed to hogs, fresh clover or grain should be added. When thus judiciously managed, we doubt if the production of roots for stock feeding, will compare in economy, with that of raising apples for a similar purpose. It is true that they are sometimes cut off by late frosts, and are not vegetables and grain equally liable to injury and disappointment? In conclusion, we can offer no better advice to our readers, than to urge them to plant as extensive orchards as they can manage to advantage, of the choicest fruits they can select, and whether intended as an investment of their money, as food for their families, or domestic animals, or as an inheritance for their heirs, they can make no more appropriate bestowment of their time and wealth.

From the Genesee Farmer.

Improvements in Agriculture.

"The great truth that animal manures are nothing else than the ashes of the food produced from our fields, consumed or burned in the bodies of men and animals, has given the chief direction to all modern improvements in agriculture."—*Liebig.*

The above remark deserves the profound consideration of every practical farmer. After an animal has attained his maturity, and adds nothing to his weight in the course of a year, it is obvious that the matter which escapes from the body must be the same in quantity as that which enters it. A very notable portion of the food of all warm-blooded animals passes out of the lungs in the form of air and vapor, during their ceaseless respiration night and day, just as wood passes out of a chimney when burnt in a fireplace. The combustion of grass, hay and grain in the system of the cow, horse, or sheep, is not so complete as that of fire applied to the same substances in the open air. In the latter case, nearly all the combustible ingredients—carbon and hydrogen united with oxygen and nitrogen—are expelled into the atmosphere. In animal combustion, a larger portion of carbon, hydrogen, oxygen and nitrogen remain with the ashes contained in the food taken into the stomach, and voided with the solid and liquid excretions.

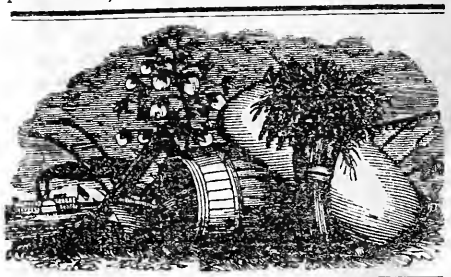
That portion of cultivated plants which escapes into the air through the lungs of man and the domestic animals, growing plants can regain by their roots and leaves, and thus re-organize into animal food. But the case is different with the ashes or earthy portion of all plants. If these minerals are taken from the soil in crops and not faithfully restored, by replacing on our cultivated fields all the *salts* contained in the excretions of the human family and of domestic animals, the injury will be great.

Nearly one-third of all the food grown on the globe, is raised by the Chinese. For thousands of years this wonderful people have cultivated most successfully the bread-forming plant. For a long period their wheat fields have been fertilized almost exclusively with the ingredients of whest, derived from its combustion in the human system. In other words, they manure their fields with *night-soil alone.*

The manufacture of corn, wheat, barley, oats, hay, potatoes, pork, beef, butter, cheese, wool, can be reduced to an exact science. The laws of chemical affinity, of vegetable and animal vitality, are uniform and easy to be understood, so far as successful agriculture is concerned. One of these laws is, that no man nor vegetable can possibly make *anything* out of *nothing.* Another is, that one simple substance like carbon, cannot be transformed into another simple element like nitrogen. Clay cannot supply the place of sand, nor sand of clay.

Suppose you have the materials to produce fifty good crops in your now fertile soil: when those materials are worked up and sent to distant parts, where will the largely increased population of the State go for food and clothing? Do you say to the West? But what right has the present generation to consume and destroy the fertility of God's bountiful earth, to the serious injury of those who are to succeed them?

By every principle of common justice and philanthropy, we should augment the natural productiveness of the soil at least 4 per cent. per annum, or double its fruit in 25 years.



The Southern Cultivator.

AUGUSTA, GA.

VOL. IV.. NO. 7..... JULY, 1846.

Roadside Trees.

In no part of the U. States, except in New Jersey, have we seen anything like the state of things described in the following extract from Mr. Loudon's Arboretum. In that State, on Long Hill, there was, twenty years ago, an avenue of cherry trees of some miles in length. The trees grew by the road-side, and every one passing took what he wanted, and no one questioned his right to do so. The trees were very old when we saw them first, and we are under the impression that they were planted before the revolutionary war. They were, however, beginning to show the signs of having suffered from the spirit that, since the change of our institutions from colonial to National, has become so rife over the whole country, and more especially over the Southern States—we mean that spirit that prompts people to destroy everything like trees, shrubbery and flowers, that does not belong to themselves. Especially if the public should happen to own anything of the sort, in town or country, does it become an object of either plunder or destruction. We have seen a person in a public garden, the keeper being absent, go to beating a choice shrub with his cane, and persevere until nothing but the naked stump was left. Another insisted on his right to take his dogs into a garden, because it was a public garden, to hunt rabbits. And, often, no sooner was the back of the keeper turned than the work of plunder began. Even in private gardens, in our towns, every tree or shrub, within reach from the street, frequently has its branches broken, and its whole form thus mutilated; so that now persons caring for such things carefully avoid planting so near the fence that it can be reached, anything of value, either for use or ornament. And as for planting avenues of fruit trees by the road-side, any one who would seriously propose such a thing would be laughed at as a fool.

Nor is this spirit of Vandalism confined to the destruction of trees, shrubbery and flowers. If the public authorities shall set up mile posts on the public roads, they are destroyed or the figures thereon are altered or effaced so as to make them useless. So too with finger boards at cross-roads; no matter how carefully put up, they are soon either knocked down, or changed so as to mislead the traveller who shall depend on them.

These things we have been assured were not so before the revolution: and it is a curious problem yet to be solved, why they have become so under republican institutions. One thing is certain, agriculturists suffer more from the prevalence of such a spirit than any other class:—for being in so large a majority they have it in their power to create a sound public opinion on this subject; and failing to do so, they have to bear the consequences in character, and in pocket especially. For with prudent men the value of real property is always seriously affected by the state of public opinion in the neighborhood on this very subject. No man, in his senses, will buy land in a neighborhood where rowdyism reigns supreme.

To return to Mr. Loudon. In his Arboretum he says:—"On the continent, and more especially in Germany and Switzerland, the cherry is much used as a roadside tree; particularly in the northern parts of Germany, where the apple and pear will not thrive. In some countries the road passes for many miles together through an avenue of cherry trees. In Moravia, the road from Brunn to Olmutz, passes through such an avenue, extending upwards of sixty miles in length; and in the autumn of 1828, we travelled for several days through almost one continuous avenue of cherry trees, from Strasburg by a circuitous route to Munich. These avenues in Germany are planted by the desire of the respective governments, not only for shading the traveller, but in order that the poor pedestrian may obtain refreshment on his journey. All persons are allowed to partake of the cherries, on condition of not injuring the trees; but the main crop of the cherries when ripe, is gathered by the respective proprietors of the land on which it grows; and when these are anxious to preserve the fruit of any particular tree, it is, as it were, tabooed; that is, a wisp of straw is tied in a conspicuous part to one of the branches, as vines by the roadsides in France, when the grapes are ripe, are protected by sprinkling a plant here and there, with a mixture of lime and water, which marks the leaves with conspicuous white blotches.—Every one who has travelled on the continent, in the fruit season, must have observed the respect that is paid to these appropriating marks; and there is something highly gratifying in this, and in the humane feeling displayed by the princes of the different countries, in causing the trees to be planted. It would indeed be lamentable if kind treatment did not produce a corresponding return."

Strawberry and Milk Trade of New York.

On a late occasion, as many as 20,555 baskets of Strawberries were, in one day, brought down the North River to New York. Then there is a special train run over the Erie Rail Road every night during the strawberry season, which brings to the city, each trip, from 30 to 40,000 baskets. The *National Intelligencer* and the *Baltimore Clipper* furnish us with these statements.

Then as to Milk—On the Erie Rail Road, the New York *Tribune* says, the freight of milk alone for one week amounted to over one thousand dollars, more than 200,000 quarts having been brought over the road in that time to New York.

We are careful to give our authority for these statements, for they may look, to some persons, very much like Munchausen stories.

Turpentine.

We have not the information necessary to enable us to answer the inquiries in the following letter. We will be very much obliged to any one who will send us an article on the subject for publication in the CULTIVATOR.

We are inclined to believe that any one who intends to engage in the business would do well to go to North Carolina and spend a few months in the turpentine district. He may thus gain a very thorough knowledge of the whole matter—particularly of those minute details which are seldom mentioned by writers, but the knowledge of which is nevertheless essential to success in undertaking any new business.

In the meantime, we have the pleasure to inform our friends that Mr. SKINNER, Editor of the *Farmers' Library*, who has lately been through the turpentine region of North Carolina, promises that he will, in an early number of his work, give a full account or the whole process and its results. For the present he only states, that one hand is capable of attending to a "*crop*" of so many "*boxes*;" and many of them collect from 150 to 200 barrels of turpentine, worth, last autumn, upwards of $3 a barrel. It was said that one man, with his three hands, allowing them a small portion of the proceeds, had realised upwards of $4000.

In relation to the future prospects of the turpentine business in North Carolina, Mr. SKINNER makes the following very curious statement:

"The reflections induced, in connection with the growth of this species of pine, are strange and important in a view of the distant future; as for instance: The wings of marine commerce of the whole world, it will be admitted, would be clipped if not entirely destroyed, but for the use of the product of this beautiful evergreen; and yet from some mysterious operations of Nature, or the spread and influence of civilization of which commerce is the great promoter, it would seem from present appearances, according to all I heard, that a stop has been put to the successions of its growth which has been going on for centuries.—The time is thus approaching, according to the opinion of judicious observers on the spot, when scarcely a vestige will remain of this valuable and majestic tree, where now it is so flourishing and abundant. Let me be understood. In the boyhood of men fifty years ago, it was a part of children's play to bend down the young pine growth in the woods to ride upon. They were of that size, as common then, as the larger growth is now, and only of two, three, or four years' growth, and about the size of a walking cane stripped of the bark, and about five, six, or seven feet high. That same generation is now as large as an Alderman's leg; but here is the wonder! *There is none of that age or kind in preparation by Nature, as successors to the present stock in Carolina.* It is rarely that one is to be found; and yet the seed (or mast as it is called,) is as abundant as ever, and vegetates as thickly as it ever did; but it soon disappears.—After it is the size of wheat in November, little more of it is ever seen. The impression of those who have most closely noticed these facts personally, is, that the *present generation of pine will be the last that will be seen in North Carolina, perhaps forever.*"

To the Editor of the Cultivator:

Mr. JAMES CAMAK:—Several of your subscribers in this neighborhood, are desirous of obtaining some information on the manufacture of turpentine—the manner of preparing it for market—the quantity that can be collected in one season by a hand—the expenses attending it—the average prices that it bears in the commercial cities—and any other facts connected therewith that can be procured.

They have understood that making turpentine is at present a very lucrative business in North Carolina—far more so than the "raising" of our present staple commodity; and they believe that

the advantages are greater in their section of the country than in the State just mentioned, for the reasons that the season is much longer—the weather hotter, and the trees larger, and thereby capable of lasting a longer time than when they are not so tall. Any information that yourself or any of your correspondents can yield will be very gratefully received by your friends in this quarter.

Very respectfully, your ob't serv't,

THE POSTMASTER.

Oswichee, Russell Co., Ala.

Improvement of the Soil.

In the extremely exhausted condition of the soil in the Southern States, any suggestion relating to its improvement is entitled to serious consideration. Even if such suggestion should appear, at first, to be unreasonable and extravagant, it should not, therefore, be rejected as wholly useless. It should be subjected to the test of practical experiment: and even though resulting in failure, as to the main object, yet some truth may perhaps be got from the failure that may be of great use to the experimenter. In this connexion, Mr. FANNING's proposition may appear extravagant at first. Yet he is a practical man; and being at the head of the Agricultural College, near Nashville, Tenn., would not be likely to risk his character by proposing what is absurd. He asserts that "there is no problem in Arithmetic more clear than that, from any animal properly managed, more manure can be made than will be required to make produce to support it." Now, though we hold this proposition to be very questionable, notwithstanding its great clearness to Mr. FANNING, yet we would not reject it without careful trial. Will not some one interested in Agriculture, set about making such trial at once?

In justice to Mr. FANNING, we insert the whole of his article:

IMPROVEMENT OF SOIL—BY T. FANNING.

Time was, when most of the cultivated soil in the United States was rich; but that day has passed. In many of the States, the occupants of farms have worked their lands out of heart, and abandoned them for more advantageous positions in the "far West." Many others still cleave to the homes of their ancestors, with little other prospect than that of making a bare subsistence, and the great majority of American farmers experience sad reverses from the annual deterioration of their lands. Tennessee, which is still the greatest corn-growing State in the Union, could once boast of seventy-five and a hundred bushels of Indian corn to the acre.

The question might be gravely asked, why have these changes occurred! A bad system was at first adopted, and has been persisted in. Farmers have had too much confidence in the soil, and paid too little attention to its wants.

The great Buel's motto was "to improve the soil and the mind:" his idea might have been correct, but the order of the subjects should be changed. The *improvement of the mind and the soil*, is the true desideratum.

The means to enrich the soil are numerous. Every cultivator is obliged to have at least a horse, a cow, a pig or two, and a few sheep; and there is no problem in arithmetic more clear than that from any animal properly managed, more manure can be made than will be required to make produce to support it.

Suppose we try the pig first. We will give it the poorest food of the place. We will be at the expense of constructing him a good house, and preparing him a yard with litter. Feed him on refuse cabbage leaves, roots, scraps from the kitchen, &c., and in one year he will pay for his mansion, food and the labor of giving it to him, and furnish enough manure to produce ample food for two such pigs another year. If any one will try it, and plead disappointment, he may draw on me for three pigs.

The cow, in addition to paying expenses by her milk, when housed and well littered, will furnish an amount of manure that will, by its scientific application, give food for one if not two cows. The same may be predicated of all domestic animals. But, unfortunately, many farmers loose the most valuable particles of manure by exposing it to the weather. After fermentation, the *residuum* is little better than the like amount of chaff.

The secret of improving the soil consists in knowing its wants and being able to supply them. The correct combinations of the different properties of a soil must be studied. On some lands, clay will be useful; on others, swamp mud will be found valuable, and on others, sand will answer the purpose. Draining is often advantageous, and many plots may be irrigated to the great profit of the farmer. Few have studied the value of green crops, oats and rye in particular. One crop of oats, consumed on the field, will enable the cultivator to reap double the amount the second year. The same may be affirmed of rye.

Soap-suds, wood ashes, and charcoal have all a tendency to improve soil. Another means of improvement is deep plowing—and the last, but perhaps not the least valuable, consists in completely pulverizing the land.—*Naturalist.*

The Crops.

From the *South Carolinian* and the *Georgia Journal* we copy articles on the prospect of the crops in South Carolina and Georgia. Some deduction must be made from the estimates, so far as the wheat crop is concerned, in consequence of the ten days of wet weather, occurring in the midst of harvest. The injury to the wheat from this cause has been severe:

From the South Carolinian, June 11.

THE CROPS.—We write the words with satisfaction—the crops are fine—the seasons good, and plenty if not peace, at last blesses the exertions of the husbandman. The wheat crop promises to be the best ever grown in the South, and in South Carolina there will be harvested double the quantity ever produced in one year. This is the impulse which our planters required; and what common sense should have dictated long since, the act of Providence has compelled them to adopt—producing as much grain as they consumed. The Oat crop will be good, and Rye and Barley never were better. Of the latter grain, fully seventy bushels to the acre have been grown by one farmer of our acquaintance—and we ourselves grew an admirable crop of the two-rowed northern variety, which was sown, without manure, on ordinary land, as late as the 10th of January. We regard this variety the best for soiling, as the leaves are much broader than the four-rowed kind usually cultivated amongst us. The four-rowed barley will produce at least one third more grain than the former kind. Barley neatly cleaned, when ground or boiled, furnishes excellent food for horses and all kinds of stock. We consider four acres sowed in barley, properly manured, as valuable as sixteen acres of Indian Corn cultivated in the usual manner.

Of the Corn crops we have flattering accounts from all parts of the State, and we hope that a season of bounty will place us even with the world at the end of the year, with the addition of experience, which though dearly bought, will be valuable to us for many an agricultural trial yet ahead.

From the Georgia Journal, June 16.

THE CROPS.—We have finer prospects before us for a good—nay a bountiful—crop year, than our farmers have seen for many, many years. The Wheat crop has turned out a bountiful one, not only in this section of the State, but throughout the whole length and breadth of it, where wheat is grown. Every person that we have seen and conversed with, tells us that his crop far exceeds all his previous calculations, and that he has *wheat to sell*. For this section of Georgia—the Cotton belt—this is saying a great deal—more than was ever said before. In sections too where Wheat growing for market is the main pursuit of our farmers, we learn that a most bountiful harvest has rewarded their labors, and that more wheat will be offered for sale this year, in Georgia, than has ever been offered before Purchasers therefore may expect to get flour at a reasonable rate. We must not omit to mention that the wheat grown this year is generally of a superior quality.

The Corn crop looks very promising, the seasons have been generally good, and in our immediate neighborhood, latterly, we have had fine rains which have made the corn look remarkably promising.

The Cotton crop does not look quite so promising. From all that we can learn, it is rather backward for the middle of June, both in this, and other sections of the State.

Southern Cultivator--Opinion of the Press.

The Publishers offer no apology to the reader for submitting to his consideration the following notice from the "*Southern Planter*," published at Richmond, Virginia, and deservedly ranking among the first Agricultural periodicals of the day. It was called forth, as the reader will perceive, by the announcement in the CULTIVATOR, that it would be discontinued after the present volume, unless a more liberal support was extended to it. The opinion of such a man as the accomplished editor of the *Planter*, is indeed to be prized highly, and we sincerely hope that no friend of the SOUTHERN CULTIVATOR will fail to profit by its wholesome truths. Here it is. Read it!

"Every community in this country has a right to do as they please, and are accountable to no individual for any course they may see fit to pursue; but then every individual has the right of expressing his opinion of such course, provided he does it in a polite and respectful manner. In the exercise of this right, we will venture to express the opinion that no community has ever shown a greater want of wisdom than will the farmers of Georgia, if they suffer the SOUTHERN CULTIVATOR to expire, for want of support. It is not our habit to lavish compliments on even our best friends, but, under the circumstances, it is but justice to say that this paper stands in the very first rank of the Agricultural press in this country. The refinement, the scholarship, and the ability of its editor entitle it to all the reputation it enjoys abroad, and to fifty times the support it gets at home. There isn't a farmer in Virginia that would not, by subscribing to this paper, reap an hundred fold the value of his investment. It is published at one dollar per annum, and it will give us great pleasure to receive and forward subscriptions for it."

Book Farming.

In Indiana, as it is stated in a Western paper, there is a miller very extensively engaged in the manufacture of flour, who, in making his contracts for wheat, always gives more per bushel for it to a farmer who takes and reads an Agricultural paper, than to one who rejects the light and knowledge furnished by such publications. It is farther said, that from an effectual trial of the practice he finds it to be his interest to persevere in it. A shrewd fellow is that same miller.

Cincinnati Egg Trade.

The extent of this business is indeed surprising. From the Cincinnati Gazette we gather the following particulars concerning it:

The Annual city consumption is.....	1,213,333 dozen.
Shipments from Cincinnati last year.	963,000 "
Total.....	2,176,333 dozen.

Which is equal to 26,115,996 eggs, brought to the Cincinnati market in one year.

The eggs consumed in the city, viz. 1,213,333 dozen, at 8 cents, comes to.....	$97,066 64
Those exported, viz: 10,700 bbls., at 8.44½, is	90,361 50
Total annual amount of Egg Trade.....	$187,428 14

GUANO POISONOUS.—The Dublin Farmers' Gazette mentions the case of a man who lost his life by holding a corner of a guano bag in his mouth, by which a portion of the dust was drawn into his throat.

Original Communications.

Overseers.

Mr. Camak:—I read with much interest the articles in your paper, so judiciously selected, in reference to the various improvements in progress in the art of Agriculture. But there are some views of deep moment to the *Planting Interest* of this section—the eastern part of Georgia and South Carolina—which I have not seen exactly expressed, and which, with your permission, I will suggest to our planters.

Formerly, when lands were fresh and cotton high, planters had very little difficulty in getting along, and with the least industry and economy, accumulated property rapidly. A man had only to buy a plantation, put a bunch of hands on it, employ almost any one to oversee them, and he might go about his pleasure, hunt, horse-race, or go to Congress. Twenty cents a pound for cotton cured all defects in management, and kept the sheriff at bay; but six cents a pound for cotton is quite another thing. The profits of agriculture have now taken rank with those of other occupations, and it requires as thorough management in every particular for a planter to make lawful interest on his investment as for a merchant, mechanic, manufacturer, lawyer or doctor to do so—a momentous fact of which very few of them seem to be at all convinced. Merchants, mechanics, lawyers, &c., require years of laborious training to fit them for their callings, and so long as they pursue them, indefatigable industry, the strictest personal attention, and consummate skill are indispensable to even reasonable success. If they are deficient in any of these particulars they fail at once. But any body thinks he can be a planter. In fact, Banks, whose officers scarcely know a plow from a hoe, and individuals of all classes, equally ignorant, boldly undertake to grow corn and cotton, and expect to do it profitably. A stripling of 18 years of age who, it may be, has divided his time between the fox-chase and the plow, offers his services to conduct the business and is accepted. Such adventurers not only ruin themselves, but by adding, though at a cost fatal to themselves, to the amount of the crop, injure the whole planting interest. My object, however, is not to denounce them, but to speak of more serious evils which beset the best informed and most judicious cultivators of the soil.

Small planters, who live on their plantations and manage themselves, even though not in the best manner in the world, may, with some comfort, accommodate themselves to the great change in the price of our staple. They can still provide their own hog and hominy, and afford to buy sugar and coffee and other little necessaries. When they are skilful and industrious, read agricultural papers and books, and keep up with the improvements of the age, they may make fair interest on their capital and accumulate by rigid economy, as those in other branches of business do. But what is to become of our *large planters?* That is the question—important to them, and vastly important to the country. In general, they cannot live on their plantations, because large plantations, even in healthy regions, are more or less unhealthy, and can rarely be obtained but in the more sickly parts of the country. Even when they can live within a few miles of their places and visit them every day, it is impossible for them to examine closely into every operation that is going on, to see every sick negro in due season, to watch over the health of those that are well, to see their stock and work animals attended to, their wagons and gear and plantation implements kept in proper order and preserved, to give daily, and as is sometimes required, hourly directions about the work to be performed, and to inspect it afterwards in due season to prevent the serious consequences of not having it done as it should be. If one were the most skilful, the most industrious planter in the world, and with a constitution of iron, he cannot, unless he lives right on the spot, attend to all these things, do the reading he must do to learn what he must learn of the progress of his art, and conduct the improvements necessary to enable him to produce as much and sell as cheap as those with whom he has to compete, and make just interest on his capital, if he works a force of 30, 50, or 100 hands. The obvious suggestion is, *let him get an overseer.* There is the rub. He must trust all these things to agents.—Now, if he could get the best possible agents, he would at least have to pay them, and to this extent would be at a disadvantage in comparison with the small planter who employs none. And let it not be supposed it is a trifling one. Besides the money paid the overseer, his family, however large, is to be supported, his horse fed, with servants to wait on all. There are few overseers who do not consume wages and all the produce of 6 to 10 hands, thus absorbing at once 6 to 10 per cent of the labor, when there are even 100 hundred hands. Is this easily made up in these times, even when the overseer is a good manager and perfectly supplies the place of the owner? But where are such overseers to be found? Can they be picked up at grog shops, muster fields, and political barbecues, where the young men destined to be the planters' agents are trained to a sufficient opinion of their abilities, and especially to their vast privileges as "free, independent and equal citizens" of this republic, who are not to stoop to be any "man's man," or to do any man's business even when paid for it, unless allowed to do it after their own fashion?

If such overseers are to be obtained, I do not, for one, know where to look for them. If there are any young men reared among us, destitute of capital, but of industrious, steady habits, and likely to make careful, intelligent and energetic planters, they almost all of them seek the western country at an early age, where it is supposed there is a better field for enterprise. The few of that sort who remain usually put so high an estimate on their services that they are unattainable, or, led by false notions of independence, seek other employments. The melancholy fact is that our region is nearly entirely destitute of even tolerably good overseers. And what is worse, they seem to be growing scarcer every year. In all other countries agents in whose qualifications ent re reliance may be placed, are abundant, seeking employment in every branch of business, treading on one another's heels and ever ready to fill a vacancy. In most occupations it is the case to some extent here. Young men are trained for clerkships, for superintendents in factories, as master workmen in all trades, to be junior partners in all professions. But no one is brought up to be an overseer. Very few will take that employment who can get any other.—If, then, large planters are compelled to incur heavy expenses for managers, and if when obtained, they, as is usually the case, prove to be his greatest trouble instead of his assistant, how, I ask, are they, at present prices, to sustain themselves? They cannot, for the most part, dispense with overseers, yet, with all that they can do, these agents mismanage, neglect and abuse their property, resist and thwart improvements, refuse to follow, or if they pretend to follow directions, do it in such a way as to insure failure. I ask the question, how are they to sustain themselves at present prices? It is one of the deepest moment; I wish some one would answer it—I cannot. Being one of that class of planters myself, and one who has *thus far* kept out of debt, I have come to the painful conclusion that, as things are, no one can plant largely in this region. If the price of cotton should rise—of which I see no hope, they may go on, otherwise they must sell out here and quit planting or go west. They cannot, having to incur the expense of managers, and with such managers as can be procured among us, compete with the cotton planters of the west, or with their neighbors at home, owning small places and able to look after business themselves. The class of *large planters* must by one means or another pass away from our section. In the long run it may be better for the country that our lands should be cut up into small farms owned and cultivated by a race of sturdy yeomanry. But time must elapse before this change can be effected, and in the meanwhile the most painful individual suffering and the most serious losses to the community at large, must be endured.

It is melancholy to think of these things; and if all that I have said be true, it may be asked, Why indicate evils for which no remedy is suggested, and anticipate inevitable sorrows? The question may be pertinent. But others may see remedies which I do not, and perhaps it is right and profitable also to state facts, deduce truths, and force reflection on them, however painful it may be.

Agricola.

South Carolina, June, 1846.

Subsoil Plowing.

Mr. Camak—If you can find room in the Cultivator for the enclosed letter, it will, I am confident, promote the "conscientious point" in Agriculture, which I find to be the main point. For, so soon as one planter can be induced to read Agricultural works, the impulse is given to mind, thence to matter, and the work is half done.

This letter from W. R. Ross, so well known as one of the best planters in South Alabama, to Dr. William Cunningham, likewise one of the most successful cotton planters in Monroe county, will have the effect of opening the eyes of their numerous acquaintances; and of dispelling the prejudice that is so strong against book farming. It will likewise bring into more general circulation the best agricultural paper now published—I mean the one best adapted for those beginning the business of reclaiming their worn out and tired soils—and if every intelligent subscriber to the Southern Cultivator would boldly speak the truth about it, and exert his influence to extend its circulation, we should hear no more complaints of want of patronage.

A Subscriber.

Burntcorn, May 15, 1846.

Mr. William Cunningham—*Dear Sir:* Your favor of the 2d inst. is at hand, and in reply to your inquiry, I will say that I am a subscriber to the *Albany Cultivator*, published at Albany, N. Y., also the *Southern Planter*, published at Richmond, Va., and also the *Southern Cultivator*, published at Augusta, Ga. These I consider best calculated and suitable for a Cotton planter, because the people of Georgia seem, as it were by magic, to have aroused up from their lethargic state of insensibility to their true interest; forming societies, holding meetings and making experiments, all of which are reported in the Southern Cultivator; whether successful or not—also their modes of manuring and cultivating—all of which I think very important.

While I speak in favor of the Southern Cultivator as best suited to a cotton planter, I must say, also, there is much useful information in the Albany Cultivator. Although they do not cultivate Cotton, yet their mode of manuring and plowing I consider very important items in any cultivation. That of subsoiling I deem very important. Neither of the works cost over one dollar a year, but writing for one now you will get all the back numbers, beginning with January, for the year. Your region of country has been in cultivation from the earliest settlement in the country, and has become, in a great degree exhausted. Large portions of the gasses in the surface soil have been taken up by the sun and air; and a portion of the minerals from which the different plants receive a portion of nourishment has descended into the subsoil, which has become so close and compact from the frequent shallow plowings and treading of stock, that the roots of neither corn or cotton can penetrate to any depth, consequently must be deprived of much of the original fertility of the soil. In order to give room and space for the roots to penetrate in search of food, as well as to secure from the dry spells of weather that our climate is much subject to in the growing season, we must have recourse to subsoil plowing, at the time all are preparing our lands for a crop in winter or very early in the spring. You will find it also of much advantage in preparing your land to break it fine, to pulverize it as much as possible.

If I mistake not, your section of country is somewhat broken or rolling; this being the case, we are compelled to have recourse to guard drains or hill-side ditching, as also horizontal plowing. This, I consider of the utmost importance. This season I have put up all my cotton and corn beds with ten furrows, that is, five surface furrows and five subsoil, in the same furrows. For the want of a subsoil plow, I use the common scooter, following the surface plow in the same furrow.

Should our friend McDonald be sojourning through the country this season and should visit this section of country, and you could make it convenient to come with him, you would see my mode of working, though I have but just commenced, yet you might learn the beginning point.

My plantation has been in cultivation from 1817; has been very much worn, the last sea-

son being the first year that I cultivated it, yet I made 30 bushels of corn per acre, and an average of 800 lbs of cotton. I commenced 1st of February, without a particle of manure. This season I have planted for 40 bushels of corn, per acre. The cotton I think will yield a heavy crop, provided the little worm that penetrates and destroys the form or button, will let it alone. I have hauled this spring 2500 waggons and ox-cart loads of manure, besides 6000 bushels of cotton seed.

I should be pleased to see you and give you all the information I may possess, though I am almost alone in this region in regard to my mode of working. The cry is, it is too much trouble, destroying the land by plowing so deep. Plow deep and break the land with a small plow and manure heavily is my motto. Very respectfully, yours, &c. W. R. Ross.

Havana, Green Co., Ala., April 12, 1846.

Sweet Potatoes.

Mr. Camak—I propose addressing you a series of articles on different subjects, connected with agriculture and domestic economy, as leisure or opportunity may occur. Should my communication appear worthy of an insertion in your valuable periodical, you will please publish them; if not, dispose of them as you think proper.

The destruction of the sweet potatoe, especially in our section of the country, has been as great, I suppose, as that of the Irish potatoe in Ireland, and though its effects are not so appalling, it is still a severe loss to all who have failed in a corn crop. The old system of housing them, in which they are in a great degree exposed to the action of the air, and in many cases to the rain also, is very objectionable, and has doubtless contributed to increase the destruction alluded to. From my experience and observation, I am induced to believe that we cannot keep them in a sound and healthy state during the winter, unless we first place them in a temperature lower than that at which they germinate, and then *totally exclude* air, light, and water; for these are the immediate agents employed in producing germination and decomposition. The temperature also should be as near uniform as possible. Potatoes, from being bruised, and perhaps from a sudden change of temperature, arising from exposure to the cold air after they are dug, generally undergo a sweating and evaporating process, which they should be allowed to do before they are housed for the winter, as one condition of their keeping sound is that they be perfectly dry. This exudation and deposition of water, which is sometimes very great, must arise from incipient decomposition, produced by the causes just stated. Smoking the potatoe house has been recommended as a good remedy in such cases, though I cannot vouch for its efficacy.

If the position which I have assumed be true we should discard the old fashion of leaving an aperture at the top of the bank or stack for admitting the air. All tuberous and bulbous roots, such as potatoes, turnips, onions, &c., being mostly composed of cellular tissue, should not be exposed to the light, as it generates vascular or fibrous tissue. For a similar reason, the air should not be admitted, as it contains oxygen gas, the great cause of acidity and decomposition in all vegetable and animal bodies. The change of color and of cellular into vascular tissue, is often exhibited by the accidental exposure of a growing potatoe to the action of the light. It immediately assumes a green color and a fibrous texture, similar to that of the vine. The acidifying and decomposing properties of atmospheric air, may be tested in a useful and simple experiment—the making of vinegar. The vessel containing the ingredients should be left open, and exposed to the constant action of the air, until acidity is produced; it should then be closed. The action of water is more equivocal. When *constantly* applied to inert matter, it acts as an antiseptic, and, for aught I know, it may act in the same way, under like circumstances, upon a living root. When potatoes are exposed to the *alternate* action of air and water, the latter will generally cause germination or decomposition; though sometimes it is perfectly innocuous. An excellent planter on the Congaree states that he has never suffered any inconvenience by *housing* his potatoes during a rainy season. As a general rule, however, they should be kept dry, and the fluids especially, which exude from the potatoes when in a heated condition, should not be suffered to accumulate in any quantity.

I will conclude this article, Mr. Editor, by stating that the principles here advanced have been applied with admirable success in practice; and, as far as I have learned, all who have adopted the system have been fully convinced of its superior merits in keeping the potatoe during the winter season in a sound and healthy condition.

Very respectfully, yours, Carolinensis.

Fairfield District, May 20, 1846.

Fattening Hogs.

Mr. Camak:—I believe that I am under a promise to give you some account of my method of fattening pork. You will perceive that the plan pursued differs but little from Mr. Farrar's, and were it not for my promise, I should hardly trouble you with it at all. Mr. Farrar crushed his food before cooking it, which I doubt not is a good plan; but for those who have no means of crushing the food, this may come in as a substitute. This may seem like an improper time to offer an article upon this subject, but I think otherwise, for turnips enter largely into the account—they cannot be grown to advantage unless the land is well prepared, and now is the time to prepare the land.

Having two boilers holding (together) ninety gallons, set up in the usual way, in a brick furnace, my next object was to prepare vats or troughs, (I use the latter on the score of economy) in which to soak the corn before boiling The length of time necessary to soak the corn varies with the temperature of the weather, it must, however, be soaked until it is sour, after which it may be boiled soft in half the time requisite to boil hard corn. The experiment was made upon twenty-two hogs, of different ages, from one to two years old. their daily allowance being about three bushels of this corn, with as many turnips (tops and all) as the cauldrons would hold at two boilings, i. e. 1½ bushels of corn at each boiling (morning and noon) and a filling up of turnips. The feeding troughs were prepared by splitting pine logs of any convenient length and burning out the flat sides to a sufficient depth. To prevent the hogs getting into the troughs, a small pole was firmly fastened over the centre of the trough lengthwise. These hogs were not closely confined, but were all fed together, and had the use of a lot containing an acre and a half. For variety, pumpkins, potatoes, cabbage leaves, &c., were substituted for the turnips, making it an invariable rule to have the whole well cooked and mixed together with a pestle or some other convenient implement, adding a handfull of salt occasionally.—The turnips thus consumed were grown upon three-quarters of an acre of land. Six weeks was the time allowed for fattening these hogs, and their average weight was 242½ pounds.—Before the adoption of this plan (with the same breed of hogs and about the same age.) I have generally fed fattening hogs about eight weeks, with an additional daily allowance of corn, of at least one fourth, and by reference to my book I find their average weight for several years has been about 225, 227, &c.; but once in ten years have they exceeded the weights of last season, and then they were *all* two years old. Two of my neighbors tried the plan last season, and were well pleased with the result. My boilers and troughs, have made a similar saving in feeding work oxen, beef cattle, and milch cows, but I will not trespass further by giving you a detailed account of the same.

As I always feel willing to contribute my mite, so I doubt not other gentlemen will cheerfully communicate any information they possess, when called upon to do so Now I am very much in want of a corn and cob crusher, and when I spend my money, I would like to receive an equivalent for it. I would, therefore, respectfully request Mr. Farrar of Putnam county and Maj. Rose of Meriwether county, to give us such an account of their crushers as they may deem important or interesting. My object is to get an efficient, durable machine, and I make the request public that others may profit by the information I may receive. Mr. F. and Maj. R. are designated because they are the only persons within my knowledge, who have them in use, though any information on the subject will be thankfully received, come from what quarter it may. These gentlemen will confer a favor by responding to this call. Let us know the cost of your crusher? By whom are they built? What sort of gearing is best adapted to them? How much power do you employ to drive them—two or four horses—what amount of work will they accomplish with such power? What is your opinion of their durability, and can they easily be put out of repair? After the trial you have given them, would you recommend their use to a man who wishes to practice true economy?

And now, Mr Editor, indulge me with a question or two upon another subject. Will some gentleman, having experience in such matters, put us upon the best plan to cover drains, in the absence of stone or tile? Several of my neighbors are interested in this question, and in covering with puncheons and brush, we may not be pursuing the best plan. The experiments already made answer admirably, so far, but the timber has been laid but a short time and it may decay soon or the drains choke up. Can you instruct us a little, Mr. Editor? Respectfully,

Joel Hurt.

Crawford, Russell, Co. Ala.

Smut, or Blast in Oats.

Mr. Editor—I avail myself of the opportunity afforded by a rainy day to inquire of you or some of your numerous correspondents, the cause of the above disease in oats, if known, and the cure for it, if any. I have read a great deal in regard to the smut in wheat, but do not recollect to have seen any thing on the subject in regard to oats. On inquiry amongst my neighbors, I find three things assigned as the cause of the disease, each of which, when brought to the test of experience, proves fallacious. The first, and most general opinion is, that unripe seed is the cause of it. The next is that oats put in the ground when it is very wet, are subject to the smut from that cause; another opinion is that late sowing causes the smut. Now I will give you a few facts to show the fallacy of each, though some of them, apart from the others, seem to support each opinion.

Some years since, one of my neighbors, then residing in the county of Warren, sowed a field of 40 acres in oats. On the last day, while sowing, there fell a very heavy rain, but as there was but a few hours work to do, he proceeded and plowed them in. At maturity, the part plowed after the rain was hardly worth cutting for the smut, the other part nearly free from it. The seed was all the same when sown. Last fall, in the early part of October, I sowed a small field of oats. During the first and second week in November, I sowed another larger field.—During the last week in November, I sowed another field adjoining the first small field. The seed sown was all alike. The ground was pretty wet when the first was sown—quite dry when the second and last was put in. The result, at maturity, is that the first has not one-fourth the quantity of smut that the two last has, which are nearly equal. A neighbor sowed in December and January—those sowed in January being four times as badly smutted as those sown in December. Seed and land the same. Another who sowed in the latter part of February, has less smut than any of the rest. From the above statement you will perceive that neither of the above stated opinions is supported by the facts developed. What course shall we pursue to remedy the evil? Will soaking the seed as we do wheat preserve it? Even if it will, the lightness and bulkiness of oats will render the operation troublesome and expensive. I shall, therefore, feel much obliged for any suggestions that may help me to avoid the evil in future.

From what experience I have in raising oats I shall endeavor in future to put them in the ground in October and November, believing that the crop is more certain, and the yield much more abundant. I believe that oats become acclimated or rendered more hardy by being repeatedly sown in the fall, until they will be nearly as hard to kill by frost as wheat. I have had none killed for the last 5 or 6 years, except one field, partially last winter, and that the one sown in the last week in November. They are a crop I prize very highly. P. W. J.

Blakely, June 8th, 1846.

Improving Exhausted Land---Bermuda Grass--Lucerne--Rye, &c.

Mr. Camak:—Three years ago I commenced farming under the new school system of agriculture. The year '42 was spent in arranging lots, making fences and excavating pits for depositing leaves and trash from the woods, and refuse matter from stables and the lot upon which my family reside. These pits, of which I made two, one thirty by forty, and the other fifty by twenty feet, were partially filled during the spring and summer of '42, and during the following winter their contents hauled out and deposited in heaps 12 feet apart, each way. Immediately the heaps (which were the ordinary size of manure heaps, as we drop them from a cart) were taken from the cart with hoes, they were all covered with a spade, from the soil in the field, an inch thick. This was the true condition of the field, without any exaggeration, upon which this manure was put. It had been planted in corn a year or two before I bought it (the year was a seasonable one too) and did not yield more than half a barrel of nubbins to the acre. I planted in '42 a few sweet potatoes upon it. The vines did not average six inches in length, and when I dug open the hills in November following, it had failed to produce any potatoes whatever, not even seed potatoes. This was the character of the field, and I have stated the unvarnished truth about its exhausted condition. After hauling out my manure, as above stated, I spread it broadcast and turned it under with a one horse turning plow, as fast as spread. In the autumn of '43, I harvested from that very field at least seven barrels of corn (not nubbins) to the acre. The land, in its palmiest days, never produced more than three and a half barrels of corn to the acre, before '43. I plowed my corn but twice after it was planted in '43, and I have done so every year since that date—but I turn over my corn land in the fall and put the weeds and grass under, and cross with a coulter, deep as I can during the winter.

My stables, in which I have no plank floors, are all bottomed with corn stalks during the winter. Whenever they get dirty during the winter, they are forthwith covered with fresh leaves from the woods. In the fall and winter of '43 I manured about six acres of the above field, as above stated, since which that portion of the field has had no farther manuring, but the weeds and oat stubble were turned under with one horse turning plows, last September, during the mornings, when I could not pull pea vines on account of the dews. I now have, upon that six acres, corn, which, if no disaster occurs, will make eight barrels at least, to the acre. Some, over half an acre of it, will range between ten and twelve barrels.

I have about four acres in a Bermuda grass pasture. I find it very valuable for all kinds of stock. I never had my hogs to do so well, as those that ran upon the pasture all last winter. I think they feed upon the roots in the winter season. I went into the woods some four years ago and opened and fenced the pasture, and left the whole four acres surrounded with wood land. I planted the grass and then sprouted during the summer. I have never suffered a plow to go into the lot—As the grass will never cross the shade with which it is surrounded, I beg my friend John W. Pitts not to use his butcher knife upon me—for I much prefer he should first try again, and see if he cannot stick it in that briar patch of his.

And now, since I have gotten Bermuda grass, I am trying to obtain a cross of the Berkshires to feed upon it. I never would have even a cross before this, because I had no grass for them to feed upon.

Oats, until this year, have for several years been almost a failure. I have abandoned the crop, and, with many others in this county, have substituted rye. From one acre of rye, which was well manured, I fed from about the first of March last till first of June, eight head of grown cattle and a match of horses. I fed by soiling, and both cattle and horses got but little else. They all did well. When the horses were plowing, (which was not half the time) they had corn. I think it was the most profitable acre I ever cultivated. My hogs are now on that acre, and so soon as they glean it, will be turned upon another field which was sown in rye expressly for them. I shall not cut it at all, but this fall turn under the straw after the hogs have eaten the rye out. I never saw hogs thrive better—and they get nothing but the rye and the much feared and awfully condemned Bermuda grass.

Six years ago last April, I sowed, for the first time, the seed of Lucerne grass. It is a very valuable grass. If I had not had it, I know not how I should have fed my horses during a part of the severe drought of last year. I tried, at different times in the year, for three years, and failed as many times, to get a stand I have sown the seed in April, in September and in October, and failed every time. I sowed in March, three years ago last March, and got but an indifferent stand. This year I sowed a little before the 20th of February, and got a most excellent stand. It grew two feet and upwards in height. I sowed in drills one foot apart. I have cut it once, and in ten days from this it will be ready for the sickle again. When I reflect upon the coldness and backwardness of last spring, I am sure February is the best time in which to sow it in this country. I would not, however, advise any one to attempt to raise lucerne upon ground ordinarily fertile. I would advise first to prepare the ground by heavy manuring. Then raise corn. When the corn is taken off, then manure heavily again with well rotted manure—then plow deep, very deep, and keep on plowing during all the early part of winter, that the cold and frost may thoroughly pulverize the soil, and then sow the first warm spell of weather in February. From my lucerne, that is three years old, which I am cutting a second time, I have cut a plenty of stocks that were over 2½, and but very little under 3 feet in length.

I followed your directions in the cultivation of Irish potatoes this year. I never could succeed with the crop before, though I have been trying for 16 years. Under your guidance I have succeeded to my heart's content, as well as that of my palate too. I have a large surplus. Now please tell me, in the July No. of the Southern Cultivator, how to keep them during the succeeding fall and winter. It will be quite an object with me to save them, as I lost my sweet potatoe seed last winter, and a supply was not to be obtained. My sweet potatoe crop will, therefore, be very scanty, as I have to raise altogether from the slip, and can procure but a few of them.

I once farmed it for about seven years, under the doctrines of the old school Agriculturists. I found it would not begin to do. When property became high, ten years ago, I sold land, negroes and all—quit the business—read the Agricultural papers—became satisfied the new-school were teaching the right lessons in Agriculture—about three and a half years ago went to work as the new-school directs, and have succeeded beyond my most sanguine expectations.

Charles D. Davis.

P. S.—I am sure that my individual history in Agricultural matters ought to be confirmation, strong as holy writ, to every unprejudiced man, that the Southern Cultivator ought not barely to be sustained, but most liberally patronized.

Monroe, Walton Co., Ga., June, 1846.

Plowing near the Salerno.—The fields being without fences, have an open look; and the mingling of men and women together in their cultivation, gives them a chequered appearance, and renders them very picturesque. In the middle of a large green wheat field would be a group of men and women weeding the grain; the red petticoats and the blue spencers of the latter contrasting beautifully with the color of the fields. In one plot of ground I saw a team and a mode of plowing quite unique, yet withal very simple. The earth was soft, as if already broken up, and needed only a little mellowing: to effect this, a man had harnessed his wife to a plow, which she dragged to and fro with all the patience of an ox, he in the meantime holding it behind, as if he had been accustomed to drive, and she to go. She, with a strap around her breast, leaning gently forward, and he bowed over the plow behind, presented a most curious picture in the middle of a field. The plow here is a very simple instrument, having but one handle, and no share, but in its place a pointed piece of wood, sometimes shod with iron, projecting forward like a spear; and which merely passes through the ground like a sharp pointed stick, without turning a smooth furrow like our own.—*Letters from Italy.*

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1844, and arranged to suit the Southern States.

CALENDAR FOR JULY.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months. This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

Finish hoeing out your corn, potatoes, and all other crops, and make early preparation for harvesting. See that your tools are all in order, and a full supply of each. Get the best you can procure. A man may earn the extra cost of a good scythe or cradle, in a single day's work, besides the promotion of good morals, by the better humor he is kept in. Get rakes and pitchforks which you know won't break by fair usage. By all means prepare a horse rake, which may be made as simple as a hoe. A man with a steady horse may do the work of 8 men with one.

Clover should be cut while just going out of bloom, when the heads are partially turned brown. It ought never to be spread. Let it lie in the swath till wilted: if they are very large or heavy, they may be turned over after the upper side is sufficiently dried. As soon as this is done, let them be raked into winrows, and soon after cocked in small high piles. This should always be done the first day, and if very hot, may be done within a few hours after cutting. Let it stand in these cocks till it has sweat and become cool, and comparatively dry. It may then be taken into the barn or stacked, and well salted. Lucerne is to be treated in the same way. Timothy and redtop should not be cut till the seed is in full milk, so that it will ripen after being cut. It ought never to get so ripe as to shell when fed out. These may be exposed to the sun longer than clover, but less than is usually practiced. Our hay is frequently dried too much, and some who never spread their hay from the swarth, much prefer it thus cured. It is better to allow it to cure in the cock, when it is always safe against sun, dew and rain. Grass ought never to be exposed to the dew while spread. A few days of sun and dew while thus exposed, render it almost worthless. Hay may always be carried into the mow or stack sooner, by using salt freely: at the rate of four quarts to the ton is our rule. Besides lessening the risk from rain, the salt is always worth much more than its cost for the cattle and manure, and it will thus confer a triple benefit by answering successfully the purposes of each.

Much of the wheat, oats and barley may be harvested this month. The cleanest fields or portions of them, should be selected for seed, but not the heaviest or largest growth. Seed is better if grown on moderately poor land, than on the best. Prof. Sprengel has shown from experiments, that grain matured on the richest land, though eminently fitted for food, contains too much gluten for seed; while that which is produced from poor land has a greater proportion of starch, which is the natural food for the young plant. The part thus selected should be allowed to mature the seed fully while standing; the grain intended for consumption ought to be cut while the berry is yet soft, in the dough state. Such grain will produce more flour, and of a better quality than when dead ripe, besides being much less liable to shelling and waste. After moderate exposure to sun, rake up in bundles, or if well ripened, rake up at once, and bind soon after, when if it requires additional curing it may be finished in the shock. If put in stacks, these should be carefully placed beyond the reach of vermin, and so arranged as to have a circulation of air upward through the centre of the stack, to avoid mould and injury to the grain. The utmost care in stacking ought always to be used, to avoid injury from rain, and blowing down from high winds.

Kitchen Garden.—Cabbages of the several varieties can now be planted for late crops. Moist

weather should be selected for this purpose, and the plants immediately and frequently watered, until they are well rooted. Melons, squashes pumpkins, &c., ought to be carefully hoed, and kept entirely free from weeds; otherwise, they will not produce good fruit. Melons and cucumbers for pickles can be sown in the early part of this month. Sow kidney-beans, small salad, carrots, turneps and spinach for fall and winter use. Celery should be planted out in trenches; and some varieties of radishes and peas may be sown with reasonable prospect of success, if the season should prove moist. Egg plants, peppers and tomatoes, plant out if not done before. Collect all the vegetable seeds that have come to maturity, and dry them well before putting away; also, gather herbs as they come into flower, and dry them in the shade, that the sun may not injure their flavor. Pull up the stalks of beans, peas, &c., which have done bearing. Water may be frequently and beneficially applied, but it should always be done at the close of the day, otherwise the plants will be injured by the heat of the sun.

Fruit Garden and Orchard.—Budding may be performed upon pears and apples the latter part of this month. Gather from the trees and give to the cattle or swine, all fruit that is decayed or punctured by the insect, otherwise the insect, which now exists as a worm in the premature fruit, will soon be able to fly and attack the remainder. Also continue to cut off all the wood as fast as it may appear to be infested by the insect which produces a black knot. Keep the ground well cultivated among the trees. There is very little else to be done in the fruit garden this month, excepting it may be to consume its productions, for which directions may possibly not be requisite.

Flower Garden and Pleasure Grounds.—Bulbous and tuberous roots can now be taken up, and tulips, hyacinths, &c., carefully put away for planting in the fall. Herbaceous flowering plants may still be transplanted from the seed bed to the border, and should be taken up with as much earth as possible about the roots. Hedges can also be clipped in the early part of this month. Walks and borders keep constantly clear of weeds, and let a general air of neatness pervade every part of the garden.

Plantation.—As a general rule, give the cotton crop its last working this month; some seasons the weeds will be too large to work with plows without injury even before the 10th. Keep the fields clean; if your intention is either rotation, or cotton to succeed cotton, it will save labor next year.

Pay particular attention to your tobacco fields. When the plants have acquired from 12 to 14 good leaves, and are about knee high, begin to top them by nipping off the bud with the aid of the finger and thumb nail. Take care not to destroy the small leaves near the buds, for if the land be good and the season favorable, the very top leaves will, in a short time, be nearly as large, and ripen quite as soon as the lower ones, whereby two or four more leaves may be saved; thus obtaining from 16 to 18 leaves in the place of 12 or 14. As the topping of the plants is essential, in order to promote growth, and to equalize the ripening of the leaves, this operation should be commenced the instant that the bud shows a disposition to go to seed; and should be followed immediately by removing the suckers as fast as they appear, which will now put forth at every leaf.

The blades from the early planted corn can now be stripped for fodder. Let the shuck or husk on the ear change from the green to the whitish cast, then tie a handful or so to itself, and thrust the end of the tie between the ear and the stalk. Do not break down the stalks, for it will require more time to strip the blades, but in the end there will be a gain; for it can be got in sooner if the rain threatens, or if caught in a rain, it will not be injured so much. Cure the fodder well before stacking. Late corn will need plowing in this month, and peas may be planted amongst it as directed in May.

The late plantings of potatoe drawings and the plantings of vines will require plowing, and drawing up with a hoe; continue to plant out vines. If there is not ground enough in the potatoe patch, bed up ridges in the early corn fields. Two furrows will do to plant on, which will not materially injure the corn; or plow up a choice piece of stubble ground anew.

Millet grass must be cut when just turning, if for feeding, and treated in the same manner as stacking oats.

If your crop will admit of it, grub up small growth; cut down saplings, and deaden trees for a calf pasture, to be sown in September or October with rye. Plowing will be unnecessary, the fall of the leaves will cover the ground and the grain will spring up and give a fine bite for the winter. Make artificial pools in your pastures for stock if there are no natural ones.

Prepare a turnep patch, either old ground by manuring high and plowing, or a piece of new ground. The cotton gathering season is now rapidly approaching; prepare baskets and sacks to pick in, all leisure time, especially all wet days. Top cotton the last of this month, either by pinching off the tender top part of the plants or cut off with a knife. Repair buildings and fences about fields; rake up leaves and haul on the land; gather manure and house it under sheds or give it a coating of earth.

If there are showers plant French beans; sow more endive; prepare the ground for transplanting cabbages that are coming on in the last of this month. If the weather be very dry and the soil unfit to work, prepare drills two feet apart, and about eight inches deep, and pour into them some cow-dung water. Transplant your cabbages into those drills and leave them four or five days without watering. Then repeat the operation with the manure water once more, and there will be no danger of the plants burning up. Should the season be rainy this precaution will be unnecessary. Sow more carrot seed and proceed as directed in June.

From the Western Farmer and Gardener.

Book Farming and a Portrait.

Whenever our anti-book farmers can show us better crops at a less expense, better flocks, and better farms, and better owners on them, than book farmers can, we shall become converts to their doctrine. But, as yet, we cannot see how intelligence in a farmer should injure his crops. Nor what difference it makes whether a farmer gets his ideas from a sheet of paper, or from a neighbor's mouth, or from his own experience, so that he gets good, practical, sound ideas. A farmer never objects to receive *political* information from newspapers; he is quite willing to learn the state of the markets from newspapers; and as willing to gain religious notions from reading, and historical knowledge, and all sorts of information except that which relates to his business. He will go over and hear another neighbor tell how he prepares his land, how he selects and puts in his seed; how he deals with his grounds in the spring, in harvest, and after harvest; but if that neighbor should write it all down carefully and put it into a paper, it's all poison! its *book-farming!*

> "Strange such a difference there should be
> 'Twixt tweedledum and tweedledee."

If I raise a head of lettuce surpassing all that has been seen hereabouts, every good farmer that loves a salad would send for the seed, and ask as he took it, "How do you contrive to raise such monstrous heads? you must have some secret about it?" But if my way were written down and printed, he would not touch it. "Poh! it's bookish!"

Those who are prejudiced against book farming, are either good farmers, misinformed of the design of agricultural papers, or poor farmers, who only treat this subject as they do all others, with blundering ignorance. First, of the good farmers: There are in every country, many industrious, hard-working men, who know that they cannot afford to risk anything upon wild experiments. They have a growing family to support, taxes to pay; lands, perhaps, on which purchase money is due. They suppose an agricultural paper to be stuffed full of wild fancies, expensive experiments, big stories made up by men who know of no farming except parlor-farming. They would, doubtless, be surprised to learn that ninety parts in a hundred of the contents of agricultural papers, are written by *practical farmers;* that the editor's business is not to foist absurd stories upon credulous readers, but to sift stories, to scrutinize accounts, to obtain whatever has been proved to be fact, and reject all that is suspected to be mere fanciful theory. Such papers are designed to prevent imposition; to search out from practical men whatever they have found out, and to publish it for the benefit of their children all over the Union.

The other class who rail at book-farming, ought to be excused, for they do not treat book-farming any worse than they do their own farming; indeed, not half so bad. They rate the paper with their tongue, but cruelly abuse their ground, for twelve months in the year, with both hands. I will draw the portrait of a genuine anti-book farmer of this last sort, [This picture is drawn for the West; perhaps it needs no great alteration to apply as well to the South.]

He plows three inches deep, lest he should turn up the *pizen* that, in his estimation, lies below; he sows two bushels of wheat to the acre, and reaps ten; so that it takes a fifth of his crop to seed his ground; his corn land bears just what it pleases; which is from thirty to thirty-five bushels, though he brags that it is fifty or sixty His hogs, if not remarkable for fattening qualities, would beat old Eclipse at a race; and were the man not prejudiced against deep plowing, his hogs would work his grounds better with their prodigious snouts, than he does with his jack-knife plow. His meadow-lands yield him from three-quarters to a whole ton of hay per acre, which is regularly spoiled in curing. His horses would excite the avarice of an anatomist in search of osteological specimens. But oh! the cows! If held up in a bright day to the sun, don't you think they would be semi-transparent? But he tells us that good milkers are always poor! His cows get what Providence sends them, and very little besides, except in winter; then they have a half-peck of corn on ears a foot long, thrown to them, and they afford lively spectacles of animated corn and cob crushers. Never mind: they yield on an average, three quarts of milk a day! and that milk yields varieties of butter quite astonishing.

His farm never grows any better: in many respects it gets annually worse. After ten years work on a good soil, while his neighbors have grown rich, he is just where he started. And when at last he sells out to a Pennsylvanian who reads the "Farmers' Cabinet," or to some New-Yorker, with his "Cultivator," packed up carefully as if it were gold, or to a Yankee, with his "New-England Farmer," he goes off to Missouri, thanking Heaven that he's not a book-farmer!

Effects of Crossing on the Constitution.—Those classes of the human race which preserve their blood free from mixture with strangers, while they have less variety in external appearance, and perhaps less variety in the scope of mental capacity, than those who cross and recross at pleasure, have more endurance in action, firmer attachments to purposes, and less desultory impetuosity. This is a physical truth. In brute animals—horses, sheep and cattle—the mixture of different races is observed to enlarge the size; it diminishes the hardiness and the security of the physical health. In man the mixture of different races improves beauty, augments the volume of the bodily organs, and even perhaps expands the sphere of intellect. It diminishes the power of enduring toil, and renders the habit more susceptible to the causes of disease.—*Jackson's Economy of Animals.*

Something about Manure and its Application.—BY JESSE RYDER.

Almost all the farmers of this country are obliged to depend on the resources of their own farms for the supply of animal and vegetable manures. Mineral manures are more generally purchasable but as stimulants and absorbents; they can only operate in conjunction with the vegetable matter of the soil, (the humus or mould,) the principal supply of which, to cultivated land, is obtained from our cattle yards.

It seems to be self-evident, that the earth must receive something in return for her productions, or, become bankrupt. Either a portion of her produce must be left with her, or an equivalent returned, otherwise she becomes barren and unfruitful.

It behoves us, then, to increase the fertility of the soil we cultivate, until it is capable of affording to plants all the nourishment they require of it, in order to develope them fully.

There is great encouragement in the thought that plants derive a part of their food and nourishment from the atmosphere. If it was all derived from the earth, then it would require all the produce of the farm to be restored to it, in order to preserve its fertility. But experimental proofs are not wanting to show that a large part of the food of plants *is derived from the atmosphere.*

When once it is conceded that the soil of a farm can be made to grow rich by the use of manure made from a great deal less than its own produce, it must also be conceded that the same farm ought to be enriched faster and faster, as the amount of its productions increase.

I do not believe that the manure which is applied to hoed crops in this country, reproduces itself to the farmer, as a general thing, notwithstanding its auxiliary help from the atmosphere. This is a serious consideration, if we believe that by securing all its valuable properties, it ought to be instrumental in producing five or six times as much. Take a field and apply to it for Indian corn the amount of manure made from its own produce for five preceding years, then raise three grain crops in succession, say corn, oats and wheat or rye; and at the end of that time I am well assured that the soil will have lost more strength than was imparted to it by the manure of five years. Let it then be laid down to grass for two years, and at the end of that time it will have recovered the elements of fertility, so as to be, generally speaking, about as good as it was before the manure was applied five years previous; the formation of sod being a rejuvenating process.

I once buried by the plow, in the spring of the year, about sixty ox-cart loads of manure on four acres of sod ground plowed the usual depth, five or six inches; soil stiff and heavy; and for aught I have ever seen of its effects, there might as well have been a funeral ceremony at the time of the burying. The season was somewhat wet. What became of the salts of the manure? It was first planted with potatoes, which were poor; then sowed with rye, which was poor, and the grass that followed was not as good as that which grew before the plowing. Plowing in manure on dry land may do better; but I doubt whether one-fourth is ever realized from it that ought to be, I once put about five bushels of strong horse manure in one heap on a timothy meadow, and spread the surrounding parts with like manure, ten two-horse loads to the acre. The manure heap made the grass but little heavier on its borders than it was elsewhere, the ten loads to the acre having brought the land near to its maximun of production—3¼ tons to the acre. Nineteen-twentieths of the manure in the heap, then, was lost: which is proof positive to my mind, that it is necessary to secure its valuable properties very soon, or they are lost.

I know that most theoretical and many practical farmers recommend the use of all the manure on the farm on hoed crops; and wear the land out, as I think, without securing such a return from it as will leave it better than before.

Experience has taught us here, that to enrich our land, we must apply the manure for our plow land at the time of sowing winter grain, spread it on the furrow, and harrow it in with the grain, which leaves it just where we want it, near the surface; or harrow the ground first, then spread the manure, and plow it and the grain in together, with light furrows.

If we put all the manure on for corn, the result is pretty good corn and oats, and poor winter grain and grass succeeding. When the sod is again turned over for corn, it being poor, the corn again requires barn-yard manure; and thus the land is kept poor, the grass being light, and the manure not increasing in quantity.

But let the disposition of the manure be changed: apply it to winter grain, and then we have good wheat or rye succeeded by good grass, plenty of fodder, and a sod formed, which, when the land is again plowed for corn, will enable it to grow as luxuriantly as it did under previous management with the manure applied directly to it; and the mauure is thus left for the benefit of the winter grain again.

With the manure for winter grain, it prevents it from freezing out in the winter and spring; also saves the young timothy, and in many instances lightens the soil so as to preserve the clover roots of the year following. Grass being a mending crop, the land can spare its luxuriant burthen and not be poorer, and the land is improved by the amount of the manure, a luxuriant sod being, as it were, its representative. Such, in my view, is a practical way of increasing the effects of manure, and securing for the earth a store of vegetable food.—*Amer. Quar. Jour. of Agriculture.*

[The suggestions in the foregoing relative to the *application* of manure, will apply better to wheat-growing than to corn-growing. However good the *sod* might be, few of our New England farmers would trust to it alone, without manure, for the production of a crop of corn.—*N. E. Farmer.*

From the South Carolina Advocate.

Rice should be the Pioneer in bringing Woodland into Culture.

It is a question with planters, whether it be more profitable to cut down the entire growth on land intended to be brought into cultivation for cotton or corn; or to leave the larger trees standing, only girdling them. Much more land could certainly be brought under tillage by the latter mode, but the product to the acre would be proportionably decreased. By the plan of clearing clean, there would be far more work in the first instance; by the other, some clearing would have to be performed for a number of years to come: so the results would about balance. And did we intend to plant either cotton or corn as the first crop to be raised, it would be of little consequence which method was adopted. But here lies the mistake; cotton or corn will not succeed in the neighborhood of living trees. Whether it be attributable more to the nourishment drawn from the soil by the roots of the trees, than to the shade caused by the foliage, we cannot say; but would ascribe it to both, together with the privation of dew; no dew being deposited under trees, in consequence (according to the theory of Radiant Heat,) of there being no free radiation of heat from the earth shaded by them; the heat being reflected by the trees to the ground.

The mistake then, is in planting cotton or corn as the first crop. The more profitable way is, *not* to cut down the entire growth, and make *Rice* the pioneer; for rice will do well in shaded locations, when none of our other staples will. It will grow whether the land be shady or sunny, sour or sweet, new or old, wet or dry. It is the most hardy of all our plants cultivated as staples. Should a stalk of cotton or corn get broken off accidentally in working, or otherwise, an occurrence to which they are very liable in new grounds, the corn, if not completely destroyed, would possibly never entirely recover from the injury done; and the cotton would almost infallibly perish. But the Rice may be cut down again and again, and if the misfortune do not happen too late in the season, it will ripen its grain. It resembles grass in this respect, it will not die from decapitation, it must be eradicated in order to be destroyed; nor does it only resemble grass, but it *is* grass, ranking in the natural methods of both Linnnæus and Jussieu under the Order of *Graminæ*. It will even yield grain in the midst of grass as tall as itself, where the other plants would be totally ruined. We do not mean to say that Rice is not seriously injured by such locations, but that it is not destroyed, and may even be saved by a hoeing long delayed, and do well; when in a similar situation, cotton or corn would be perfectly remediless. When young, if the Rice be covered with water until the stalks rot off, it will shoot forth when the water is removed. It thrives through all the varying systems of Rice planters, from the "dry culture" to the "water culture," or "sixty days system;" the only question being, which is the best of all, for it will succeed with any. Who would cast his seed into the water and expect to harvest a crop, unless he were planting Rice?

But what particularly concerns the question in point, rice will not only grow, but produce in places so shaded, that cotton or corn could there hardly maintain a useless existence. And it is the only staple that will yield a good crop in locations as much shaded as is usually the case with new grounds.

All these qualifications peculiarly fit it for the rough culture of new land; the shady, virgin soil being moist and rich, the only absolute requisites for a tolerable crop. J. C.

From Bousingault's Rural Economy.

To Improve the Soil.

To improve a soil is as much as to say that we seek to modify its constitution, its physical properties, in order to bring them into harmony with climate and the nature of the crops that are grown. In a district where the soil is too clayey, our endeavor ought to be, to make it acquire to a certain extent, the qualities of light soils. Theory indicates the means to be followed to effect such a change: it suffices to introduce sand into soils that are too stiff, and to mix clay with those that are too sandy. But these recommendations of science, which, indeed, the common sense of mankind had already pointed out, are seldom realized in practice, and only appear feasible to those who are entirely unacquainted with rural economy. The digging up and transport of the various kinds of soil, according to the necessities of the case, are very costly operations, and I can quote a particular instance in illustration of the fact. My land at Bechelbronn is generally strong, (clay.) Experiments on a small scale showed that an addition of sand improved it considerably. In the middle of the farm there is a manufactory which accumulates such a quantity of sand that it becomes troublesome. Nevertheless, I am satisfied that the improvement by means of sand would be too costly. A piece of sandy soil, purchased at a very low price, after having been suitably improved by means of clay, cost its proprietor much more than the price of the best land in the country. Great caution is necessary in undertaking any improvement of the soil in changing suddenly its nature. Improvement ought to take place gradually and by a course of husbandry the necessary tendency of which is to improve the soil. Upon stiff clayey land we put dressings and manures which tend to divide it, to lessen its cohesion, such as ashes, turf, long manure, &c. But the husbandman has not always suitable materials at his command, and in this case, which is perhaps the usual one, he must endeavor to secure such crops as are best suited to his soil. Autumn plowing of clayey lands is highly advantageous to them, by reason of the disintegrating effects of the ensuing winter frosts.

Bousingault is both a distinguished Chemist and a practical farmer; yet no farmer, we

are assured, who has a clayey or sandy soil, wilt be deterred, by the above remarks, from attempting to improve his sandy soil by the admixture of clay, if *it* be at hand, nor from improving his clayey soil by the admixture of sand, if *it* can be easily procured. In either case, we do not believe the operation would be *too costly*, as Bousingault asserts—and much experience in this country could be adduced in disproof of the assertion.—*N. E. Farmer.*

From the South Carolinian.

Home Truths.

"Some things can be done as well as others."
Sam Patch.

Little indeed, thought Samuel, when he penned the foregoing line, that he was writing down that which was to become one of the tritest proverbs in Yankeedom. But it is more than this—it is a great speech—not as great as Cæsar's "*Veni vidi vici*," it is true, yet we doubt if Cæsar could have bettered it on the occasion, or beaten Sam at his own game. Lover of pure English as we are, we think that we can see much meaning in this saying—a deeper truth than Sam, perhaps, ever dreamed of in his philosophy. It containeth all that is embraced in that hackneyed motto of every idle college boy, "*Perseverentia habet premium*"—it goeth even further, even unto "*nil desperandum.*" It is the true type, the very embodiment of Yankee character. It is, in one line, the history of that hardy race which has forced its way into every corner of the globe, which has conceived and executed what the old philosophers never dreamed of. Space has been annihilated; years have been compressed into moments. Madame Rumor, that fabulous mistress, who once rode upon the wings of the wind, is now eclipsed by the Yankee news-god who travels upon the winged lightning. But Sam, poor fellow, made like many other heroes, his last leap for *fame*, and proved that there were more ways of going out of the world than one, and what was more to the purpose, that he was not born to be hung, since 'those born to be hung never get drowned'.

We have travelled out of the record and almost, verily, forgotten what we sat down to write about.

It is a commonly received opinion now-a-days, that planting in this country has ceased to be a business by which one can earn a living. It is a doctrine preached by almost every man who is now in debt, or has been engaged in imprudent speculations, that we cannot grow cotton in competition with the planters of the fertile West, and that to think of growing grain, raising stock, manuring and improving our lands, and diversifying our culture, is the veriest humbug in the world. And the effect of this doctrine is, that hundreds of the very best of our citizens are constantly moving westward.

It has pained us deeply to witness this surplus tide of emigration to the West during the last year. Why is it so? Must our dear little State be thus stripped of its jewels, to enrich the hammocks of Florida and prairies of Texas? Can nothing be done to arrest it? It is a question well worth answering. It all springs from this heresy—that the only profitable crop is cotton. That money can be made at nothing else—that one would starve who would pretend to plant anything else but cotton. His manure, if not suffered to "waste its sweetness on the desert air," is sparsely scattered over the bald spots on the farm. He plants just what corn will do him; no more. He buys his own pork, horses, mules and negro clothing, on a credit till the cotton crop is made; depends upon his cotton crop for all money, and upon his corn crib for the support of all sorts of animal life.

Every man should adapt himself to his situation—in other words, he should "cut his coat according to his cloth." Nobody thinks of such a thing in this country. No one thinks of beginning life as their fathers did before them. Acting as if they had the virgin soil and monopoly of staple which their fathers had, they begin to live in all the style and magnificence of a millionaire. A young man now-a-days, who works ten or fifteen hands, must needs sport his carriage and horses. It is no common matter to keep up an equipage. A turn out worth $300 will incur an annual expense of $200; twenty-five per cent. on a capital which must be reinvested, every five or six years at least. Then the furniture of one's establishment—the style in which he must live, all go to drain off the profits of the plantation. Say now that our young friend with his ten hands, makes five bags to the hand, and plenty of corn. He cannot clear more than $50 per hand. His whole cotton crop is laid out in a turn-out which bids fair to turn him out of doors; for, the $300 balance against him, and $200 tax will soak up the next year's crop. Should he be unfortunate enough to buy property or speculate, once in debt, his story is soon told. He borrows money of the bank, or of some shaver at a high per cent., gets behind-hand, ultimately fails—property is sold under the hammer, and goes, as apt as not, into the hands of his father's overseer. He abuses the country, complains of our worn-out lands, the low price of cotton, and moves off to the West. This is the sad history of many of the cleverest fellows of our acquaintance.

But how does it happen that the overseer becomes so often the owner of the plantation? Why, he economized, he laid out every dollar he earned at interest; lived according to his means, and didn't go in debt. And here is one of the most lamentable effects upon our country—men, who by shaving and holding other people's noses to the grindstone, have laid up large fortunes, are to become henceforth the gentlemen of the country! Men who have neither education nor the pride to educate their children; who think that a man is to be estimated by the number of *niggers* he owns, are to rule the country. If any man will take the trouble just for a moment to look about him, he will find cases enough in point; men sprung from the very dregs of society, (which should not detract from their merits if they had real worth about them,) clothed in a little brief authority because they have money to lend, begin to throw their toils about them, till one by one, their neighbors are caught and drawn into their power, and then set themselves up for gentlemen. We have a perfect horror of this fashion of recognizing any man as a gentleman, simply because he rides in a carriage or has money to lend. We most earnestly hope we may live to realize the beautiful lines of the Ayrshire Poet:

"Then let us pray that come what may,
As come it will for a' that;
That sense and worth, o'er a' the earth,
May bear the gree, for a' that."

For our own part, we believe it all humbug; this doctrine, that a man cannot do well here, much as it is preached.

We believe, that nine-tenths of the men who have done well in the West, would have done well here, had they pursued the same course. We know many who regret they ever left their old homes, and hesitate not to say, that if they were back again, they would be far happier, and could do as well. There are exceptions, it is true, but "*exceptio probat regulum.*" Let a man once cut loose the moorings which bind him to his dear native home, and he is in spirit a wanderer for life. He is never so well satisfied but he will sell out at a moment's warning, to seek farther west, some new Eldorado.

Pictures of this kind may be seen all over the West. The people have no social attachments; the haunts of their childhood, the familiar faces of the friends of their youth, the burial places of their fathers, are not around them to chain them to the spot. They live but for the accumulation of wealth. Their life must be one of continual excitement, or they are miserable.

Hundreds of our citizens are growing rich every day, who cultivate poorer land than many of those who move off to the West; and why? Because they have set to work in the right spirit, satisfied "That some things can be done as well as others."

A CRACKER.

From the London Horticultural Magazine.

Refuse of the Garden.

One of the most important things to be attended to in a garden is that of saving every atom of vegetables that can be scraped together. The stems of peas and beans, the mowings of grass, the cuttings and prunings from trees and shrubs, the fallen leaves, should be as carefully preserved, to be returned to the ground, as if they were the richest manure. In some instances this refuse may be dug into the ground at once in its green state; in others, it may be thrown into a proper place to decompose, and the decomposition be assisted by the means of other applications.

The objection made by some to digging-in the refuse in its green state, has been, chiefly, the liability to nourish instead of destroying the various eggs of the pests which annoy them, and that by throwing the refuse in a heap to rot, a good deal of this is destroyed.

The refuse of a garden has been undervalued, or rather not valued at all, up to a very recent period; for even outside of market gardens in the vicinity of London, there have been seen large quantities of cabbage and brocoli leaves, and vegetable waste of all kinds thrown there to be taken by any one who cared for it, and removed by cottagers for their pigs and cows, or perhaps for the very purpose to which the gardener ought to have applied them—the manuring of the ground.

Self-manuring, as it has been called, has been of late the subject of experiment in many places, and has been written and talked of by many as if it were a novelty, though we have been in the habit of using every description of waste not only for the garden, but on the field where it came from. Thus, potatoe vines have been dug in where the potatoes came off; cabbage leaves, turnip, carrot and parsnip tops have been dug in where the crops were grown; the cuttings of currant and gooseberry bushes have been chopped up and dug in between the bushes; and strawberry clearings have been used between the rows of plants as the only dressing they had. While these matters rotted slowly, they kept the ground open, and as they decomposed, they enriched it.

The finest piece of strawberries we ever saw, was in a celebrated market-gardener's ground at Deptford, where the trimmings were always dug in. We have unquestionable evidence that in some places on the continent, where vines are cultivated, the leaves and clippings are carefully forked in about the roots as a dressing for the next year.

We do not mean to infer that this dressing is sufficient in all cases, because the bulk which goes away in the crop has always had something from the soil; though we deny that it has taken anything near the quantity of matter found in it, because we have mentioned, and have proved by experiment, that much of the contents of any crop, no matter what, is taken from the water and the atmosphere. But let us mention one application which has never failed us—the leaves of trees laid on pink beds, pansy beds, and autumn planted ranunculuses, and other subjects which are the better for protection, will almost always rot by spring, and if then forked into the ground carefully without damaging the roots, will be found an excellent dressing; protecting all winter, and nourishing as they rot. And it is well known that where leaves are allowed to rot into mould, there is not a more efficacious dressing.

TAKING A HINT.—It is very surprising to see how slow some men are to take a hint. The frost destroys about one half the bloom on fruit trees; every body prognosticates the loss of fruit; instead of that, the HALF that remain are larger, fairer and higher flavored fruit than usual; and the trees, instead of being exhausted, are ready for another crop the next year. Why dont he take the hint, and thin out his fruit every bearing year? But no, the next season sees his orchard overloaded, fruit small and not well formed, yet he always boasts of that first mentioned

crop, without profiting by the lessons which it teaches.

We heard a man saying, "the best crop of celery I ever saw was raised by old John ——, on a spot of ground where the wash from the barn yard ran into it after every hard shower." Did he then take the hint, and apply liquid manure to his celery trenches? Not at all.

We knew a case where a farmer sub-soiled a field, and raised crops in consequence, which were the admiration of the whole neighborhood; and for years the field showed the advantages of deep handling. But we could not learn that a single farmer in the nighborhood took the hint. The man who acted thus wisely, sold his farm, and his successor pursued the old way of surface scratching.

A staunch farmer complained to us of his soil as too loose and light, we mentioned ashes as worth trying: "Well, now you mention it, I believe it will do good. I bought a part of my farm from a man who was a wonderful fellow to save up ashes, and around his cabin it lay in heaps. I took away the house, and to this day I notice that when the plow runs along that spot, the soil turns up moist and close grained." It is strange that he never took the hint.

A farmer gets a splendid crop of corn or other grain from off the grass or clover ley. Does he take the hint? Does he adopt the system which shall allow him every year a sward to put his grain on? No, he hates book farming, and scientific farming, and "this notion of rotation," and plods on the old way.—*Ex. paper.*

CURE FOR WHOOPING COUGH.—A teaspoonful of castor oil to a teaspoonful of molasses. Give a teaspoonful of the mixture whenever the cough is troublesome It will afford relief at once, and in a few days it effects a cure. The same medicine relieves the croup, however violent the attack.—*Nat. Int.*

OLD BREAD THE BEST.—It has been found that baked bread on the first day produces from 71 to 79 per cent. of nutritive matter, while that five days old yields from 81 to 82 per cent. New bread loses the five per cent. of its weight by evaporation in cooling. Aside from the advantages of stale bread in its nutritive matter, it is more wholesome, more easily digested, has more taste and is sweeter; while new bread lies heavily in the stomach and is of difficult digestion. With these advantages it is strange that most people reject stale bread or prefer the new. It has been found that, on feeding the poor, very stale bread mixed with soup is far more satisfying than any other they can obtain. Thus the laboring classes consume one-eighth more bread than would be necessary if stale bread were used; or a family that consumed six pounds of bread per day would expend, at the present price, some $10 more a year by eating new, than by eating stale bread, with all the other disadvantages we have mentioned.

DELICIOUS APPLE PUDDING.—It is convenient, as it may be made several hours before it is baked, or when a nice addition is wanted unexpectedly. Pare and chop fine half a dozen or more, according to their size, of the best cooking apples—grease a pudding dish, cover the bottom and sides half an inch thick with grated bread, and very small lumps of butter; then put a layer of apples with sugar and nutmeg, and repeat the layers until the dish is heaped full. Before adding the last layer, which must be of bread and butter, pour over the whole a teacupful of cold water. Put it into the oven as soon as the dinner is served, and bake it for twenty-five or thirty minutes. It may be baked the day before it is wanted; when it must be heated thoroughly, turned into a shallow dish, and sprinkled with powdered sugar. It requires no sauce. —*Am. Agr.*

SUBSTITUTE FOR THE POTATO.—A vegetable indigenous in New Grenada, the arrachia, is said to be a valuable substitute for the potato. Each plant furnishes three or four pounds of root, of the nature of the carrot and potato united, and is said to be a wholesome food.

The pear has 24 thousand pores to the square inch, on the under side of its leaf.

Back Volumes of the Southern Cultivator.

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ORIGINAL.

SELECTED.

SOUTHERN CULTIVATOR.

VOL. IV. AUGUSTA, GA., AUGUST, 1846. No. 8.

MANAGEMENT OF SLAVES.

The undersigned having been appointed a committee by the Barbour County Agricultural Society, to report on the best means of governing our slaves, and of promoting their happiness, and consequently their usefulness to us; beg leave to submit the following

REPORT.

They have had the matters submitted to them under calm consideration, and are of opinion that no subject which properly belongs to a Southern Agricultural Society, should attract more attention than that embraced in the resolution referred to them; and yet, they have not been able to find, that it has ever, as yet, attracted the attention of any Southern Society. It appears to be a matter of astonishment why this is so; your committee can only account for it on the ground that we have been in the habit of merely following in the wake of Northern Societies, where the institution of slavery does not exist. We have not, it appears, recollected that our condition is quite different from that of the non slaveholding section of the United States. With them their only property consists of lands, cattle and planting implements. Their laborers are merely hirelings, while with us our laborers are our property; and certainly, the most important portion of it, whether we regard them merely in the light of property, or as intellectual beings, for whose welfare we are in a great degree accountable. If, therefore, it is a matter which pertains to the interest of Northern Agricultural Societies to attend well to the improvement of their lands, and the improvement and comfort of their stock, providing for the best means of cultivating their lands, &c., how much more important is it for us, to turn our attention to the best means of governing our slaves, and of promoting their happiness, and consequently their usefulness to us. It does appear to your committee that no argument can be required to establish the propriety of this question. Every reasonable person must at once perceive the irresistible conclusion, that there is no good reason why this subject has been so long neglected, and that it is time that we should commence to attend to it. It certainly cannot be that we are afraid to open this subject to the inspection of the world; for your committee are well persuaded that the condition of our slaves will bear a favorable contrast with that of any other laboring population in the civilized world, so far as comfort and happiness is concerned; and will not fall below them in any other point of view, than that of mere abstract notions of human rights, about which, it is true, there has been much nonsensical prating in this as well as in other countries. But whether we are willing to open this subject to the world or not, the eye of the world is on us, and the imagination has formed a picture upon this subject, even in our own country, which, when compared with the truth, is as the midnight darkness in contrast with the light of noonday. Such is the hideous deformity of the picture that we who are accustomed to the daily inspection of the original, cannot recognise the picture from the original. Your committee do not by any means contend, that all the picture of slavery is one of light, (and this they would correct.) But they do insist that, in comparison with other forms of servitude, it will bear a favorable contrast—in fact, they challenge the world to produce a laboring population more happy, better fed, or cared for, than our slaves. Let us therefore be bold and meet the fanaticism of the day, by a fearless exposure of facts; whenever we are wrong, let us correct our errors, and in what we are right, defend ourselves.

Your committee apprehend that there can be no difference of opinion in this Society as to the moral obligation of the master, to attend to the comfort and happiness of his slaves. Nor do we conceive that there will be any difference of opinion as to the obligation of the master, to promote the moral and religious character of his slaves. It is the interest as well as the duty of masters to do this. Indeed, our laws require us to attend to the comfort and happiness of our slaves; and our missionary establishment, with its ample support by us, shows that we acknowledge the obligation on us, to promote the well-being of our slaves. But even more—actual statistical returns show that religion is more prevalent among the slaves of the South than the free blacks of the Northern States, and universal opinion concurs in giving them a higher moral character. It is true that in non-slaveholding States the blacks are free in theory, but in practice their freedom often leads to misery and degradation, and not unfrequently to oppression from his white associate. Whilst the slave is in theory in the closest hands—in practice he has a friend and protector in his master, who, from interest, humanity and religion, is bound to protect him and promote his happiness. Thus it will be perceived, that whilst in theory the Southern slave is the most abject and degraded, and the Northern laborer and freed man the most free and happy, yet in practice the scale may be, and in the opinion of your Committee often is, turned in favor of the slave. With the Southern master every motive which can influence a correctly constituted mind—interest, humanity and religion—leads to kindness towards our slaves; and it is only the brutal, and unreasonable portion of mankind who cannot be influenced by these means. For this class our laws are made and will compel them to do that for which no compulsion ought to be required. Of all the motives which influence the intercourse between men, *interest* is certainly the strongest—this the employer of the hireling lacks to a great extent to induce him to treat his hireling kindly. The interest of the master in connection with the hireling, is to obtain as much labor from him as possible at the smallest cost; and when he becomes too old or decrepid from disease or over-labor to work, to get rid of him as soon as possible, whilst with the owner of the slave, as the slave is his property, and he is bound for his support under all circumstances, we can readily conceive how strongly the motive of the master in taking good care of the slave, and thus extending the time of his usefulness. Your committee, therefore, feel well warranted in adding that the master who could disregard all those motives for good treatment of his slaves, must be brutal indeed, and must be so obtuse in his intellect as to act against the plainest principles of reason. For such cases your Committee invoke the rigid enforcement of the laws, and the expression of a strong condemnation by public sentiment. Your Committee take pleasure in saying, that although there are instances in this as well as in other communities in which the considerations referred to, have not been sufficient to restrain masters from cruelty to slaves, yet these instances constitute exceptions to the general rule; and they are of opinion that there is a gradual improvement going on in this matter. We recommend, however, that this subject be kept before the community, in order to convince all, that interest, humanity and religion, alike, demand kindness to slaves, and that the law frown on those who treat their slaves inhumanly.

There is one class of our community to whom all the motives referred to, to induce us to kindness to our slaves, do not apply. Your Committee refer to our overseers. As they have no property in our slaves, of course they lack the check of self-interest. As their only aim in general is the mere crop results of the year, we can readily conceive the strong inducement they have to over-work our slaves, and here masters are often much to blame, for inadvertently encouraging this feeling in their overseers. It is too commonly the case that masters look only to the yearly products of their farms, and praise or condemn their overseers by this standard alone, without ever once troubling themselves to inquire into the manner in which things are managed on their plantations, and whether he may have lost more in the diminished value of his slaves by over-work than he has gained by his large crop. It is a well established fact, that over-work produces premature old age, bodily deformity and debility of constitution, and checks the increase of females. The master, therefore, who has to support his prematurely old, deformed and debilitated slaves, may well question the beneficial results of his large crops, especially when his only increase of slaves is by purchases at high prices. Your Committee take pleasure in referring to the fact, that those planters who are most successful in the acquisition of wealth are generally those who "make haste slow," and who will not "kill the goose, to obtain the golden egg." We are therefore of opinion, that if masters would lay less stress on the mere crop results of the plantation, and place more stress on the proper treatment of their slaves, and the systematic management of their plantations, it would correct the evil referred to. Our overseers ought to have no interest beyond that of pleasing their employers; and nothing but the most unhuman feeling on his part could induce him to treat the slaves cruelly, in opposition to the known wish of his employer. Let the master recollect, too, that he cannot relieve himself from the odium of cruel treatment to his slaves, by attempting to throw the odium on his overseer. It is his *duty* to know how his slaves are treated and to protect them against cruelty.

From the attachment which exists between the master and slave, your Committee are of opinion that an appeal to their better feelings would be sufficient in most cases to control them. They are aware, however, that this rule must have a limit, and that the law of force must have some share in the government of the negro as well as the white man. In those countries where what is called *voluntary* servitude exists, the force then is necessity. When the laborer is dependent upon his daily income for the support of himself and family; and when the loss of his wages, as is often the case, involves the starvation of his wife and children,

certainly no greater force can be applied to him than the threat of turning him off to seek his bread, without a character, or probably with a blackened one. In the management of our slaves, this cannot be, as the master is bound for their support. The master must resort to other means of control. After reason and persuasion have been exhausted without producing the desired effect, punishment of some sort must be resorted to. But this should never be carried to a greater extent than is absolutely necessary to enforce obedience to necessary commands. When this mode of discipline is adopted, your Committee do not hesitate to say, that with prudent management, prosperity on the part of the master, and happiness on the part of the slave, is the inevitable consequence. No more beautiful picture of human society can be drawn than a well organized plantation, thus governed by the humane principles of reason When the negroes are well fed, well clothed, and have not unreasonable burthens imposed on them, but are accustomed to a systematic and regular course of labor, especially if the slaves have been born and reared up in the master's household, or have long been members of his family, and hence have that strong attachment which never fails to grow up between the master and his slave in the course of time. The picture never fails to remind one of the patriarchal days when *Abraham had slaves born in his house or purchased with his money* Under such a state of things the master knows the man; the man, his master. The master feels confident that the man is attached to him, and will consult his interest. The man feels confident that the master will only require what is right of him, and will abundantly provide for all his wants as well as that of his family. When he or his children are sick, he knows that he will have his master's physician to minister to them. When he is naked, he knows he will be clothed; and when he is old, he knows that his wants will all be supplied to him in his small cottage; during winter he will be warmed by his master's fire, and clothed from his master's flock; and at all times he knows that he will be fed from his master's crib and meat house. The man looks even beyond death, and knows that when he shall have died, he will be decently buried, and his children after him provided for. When sickness and affliction happen to such a master, how anxious the solicitude of his slaves for his recovery? And when at last death overtakes the good master, the tears, the sobs and the cries of his faithful slaves point to him rather as their father than their master. This is no fancy sketch—it is a picture, the original of which we have often admired—and we venture that no more beautiful sight has ever been viewed in the countries of voluntary servitude, however great the boast of its superiority as a system of labor over slavery. Your Committee are aware that there are those who doubt the probability of a strong attachment between the master and his slave. But they are satisfied that this position is wrong, and from their experience they *know* that there are numerous cases in the Southern States where the picture drawn above is a faithful sketch of actual life.

With respect to the best mode of governing our slaves, your Committee think they cannot bring the subject to the view of the planters in a more proper shape, than by recommending to them the following or similar rules in the government of their slaves. Of course, these rules are very general, and may be extended, probably, with advantage. But your Committee, after mature reflection, are of opinion that they embrace all the general principles upon which they propose to base the government of our slaves.

Rule 1st. Never punish a negro when in a passion. No one is capable of properly regulating the punishment for an offence when angry.

2d. Never require of a negro what is unreasonable. But when you give an order be sure to enforce it with firmness, yet mildly.

3d. Always attempt to govern by reason in the first instance, and resort to force only when reason fails, and then use no more force than is absolutely necessary to procure obedience.

4th. In giving orders, always do it in a mild tone, and try to leave the impression on the mind of the negro that what you say is the result of reflection.

5th. In giving orders, be sure that you are understood, and let the negro always know that he can ask for an explanation if he does not understand you.

6th. When you are under the necessity of punishing a negro, be sure to let him know for what offence he is punished.

7th. Never act in such a way as to leave the impression on the mind of the negro that you take pleasure in his punishment—your manner should indicate that his punishment is painful.

8th. A regular and systematic plan of operation on the plantation is greatly promotive of easy government. Have, therefore, all matters as far as possible, reduced to a system.

9th. Negroes lack the motive of self-interest to make them careful and diligent, hence the necessity of great patience in the management of them. Do not, therefore, notice too many small omissions of duty.

10th The maxim of making haste slow in plantation operations, is equally applicable as in ordinary vocations of life. The meaning of which is, not by attempting to do too much, to over-work and consequently injure your hands. Recollect that the journey of life is a long, and at best, a tedious one. The traveller who wishes to make a long and safe trip, always travels in regular and moderate stages. Do not kill the goose to obtain the golden egg.

Let these, or similar rules be generally adopted, and carried out by the Southern planter, and your Committee do not hesitate to say, that although it may not stop the clamor of wicked men, who seek to make political capital out of the spirit of Abolition, yet their clamor will prove as harmless as the *owl's hoot*—even the slaves themselves will not thank them for their efforts, but laugh them to scorn.

The only food on which this fanatical spirit has heretofore been fed, is the instances in which some among us have failed to carry out the humane principles above recommended. Many of which instances have been carefully collected, properly embellished to suit the taste of old women and children, and published to the world as the legitimate fruits of slavery.

All of which, your Committee respectfully submit. JOHN A. CALHOUN, E. E. DUBOSE, VIRGIL BOBO, } Committee.

June 13, 1846.

From the Tallahassee (Fla.) Journal.

PERMANENCE.

We have often thought that one of the greatest obstacles in the way of the development of our country's resources—one of the most dangerous enemies to its progressive prosperity—is to be found in the *absence* of that which, for want of a better name, we call the principle of *Permanence*. Go where we may, how few do we find who feel that they are *settled*. Every one is talking of moving—every one believes that he will move at no distant day. Few devote themselves to the labor, however little may be required, of surrounding themselves with sources of comfort and pleasure, which they cannot carry away with them. A sense of pride and honor, too, is weakened—many caring very little to establish a character for integrity and uprightness, which will soon be left behind To the same feeling, it would be reasonable to attribute a neglect, to some extent, of the mutual kindnesses and sweet charities of life—which, under other circumstances, most would feel called upon to practice, if for nothing else, to secure the good will of those with whom themselves and children are to spend their lives.

One of the most baneful consequences of this *unsettledness* is seen in the *abuse* of the soil. The present is the all-engrossing thought. All that can be made must be made immediately, without any regard to an almost sinful waste of the energies of the land. The most exhausting modes of culture are resorted to—the fixed intention of the planter being to emigrate as soon as the soil looses its fruitfulness. The little attention, which, given to manuring and judicious husbandry, would secure even *improvement*, is denied—in a few years, fields once clothed with the richest crops, are left a desolate waste. One might suppose that a sort of kindness, even for the dull, silent, inanimate earth, (which nevertheless *does* sustain life,) would save it from such treatment To our friends, thus hacking and killing the acres which have fallen to them, merely for temporary gain, we wish we could offer a remonstrance which would not be despised. This earth was not intended for one generation, but for many. Despite Father Miller's prophecy, we think the signs are that it is to stand thousands of years yet. After we are all gone, others will have to make a living on this planet. Time will be when God's creatures, going on multiplying, will have replenished the whole earth. The farm which thou, my friend, art now heedlessly killing, may be necessary to keep alive future generations of thy own descendants. The Creator has given it to thee to possess in thy day—after thou art gone, he intends that some one else, as Carlyle hath it, shall *get existed* on it. For really thou did'st not make thy plantation, (called *thine* through courtesy,) nor was it made for thee alone, but for the generations of men who should successively fill up the years with their lives.

To all planters and others, let us say this: You have supplied yourselves with homes, the very choice of those you could get. Go to work, resolutely determined not to mar and abuse the Creator's gifts. Rather by a little attention increase the fertility of your lands, than take the very life of them by cruel usage. Determine to multiply around yourselves (with proper care, it will cost little,) comforts, and sources of innocent pleasure. Beautify your grounds with fine trees, in whose branches birds may sing, under whose shade the cool breeze may play. A little labor given, when you have leisure, will, in a few years, supply an orchard, a garden, a vineyard, which will please the eye and gratify the taste, with an offering of delightful fruits, and flowers, and vegetables. Suppose even that those who plant should not live to gather the crop—it will be there for those dearer than one's own life—for one's children. Even should you emigrate, your work will not be lost, even in a *pecuniary* point of view. There will be a reward in the increased price which the place on which this labor has been bestowed will command. The profit, to speak of nothing else, we verily believe, is clearly in favor of our argument. Take a case. A man has a thousand acres of land—he goes to work, determined to make each year all the money out of it which he possibly can, intending at the end of twenty years, or earlier, when it is worn out, to leave. He has his reward—he makes money rapidly, for awhile—afterwards not so rapidly, at length realizes very little—at last, he or his son has to leave the old home, selling it for nothing. Another, with *his* thousand acres, pursues the opposite course—does not realize so much yearly gain from his crop as the first, but secures all the while an abundant return—fertilizing, instead of impoverishing his plantation—with the comforts which has gathered around him, he finds at the end of twenty years that his land is worth twenty thousand dollars. Who is the richer of the two, even in money? Then, moreover, he who felt all the while that he was permanently settled, has surrounded himself with friends, who love him, and whom he loves—has no occasion to sunder himself from old and tried neighbors—to break the ties which bind to familiar objects, now infinitely dear from the familiarity of their faces—but may spend the declining years of a useful life in the enjoyment of the comforts which his long-continued efforts have gathered around him.

First age to small to be represented.

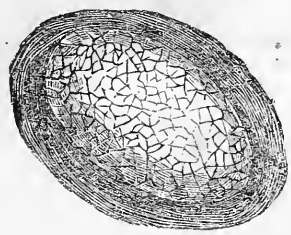
Second age of the Worm.

Third age of the Worm

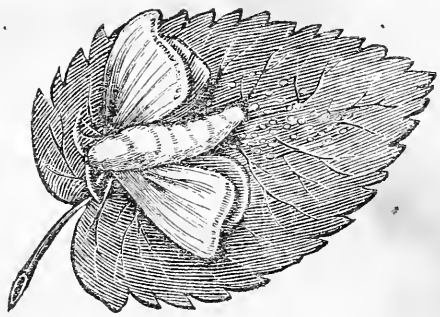
Fourth age of the Worm.

Fifth age of the Worm.

Moth.



Cocoon.



Moth and its Eggs.

AN ESSAY ON THE CULTURE AND MANUFACTURE OF SILK.

BY H. P. BYRAM, BRANDENBURG, MEADE COUNTY, KY.

EXPERIENCE of past ages has fully proved that the climate of the United States is as well adapted to the nature and habits of the silkworm, and the production of silk, as that of any other country. Several varieties of the mulberry being indigenous in our soil, and those generally used in the native country of the silkworm succeed equally well in our own soil and climate. Hence, from the nature and habits of American people, we must soon become the greatest silk growing nation on the earth. The first step towards the production of silk, is to secure a supply of suitable food for the silkworm.

Having tried all the varieties introduced into our country, I find the morus multicaulis and the Canton varieties, all things considered, most suitable for that purpose.

PROPAGATION OF THE MULBERRY.

Although the experience of some years past has rendered this subject familiar to many, yet those now most likely to engage in the *legitimate* business of silk growing may be less acquainted with the propagation of the tree. I shall give some brief directions on the subject.

Almost any soil that is high and dry, and that will mature Indian corn, is suitable for the mulberry. That, however, which is inclined to be light or sandy is the best

The morus multicaulis may be propagated by cuttings or layers, (or a good variety may be raised from the seed.) Cuttings may be of one or more buds planted perpendicularly in a light, mellow bed of good soil. They should be planted when the spring has fully opened, or about the usual time of planting corn. They may be planted in the rows, about 12 inches apart, and the rows at a sufficient distance to admit of thorough cultivation with a plow or cultivator. The ground should be kept mellow until past mid summer.

Select a suitable piece of ground for a permanent orchard. It would be well if broken up in the fall, and again plowed in the spring, and, if followed with the subsoil plow, it would be advantageous. After a thorough harrowing it should be laid off in rows each way *eight* feet by *four*, with the plow. The trees at one year old from the nursery should be taken up, the tops cut off near the roots, and one planted in each of the squares or hills.

Having tried various methods of planting and different distances, I prefer those here given. This will admit the free use of the plow and cultivator *both ways*.

In latitudes north of 38 or 40°, where land is dear, they may be planted much nearer. If a sufficient quantity of cuttings from old trees cannot at once be procured, the trees from the nursery should be taken up in the fall, and buried in a cellar, or upon the *north side* of a bank or hill, in alternate layers of trees and earth, and the whole protected by a shed from the rains of winter, as the plants seldom sufficiently mature, the first season from the cuttings, to withstand the winters of a northern climate, particularly that portion above the ground. South of 38° of latitude these precautions may not be necessary.

The Canton mulberry is a more hardy kind, resembling in some degree the varieties known as the common Italian, producing a large, full, thick leaf. This variety is propagated from seed and from layers, but does not readily strike root from cuttings.

In 1838, I procured a quantity of this seed from Canton, which produced a *variety* of plants. Those producing the greatest quantity of fruit yield an inferior leaf.

They are now propagating this variety very extensively at the silk growing establishment at Economy, Pennsylvania, which, in connection with the morus multicaulis, constitute the principle food used at this establishment.

The fruit should be gathered when fully ripe, and the seed washed out and dried. If south of the 39th parallel of latitude, they may be planted the same season. North of this, they should be planted in the following spring, in a bed of rich earth prepared as for beets or onions, and planted in drills about *eighteen inches* apart. The young plants should be thinned to the distance of from *one* to *three* inches from each other. They should be well cultivated, when they will attain the height of three or four feet the first season. In the fall, in a northern climate, the young trees should be taken up and protected during the winter, as directed for the morus multicaulis. [This is not necessary in the Southern States.]—So. CULT.

In the following spring the branches may be taken off *near* the main stem, the top shortened, and the whole tree planted, completely covering roots and the main stem from one to two inches deep. In this way two or more trees may be produced from each plant. If a full supply can be procured, the *roots* of the young plants may at once be removed to the orchard. They may be allowed to stand much nearer than the multicaulis, leaving only sufficient room for cultivation.

When seed is required it would be well to plant out a portion from the seed bed at once, as standards for this purpose, always selecting those bearing *full, heart-shaped* leaves.

The leaves of the white Italian produce a good heavy cocoon, and should always be used in the last age of the worms when other larger leaved varieties cannot be obtained.

CULTIVATION.

The mulberry orchard should be *annually* cultivated. The ground kept mellow and free from weeds until the middle of July.

The fields should be divided into three equal parts, and, after the second season from planting, one third each year should be cut down near the ground. This will cause a more vigorous growth, and an abundant crop of foliage.

FEEDING APARTMENTS.

Various plans have been proposed and adopted for cocooneries or feeding sheds for the silk worms; none of which, I think, are without objection, except a perfect laboratory, so constructed as to be able to fully control the atmosphere and temperature within. These, however, would be too expensive, and require too much skill and judgment for general adoption.

Open or shed feeding has been employed with success of late years, and for general use may be the most successful for family establishments. This, however, confines the whole business, particularly in the Northern States, to one or two crops in the season. South of Ohio more can be successfully fed.

These sheds may be cheaply made, by setting some durable posts in the ground, say from six to eight feet high, with a roof of shingles or boards. The roof should project two feet over the sides. There should be some temporary protection to the ends and sides of the shed,

perhaps the best and cheapest can be made of strong cotton cloth, (osnaburg,) three or four widths should be sowed together, with small rods across the bottom, which will answer as weights, and also as rollers, which, by the aid of a pulley, may be rolled or let down, at pleasure.

The width of the sheds must be governed by the size of the hurdles or feeding trays used. The width that I have adopted is from eighteen to twenty feet. The length according to the extent of the feeding contemplated.

Where it is designed to carry on an extensive business, a building should be constructed expressly for the purpose. It should be on an elevated situation, convenient to the mulberry orchard. There should be a cellar under the building. Any material commonly used for building may be employed. If of wood, weather-boarded and plastered. It would be well to fill up the space between the two with tan bark or unburnt brick, or something of the kind, which will render the temperature more uniform. The width of the building should be twenty or twenty-eight feet. The former admitting of two, and the latter of *three double ranges* of hurdles or trays of suitable size. The length suited to the extent of the business designed. It should be two stories high, and so constructed as to be thoroughly ventilated. There should be two double doors in each end, with doors, windows, and ventilators in the sides. The windows should extend to near the tops of the rooms. There should be sliding ventilators near the floor. The windows may be filled with oiled paper or cloth, which will admit the light and exclude the sun. It would also be important to have under each tier of hurdles, through the floor, two planks of ten inches width each, hung with hinges that they may be raised at pleasure by a pulley. Also an upright ventilator on the roof, fitted with blinds, through which a constant draft may be kept up.

In one end of the building in *each* of the two doors there should be a ventilating wheel made of thin boards, (plank,) much after the form of the wheels applied to the stern of our steam propellers. These wheels should be about two feet in diameter. They should be put in motion for a few minutes every hour, or oftener in still weather. Both may be made to turn by one crank, connecting each by bands and whirls to the main shaft.

An air furnace, such as is now employed in heating churches and other buildings, should be constructed in the cellar, and so arranged as to draw from the feeding rooms all the air necessary to supply the furnace. The air, when heated in the chamber, should be conveyed through the whole length of the rooms, in a square pipe with openings at short distances from each other, which should increase in size as they recede from the furnace. These openings may be so connected as to be all closed at once, or a valve applied at the air chamber may be used to cut off the communication of heated air when the temperature is sufficiently high in the rooms, suffering the hot air to escape outside of the building. In the last ages of the worms the furnace will be found of great benefit, even when the heat is not required in the rooms, for the purpose of drawing off and consuming the impure air of the cocoonery.

At Economy, they not only make use of air furnaces, but in an adjoining building they have a large air pump constantly in operation, connected with the cocoonery by a pipe with small openings through the length of the building. This pump is kept in motion by a steam engine.

With good eggs, when proper means have been employed for their preservation and the feeding apartments thoroughly ventilated, I do not know of a single instance where the worms have proved unhealthy.

From the conviction that proper regard had not generally been paid to the ventilation of cocooneries, in the summer of 1842 I commenced a series of experiments, by which I ascertained that the silkworm during its last age, consumed nearly its own weight of leaves daily; and that the amount of exhalations or imperceptible perspiration given off in *proportion* to the quantity of food consumed, was about equal to that ascertained to escape from a healthy man.

I found, from the most carefully conducted experiments, that the weight of one hundred thousand silkworms, about five days before their time of winding, was 458 pounds, and that they would consume daily 372 pounds of leaves,* and that their increased weight in twenty-four hours from the food consumed was 46 pounds; and that the enormous amount of 206 pounds was given off in the same time, in the form of exhalations or imperceptible perspiration alone. This, then, I think, fully explains the cause of disease complained of by many, and establishes the importance of ventilation in every possible form.

In one corner of the building there should be a hatching room, with which the furnace below should be connected so as to receive a greater or less degree of heat, as may be required, without reference to the temperature of the feeding rooms.

FIXTURES.

In fitting up the hurdles or feeding shelves for a building of twenty feet wide; it will require a double range of posts two and a half or three inches square, on each side of the centre of the room, running lengthwise, and the length of the shelves apart, in the ranges, and each two corresponding posts, crosswise of the ranges, about the width of the two shelves apart. On each double range across the posts are nailed strips, one inch or more in width and about fifteen inches apart, on which the trays or hurdles rest, which may be drawn out or slid in as may be found necessary in feeding. The aisles or passages of a building of the above width will be four feet each, allowing two feet for the width of each *single* hurdle.

The hurdles that I have used for many years are of twine net work. A frame is first made five feet long and two feet wide, of boards seven-eighths of an inch think, and one and a half inches wide. There should be two braces across the frame at equal distances of five-eighths by seven-eighths of an inch square. On a line about half and inch from the inner edge of the frame are driven tacks *nearly* down to their heads, at such distances as will make the meshes of the net about three quarters of an inch square. Good hemp or flax twine is passed around these tacks, forming a net by passing the filling *double* over and under the warp, or that part of the twine that runs lengthwise. This twine should be somewhat smaller than that running lengthwise. On a damp day the twine becomes tight; I then give the netting two good coats of shellac varnish. This cements the whole together and renders it firm and durable.

The varnish is made by dissolving a quantity of gum shellac in alcohol in a tin covered vessel, and placed near the fire. It should be reduced, when used, to the consistence of paint.

Another set of frames are made in the same way and of the same size, and covered with strong cotton or tow cloth, this is secured with small tacks. Upon these the net frames rest, which serve to catch the litter that falls through from the worms.

Hurdles made and supported in this manner admit of a more free circulation of air, and the litter is less liable to mould or ferment, and can be removed and cleaned at pleasure.

With this kind of hurdle and screen, I make use of winding frames, constructed in the following manner: A light frame is made of boards one and a half inches wide, and the length of the hurdles, and two feet and four inches wide; this is filled crosswise with thin laths about one inch apart in the clear. The manner of using these will be hereafter explained. They answer the two-fold purpose of winding frames and mounting ladders.

*Had these worms been fed in the ordinary manner they would have consumed many more leaves in the same time. But to preserve the greatest possible accuracy, through the whole experiment, they were fed rather sparingly.

The care and expense required in fitting up a house on this plan may prevent its general adoption.

The most common method that has been heretofore employed is permanent shelves, but the labor required to keep the worms properly cleaned renders this plan objectionable.

At Economy, Penn., the rearing of the silkworm is now carried on to a great extent, and more successfully than in any other part of the United States, or perhaps the world. Their houses are two stories high. The worms are fed on small trays about eighteen or twenty inches wide, and about three feet long. They are supported in the same manner as the hurdles above described, and are about six inches apart. When the worms are about ready to wind, they are transferred to the upper story, to permanent shelves about sixteen inches apart, where they form their cocoons in bunches of straw placed upright between the shelves. The worms are cleaned at least once after every moulting, and after the last, every day. For this purpose they have nets wove or knit, of cotton twine, something larger than the size of the trays, with meshes of various sizes suited to the age of the worms. For the last age they are about three quarters of an inch square. They are used without frames. When it is required to remove the worms from their litter, the nets are laid lightly over them, and then plentifully fed. When the worms have arisen upon the fresh leaves, they are removed by two persons taking hold of the four corners of the net and transferring them to clean trays, held and carried off by a third person. One hundred thousand are changed in this manner in two hours.

DESCRIPTION OF THE SILK WORM.

It will be necessary for the inexperienced culturist to have some knowledge of the forms, changes and appearances of the silkworm before he enters upon the duties of his interesting charge.

The silkworm is a species of caterpillar, whose life is one continual succession of changes, which, in due time, becomes a moth or winged insect, like others of the genus.

The time occupied in going through its different forms of existence varies in different countries—governed by climate, temperature, and the quality and quantity of the food upon which it is fed, and the nature of the particular variety of the insect.

The worm changes or casts its skin (of the common varieties) four times before it attains its full growth. These changes are called moultings, and the periods intervening between the several moultings are termed ages. When it is first hatched it is of a blackish color, which afterwards becomes lighter, varying almost daily to different shades, and in different varieties through every age, to the close of the last, or near the time of spinning, when it assumes a grayish yellow semi-transparent appearance.

Having tried all the varieties that have been introduced into the United States, those I consider the best are known as the *Chinese Imperial*, producing a large salmon colored peanut shaped cocoon; and a kind called the Peanut, producing a mixture of white and salmon colored cocoons. This variety produces a larger and more firm cocoon than any of that name that I have seen.

TIME OF HATCHING—REARING.

When the leaves of the mulberry have put forth, to the size of about an inch in diameter, it may be generally inferred that the proper time for hatching the worm has arrived.

The papers or cloths containing the eggs should then be brought out and placed in the hatching room, upon a table or trays made for the purpose. When artificial means are employed, the temperature should be *gradually* raised until the time of hatching, which will be in about ten days, to 75° or 80° of Fahrenheit's thermometer. But few worms will make their appearance on the first day, but on the second and third the most will come out; should there be a few remaining on the fourth day they may

be thrown away, as they do not always produce strong and healthy worms. When the worms begin to make their appearance, young mulberry leaves cut into narrow strips should be laid over them, to which they will readily attach themselves; these should be carefully removed and placed *compactly* upon a cloth screen or tray, prepared for them, and other leaves placed upon the eggs, for the worms that still remain, which should be passed off as before. A singular fact will be observed, that all the worms will hatch between sunrise and before noon of each day. Care should be taken to keep the worms of each day's hatching by themselves, as it is of the greatest importance to have the moultings and changes of all the worms as simultaneous as possible. It is also important that the worms that have been transferred to the trays should *not* be fed until the hatching for the day is completed, so that all may be fed equally. Young and tender leaves should be selected to feed the worms with; these should be cut with a sharp knife into pieces not exceeding a quarter of an inch square, and evenly sifted over them. They should be fed in this way six or eight times in twenty-four hours, as near as possible at regular and stated periods.

It will be impossible to lay down any definite rules for the quantity of leaves necessary for a given number of worms for each succeeding day, through every age. After a little acquaintance with their nature and habits, the intelligence and judgment of the attendant will be the best guide; they should, however, have as much as they will eat, but after a few days care should be taken not to give them more than they will generally consume, as this will increase the accumulation of litter, which will endanger the health of the worms. In the last age they eat voraciously, when they should be well supplied. A quantity of leaves should always be on hand in case of wet weather.

When the average range of the thermometer is between 70 and 80°, the several moultings will take place near the fifth, ninth, fifteenth, and twenty-second days after hatching. It may be known when the worms are about to cast their skins, as they cease to eat and remain stationary, with their heads raised and occasionally shaking them. This operation will be more distinctly observed as they increase in size, through their succeeding ages.

Assuming the above temperature as the standard, the quantity of leaves for the three first days of this (the first) age must be gradually increased at each feeding, after which they will require less at each succeeding meal until the time of moulting arrives, when, for about twenty-four hours, they eat nothing. But as it is seldom the case that all cast their skins at one and the same time, some will still be disposed to eat, when a few leaves must be *cut fine* and *sparingly* scattered over them, so that those that remain torpid may be disturbed as little as possible They must now be carefully fed in this way until it is discovered that some have moulted, when the feeding must cease altogether until the most of them have recovered. This rule must be particularly regarded through all the succeeding moultings, otherwise some of the worms will be far in advance of others; and this want of uniformity will increase throughout each succeeding age, and to the period of winding, which will not only result in great inconvenience in gathering the cocoons, but will materially injure the worms, and consequently lessen the crop of silk.

When the *greatest portion* of the worms have moulted and appear active, leaves a little wilted are laid over them, by which they are passed to clean trays. If any still remain that have moulted, they must be transferred in the same manner, by laying more leaves upon them. The remnant of worms that have not changed their skins should be left upon the litter, and added to those of the next day's moulting. By closely regarding these rules throughout the several ages, the worms will generally all commence the formation of their cocoons about the same period.

After having gone through and furnished all the worms with a quantity of leaves, it is well to go over a second time and add more where they seem to require it.

Very young and tender leaves must be given to the worms in the first age; after which older ones can be given, as they advance in age, until after the last moulting, when they should be fed upon sound full grown leaves.

After the second moulting, the leaves, where large crops are fed, may be cut by running them twice through a common *rotary* hay or straw-cutter of Hovey's, or one of a similar make.

The worms will frequently heap together and become too thick, as they increase in size; when they are fed, the leaves must be spread and the space enlarged, or they may be removed by leaves or twigs of the mulberry to places unoccupied. If they are permitted to be crowded, disease is apt to follow, and the whole crop endangered.

It will sometimes be observed, when the light falls more directly on one side of the hurdle than the other, that the worms will incline to leave that side and become crowded on the opposite, when the hurdle should be turned around.

Up to the last moulting it is best to feed the worms entirely upon the leaves of the multicaulis; after which, the Canton or white Italian should be used, if a full supply can be obtained —the former being consumed with greater avidity, and the accumulation of litter is consequently less. The Canton and Italian produce the heaviest cocoon, while the multicaulis yields a finer and stronger fibre. In pursuing this course, the advantages of both are in some degree secured.

The worms should be removed from their litter immediately after each moulting, and in their fourth age the hurdles should be cleaned a second time, and after the last moulting they should be removed at least every second day.

Where nets are not used, in the last ages the worms are changed, by laying over them the small branches of the mulberry.

Recently branch feeding, as it is termed, has been introduced with some success and with great economy of time; in the last ages of the worms care should be taken to lay the branches as evenly as possible, especially where it is designed to use twine hurdles, otherwise it will be difficult for the worms to ascend through the netting.

When the worms are about to spin they present something of a yellowish appearance; they refuse to eat and wander about in pursuit of a hiding place, and throw out fibres of silk upon the leaves. The hurdles should now be thoroughly cleaned for the last time, and something prepared for them to form their cocoons in. Various plans have been proposed for this purpose. The lath frames, before described, I prefer. They are used by resting the back edge of the frame upon the hurdle, where the two meet in the double range, and raising the front edge up to the under side of the hurdle above, which is held to its place by two small wire hooks attached to the edge of the hurdle.

A covering of paper or cloth should be applied to the lath frames. In using the hurdles and screens, I remove the screen from under the hurdle, turning the under side up; and letting it down directly upon the winding frame. This affords double the room for the worms to wind in. Lath frames of this description have advantages that no other fixtures for winding possess that I have ever seen tried. The frame resting upon the back side of each hurdle renders this side more dark, which places the worms instinctively seek, when they meet with the ends of the laths and immediately ascend to convenient places for the formation of their cocoons. From these frames the cocoons are gathered with great facility, and free from litter and dirt, and when they are required they are put up with great expedition.

Where branch feeding has been adopted by some, no other accommodation has been provided for the winding of the worms than that afforded them by the branches from which they have fed. This is decidedly objectionable as the worms are always disposed to rise until their course is obstructed above. When this is not the case, they wander about for hours upon the tops of the branches, and only descend after their strength becomes exhausted, and the result is, the production of a crop of loose, inferior cocoons. Next to lath frames, small bunches of straw afford the best accommodation for this purpose. Rye straw is preferred. Take a small bunch about the size of the little finger, and with some strong twine tie it firmly about half an inch from the butt of the straw; cut the bunch off about half an inch longer than the distance between the hurdles. They are thus placed upright with their butt ends downwards, with their tops spreading out, interlacing each other, and pressing against the hurdles above. They should be thickly set in double rows about sixteen inches apart across the hurdles. These may be preserved for a number of years.

After the most of the worms have arisen, the few remaining may be removed to hurdles by themselves. In three or four days the cocoons may be gathered. While gathering, those designed for eggs should be selected. Those of firm and fine texture with round hard ends are the best. The smaller cocoons most generally produce the male, and those larger and more full at the ends, the female insect. Each healthy female moth will lay from four to six hundred eggs. But it is not always safe to calculate on one half of the cocoons to produce female moths. Therefore it is well to save an extra number to insure a supply of eggs.

The cocoons intended for eggs should be stripped of their floss or loose tow, which consists of irregular fibres, by which the worm attaches its work to whatever place it is about to form its cocoon. These should be placed on hurdles, in a thin layer, and in about two weeks the moths will come out; always in the forepart of the day, and generally before the sun is two hours high. If laid upon a net hurdle (which is best) they will immediately fall through the meshes and remain suspended on the under side, where they are not liable to become entangled in the cocoons. As soon as the male finds the female they become united. They should be taken carefully by the wings, in pairs, and placed upon sheets of paper, to remain until near night, when the female will be anxious to lay her eggs. Then take each gently by the wings and separate them, placing the females at regular distances, about two inches from each other upon sheets of paper or fine cotton or linen cloth; these should hang over a line or be tacked to the side of the house. In two or three nights the moths will complete their laying, when they should be removed from the papers or cloths. Frequently the males appear first in the greatest numbers, some of which should be reserved each day, in case there should afterwards be an excess of females. They should be shut out from the light, otherwise they are liable to injure themselves by a constant fluttering of their wings. The female is largest, and seldom moves or flutters.

KILLING THE CHRISALIDES.

After the cocoons have been gathered, those that are intended for sale, or for future reeling, must be submitted to some process by which the moths will be killed, otherwise they will perforate and spoil the cocoons. This is done by various methods. The most simple and convenient is to spread them thinly on boards, and expose them to the direct rays of the sun. In a hot day many of them will be killed in a few hours, but they must be stirred occasionally, or some will be liable to escape the heat and afterwards come out. At Economy they place them in an air-tight box containing about ten bushels, (the box should always be full, or if not, a partition is fitted down to the cocoon,) sprinkling evenly through the whole, beginning at the bottom, about three ounces of camphor, slightly moistened with alcohol, and finely pulverized. The box is then closed, and the seams of the

top covered by pasting strips of paper over them They remain in this way about three or four days. They are then spread out thinly in an upper loft to cure, where they should be occasionally stirred. It will require some weeks to thoroughly cure them. Before camphoring, the dead and bad cocoons must be taken out, otherwise they will spoil the good ones.

When it is convenient it is best to reel as many of the cocoons as possible immediately after they are gathered, as they reel much more freely before they are exposed to the sun or dried.

SUCCESSION OF CROPS—PRESERVATION OF EGGS.

Repeated attempts have been made to feed a succession of crops of worms throughout the entire season from the same stock of eggs. In most instances success has failed to attend these efforts. When proper means are employed and due care observed, the eggs may be preserved and worms successfully raised until the feed is destroyed by the frost. In many year's experience I have never failed in this respect.

In the spring of 1840 I communicated to Miss Rapp, of Economy, my method of preserving eggs, which she immediately adopted, and has pursued it until the present time with perfect success, feeding from eighteen to twenty-five crops each year. The following is an extract of a letter from the Postmaster at Economy, dated January 19, 1843:

"Between May and September, we raised near two millions of worms, in eighteen sets, of near equal numbers, about a week apart, producing three hundred and seventy-one bushels of cocoons. The last crop hatched the 9th of September and spun the 10th of October. We found no difference in the health of the different sets. We are of the opinion that the late keeping of the eggs does not bring disease on the worms, if they are kept right, and gradually brought forward as they ought to be."

It may be remarked that the qualities of the mulberry leaf are such in the latter part of the season that as heavy cocoons will not be produced as in the first. A bushel of the first crop raised at Economy, in the season referred to, produced twenty three and a quarter ounces of reeled silk, and the last crop, wound in October, but nineteen ounces. About one month of the best part of that season of feeding was lost by the severe frost that occurred on the 5th of May, which entirely killed the young leaves, and must have materially injured the crop of the season.

My method of preserving eggs is to place them in the ice house in February, or early in March or sooner if the weather is warm. For this purpose a box or square trunk is made, extending from within one foot of the bottom of the ice to the top. This may be made in joints so that as the ice settles the upper joints may be removed. The eggs should be placed in a tin box, and this enclosed in a wood one, and suspended in the trunk near the ice. The communication of warm air should be cut off by filling the opening with a bundle of straw or hay. The eggs should be aired for a few minutes as often as once in one or two weeks, always choosing a cool dry morning; when selections for succeeding crops may be made, these should be placed in another box and gradually raised in the trunk for several days, avoiding a too sudden transition from the ice to the temperature of the hatching room.

The ice house at Economy is connected with the cellar, the bottom of the former being 18 inches below that of the latter. A long wooden box extending into the ice house, level with the bottom of the cellar floor, contains all the smaller boxes of eggs. The door of the box opening in the cellar, is kept well closed to prevent the admission of warm air. They employ another ice house, sunk deep in the cellar, with shelves gradually rising from the ice up to the top of the ground, upon which the eggs of succeeding crops are placed, and raised one shelf higher every day, until they are taken into the hatching room. The past season they have hatched about *five ounces* of eggs, or one hundred thousand worms every four days.

DISEASES OF THE SILK WORM.

The silk worm, like every other animal or insect, is liable to disease and premature death European writers have enumerated and described six particular diseases to which it is subject. But in our more congenial climate nothing is wanting to insure a healthy stock of silkworms, and a profitable return from their labors, but to give them sufficient room, a regular and full supply of suitable food, a strict regard to cleanliness, and a proper ventilation of their apartments.

In excessively hot, damp, or sultry weather, in the last age, the disease known as the *yellows* sometimes occurs. Where open feeding is adopted some fine *airslaked lime* may be sifted on the worms once or twice a day *before feeding* and the diseased and dead worms picked out and thrown away. In a regular cocoonery, properly ventilated and supplied with an air furnace, dry air should be made to circulate freely. But if the temperature is above 80 or 85° the ventilating apparatus should be constantly employed until a change of weather occurs or the disease disappears.

A feeding house should be so arranged as to cut off all communication of rats and mice from the worms and the cocoons.

REELING.

We have now arrived at another branch of the silk business, which more properly comes under the head of manufacturing. Every farmer who engages in the silk culture, in order to avail himself of an additional profit, should provide his family with a suitable reel, by the use of which, after a little experience, he will be enabled to offer his silk in market, in a form that will greatly enhance its value, and much reduce the trouble and expense of transportation. Reels can now be procured in almost any of the principal cities at a small cost, or they can be made by any ingenious farmer or carpenter. The reel now uniformly used is that known as the Piedmontese.

All attempts to improve this reel in its general principles, I believe, have failed. At Economy, however, they have made an addition which may be found useful. It consists of two pair of whirls, made of wire, in the form of an aspel to a reel, about four inches long and two and a half inches across from arm to arm, making the circumference about six inches. These whirls are set in an iron frame, and run *each* upon two points or centres. Each pair is equidistant, on a direct line, about eight inches apart, between the first guides and those on the traverse bar, instead of making the usual number of turns around each thread, as they pass between the guides on the reel. With this arrangement, each thread is taken from the basin and passed through the first guides, then carried over and around the two whirls, and where they pass each other on the top, the turns are made necessary to give firmness to the thread, then passing directly through the guides in the traverse bar to the arms of the reel, making each thread in reeling independent of the other. This enables the reeler, when a remnant of cocoons are to be finished on leaving the work, to unite both threads into one, retaining the necessary size; whereas both would be too fine if continued on the reel in the ordinary manner.

DIRECTIONS FOR REELING.

In family establishments, a common clay or iron furnace should be procured, to which should be fitted a sheet iron top, about twelve inches high, with a door on one side, and a small pipe on the opposite side to convey off the smoke; this top should retain the same bevel or flare as the furnace, so as to be about twenty inches in diameter at the top. The pan should be twenty inches square and six inches deep, divided into four apartments, two of which should be one inch larger one way than the others. They should all communicate with each other at the bottom. In large filatures, a small steam engine to propel the reels, &c., and to heat the water for reeling would be necessary.

Before the operation of reeling is commenced, the cocoons must be stripped of their floss, and assorted into three separate parcels, according to quality, or of different degrees of firmness. The double cocoons, or those formed by two or more worms spinning together, the fibres crossing each other and rendering them difficult to reel, these should be laid aside to be manufactured in a different manner.

After the cocoons have been assorted as above directed, the operation of reeling may be commenced. The basin should be nearly filled with the *softest* water, and kept to a proper heat by burning charcoal, or some other convenient method of keeping up a regular heat. The precise temperature cannot be ascertained until the reeling is commenced, owing to the different qualities of cocoons; those of the best quality will require a greater degree of heat than those of a more loose and open texture; hence the importance of assisting them. Cocoons also require less heat, and reel much better, when done before the chrisalides are killed, and the cocoons become dried.

The heat of the water may be raised to near the boiling point, (it should never be allowed to boil,) when two or three handsfull of cocoons may be thrown into one of the large apartments of the basin, which must be gently pressed under water for a few minutes, with a little brush made of broom corn, with the ends shortened. The heat of the water will soon soften the gum of the silk and thereby loosen the ends of the filaments; the reeler should then gently stir the cocoons with the brush, until the loose fibres adhere to it; they are then separated from the brush, holding the filaments in the left hand, while the cocoons are carefully combed down between the fingers of the right hand, as they are raised out of the water. This is continued until the floss or false ends are all drawn off and the fine silk begins to appear; the fibres are then broken off and laid over the edge of the basin. The floss is then cleared from the brush and laid aside as refuse silk, and the operation continued until most of the ends are thus collected.

If the silk is designed for sewings, about 25 fibres should compose a thread; if intended for other fabrics, from eight to fifteen should be reeled together; the finest silks should always be reeled from the best cocoons. The cocoons composing the threads are taken up in a small tin skimmer, made for the purpose, and passed from the large apartment of the basin to those directly under the guides. As the ends become broken they are passed back into the spare apartment, where they are again collected to be returned to the reel. The requisite number of fibres thus collected for two threads are passed, each, through the lower guides. They are then wound around each other two or three times, and each carried through the two guides in the traverse bar, and then attached to the arms of the reel. The turning should now be commenced with a slow and steady motion, until the threads run freely. While the reel is turning the person attending the cocoons must continually be adding fresh ends as they may be required, not waiting until the number she began with is reduced, because the internal fibres are much finer than those composing the external layers. In adding new ends, the reeler must attach them by gently pressing them, with a little turn between the thumb and finger, to the threads as they are running. As the silk is reeled off the chrisalides should be taken out of the basin, otherwise they obscure and thicken the water and injure the color and lustre of the silk. When the water becomes discolored it should always be changed.

If in reeling the silk leaves the cocoon in burs or bunches, it is evident the water is too hot, or when the ends cannot be easily collected with the brush, or, when found, do not run freely, the water is too cold.

A pail of cold water should always be at hand to be added to the basin as it may be required. When the cocoons yield their fibres freely the reel may be turned with a quicker

motion the quicker the motion the smoother and better will be the silk. When from four to six ounces have been reeled, the aspel may be taken off that the silk may dry. The end should be fastened so as to be readily found. Squeeze the silk together and loosen it upon the bars, then on the opposite side tie it with a band of refuse silk or yarn, then slide it off the reel; double and again tie it near each extremity.

The quality of the silk depends much upon the art and skillful management of the reeler. All that is required to render one perfect in the art of reeling is a little *practice* accompanied at the beginning with a degree of *patience*, and the exercise of *judgment* in keeping up the proper temperature of water and the threads of a uniform size.

MANUFACTURE OF PERFORATED COCOONS.

The perforated and double cocoons can be manufactured into various fabrics, such a stockings, gloves, undershirts and the like. Before the cocoons can be spun, they must be put into a clean bag, made of some open cloth, and placed in a pot or kettle and covered with soft water, with soap (hard or soft) added sufficient to make a strong suds, and boiled for about three or four hours. If they are required to be very nice and white, the water may be changed, and a small quantity more of soap added, and again boiled for a few minutes. After they are boiled, they may be hung up and drained; they should then be rinsed while in the bag, in fair water, and hung out to dry, without disturbing them in the bag When completely dry, they may be spun on the common flax wheel, by first taking the cocoon in the fingers and slightly loosening the fibres that become flattened down by boiling, and then spinning off from the *pierced end*. The silk will run entirely off leaving the shell bare.

The double cocoons may be spun in the same manner, but should be boiled separately.

True Remedy for the Embarrassment of Cotton Planters at the South and South-West.

From the Commercial Review of the South and West.

The interests of these sections are in a manner identical, their crops and mode of cultivation being similar, the only difference to be discerned is found in the greater productiveness at the present time, of the soil throughout the latter. The agricultural prospects and the doings of the planter will be considered more in reference to the latter.

Good men, and true, have devoted much attention to the agriculture of this country; they have given good and wise precepts; they have striven to change the present unpleasant state of affairs; and most assuredly have their labors been effectual. There may not be any very marked change, but there has been much improvement in the mode of managing an estate, which will in due time bear an abundant harvest. That the best is not done, that the precepts have not had full consideration, any one may see for himself; but no reasonable man could expect to change a routine of almost half a century's standing, in a few months: to change the habits of a people requires almost an age: to see the change has certainly began, is sufficient; and to show it, witness the sales of hay, pork, beef, mutton, wool, fruit, etc., from Mississippi, within the past eighteen months. The present price of cotton is too low for the cotton planter, he cannot afford to make cotton when not yielding over from $100 to $140 per hand. It matters not how this state of agricultural depression was brought about; whether it be caused by the tariff, whether by the banks loaning freely and thus causing increased product, or how; the important matter is not to quarrel about who, or what caused, but like working men apply the means to effect a change. Can a change be effected? What means should be applied? and when should they be applied? are questions open for investigation.

A writer in the third number of the Commercial Review, answers them at length; whether satisfactory to the people or not, it is not necessary to say. To strike at the root of the evil, it would be well to examine the whole matter, as the lawyer would his case, or the physician his patient, not content to rely on a few statements.

The planter is regretting his peculiar hard lot; his negroes are worked full hours, and he receives a bare pittance of the returns made to the manufacturer or to the sugar planter: he plants more cotton, works his negroes harder, drives all day and part of the night, and yet he complains. Like the nostrum vender, he will not be convinced that calomel is killing his patient, but he gives larger and larger doses. What is the result? He is compelled to pay doctors larger bills for attentions on the sick, caused by over-work; he has to pay to Kentucky larger prices for mules and horses, and hemp, the price being increased by the increased demand; he wants more meat and more bread, owing to his not having time to make them; he has to make a greater show of wealth, as his poor neighbors who make less cotton and more meat and bread, and clothing, and colts, and stock generally, are beginning to buy conveyances for their families to ride to church in; he turns off an overseer every few months, and finally laments, until he is weary, over his fate.

Should such a man be advised to hold on to his crop for better prices? Apply to the Legislature to give premiums? Make less cotton? Build up manufactories? This has been done again and again. What then counsel him to do? Examine the case well, and let a planter who has long watched the course of events, act as a kind of mentor, whilst you are making an examination. Do you not see that on this plantation the negroes are over-worked, although they are fed high; you see no small children; you hear not the cheerful song nor the laugh that comes from the happy negro. You will also please to observe the beautiful quality of the hay, put up in handsome square bales; these bales are from Ohio, and good hay it is. Do you mark the sacks that are lying there, they once contained corn that you will perceive was from a flatboat, if you will lift a sack to your nose. Here, sir, is as neat an axe helve as was ever made in Connecticut; good bridles and good collars, good back-bands, all, they cost a mere trifle. You will find excellent Lowell and good linsey, it being cheaper to buy than to make; and besides, there is nothing saved even by working at this kind of work on wet days. You will find yonder a fine, sleek, well conditioned horse, he belongs to the overseer; and near at hand you see the rough outside of a very good carriage horse, corn is too scarce to feed him with. Ah! and there goes the planter; he has just returned from a political stump harangue, where the planters have been discussing the merits of the candidates for the next Presidency. Shall we visit the house, and see the China and the silver, and the silk and lace, and extra servants? No, no! We will not enter into the sanctum of the injured one—he is an injured man. The merchant and the manufacturer have conspired to put him down. England determines to take his slaves from him: he is desponding, and cannot for the soul of him go to work like the manufacturer, or the merchant, but expects the "good old times" to return again. Have you seen enough. Can you see what is first requisite?

Let the planter set to work himself, and turn off his overseer; let him make his bread, his meat, raise a few colts and hay to feed them on; let him increase the quantity of corn and forage until he can spare a little; let him take the interest in his own business that the merchant or manufacturer must who expects success; let him learn his sons that idleness is the road to ruin; let him teach his daughters that they are not dolls or milliner girls, but that they are the future makers or marrers of this beautiful republic; let him ever remember the old saying, "the master's footsteps are manure to his land," and we think he will have less cause to repine, and more cause to think that his "lot is cast in happy places."

Good, very good, sir; you have now struck at the root of the evil, and it is to be hoped that you will enter more minutely into the particulars how all these matters should be effected.

The question in the latter part of the second paragraph are answered in a summary manner above, the answers follow as evidently as cause precedes its effect; unless there was a remedy there would be folly in talking of it. If the remedy be not found in diminishing expenses, practising frugality and industry, and thus of course diminishing the amount of cotton for sale, then there is no use to search for a remedy. And if these things can and ought to be done, then promptness should be the watchword. The merchant who controls his millions, is found attending to his business; true, he has his clerks and porters, but he is not the less diligent. The lawyer is busy with his "books" and "papers" all day and late at night. The physician cannot spare the time from his "prescriptions" and his "visits." The manufacturer, ever working "short hours," has to examine into the "state of trade," else he will lose his "market." Why then should the planter above all others be permitted to pass his days and nights in listless idleness. Has he exemption from "by the sweat of thy face, thou shalt earn thy daily bread;" or, "he that will not work, neither shall he eat." There is one thing certain, the planters of the South and Southwest must give up sloth and idleness; they must take the lesson taught by Hercules to the wagoner: "put your shoulders to the wheel." Besides this, they must pursue a more mixed course of husbandry, they have reeled long enough on the one thing, it is high time another course was pursued.

That manufactories would benefit this portion of the United States there is not a shadow of doubt; that Legislative aid, directed to developing the latent facilities of the country would, is evidently plain. That making less cotton would enhance the price is highly reasonable. But were all these done, and the present practice pursued, the improvement would be delusive. The redress to be effectual must commence at home; the improvement to be valid and permanent must start at the planter's own house.

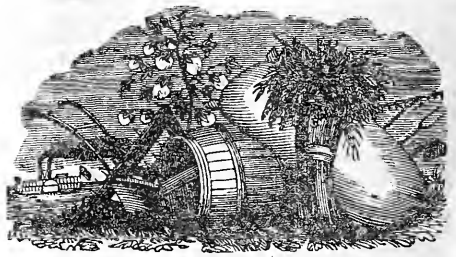
WORTH KNOWING.—For the information of those who have been plagued by bugs devouring their beans, &c., we state the following experiment of our own:

On that portion of our garden in which our beans, peas, &c. were planted this year, ashes were freely used as a manure, and not a bug has been known to trouble them, while in an adjoining garden, only a few feet distant, where ashes were not used, the bugs have been quite troublesome. Our neighbor discovering the difference and suspecting the cause, a few days since applied ashes around the roots of his beans, (for he had discovered that at his approach the bugs would invariably conceal themselves immediately at the roots,) which has acted like a charm in expelling these intruders from that part of his garden. We would advise those who are plagued with these troublesome insects, to try the remedy.—*Anderson (S. C.) Gazette.*

TO MAKE GINGER BEER.—Bruised ginger, 2 ounces; water, 5 gallons. Boil for one hour, then add, when sufficiently cool, lump sugar, 3½ pounds; cream of tartar, 1½ ounce; essence of lemon, 1 drachm; yeast ½ pint. Strain, bottle, and wire down the corks.

2. Loaf sugar, 1 pound; rasped ginger, 1 ounce; cream of tartar, ¾ ounce; boiling water, 1 gallon. Mix and cover them up close for one hour, then add essence of lemon, 15 drops; yeast, 2 or 3 spoonsful. Strain, bottle, and wire down the corks.

TO DESTROY THE BEE MILLER.—To a pint of water, sweetened with honey or sugar, add half a gill of vinegar, and set it in an open vessel on the top or by the side of the hive. When the miller comes in the night, he will fly into the mixture and be drowned.



The Southern Cultivator.

AUGUSTA, GA.

VOL. IV.. NO. 8.....AUGUST, 1846.

COL. MCDONALD'S PROPOSITION.—See the Card of the Publishers in reference to the proposition of Col. McD. on the last page of this No. of the CULTIVATOR.

Hay.

Those who have the means of making hay, will, of course, not neglect to attend to it in proper season. And that there will be abundant material wherewithal to make hay, this year, the copious rains we have had, give full assurance; particularly if planters can be persuaded that crab grass, if properly managed, will make as good hay as any other grass whatever. That crab-grass will be abundant we hear from all quarters. One anecdote connected with the luxuriant growth of this grass, we copy from the *Marion (Ala.) Republican:*

"TALL GRASS.—We heard several planters, the other day, whose crops were like all others 'smartly in the grass,' making themselves merry over the following incident: 'Sam,' said the overseer, 'I give you to this stump as your day's work.' 'Yes, master,' said Sam, 'please *shake the grass*, so I may know where you is!"

Not many years ago it would have been in the Southern States, rather a dangerous affair to a man's reputation for good sense, to say anything about crab grass as an useful article. This was proved in one instance, at least, by the fate of our deceased friend, BEVAN. He was a member of the Legislature, representing in part the county of Chatham, and was, we think, Chairman of the Committee on Agriculture in the House of Representatives. In a very able report which he drew up, he happened to recommend the careful culture of crab grass for the purpose of making hay. This brought upon him a storm of ridicule, the effect of which he never got over. Almost every body about Milledgeville looked upon him as a fool. What, said they, recommend the culture of an article that we have been all our lives striving to get rid of—that has cost us more hard work, to keep it under, than all the other nuisances about our plantations put together!—Why the man must be a fool, they said.

Those times have passed away—and with them most of the men who were the foremost of their day. Better sense on this subject prevails now; and one may venture to speak in favor of crab-grass hay without much fear of ridicule. Men are disposed to look at their interest in the proper light now, and to turn even crab-grass to a profitable account. Dr. Phillips, in a very good article, copied on page 71 of the present volume of the Cultivator, boldly recommends the careful saving of crab-grass hay; asserting, that if saved early, it will be but little, if any, inferior to timothy. He recommends to let it lie, after cutting, about a day; then to throw it up into heaps, and let it remain for two nights and a day; then to open it out to sun. It must never be spread out and exposed to rain or even dew. We have found crab-grass hay, saved thus, in every respect better than corn blades. And we do not hesitate to say, that looking to the injury and loss always occasioned to corn by pulling the blades off, it would be decidedly to the interest of every planter, when the crop of crab-grass is good, to make hay of it in preference to stripping his corn of its blades. We will go even farther, and say that, when once properly tried, it will be found to be the interest of Southern planters to prepare ground carefully and sow crab-grass seed for the purpose of making hay. If our people could be persuaded to do this we might be spared the mortification of seeing northern hay brought to our cities for sale, and even carried into the country to Atlanta to feed the stage horses on the route thence to Chehaw.

We subjoin an article on hay-making that contains hints that may be useful to those who are thinking of making hay this summer:

HAY-MAKING.

From the Albany Cultivator.

Why not adopt the same rule in regard to the time of cutting clover and grass for hay, that is followed in cutting medicinal herbs? The object in both cases is to secure the intrinsic virtues of the plant. In curing herbs, as all acquainted with the subject admit, the most proper time for cutting is when they are in full bloom; and it is also admitted that they should be cured in the shade, because if exposed to the more direct influence of the sun and air, some of their valuable properties would be evaporated.

We know there is some difference of opinion in regard to the proper time for cutting grass.—The advocates for ripe hay contend that there is more "substance" in it, and that it will "go farther" in feeding stock, than that which is cut while it is in blossom. And so we suppose there is still more "substance" in scrub oak brush, and that it would go still farther in feeding (not *supporting*) stock. Admitting there is more substance in ripe grass, is it a kind of substance which affords nourishment to animals?

Plants, at the time of flowering, contain starch, gum, and sugar; all of which are known to nourish animals. In the formation of seed, the stems and leaves are exhausted of these substances, and the substance which remains is chiefly woody fibre. But it may be said that the composition of woody fibre, starch and gum, are nearly the same. Admitted; but this does not prove that animals are able to extract nearly an equal amount of nourishment from each. The composition of the diamond, the hardest of all substances, may be said to be similar to that of starch, gum, &c.—carbon being the chief element of all; but the digestive organs of animals would hardly be able to convert the diamond into organized tissue And though woody fibre, if eaten by cattle or sheep, might "stick by the ribs," we think the ribs would not acquire from it much fat, or the system much strength.

In some parts of the country animals are actually *fattened* for market on hay alone. This may sound strange to those who feed their stock only with clover and timothy which has gone to seed; for we presume their stock was never thus fattened. But where this object is attained, the grass is cut while it is quite green, (not past bloom) and made and preserved with great care.

It is true there are some kinds of grasses—as the "spire grass," or "Kentucky blue grass," (*Poa pratensis*) which makes but little bulk in seed stalks, the chief growth consisting of leaves which spring from the root. The greatest value in fodder would be obtained in such cases by allowing the crop to grow until it had acquired its greatest bulk. This remark, however, by no means applies to clover, or timothy, or the grasses usually cultivated for hay.

In making hay, we would expose it to the sun and air no more than is required to effect its preservation, for the same reason that is above given in reference to curing herbs. Clover can be cured—indeed it is more conveniently cured—with but very little exposure to the sun. If it is not wet, and is fairly wilted, it may be put with forks, into cocks, which will weigh, when dry, about fifty pounds each, and will effectually cure. Timothy also may be cured in the same manner. The finer grasses, when thrown into a body, pack more closely and afford less space for the air; consequently, they require to be more thinly spread in the making.

Excepting with clover, which we never spread out of the swath, our practice has been to spread out the swaths as evenly as possible, if the burden is stout, as soon as the dew is off; in the afternoon, rake and cock it before the dew falls. We prefer putting it in cocks, even if it is no more than wilted, because the sweating it will there undergo in the course of twelve hours, will much facilitate the making, and if the grass is coarse and hard, it will render it much more soft. Besides, hay that has been well sweated in cock, is not liable to ferment in the stack or mow.

Whether the hay which was mowed and put in cocks on the first day will make so that it will do to go to the barn on the second day, depends of course on its condition and the state of the weather. If all appearances indicate that the hay can be made sufficiently on the second day, (and repeated observations only can determine the degree of dryness which is required,) open the cocks and shake the hay out lightly, thoroughly breaking all the locks with the fork. But it should not lie spread out later than three or four o'clock in the afternoon but should be put up again, or if dry enough, put in the barn by this time, lest it contract moisture. If from the condition of hay, or the appearance of the weather, there is a probability that the hay cannot be made enough in one day, let it remain undisturbed till the weather is favorable.

There are one or two other considerations in favor of early cutting which we omitted to notice above. It is admitted by physiologists that plants exhaust both their own energies and the soil, more in forming seed, than in the whole preceding portion of their growth. Thus when grass is suffered to ripen, it gives but little after growth, and from the exhaustion mentioned, the sward more quickly dies out.

Marl.

In the last number of the CULTIVATOR we had the pleasure of laying before our readers the conclusion of Gov. HAMMOND'S admirable letter on Marl. We hope the whole letter has been attentively read, and that it will induce every one who has marl at command to commence the use of it at once. And that it will have the farther effect of convincing those who have not marl, but can get lime, of the certain profit that must come of the liberal application of lime to their fields, whenever they can get it on reasonable terms. As to the result of marling in Gov. HAMMOND'S case, a Charleston paper says:

"Gov. Hammond's experiments this season, with marl, are attended with a remarkable degree of success. He has upwards of 2,000 acres of his soil covered with it, which is likely to prove invaluable. Every body who sees the plantation of Gov. H., says the above journal, gives up his doubts and opposition One thousand acres of pine land, said to be originally very poor, are in corn, which, from present appearances, can scarcely yield less than 20,000 bushels—this is considered an immense yield in that section, for such a body, and all lying together, *spotted* as pine land usually is, and the Governor is of opinion that the land is very far from having reached its maximum yet; the impression is, that the beneficial results of marling will show themselves advantageously for 20 years. The effect of marl on his cotton crop, is equally as favorable as it is on the corn."

European Agriculture.

We have received from the publishers at Boston, the 6th part of *Colman's European Agriculture and Rural Economy.* Its contents are: Paring and Burning; Burning Land; Admixture of Soils; Improvement of Peat Lands; Warping; An Experiment; Straightening a River; Work

in Ireland; Drainage; The Drainage of Farms; National Characteristics; Tile and Pipe Draining.

All these subjects are discussed with the author's usual ability; and are illustrated by cuts wherever these are necessary to a full understanding of the text. This number has a beautiful plate of Southdown Wethers, engraved on steel.

In addition to the intrinsic value of the matter contained in this number, there is a positive luxury in reading a book so handsomely printed. We are sorry that so small an amount of patronage has been bestowed on this work by the South.

The New England Farmer.

This most useful and excellent paper in all respects, after an existence of twenty-four years, on the 24th ult., sunk into "that sleep that knows no waking." Among all our exchanges, but few were regarded by us as equal in solid substantial usefulness to the *New England Farmer*. We are sorry, very sorry indeed, that its fate could not be avoided.

Southern Independence.

The lime mentioned in the following letter was not received until after our arrangements were made for the July number of the CULTIVATOR; we were compelled, therefore, to postpone a notice of it until now. Having examined it, we take great pleasure in saying, that, like nearly all the Southern lime we have seen that was properly burnt, it is just as good as there is any need of, either for building, or to be applied to the soil. The terms on which it is offered are stated in the letter. Every man can determine for himself whether he can afford to use it for agricultural purposes. This much is certain, that lime, being in the practice of agriculture pretty much what calomel used to be in the practice of medicine, planters can afford to give a great deal more for it than they will believe before they try it. In Delaware, it is confidently asserted, by a writer in the *Farmers' Cabinet*, that any prudent, industrious, working man, can lime and clover the worn-out land of that State, and he will receive in two years, or in two crops, as much grain and grass, over and above all which the land would have produced without lime or clover, as will pay for the lime, and cost of hauling, and spreading, and interest. Land in Newcastle county and in Cecil county, Md., bought ten years ago at $10 and $20 per acre, is now worth $40 to $50, and the owner not out one cent for improvements beyond the clear income from his improved lands. The crops will double in two years from the use of 40 bushels of lime per acre; in five years they will increase so as to sell for three times the original cost.

Can there be any doubt that, over all the Southern States, the like results will follow from the application of lime to the soil?

To the Editor of the Cultivator:

SIR:—Mr. Denmead and myself have opened a Lime Quarry in Cass, and I have directed a barrel to be sent you as a specimen. We can sell it at the kiln, unslaked, at 15 cents per bushel by the car load of 170 bushels. Persons having occasion for its use either as a manure or for other purposes, would do well to furnish their own boxes or barrels as it will greatly lessen the cost to them. Respectfuly yours,

CHARLES J. McDONALD.

Marietta, June 12, 1846.

Pennsylvania Farming.

Mr. GOWEN has long been famous for the large income he manages to get from a small farm near Philadelphia. He doubtless has a very great advantage in his convenience to the Philadelphia market, but to his very superior management is chiefly due the very extraordinary income he enjoys from a farm of only one hundred acres, and with an annual expenditure for wages of about one thousand dollars. Mr. G., in a late number of the *Farmer's Cabinet*, gives the result of his last years' operations, as follows:—

"I raised no less than one hundred and twenty tons of hay—say at $18 per ton is				$2,160 00
400 bushels of wheat, at			$1.00	400 00
300	do	rye	80	240 00
100	do	oats	40	40 00
1000	do	corn	60	600 00
500	do	potatoes	75	375 00
900	do	carrots	40	360 00
600	do	ruta-baga	25	150 00
600	do	sugar-peas	40	340 00
1500	do	turnips	12½	187 50
15 hogs slaughtered weighing 45 cwt, at $5 per cwt				225 00
Cattle, calves and pigs, sold				347 00
Actual sales of milk and butter, over				1,400 00
				$6,724 50

Independent of milk and butter, meat and vegetables, poultry and fruit for family consumption. While producing this, I maintained upon the farm upwards of fifty head of cattle, seven horses, and some thirty head of swine, and the only outlay incurred for feed during the year 1845, was about three hundred dollars of ship-stuff or middlings, which was principally fed to the horses with finely cut timothy hay, and part made into slop for the swine. The *horses had no other feed*—they get *neither corn nor oats*, and the hogs when fattening, had little else but imperfect ears of corn, a little slop, and occasionally small potatoes cooked for them.

"How can H. S. or any of his brother farmers of the old and easy-going school, make a better exhibit in proportion to their outlay and number of acres they hold? If they can, I should be pleased to see it, and to be permitted an opportunity of examining into their practice, the condition of their land, the character of their stocks, &c—while I here invite him to visit Mount Airy, and judge for himself. The stock now consists of 51 head of cows, heifers and calves, principally thorough bred Durhams; 5 brood sows, and 20 shoats, to be fed for next winter's slaughtering."

The editor of the *Farmer's Cabinet* lately spent a day with Mr. GOWEN, at Mount Airy—and in his paper for June, we have the following account of Mr. G.'s management:

"The day was spent with James Gowen, at Mount Airy, whose land lies mostly on the east side of the Germantown road, some eight miles from the city. The readers of the Cabinet, by means of its occasional communications, are well acquainted with his good farming, and its consequent results—large crops. His farm lies beautifully, and his fields of grass were splendid His hedges too, of the *Maclura* thorn, or Osage Orange, look thrifty, and promise to do well. His spring wheat, and lucerne, and oats, and corn, sown broadcast for soiling, showed that they had been put in the ground by the hand of a master, who intended they should produce well, or the failure should not lie at his door. The cattle have been so repeatedly exhibited at our agricultural shows, that the readers of the Cabinet know more of them than the editor can tell them. They are truly a splendid lot of Durhams, and though some eighteen or twenty have been lately sold, to lessen the labors of the dairy, the remainder—about thirty—make a fine display in the pasture. We remarked the milk dripping from the udder of *Dairy Maid* as she stood leisurely chewing her cud. The yard and shrubbery around the house are just what they should be, showing very plainly the delicate and guiding hand of a mistress, as well as the stronger one of a master. When you get among the outbuildings—the barns and sheds—you might naturally enough conclude you had stumbled into the village. We liked their arrangements, and the neatness of every thing connected with them. There was a place for everything, and everything was in its place. The thorough measures adopted for the saving of every thing that might be turned into manure, were very obvious. We could find no little ditch to carry from the cow-yard its juices into a neighboring ravine, but on the contrary, means were adopted to save and to absorb every liquid of the stables, and to carry into a general reservoir the slops, soap suds, &c., of the kitchen—all was saved. Our friend at Mount Airy does not act upon the idea that he can afford to waste his manures at home, and come to Philadelphia to replace them by purchase. In the different sections of stabling was the keg of plaster, and every day some was strewn on the floor to absorb the ammonia, which from its volatile nature would otherwise be wasted. The heap of poudrette, that was of course under shelter ready to be used on corn that was then being planted, was carefully covered an inch or two with plaster of paris, that every particle of its virtue might be retained."

Yankee Farming.

A traveller from the West is recording the impressions made on him during a recent visit to New England, in a series of very clever letters which are published in the *Western Farmer and Gardener*. From one of his letters we make an extract, with the hope that it may aid in correcting some of our Southern bad habits. Though his blows are aimed at the West, they are none the less palpable hits at the South.

"BOSTON, Mass., May 16, 1846.

"EDS. FAR. AND GARD:—There, sirs, I have seen the good and bad, the rich and poor sides of New England farming. Travelling through the Connecticut valley from Hartford to Hanover, takes one through the paradise of New England, and in justice to the valley, I set it down as an extremely fertile and highly cultivated tract, which renders a full return for all the skillful labor given to its tillage. But leaving Hanover, New Hampshire, and going down to Concord, gives the other side of the picture, and you may see what a stony, sterile country New England is. A vegetable garden here, looks to me much like a western gravel walk, and the pasture lots resemble stone quarries; the corn fields I could not find, for corn is not yet up, and with some little skill in guessing, I gave it up; for where under heaven, earth and moisture for corn can be found, is a mystery to me as yet.

"But there is a bright side to New England farming, from which we Westerners ought to take a lesson. I noticed chiefly great and *skillful* economy by every device that a Yankee brain can start to save a penny, or render useless things useful. This is evident in a thousand points. To use up old stumps, drawn out bodily, roots and all, they lay them roots to the road, and making secure and picturesque fences; to clear the fields of stone they chuck them together in long rows around the border, and call them stone fences; if a hill has an inch of soil upon it, a "side-hill plow" cultivates it; if the grass and moss of a peculiarly barren stone quarry won't keep a cow alive, it answers to keep a dozen sheep nibbling through half the year; if a swamp is too wet to be productive under cultivation, it yields muck for land less fortunate. There you see no rails lying round to rot and waste; no cornstalks in the feed yards; no cobs in the manger; the barns and houses are all in fine order, neat and commodious; and the wood houses at this time (spring) are already filled up with sawed and split wood, seasoning in neat piles for the summer and winter consumption, a providence that I never saw in any Western State. It would seem that a Yankee farmer does not know what an *idle* moment means: rain or shine, cold or warm, he always finds useful and appropriate labor, which is sure to tell in his favor in the final result

"I could not help thinking, with some mortification to my western pride, how different the west would appear; how much richer her resources and rapid her growth, if New England industry could be allied to her exhaustless fertility! Compare, for instance, the crop of "sod corn," as raised upon the prairies of Illinois, with the *equal* produce of a field cultivated here with hard incessant labor. In the former, a yoke

or two of oxen and a boy to drop seed, will in a week ensure a larger crop than the labor of five men, and horses to match, protracted through six or eight weeks, in the latter; in one case the labor is to plant and harvest; in the other the labor is in cultivation—hoeing, hoeing, hoeing!

"Here, too, is to be seen the triumphs of "*book farming*;" systematic drains, which a civil engineer might be proud of; judicious manures, making the land produce what nature never knew she was capable of; select orchards elegantly pruned and cleaned; convenient barns; blooded stock, and cleanly, spacious dairies. The traveller sees in the road no live stock to turn it into a cattle yard, rendering it a path perilous to a pedestrian; no swine to run over, while in many places he is surprised to see high cultivation in fields totally without fences. There seems to be two ways of protecting a farm; one to enclose the fields and the other to fence in the cattle, and I would suggest to western farmers, whether it would not take fewer rails to do the latter than are now used to enclose their mile-square farms?"

Original Communications.

Figs and Wine.

Mr. Camak—*Dear Sir:* From some observations you made on drying figs in the South, and the odious quality of the imported, and about foreign wines, I am induced to expatiate a little in the vein opened thus in respective Nos. of the Southern Cultivator.

The sandy soil of our sea coast and alluvial piny woods, are bountifully fitted for the fig culture. Not Smyrna has better adaptations. If but a solitary planter could, in Chatham, or Liberty, or Camden, be induced to forego Cotton, and turn his attention to groves of fig trees, and to their ultimate manufacture (in drums) for home consumption or exportation, the reputation of Georgia figs may rival or surpass those of the Ottoman—especially as more care and cleanliness may characterise the manipulations of the American. But the attention of the planter must be *exclusively* devoted to the fig. Having "too many irons in the fire," with alternate operations on either, does not promise success, and always ultimately throws the Agriculturist back upon his standard—cotton. I consider the failure of this State, in promoting the silk culture, that of the sugar cane, and which might ultimately befall the fig, as it now does the wine—as super-induced by the tenacity with which a hold is tivetted on cotton. That plant is never entirely abandoned by customary enterprise in our region, and so long as it interferes with novel introductions to our soil by sharing the supervision of the operative, it always in the end absorbs domination and remains alone!

The fact appears to a scrutinizing observer to be thus—that while cotton, from its long and regular cultivation, makes a steady revenue, the experiment on more novel plants promise so little, side by side with that staple of our commerce, that the enterprise is soon abandoned as comparatively hopeless, or a losing business—forgetting that thrift and wealth cannot be introduced at once, as by a Lamp of Aladdin that time, care and perseverance, under disappointments and discouragements, must have progress upon the fig, the grape, or the mulberry. When these plants can be matured by constant application of time and labor, so as to be placed *beyond contingency*, abundant wealth, or rather a sure competence, may all at once reward the industrious and the provident. Until some such perseverance as this, and abandonment of every other culture be carried upon the tide of experiment, it would be vain to look for any radical or fundamental introduction of any thing into any family, superceding cotton.

Go back a century, to the time when mankind on this continent began to plant cotton. What discouragements, what apparently insuperable difficulties environed our ancestors? Resolution and patience surmounted all—however long it was before cotton brought a single dollar to the pocket. It is a maxim that has become an axiom, that the most lucrative employment, before it can ever confer opulence upon its constant fosterers, is, for a great while, useless, or barely remunerating. The progress of things on earth is, at first always *terrapin like*. Truth, itself, moral and political, moves with the same original tardiness. How can *physical* veracity be exempt from the common lot of theories emerging into practice?

It would be far better, if people could, *like beasts*, dispense entirely with intoxicating beverages—by all means with alcohol—if men could have the simplicity of those Shepherd's, in remote times, to whom Icarius first taught the use of wine, and who, finding their heads turned, slew him as having *poisoned* them! The strongest man of whom we have *authentic* record, Samson, never was allowed wine. The loss of his seven locks, or inebriation, appears the same as respects himself. Although it is recorded, Jesus Christ made water wine, yet what evidence have we that the Heaven-wrought fluid, had any of that deleterious property, which is more or less innate with earth-born wines? Still, so far from confining wines and liquors to their natural and inevitable unsoundness—vintners, distillers and wine merchants, adulterate so much in the bulk of what is sold about this country, that men cannot be sufficiently cautious in what they drink. The seeds of disease lie in ambush in many a decanter of glistening *drink*. Some poisons don't manifest themselves till months after being taken.

I doubt if what is called our sweet wines, and sold by confectioners in every villa, has ever kissed the grape. They are poison, as you allege. Genuine Madeira and Port from ports, however disgustingly prepared in those countries, are scarcely ever drank in our State. Even these wines have some addition of sugar, brandy and flavoring substances, to render them palatable—things, those from the best kinds of grapes do not require. How necessary then that our honest people take into their own clean hands the manufacture of the pure juice of the grape—which is commonly drank in France, Spain, etc. as we do cider or ale?

To extract from a work I have on hand:—"There is perhaps no kind of merchandize in which the public is more deceived than in the qualities of ardent spirits and wines. To illustrate this, it is only necessary to observe, that Holland gin is made by distilling French brandy with juniper berries, but most of the spirits sold under that name consist only of rum or whiskey, flavored with oil of turpentine. Genuine French brandy is distilled from grapes; but the article usually sold under that denomination is whiskey or rum, colored with treacle or burned sugar, and flavored with oil of wine, or some kind of drug."

By authority of the same work, I learn that lead, copper, antimony and even corrosive sublimate are used in rendering sour wine drinkable. And, some years ago, I read of a rich London merchant, who thus so impregnated his bad wines, as to cause many thousand of his unwary customers to die of lingering and insidious maladies, whose origin not even suspicion could detect. I forget whether or not he confessed this on a death bed—but that is probable. How many die without giving this confession of the hidden horrors of their trade? How dangerous is the wine and liquor trade to health and life, even when unadulterated. How much more fatal when adulterations make up the bulk? In every suspicious case of negotiation, and more than so, our planters ought to be their own and the wine merchants of their fellow-citizens who *will* have the *viands*. Yours, J. J. F.

The Growing Crops, &c.

Mr. Camak:—I feel it due to the readers of your excellent agricultural journal, that I turn aside from the more active duties of the farm, for a short time, and lay down the hoe, or stop the plow, until I can inform them how we are moving on down here South; as there is no matter that finds its way into our agricultural journals I read with so much interest as I do the situation of the crop while growing. Judging others by myself, I will avail myself of the present leisure moment to let my brother farmers know that the growing crop, through this section of the country, looks remarkably well at this time. We have been blessed with frequent showers; indeed, there has fallen out about rain enough to keep up a sufficient moisture to keep crops growing, while there has not fallen out so much as to prevent the working the cotton and corn. We make so little small grain in this region of country that it is but little in the way of regularly going on with the cleaning the grass from the great Southern staple. This, and putting the corn crop (which is only secondary to the cotton crop in point of number of acres.) in order for the reception of rain. As for a hot sun we have that in its full power. I found it much cooler last year in Illinois in July than it is here in May.

But I said I had turned aside from the more active duties of the farm to take up the pen for a short time. I entered on the responsible duties of managing my farm on the 12th day of May, since which time, I have spent some twelve hours each day in superintending the operations of my farm in person. I am at present without a manager or overseer. While on that subject, should you be acquainted with a young man who wishes to make something of himself in the way of a farmer, that desires a birth as overseer, I would thank you to recommend him to me.

I have made an effort to raise wheat of different kinds, so as to get one that would grow in this climate that would not take the rust. While at Washington City I bought from the Patent Office some fine varieties. One of these has succeeded admirably well. I sowed all on the 23d September, and cut the whole the 25th of May. Four out of the five varieties took the rust to some extent. One escaped entirely. I am much pleased with the Multicale Rye and the Polish Oats. I have raised near a half a bushel of seed of both the past season.

A friend of mine, Maj. Lee, of this county, sent me some time past some of the Southern Hemp or Bear Grass that he prepared himself in this county. I have no doubt, from the specimen before me, but that it will fully come up to the representation given by Gov. Call, of Florida, to Gov. Moseley.

I find, at this time, the most happy effects produced by the compost manure I have spread out. I have two fields, one of forty acres, the other of thirty, both cleared the same year; both have been in cultivation seven years, the land originally poor pine land. I marled the forty acre field; the thirty acre field I put no manure on. I am thinning the forty acre field that is laid off in rows five feet wide, two feet between the cotton stalks. In the thirty acre field the rows are three and a half feet wide, and the stalks of cotton are left about twelve inches apart; so that I am flattered at this time that my experiment, for it is an experiment, in this region of country, will turn out well. Still, I know it is much too early to form any opinion as to the cotton crop. There is but little fear with us as to the corn crop. It will be far superior to last year, as we suffered much for want of rain during the months of May and June, whereas, this year, we have had quite a bountiful supply of rain.

I am, as ever, your friend,

Alexander McDonald.

Eufaula, Ala., June 16, 1846.

Smut in Oats.

Mr. Camak:—I see an inquiry made over the signature of P. W. J. in your July number of the Cultivator, the object of which was to ascertain, it possible, the cause of *smut in oats*, and a remedy for the same. He mentions that the first and most general opinion is that it is owing to unripe seed. To this opinion I agree, and as a remedy to avoid said disease in the oat, I propose to P. W. J. that he obtain seed oats two years old and sow them, and, my word for it, he will find very little, if any, smut in his crop. At all events, this is my experience; for I was, during my farming operations, as much annoyed with this disease in oats as P. W. J., and on resorting to this expedient, found, as I supposed, and think yet, a sovereign remedy for the smut in oats.

The conclusion drawn from this experiment was, that the imperfect and small seed, by reason of age, lost their germinating powers. I tried a similar experiment with my wheat (having not entire confidence in the use of blue-stone, as is generally used by farmers,) and found the same happy result. I obtained a coarse sand sieve, sufficiently coarse to let through all the small and imperfect grains, and had my seed wheat thoroughly riddled, and the result was, that there could scarcely be found a head of blasted wheat in my crop. This seed was taken from a crop

badly blasted Out of wheat seed I sowed an acre without riddling, which was so badly blasted that it was not worth cutting.

My experience is, that the most propitious time for sowing when the season comes round, for small grain, both wheat and oats, &c., is when your land is moderately dry. As for set days or moonocracy, I know nothing.

If you think these undigested hints will be of any benefit to P. W. J you can give them a place in your valuable CULTIVATOR.

Respectfully, D. G.

Busbyville, Houston Co., Ga., July 7, 1846.

Liberty County Agricultural Society.

MR. CAMAK:—In accordance with a resolution of the Liberty County Agricultural Society, I send you for publication, an Address delivered by Mr. J. B. MALLARD, before that body.

Very respectfully, W. S. BAKER, R. S.

Riceboro, June 19, 1846.

ADDRESS.—EXTRACTS.

GENTLEMEN:—The object of your Society, in the words of the second article of its constitution, is "to advance the science of Agriculture in its various departments."

The object of agriculture is to increase the quantity and improve the quality of such vegetable and animal productions of the earth, as are of use to mankind in a state of civilization.

"The perfection of agriculture, as an art, implies the obtaining of the greatest amount of products from the earth, with the least injury to the land, and at the least cost of labor."

Agriculture appears to be the first pursuit of civilized man; and though it may not, with certainty, lay claim to a divine appointment, it would be no difficult task to show that it is an art of no modern origin.

Cain was a tiller of the ground. Noah planted a vineyard and became a husbandman. Job had seven thousand sheep, three thousand camels and five hundred yoke of oxen. Cato, the Statesman, the Orator and the General, was also a practical farmer. When Lucius Cincinnatus was sought by the terrified Romans, and entreated to become their leader against the Sabines, already at the walls of their city, he was found in his field, leaning on his plow.

Augustus was not ignorant of the close connection between the cultivation of the soil and the prosperity of a country, and he engaged Virgil to write a treatise on Agriculture; on the publication of which, Italy assumed a flourishing appearance, and its inhabitants, who had been impoverished by wars, found themselves in the midst of plenty. . . . . .

Although we are placed by the beneficent Author of our existence, within reach of the means of acquiring the necessaries and comforts of life, yet the actual possession of these blessings depend, in a great measure, on our own exertions. Even the scanty subsistence of the savage can only be gained at the expense of toil and exposure. The products of his wild forests are to be gathered with labor, and he is often compelled to leave his encampment, and to wander far away in search of game.

The necessity under which we are to labor for our bread, and the desire of man, in civilized communities, to surround himself with comforts, have given rise to various pursuits. There are arts, there are trades, there are professions.

To discuss the question, which pursuit ranks highest in the scale of usefulness, would be useless and uninteresting.

Every pursuit that is honest and moral in its tendency ought to be respected and ought to be encouraged.

"Honor and shame from no (employment) rise."

Let each one, in the business that he has chosen,

"Act well his part, there all the honor lies."

No calling of honest industry ought to be despised. Who can say to his neighbor, I have no need of thee?

There was a time, it is said, when the members of the human frame became dissatisfied They could see no reason why they should toil for the benefit of the body. Imagining that the body was actually growing fat, in consequence of the large profits it was deriving from their labors, they threw themselves on their reserved rights, and formally resolved that they would not, henceforth, pay any regard to the duties with which they were taxed. The hands thought it a great imposition that they should be required to hold the plow, and that the products of their labor should accrue to the body. So they refused to carry anything to the mouth. The lips declared that they would no longer act as a safety valve to some great machine, and so they refused to open. The teeth thought it a hard case that they should find for so small toll. So they resolved to get along independent of the body.

After a while the body began to fail; but, in the meantime, the hands became shrivelled, the lips became pale, the teeth became loose, and the members became convinced that there was a close connection between themselves and the body, and that good terms between them, and a mutual exchange of products, were necessary to the growth, the vigor and activity of the whole system.

It may not be altogether untrue, that,

"Of all the money-making host,
Doctors and Lawyers well may boast,
That they shave men the cleanest."

Yet, so long as we are subject to disease, we shall need the services of those persons who make it their business to inquire into the nature of diseases, and to find out, as far as they can, the means of affording relief. And so long as our legislators use words of ambiguous meaning we shall need men whose business it is to endeavor to know the laws of the land, and to be well versed in the principles of jurisprudence. . .

But although it would be invidious to draw a comparison between the different pursuits of men in civilized life, we presume it will not be questioned that it is your pursuit, gentlemen; it is the business in which you are engaged that spreads the great and bountiful table, at which the mighty family of civilized man receives its daily food. Agriculture always has been, and Agriculture always will be, the great source of support to every community. The cotton and the wool and the flax, out of which our clothing is made, are the products of agriculture. It is the feeder of every other branch of industry. It freights the vessels of commerce and drives the spindles of the manufacturer. It makes us familiar with the works of nature, and discloses to our adoration the wonderful operations of a beneficent Providence.

To the cultivator of the ground each ear of corn and each blade of grass speak of the benevolence and skill of the great Contriver. He who can observe a shrivelled seed giving birth to a towering plant, and the earth, a if obedient to his will, in return for his labors, filling his barns with plenty, and have no feeling of love or reverence for Him, whose power is seen

"In all that breathes or moves or grows,
Unfolding every bud.
Each blossom tinging, shaping every leaf,"

can scarcely lay claim to the character of a rational being!

Agriculture is the foundation of national wealth. It fixes men in stationary dwellings, and inciting in them a love of neighborhood, of country and of home, it prompts them to undertake measures and to pursue plans for the improvement and the embellishment of their homesteads, which, while they contribute to the happiness of individuals, enrich the nation and elevate its character.

How striking is the contrast, in point of wealth, between the condition of those countries that were settled by men who gave their attention to the cultivation of the ground, and those that were settled by adventurers who were too greedy of gain to wait the slow process of agriculture. The American plantations of Elizabeth and Charles and George have grown to be rich and flourishing States, whilst Mexico and South America are poor and miserable and embarrassed

Agriculture is both a science and an art. "The knowledge of the condition of the life of vegetables, the origin of their elements, and the sources of their nourishment," says Liebig, "form its scientific basis"

It is very generally known that if a field be planted in corn for a number of years in succession, it will lose its fertility for the production of corn, and also that some land will bring corn but will not produce cotton. Now what is the reason of this? Why will a field lose its fertility for a plant that formerly flourished there? And why will one kind of plant succeed in a field where another will not grow? It is the part of science to answer these questions; and from the answers given certain rules are deduced for the exercise of the art of agriculture—certain principles on which depend the mechanical operations of farming. Science in farming without practice is worth nothing. But practice without a knowledge of the facts deduced from scientific investigations, though it may chance, in some instances, to be successful, often causes a vast expenditure of time and labor, in accomplishing that, which, with the aid of science, could be accomplished in half the time and with half the labor.

It is not our intention to intimate that no one but a man of science can be a successful planter. There are hundreds of men who are the best of planters, and know very little of the theories of science.

But because a man can sail upon the ocean, with nothing but a quadrant and a compass, and because he can take his vessel safely into port without a knowledge of the mathematical principles of navigation, does it follow that he is not indebted to the man who has made navigation his study, and who has laid down rules and invented instruments by which the mariner is enabled to calculate his distance—to take his reckoning and to ascertain his latitude?

We go into our gin-houses, and, amidst the rumbling of wheels and the whizzing of bands, we look with pleasure on the cotton, as, stripped of its seeds, it falls from the rollers. But how came we in possession of the gin? Whence its origin? Did some idle person fashion the wheels, and the cogs, and the bands, without design, and having thrown them together, there came out a machine adapted to the separation of the cotton from the seed? Or is it not the result of the application of the principles of mechanical Philosophy to a practical purpose?

There are many planters who know very little, and who care very little, about oxygen, and hydrogen, and nitrogen, and carbon, and strata, and sub-strata, and quartz, and gray wacke, and all such hard names, whose success, nevertheless, is plainly told in the number of bales of cotton they have sent to market, and the number of bushels of corn they have stored away. But may not the success of these men be owing, in a great measure, to the pursuing, on their part, of plans or methods of cultivation that have been recommended by men who have given their attention to Agricultural chemistry?

Truth, when once made known, becomes the property of all men; and an improved system of Agriculture may be pursued without knowing who introduced it.

The system of Agriculture that is now pursued in our country is very different from that which was practised by our ancestors. But if no one had introduced improvements in the implements of husbandry, and in the method of cultivating the ground, the probability is, that we should now be plodding on in the same way that our forefathers did. Now, what has been done can be done again. Improvements in Agriculture have been made, and improvements in Agriculture may yet be introduced. Knowledge has not won her last victory. The productive powers of an acre of land have not been fully tested the maximum product has not been fully reached. Discoveries may yet be made, by the aid of which, the cultivator of the earth may be enabled to make, not only two, but five blades of grass to grow where none grew before. . . . .

All real improvements must be founded on actual experiments. The process of a successful experiment must be made known before it can be extensively useful. Perhaps no better plan can be devised for arriving at the agricultural experience of men than the forming of Agricultural societies. Ministers have their assemblies—physicians have their conventions—teachers have their associations—and why should not Agriculturists have their societies?

Through the agency of these institutions, much useful and valuable knowledge may be widely diffused. "They are the means of an interchange of feelings and opinions. The cultivators of the soil are brought together. Their Agricultural improvements—their superior animals—their implements of husbandry—the products of their farms—their methods of cultivation, are subjects of inquiry, comparison and excitement."

What effect this Society is destined to have on

the Agricultural interests of our county, time alone must determine. If it awaken an interest in the subject of Agriculture—if it arouse a spirit of inquiry—if it induce men to read and to think—if it be the means of causing a more extensive circulation of the Agricultural papers of the day, particularly that excellent and useful paper that is published in our State—if it lead men to look on the profession of the planter as an honorable profession—if its meetings afford opportunities for the exercise of the social feelings—if it give rise to a noble and generous spirit of rivalry, and to topics of conversation more rational than the newspaper slangs of the day—it will have accomplished much. . . . . .

Our neighbors in Carolina are taking active measures to have analyses made of their staple products, and of the soils on which they grow. A knowledge of the component parts of our soil and of the plants we cultivate, would enable us to be better judges as to the quantity and kind of manures that ought to be applied. And we cannot but hope that the time is not far distant, when a full treasury will enable us to incur the expense of having our soils analyzed.

The dilapidated and unornamented condition of most of our plantations is a subject which calls for the attention of this Society. What is the cause? and how may it be remedied? Planters are frequently urged to make all they need within themselves, as a matter of economy. This may be wholesome advice, but it is not practiced on in those places where Agriculture has approached the nearest to perfection.

A division of labor is necessary to a succesful prosecution of the different pursuits of life. Why is it that we are obliged to bring from our Northern States our wagons and our carriages, and even the coarser articles of our furniture. It may be said that we have not skillful mechanic here. That has never been fairly tested. Can we expect a mechanic to put up a shop and furnish it with suitable conveniences and well seasoned timber, so long as the planters attempt to make their own wagons, plow-stocks and furniture? If a man have a *large number* of servants he may have among them several mechanics', and at the same time that his tradesmen are engaged, he may, with his other servants, carry on the planting of his lands. But how with the man who has only a few servants? If he take them to build houses and do all kinds of wheelright business, his lands must go uncultivated. If he plant, he must buy his wagons, his carts, &c., and he must either purchase an inferior article—the result, not of a want of ingenuity on the part of Southern mechanics, but of a refusal, on the part of many planters, to give them their patronage—or he is compelled to have them brought from abroad. For a man to meet with eminent success in any business, he must give his undivided attention to that business. And may not the dilapidated appearance of many a farm be the result of an effort on the part of its owner to pursue all sorts of business? . . .

Your calling, gentlemen, is an honorable calling. The situation of the independent farmer stands among the first for happiness and virtue. "It is one to which statesmen and warriors have retired, to find, in the contemplation of the works of nature, that serenity which more conspicuous situations could not impart. It is the situation in which the Maker of all placed his peculiar people in the land of Canaan; and it was to the shepherds abiding in the field that the glad tidings of Salvation was first announced. Health of body, serenity of mind, and competency of estate wait upon this calling, and in giving these, it gives all that the present life can bestow."

To Cure Corn for Boiling.—Take your corn, either on the ear or carefully shelled, beans in the pods, dip them in boiling water, and carefully dry them in the shade where there is free circulation of air, and our word for it, you can have as good *succatash* in February as in August.—*Farmer's Gazette.*

To Trap Rats.—Put a little valerian and cheese in the trap, and it will attract rats to the place.

Glass Pans for Milk.—It is said that milk set in glass pans will produce more cream, and that of a better quality, than when set in other pans.

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1844, and arranged to suit the Southern States.

CALENDAR FOR AUGUST.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

Complete the haying and harvesting, and have all the ground intended for wheat and rye well prepared for the ensuing crop. Many excellent farmers in Massachusetts sow their rye on light lands among their corn, harrowing it in two ways between the rows, and frequently adding clover also. This last is a good practice, as it matures the clover a year sooner; unless, as frequently happens, the drought of August and September kills the clover. A preference should, however, be given for that system of farming which enriches the soil to that degree that an approximation to the corn crop of Mr. Young may be realized, when there will be an effectual bar to the growth of rye, clover or anything else but the main crop. Some pieces of after-math or rowen may now be cut, as it is excellent food for calves, lambs and young colts, their masticators not yet having become adequate to grinding down the harder and more flinty grasses. It is questionable, however, whether it is policy to cut much rowen, as the advantage to the growth of the following season is a sufficient compensation for its loss, unless its place be supplied with a good coat of ashes or compost. Look to your lightning-rods. There are more barns and stacks burnt in July and August from this cause than in the other ten months. The gases now escaping from the fresh cut grass and grain, are excellent conductors for electricity, though not as good as an iron rod, and if you do not conduct it away by the latter, the former may conduct it into your mows and granaries, and thus the labors of the year be lost. Rutabagas are an exhausting crop, and it is well to supply the growing plant with a coating of ashes and plaster. By the first they are supplied with potash, which they take up largely, and, by the last, they are assisted in drawing nutriment from the atmosphere. Now is the time to save many of your seeds, a duty to be always attended to with the utmost caution and care. Save only the best, so that your future crops may be improving rather than deteriorating. Especially, save your own grass and clover seeds. Timothy, orchard-grass, red-top and clover, may be saved at one-fourth the expense for which you can purchase them, and you may be sure of a good clean article, which you are not when you buy it elsewhere. The second growth of clover is suitable for seed, and this may be gathered by a machine somewhat like a fine rake, drawn by a horse, which pulls off the head while the stalk remains standing. To such as do not fear excessive seeding, and it would be well if they were more numerous, the seed thus collected, may be sown without threshing and cleaning. Or it may be cut and threshed. When rotation is desired with wheat, it is a better plan to turn in the whole crop when ripe, by which the soil is more benefitted than by turning in a green crop, and the seeding is thus effectually done without additional labor.

The housewife should be careful to select the herbs during this month (and every other when in season,) as they are now mostly in blossom. They should be cut when the flower is fully matured, and dried in the shade, and when thoroughly cured, placed in tight paper bags, so as to preserve the peculiar aromatic principle from insensible escape. Many plants, by this neglect, lose their efficacy and fragrance before they are used. Medicine is frequently afforded by these at a cheaper rate and of better quality, than can be got of the apothecary. Cut, dry, and secure hemp in stacks or ricks.

Kitchen Garden.—Finish planting Savoy and other cabbages for late autumn and winter use. In the early part of the month, spinach for fall use can be sown, and that for early spring use in the latter part of the month. To endure the winter well, the latter should be sown on dry, gravelly ground. Turneps for autumn or winter use sow in the early part of the month. Plant now a crop of late celery, and continue to throw up the earth to the growing crops. Small salading can still be sown every week. If the weather be favorable, plant peas and kidney beans in the early part of the month. They may produce a good crop, although the chances are somewhat against it. Lettuce for fall use can be sown or transplanted from former seed beds. Crops of melons and cucumbers keep particularly clean, and if the weather be very dry, moderately water them in the evening. Lima and Carolina beans hoe well, and all runners that trail upon the ground cut off; they only take sustenance from the bearing vines. Attend to the manure heaps now, and keep them clear of weeds, which would otherwise ripen and grow in the ground on which the manure is placed the ensuing year.

Fruit Garden and Orchard.—This month is the most suitable time for budding apples, pears, plums, cherries, nectarines, apricots, almonds, &c., and no farmer who wishes the luxuries of life at a cheap rate should omit to select the choicest kinds of fruit buds, and insert them in his own young stocks. We have the authority of Virgil and other old writers for saying, that it is best to inoculate at the joints where the bud is taken off, rather than between them, as is usual in modern practice. Keep the ground entirely clear among the seedlings and small trees.

Flower Garden and Pleasure Grounds.—Transplant from the seedling beds the various kinds of annual, biennial and perennial flowers that were not transplanted last month. Plant your bulbs which may be out of the ground, such as crocuses, colchicums, narcissus, amaryllis, frittellaries, crown imperials, snow drops, lilies, irises and martagons. Also take up, separate and transplant the roots of pæonias, flag irises and other tuberous rooted flowers, whose leaves are decayed. Suckers that have been thrown up from fibrous-rooted plants can be taken off and transplanted. Collect and transplant flowering plants from the woods and fields, removing them with a ball of earth, and cutting off their flowering stems if there are any. Water freely all newly planted flower roots, cut down the stems of those that have bloomed, loosen the earth about potted plants, clip hedges if omitted last month. Mow the lawn once a fortnight. Keep clean and in order, the gravel walks, flower borders and shrubbery. Trim and tie up straggling plants, and inoculate all you wish to propagate in that way. Gather flower seeds as they ripen, but let them remain in the pods until the season for growing.

Plantation.—Make it a matter of special attention to have everything in readiness for picking cotton. It will require only the same time to prepare, and if done in season, there will be no detention. Therefore, examine baskets, sacks, gin-stand, running gear, presses, &c., and if anything requires repairing, do it immediately. Continue your improvements all spare time, such as grubbing up bushes, &c., repairing fences and buildings, making shingles, and scaffolds for drying cotton, and collect forked stakes and poles for curing tobacco. Top cotton early this month if it was not done last.

Cut crab-grass and throw it into heaps, there to remain for a day, and then into heavy winrows until cured. Gather fodder from late corn. Clear potatoe plantings designed for seed or slips. Thresh oats, rye and wheat for fall sowing, to provide against loss of time from cotton picking, when the seed will be wanted, and that the straw may be used to pack away pea vines.

Prepare turnep ground at once, if it has not been done before, and sow the seed about the middle of the month, rain or no rain. In the second volume of the American Agriculturist, Mr. Affleck, of Mississippi, says: "Turneps are usually sowed in August or September, on ground enriched by penning the cows and other

stock upon itsome time previously, or what is still better, on a piece of newly cleared land." Procure Dale's hybrid or any other good variety of seed, and sow half a pint to the acre. If the ground is not wet or there is not an appearance of immediate rain, it will be better to brush in the seed. The ground should be finely pulverized by the plow and harrow, then the brush will rather settle the earth to the seed than otherwise. Cut such rice as may have ripened this month, and see it carefully stacked. Be careful to shut the water off the fields ten days at least before cutting.

About the middle of this month cotton will have sufficiently ripened to burst its covering, and will bear picking. Open the branches to the sun, that a freer circulation of air may pass through them, and the cotton will open sooner, and not rot in consequence of moisture.

Cut tobacco plants as soon as they come to full maturity. This may be known by the leaves becoming mottled, coarse, and of thick texture, and gummy to the touch; the end of the leaf, by being doubled, will break short, which it will not do to the same extent when green. Do not cut it in wet weather when the leaves lose their natural gummy substance, so necessary to be preserved. When the cutting is to commence, procure a quantity of forked stakes, set upright, with a pole or rider resting on each fork, ready to support the tobacco, and keep it from the ground. The plants should be cut obliquely, even with the surface of the ground, and should receive two or three smart raps with the back of the knife, in order to remove the sand or soil from the leaves; then tying two stalks together, they should be gently placed across the riders or poles, where they should remain in the sun until they become wilted. Then they should be carried into the drying house and strung upon frames, leaving a small space between each plant that the air may circulate freely and promote the drying. As the drying advances, the stalks may be brought closer to each other, so as to make room for others. Exclude all damp air possible, and be equally guarded against the admission of drying winds, in order that the operation may not be too precipitate, except in the rainy season, when, the sooner the drying is effected the better. When the middle stem is perfectly dry, the leaves may be stripped and put in bulk to sweat. This is done more conveniently in cloudy weather, when the leaves are moist and more easily handled. The leaves should be assorted according to their qualities, and their stems kept all in one direction in the bulk, which should be two or three feet high, and of a proportionate circumference. To guard against the leaves becoming overheated, and to equalize the fermentation or sweating, after the first twenty-four hours, place the outside leaves in the centre, and those of the centre to the outside of the bulk. By doing this once or twice, and taking care to exclude the air from it, and leaving it in this state for about forty days, the tobacco will acquire the odor and other qualities desired. For further information, see Gen. Hernandez's Letter in Vol. III of the Southern Cultivator.

Inoculate trees of this year's growth; procure none but the best and choicest fruit, and the labor will not be lost. If your cabbages are eaten up by caterpillars in this month or next, be not discouraged. Although it will retard their growth until the insects are turned to moths or butterflies, they will afterwards take a fresh start and flourish well.

To make Tomato Wine.—To one quart of juice, put a pound of sugar, and clarify it as for sweatmeats. The above is very much improved by adding a small proportion of the juice of the common grape. This wine is believed to be far better and much safer for a tonic or other medical uses than the wines generally sold as port wines, &c., for such purposes. It is peculiarly adapted to some diseases and states of the system, and is particularly recommended for derangements of the liver.—*Prairie Farmer.*

From the South Carolinian.

The Right Spirit.

"There is a tide in the affairs of men, which, taken at the flood, leads on to fortune."

The fact of the business is, very few men now-a-days are willing to bide their time, to wait for the tide. Impressed with the old adage, perhaps, that "time and tide wait for no man," they are determined not to wait for them, but to "take time by the forelock," and jump in *medias res*, at the very beginning.

So thoroughly changed we seem to be, with this steam spirit of the age, that we must grow rich at once—make a perfect Aladdin's Lamp business of it.

Did our fathers, with all the advantages they possessed, do so before us? Who are the men, who during the last ten years of speculating mania and bankruptcy, have done best amongst us—have added most wealth, character and happiness of the country? The quiet substantial farmer, who, living upon his own resources, enjoying all the home luxuries of life, the contentment of a mind free from debt; has laid up small savings every year to educate his children, and by the increase of his property, has, as it were, unconsciously grown rich. Do you see that snug white house by the roadside, flanked by capacious barns, corn cribs, machine houses, and all the means and appliances to boot of a substantial citizen—to whom doth it belong? "Mr. Stick-to-his-business," an old fellow who, twenty years ago, was not worth a dollar. He never incurred a debt—he bought things at cash prices—cultivated no more land than he could cultivate well, bought property when other people had no money to buy with—sold corn when other people had to buy—raised his own stock and eat his own "hog and hominy." He has educated his family very well—now works twenty good hands, oily faced, happy negroes, who love their "own folks"—and has now moved out on the high road, where he can amuse himself seeing people pass in his old age, and entertain his friends, when they come to see him, comfortably. This is no unusual picture—no fancy sketch.

We know a great many farmers who have cultivated poor land and grown well-to-do in the world in twenty years past. They have attended to their own business, and used industry and economy But now-a-days, people cannot attend to their own business—every young man who starts in the world with eight or ten hands must have his overseer, and what is the consequence? The overseer thinks only of his reputation for making a big crop of cotton, so many bales to the hand—and the negroes and mules are run to death, as much ground as possible worked, the stock neglected—the fences unrepaired—the corn crib half filled—all for the want of not attending to one's business. Why is this? Has agriculture ceased to be (in the language of Socrates,) "an employment most worthy of the application of man, the most ancient and the most suitable to his nature, the common nurse of all persons in every age and condition of life, the source of health, strength, plenty and riches, and of a thousand sober delights and honest pleasures—the mistress and school of sobriety, temperance, justice, religion, and, in short, of all the virtues, civil and military?" Verily, one might well come to such a conclusion from the adopted method of farming, and the mania now-a-days for making *professional* gentlemen (?) out of every fellow who can decline *Dominus. Eheu jam satis!* we exclaimed! Let us mend our ways—enough of a thing is enough, in plain English, for as they say in Kentucky, "we've run the thing into the ground."

We do not belong to that class of croakers who are ever prating about our declining prosperity—and we are glad to see that we have such distinguished authority to sustain us, as the Hon. Joel R. Poinsett, who in his late Agricultural Address before the State Agricultural Society, remarked, "that South Carolina has advanced, and was advancing in wealth and comforts, if not quite so rapidly as some of her sister States which have been more zealous and energetic in availing themselves of the elements of national prosperity within their reach, still her improvements have been perceptibly progressive. If rapid and brilliant fortunes have not been made as frequently as in former years, when the State enjoyed almost a monopoly of the cotton market, still a more wholesome, durable and general prosperity is diffused over the land." Who can gainsay it? But where, in what class do we find the most of this prosperity? It strikes us, not among capitalists, large planters and speculators—they have gone to the more congenial West—"to make a spoon or spoil a horn." No, it is among the middle classes—those who, starting upon little in the world, but industry and economy for their motto, have worked their way into the upper ranks of society."

You have only to look about you to see the truth of this. How many of your neighbors who are doing well, are the sons of wealthy parents? How many rich planters live around you, who have not sent out hands to the west—and are still deeply in debt?

We are just getting awake upon the importance of manufactures. We are just beginning to think of the importance of opening channels of communication between different sections of country. We have capital among us—men of enterprize, spirit and patriotism amongst us. Neither our State nor our people are oppressed by heavy debts. We have no sin of repudiation to answer for—no broken banks to disturb our financial operations—no cholera visitations to mourn over—no Mormonisms nor Millerisms, nor Fourierisms nor Nativeisms, to bedevil us. We have lived through the Devon and Durham, the Berkshire, Grazier and Woburn, the Baden and Dutton, the Okra and Multibolled, the California and Multicaulis humbugs, and we think we are safe. A ship that could sail through all these shoals and breakers in safety, most assuredly might be trusted in a calm sea, under a clear sky, to make her way into port—unless the new charts, being set to music, as they now teach Geography, should Siren like draw her into the unfathomed caves of ocean. It is only necessary to be true to ourselves to ensure success. We have great resources if we only develope them—a soil which, if exhausted, can be easily reclaimed and made to yield a rich return for the labor bestowed upon it—sections well adapted to the growth of corn, wheat, rye and the grasses where stock might be reared profitably—a genial climate varying so, from the seaboard to the mountains, as to admit of the production of a variety of staples. We have throughout the back country abundant water power—the raw material and the surplus labor to supply the manufacturer, and the capital to put it in motion, too, if we only had the confidence and the energy to do it. We have immense beds of marl in the lower and of lime in the upper districts—inexhaustible veins of the best iron ore in the United States, and we have gold mines too—strange if with all these blessings we cannot prosper, really. Again we say, it is only necessary to be true to ourselves, "to push ahead, keep moving," to ensure success. Set ourselves earnestly to the work of reform—develope the resources of the country—push railroads and turnpikes into every corner of the State, then manufactories will spring up, and the markets of Columbia and Charleston will be supplied with the corn, rye, oats, flour, cattle and hogs of the backwoods of South Carolina instead of being dependent upon the farmers of the North and West. Away with the absurd mania of growing rich—is this all the world lives for? Would it not be better to live well, educate our children, bring them up to habits of industry and economy and start every boy upon his own hook, than with a fortune and foolish notions to become a bankrupt or a gambler. Why are we working so for posterity? What has posterity done for us? He who now can say, I owe no man anything, is rich enough to begin this world or to live in it.

A Cracker.

Pruning Orchards--Spring Pruning.

From the Western Farmer and Gardener, March 16.

Farmers are, we suppose, universally busy, about this time, in pruning their orchards. This habit of early spring pruning has been handed down to us from English customs, and farmers do it because it always has been done. Besides, about this time, men have leisure, and would like to begin the season's work; and pruning seems quite a natural employment with which to introduce the labors of the year.

It is not possible for American, but more emphatically for Western cultivators, to do worse than to pattern upon the example of British and continental authorities in the matter of orchards and vineyards. The summers of England are moist, cool and deficient in light. Our summers are exactly the reverse; dry, fervid and brilliant. The stimuli of the elements with them are much below, and with us much above par. In consequence their trees have but a moderate growth; ours are inclined to excessive growth.

Their whole system of open culture and wall training is founded upon the necessity of husbanding all their resources. To avail themselves of every particle of light, they keep open the head of their trees, so that the parsimonious sunshine shall penetrate every part of the tree. Let this be done with us, and there are many of our trees that would be killed by the force of the sun's rays upon the naked branches in a single season, or very much enfeebled. For the same general reasons the English reduce the quantity of bearing wood, shortening a part or wholly cutting it out, that the residue, having the whole energy of the tree concentrated upon it, may perfect its fruit. Our difficulty being an excess of vitality, this system of shortening and cutting out would cause the tree to send out suckers from the root and trunk, and would fill the head of the tree with rank water-shoots, or gourmands. What would be thought of the people of the torrid zone should they borrow their customs of clothing from the practice of Greenland? It would be as rational as it is for orchardists, in a land whose summers are long and of high temperature, to copy the customs of a land whose summers are prodigal of fog and rain, but penurious of heat and light.

Except to remove dead, diseased, or interfering branches, do not cut at all.

But if pruning is to be done, wait till after corn planting. The best time to prune is the time when healing will the quickest follow cutting. This is not in early spring but in early summer. The elements from which new wood is produced are not drawn from the rising sap, but from that which descends between the bark and wood of the tree. This sap, called true sap, is the upward sap after it has gone through that chemical laboratory, the leaf. Each leaf is a chemical contractor, doing up its part of the work of preparing sap for use, as fast as it is sent up to it from the roots through the interior sap passages. In the leaf, the sap gives off and receives certain properties, and, when thus elaborated, it is charged with all those elements required for the formation and sustentation of every part of the vegetable fabric. Descending, it gives out its various qualities till it reaches the roots, and whatever is left then passes out into the soil

Every man will perceive that if a tree is pruned in spring before it has a leaf out, there is no sap provided to repair the wound. A slight granulation may take place, in certain circumstances, in some kinds of plants, from the elements with which the tree was stored during the former season; but, in point of fact, a cut usually remains without change until the progress of spring puts the whole vegetable economy into action.

In young and vigorous trees, this process may not seem to occasion any injury. But trees growing feeble by age will soon manifest the result of this injudicious practice, by blackened stumps, by cankered sores, and by decay.

If one must begin to do something that looks like spring work, let him go at a more efficient train of operations. With a good spade invert the sod for several feet from the body of the tree. With a good scraper remove all dead bark. Dilute (old) soft soap with urine; take a stiff shoe brush, and go to scouring the trunk and main branches. This will be labor to some purpose; and, before you have gone through a large orchard faithfully, your zeal for spring work will have become so far tempered with knowledge, that you will be willing to let pruning alone till after corn planting.

Two exceptions or precautions should be mentioned:

1. In the use of the wash, new soap is more caustic than old; and the sediments of a soap barrel much more so than the mass of soap. Sometimes trees have been injured by applying a caustic alkali in too great strength. There is little danger of this when a tree is rough and covered with dead bark or dirt; but when it is smooth and has no scurf it is more liable to suffer. Trees should not be washed in dry and warm weather. The best time is just before spring rains or before any rain.

2. Where fruit trees are found to have suffered from the winter, as they have done severely this winter, pruning cannot be done too early, and hardly too severe. If left to grow, the heat of spring days ferments the sap and spreads blight throughout the tree; whereas, by severe cutting, there is a chance, at least, of removing much of the injured wood. We have gone over the pear trees in our own garden, and wherever the least affection has been discovered, we have cut out every particle of the last summer's wood; and cut back until we reached sound and healthy wood, pith and bark.

From the N. Y. Journal of Commerce.

Introduction of the Alpaca into the United States.

We have observed with pleasure the intention of the American Agricultural Association, at the suggestion of R. L. Pell, of Ulster county, to introduce the Peruvian sheep, or Alpaca, into the United States. This animal inhabits the slopes, table lands and mountains of Peru, Bolivar and Chili, enduring all the vicissitudes of climate. They are found 12,000 feet above the level of the sea, where they derive a subsistence from the moss, &c, growing upon the rocks, exposed to all the rigors of the elements, and receiving neither food nor care from the hand of man. The shepherd only visits them occasionally; yet such are their gregarious habits, that the members of one flock seldom stray away and mix with another, being kept in discipline by the older ones, who know their grounds, and become attached to the place of their nativity, to which they return at night, evincing an astonishing vigilance and sagacity in keeping the young ones together, and free from harm. Hence there is no need of branding them. So great is the intelligence of some leaders of a flock, that much value is on this account attached to them by their owner—part of whose duties they perform. These animals, says William Walton, are found on the snow-capped mountain Chimborazo, 11 670 feet above the sea. In this tropical region excessive heat is experienced in the month of August during the day, and towards evening the thermometer regularly falls many degrees below the freezing point, and the next morning rises from eight to twelve degrees above it, all of which changes they endure perfectly well. In other parts of the Andes mountains, during half the year snow and hail fall incessantly; whilst in the higher regions, as before noticed, every night the thermometer falls many degrees below the freezing point, and the peaks consequently are constantly covered with an accumulation of ice. The wet season succeeds, when lightning flashes traverse the clouds in rapid succession, followed not by showers, but by torrents of rain, which, after collecting, fall headlong from the rocks, leaving the slopes almost bare of soil, and spreading desolation wherever they pass. Still the Alpacas abound and thrive. Their teeth are so strong that they can easily crush and masticate vegetable substances too hard and tough for ordinary cattle. In the formation of their stomach they resemble the camel, and can undergo extreme hunger and thirst. Their meat is tender, wholesome and savory, and in that country is recommended by physicians to invalids in preference to fowls—for all declare that their meat is extremely wholesome, and as palatable as that of fat sheep in Castile. Mr. W. further remarks, that in his time there were shambles in the Peruvian towns where it was constantly sold. The quality of Alpaca meat could not fail to be good, when the cleanliness of the animal and nature of its food, and neat and delicate manner in which it feeds, are considered. They eat the purest vegetable substances, which they cull with the greatest care, and in habitual cleanliness surpass every other quadruped. The hardy nature and contented disposition of the Alpaca, cause it to adapt itself to almost any soil or situation. The best proof of its hardiness is its power to endure cold, damp, hunger and thirst—vicissitudes to which it is constantly exposed on its native mountains; while its gentle and docile qualities are evinced in its general habits of affection towards its keeper.

No animal in the universe is less affected by the changes of climate and food, nor is there any one to be found more easily domiciliated than this. Another remarkable feature in the Alpaca is, that it does not perspire; for which reason, and its peculiarly cleanly habits, the fleece does not require washing before it is taken from the back. Although often confined to regions where

> "Snow, piled on snow, each mass appears
> The gathered winters of a thousand years."

The Alpaca is free from all diseases incidental to common sheep. The chest guarded by a callosity which comes in contact with the ground while the animal reposes, and protects it from catarrhs, or other disorders disabling the limbs. In whatever point of view we contemplate the properties and habits of this animal, it will be found suitable stock for all our Western and Northern States; waste and unprofitable pastures would suffice them; they would browse on wild grasses and herbage that sheep and cattle reject.

They will yield 12 to 15 pounds of wool, which is suited for the finest class of goods, and calculated to compete with silk. It is almost as fashionable now as that fabric, being worn by her Majesty Victoria. In 1834 the quantity of Alpaca wool imported into England was 5,700 lbs., valued at $16 per quintal—in 1842, to July 9th, 1,200 000 lbs., valued at $25 per quintal—up to 1844, 8,657 164 lbs. were imported into Liverpool alone, valued at $30 per quintal. In France the wool is used instead of Angora for cashmeres and merinoes. It has been proved to be admirably well suited for mixed goods; and so firmly is its reputation now established, that there is every certainty of a growing demand, to meet which an additional quantity will annually be required. It is supposed that owing to neglect of the inhabitants of Peru, there has been an enormous decline in the number of Alpacas, which will eventually render them difficult to be obtained. We would therefore urge strenuously gentlemen of wealth—manufacturers—merchants, and agriculturists—and in fact all who feel an interest in the welfare of the country—to come forward at once and assist the Society in an undertaking so worthy of all praise. We understand the cost of bringing out three hundred will be $10,500, delivered in New York; of which sum three thousand have already been promised. We sincerely hope those engaged in an enterprise so noble will not allow the matter to flag.

To Destroy Insects.—Some one says, that the water in which potatoes have been boiled, sprinkled over plants, completely destroys all insects, in every stage of their existence, from the egg to the fly.—*New England Farmer.*

Plantation Economy.

To the Editor of the Bulletin: —Enclosed you will find a communication addressed to me, from that practical agriculturist and philanthropist, Dr Phillips, on the subject of his treatment of negroes and field work in general; showing the beneficial effects of his treatment, by the general good health of his people.

As the health of the slave is directly connected with the interest of the planter, I have no doubt you will promote the pecuniary welfare of some of your country subscribers, by inserting the Doctor's letter in your valuable and widely circulated journal.

Respectfully, J. A. Ruff.

Log Hall, Edward's Depot, Miss., April 13, 1846.

John A. Ruff:—Were you to give me the selection of any one subject, which I should devote more than even direct attention to, for the express design of benefitting my family and my country, I know not but what I should name—the treatment of our slaves. I mean not only as regards their labor, but entire treatment, whether in health or sickness, at work or when at rest, in their houses or out of doors.

You know well my situation in the swamp of Big Black, with this river running as near me as a mile, and not over some two to three miles from direct north to west by south; then Fourteen-mile creek about one mile off south of me, not one half mile from south fence until it debouches into the river; with overflowed land from the river and creek both, more than half round my premises.

You have not only much personal knowledge of the health of my family, but also from report. You also know well what my yearly crops of cotton have been for the past five or six years, and have seen yourself whether we work by night and Sundays as well as by day. Furthermore, you have been with us often enough and long enough at a time, to know somewhat of our rest from labor "when the sun is at its meridian height."

I can assure you that, taking my family of blacks, old and young, I have not had an average of a sick day for several years; I have not given ten doses of medicine excepting Jerusalem oak, leaves and seed, to children, for many months, I almost think for thirty months; one of my negroes has not taken a dose since my return here in October, 1839; some five have not lost a day each for over three years.

I know not whether my management is the cause, whether my location is favorable to negroes, or whether "I am in luck." I am thankful such are the facts, and leave others to judge.

I have had sickness, and for several seasons; but generally I could trace the effect to a cause. Sometimes I have had nearly one half complaining—immediately I inquire about their food, and seldom am I mistaken. You will, therefore, suppose that I regard food as quite material. I do, but not regardless of other things. As to food: for many years my negroes ate out of the same pot, as it were—that is, our food was exactly alike for dinner, and *their* breakfast and supper was like their dinner. Except for a very short period, occasionally, we have cooked for them for the last sixteen years, and we endeavor to give them vegetables the year round. Except at this season, they invariably have cabbage or turnep tops, all the year; sweet potatoes, Irish potatoes and garden vegetables generally, in season. I have not been out of sweet potatoes until within three days past for several years. I have now about four thousand cabbage plants out, with other vegetables in proportion. My garden contains about an acre, and my white family numbers bare two.

I do not think I feed as much meat as many do, but my negroes very seldom complain. I give some half a pound each, or a little over, it being weighed out daily. I cannot say exactly, as the number of children are about equal to my grown ones.

The great object is, to give them enough, have it well cooked, and *give them time to eat.* Negroes cannot, or will not—they do not—eat in as short time as whites; I can and do eat my meals in from ten to fifteen minutes; they will eat thirty by the watch, and oft times forty-five; I have timed them and know it to be a fact.

When the cholera raged through our land, many persons forbid the use of vegetables; a neighbor of mine, a very intelligent brother Doctor, too, cut up his cabbages, etc., and his fruit trees, I was told, to prevent his family using them. I did not change my plan. I had a few cases, but by attention and care they all recovered, and are now on the farm. As I name fruit, let me speak of it here. I have more fruit to the number of persons, than any man in Mississippi. I am very particular to prevent the plucking of unripe fruit, and catch my youngsters sometimes; but I gather enough every day at 12 o'clock to give every one as much as can be eaten. This is done daily when our peaches, melons and figs are ripe.

I direct my hands never to rise before day; they do it in the winter, and I frequently give a scolding for it. They have over and oft been all caught asleep not long before sunrise. I never work after night unless in putting away cotton, and sometimes when taking up fodder. The hands are all required to keep out of the rain. My women, never allowed to carry cotton. My rule for working is, work briskly, and when tired, to rest; keep mules in a good lively gait, about one and three-fourth miles per hour. My entire gang rest from about 1st of April, during the plowing season, for three hours, as I think hands can do a full day's work in eleven to twelve hours. The English and German term of labor is some eight to ten hours; not the latter I think.

At this time my hands go out at 5 o'clock, the call is at 11, and they return to the field at 2, they knock off at say quarter past 7, working eleven and a fourth hours. I *do* plant ten acres of cotton to the set of hands where the rows are four feet distant, or over twelve when five feet, that is my hands travel twenty miles; and I judge there are few who are pushing for thirteen to fourteen hours who do as much, and by the by, this is work without using a lash, for I am not with them a great deal, having other matters on hand.

There are very many, and old planters too, who doubt the practicability of this, but I can prove it any day. And it is reasonable, an animal—man is no more—will get tired of going for fourteen to sixteen hours, whether at work or not, but rest him three or four hours, and he will be comparatively fresh. I have ridden thousands of miles, and have jogged off as much as seventy-five miles, resting myself and horse for a few hours, and can travel any distance with more ease to my horse at five miles per hour with rest, than if going only three all the day. I have worked horses and mules here for over six years, and they are apparently as able now as ever. I dwell on this matter, for I think it a material consideration. I beg to refer to a friend of yours; he became so thoroughly convinced that this is the true course, he was resolved to try it with some sixty to eighty hands. He found at first that the time of rest was a clear loss, hands and team were so very slow; he said "they were so broke down," that they could not make a day's work; but before long, he got them up to it, and the consequence was, the Doctor's bill was trifling, several women that had not had children for years, and others that had lost, brought forth fine children. The same plan was introduced on a neighboring plantation, with equally good results.

I do not find the same need for correction as formerly, and seldom complain of my day's work. I have no doubt, I am easier satisfied, but I make decidedly better crops and with more ease.

I have for several years kept a horse for every hand, as I work everything in the breaking up season. I use the best plows I can procure, and besides, I use a variety. I presume the quality of plows will be thought as having no bearing upon the management of negroes. But I ask if a negro has to push his plow in, hold it steady, guide it and the horse, if he is not a used up negro to all intents and purposes? For this reason, with others, I use good plows, and to lighten the labor, and to make it more expeditious I use cultivators, sweeps, shovels, bull tongues, etc. etc.

I have known a planter who used only the old Carey plow; never took his horses from the plow from daylight until dark; his negroes cooked for themselves while he was asleep—and he made fair crops, was "*a good planter*"—but it he had conscience or humanity, where was it?

Another matter—I have said in a former portion of this, that I have not had on an average a sick day for several years, and that I had not given ten doses of medicine, saving for worms, for some thirty months—thinking that the use of cistern water has added no little to my former good health. I have heard others attribute the change of health to this cause, and have tried to get some accurate data; but my planting friends are careless about giving their experience, that others may profit thereby. Ere I close, allow me to say, my experience with fresh meat is unfavorable to its use, so much so, that if I could keep my negroes as straight by night as by day, I never would fear disease. I use mutton freely in fall (late) and winter, I use beef moderately in the fall and first of winter, very seldom pork in any shape. The worst years for sickness here, have been when I used barrel pork. If I use fresh meat when the weather is warm, I have cayenne pepper to season with. My doctoring is rather on the quack order, but as some of my brother M. D.'s are vending nostrums to make money by, I hope I will be excused, as I am a distanced doctor, and do not offer my prescriptions for pay. If there is nothing indicative of inflammation about the stomach or bowels, and no need for the lancet, I give when first complaining, an emetic of ipecacuanha and tartar emetic, and often give a second one the next day. I bleed when necessary. Sometimes I give a good dose of rest, and have given a good dose of leather. I use quinine freely, never less than three or four grains at a dose. Seldom give calomel. As I am always "at home," I see my negro when first attacked, and nine times out of ten an emetic with quinine to follow, cures the patient. When one that has not taken medicine for a long time gets sick, I advise the bed, hot foot bath and starvation—one here has not taken a dose, except "bacon and greens," for ten years; he was "berry bad off," "feels berry sick indeed," I bled him, sent him to bed, he grunted two days and came out as lively as an old fellow ought to.

With children, I use a weed known as Jerusalem oak, every spring and fall; I don't wait for them to get sick; there is a woman that cooks and takes care of them; when sick, warm water in cold weather, and cold water in warm weather is used freely; they take no medicine; I have not given a dose per year scarcely.

One thing I have noted as to children:—When one woman cooks, the children look badly and are complaining; put them in charge of another, and they will fatten equal to Berkshires. I mean by this, as differing from others, that they fatten remarkably well. In reading over I find one thing overlooked: when my negroes are resting from eleven to two, they are debarred washing their own clothes even; permitted to do no labor except currying, rubbing down and feeding their mules.

You requested me to write an article or so. I have done so. You are at liberty to use in any way that you think will be most serviceable to our fellows. Allow me to say, not that I have any pride as to being a writer, but proud that I was raised to work. I have been with my hands a good portion of the day, and write this after my supper. I have not the time to copy or to correct; if it is worth publishing it is worth correcting. Believe me to be sincerely, your friend, M. W. Philips.

Col. McDonald's Proposition.

The publishers send out with this number of the CULTIVATOR a printed slip, containing Col. McDONALD'S proposition, to make one of a thousand who will each furnish twenty subscribers to the 5th or next volume of the SOUTHERN CULTIVATOR, commencing on the 1st of January, 1847, to which we desire to invite the attention of every friend of the work and of Southern Agriculture. The proposition itself is a noble one, designed to promote the interest and prosperity of the whole people of the South, and is, therefore, eminently worthy of so public-spirited and enterprising an Agriculturist as Col. McDONALD. Read it, Friends of Southern Agriculture, and determine whether you will unite in this noble enterprise with Col. McD.

All those who wish to unite in this effort to improve Southern Agriculture, by the circulation of the CULTIVATOR, are requested to send their names to the publishers by the first of October.

Our object for desiring to know, as early as the first of October, is, if the enterprise succeed, that we may make our preparations accordingly, procuring a new press, types, &c , &c., so as to make the CULTIVATOR equal, IN EVERY RESPECT, to the best Agricultural paper in the Union. This, we know, is "*talking large*," but if the friends of the work will only unite and carry out Col. McDONALD'S proposition, our pledge shall be redeemed to the letter.

THE PUBLISHERS.

Back Volumes of the Southern Cultivator.

The Work complete from its commencement.

☞ VOLUMES I., II. AND III. of the "SOUTHERN CULTIVATOR," can be supplied to all who may desire the work from its commencement, at the subscription price—One Dollar each volume. The back numbers of the present volume are sent to *all* new Subscribers.

CONTENTS OF THIS NUMBER.

METEOROLOGICAL JOURNAL FOR 1846.

Kept at Athens, Ga., by Prof. McCay, of the University of Georgia.—Latitude, 33d 48m N.: Longitude, 5h 31m W.: Elevation 782 ft.

APRIL.

Days Mo.	Barometer. Sun rise.	Barometer. Sun 3 o'k p. m.	Thermometer. Sun rise	Thermometer. Sun 3 o'k p.m	Clearness of sky. Sun rise.	Clearness of sky. Sun 3 o'k p.m	Course of wind. Sun 3 o'k rise	Course of wind. Sun 3 o'k p.m	Rain in inches.
1	29.36	29.38	44	47	0	0	ne.3	ne.7	0.19
2	.35	.40	40	43	0	0	ne.4	ne.3	.09
3	.45	.55	42	54	0	1	ne.4	ne.5	
4	.59	.70	47	60	0	2	ne.4	ne.1	
5	.69	.70	47	57	1	0	c. 2	ne.3	
6	.67	.59	49	76	2	0	ne.2	se.1	
7	.59	.51	52	66	0	0	se.1	se.2	.18
8	.50	.50	51	60	0	0	se.1	se.2	.27
9	.52	.45	55	64	0	0	sw1	n. 1	
10	.47	.31	50	68	0	0	ne.1	ne.3	
11	.41	.26	57	75	0	0	c. 4	se.1	
12	.25	.17	61	66	0	0	sw2	sw2	.26
13	.20	.12	64	65	4	9	nw2	nw4	.08
14	.35	.40	65	70	10	8	n. 1	w. 1	
15	.49	.44	52	79	10	5	ne.1	ne.2	
16	.52	.63	53	79	4	5	ne.1	ne.1	
17	.55	.50	56	85	1	7	ne.1		
18	.49	.50	56	85	3	5	ne.2	se.2	
19	.62	.55	62	82	8	8	ne.2	ne.2	
20	.54	.55	53	77	8	8	ne.2	se.2	
21	.50	.49	56	75	7	2	n. 1	sw1	
22	.34	.30	62	75	0	2	sw1	sw1	.04
23	.18	.19	66	81	0	0	sw1	sw2	.20
24	.16	.18	65	80	0	0	sw1	sw3	.07
25	.16	.10	66	68	0	0	sw1		.05
26	.28	.28	60	71	0	0	ne.2	ne 1	.04
27	.95	.96	62	75	10	7	ne 5	s. 2	.27
28	.96	.03	56	73	10	6	w. 2	w. 2	2.96
29	.03	.02					se.1	sw7	
30	.02								
	29.38	29.38	54	70	average.			Tot'l rain	4.43

MAY.

Days Mo.	Barometer. Sun rise.	Barometer. Sun 3 o'k p. m.	Thermometer. Sun rise	Thermometer. Sun 3 o'k p.m	Clearness of sky. Sun rise.	Clearness of sky. Sun 3 o'k p.m	Course of wind. Sun 3 o'k rise	Course of wind. Sun 3 o'k p.m	Rain in inches.
1	29.99	29.93	54	71	10	2	w. 2	sw5	
2	99	98	56	74	10	5	w. 2	w. 2	
3	.99	.15	54	77	4	2	n. 1	w. 2	
4	.91	.21	54	80	9	7	n. 1	se.2	
5	.86	.32	53	79	1	2	s 1	s. 1	.26
6	.87	.36	63	79	0	0	sc 1	sw4	.39
7	.91	.37	63	73	0	0	sc 1	sw4	.59
8	.91	.31	64	74	0	0	0	w. 2	.07
9	.99	.17	65	72	0	0	sw2	sw4	
10	.99	.01	59	68	5	4	sw2	w. 4	
11	.91	.00	62	71	0	0	nw1	w. 5	
12	.03	.17	56	75	10	9	w. 1	w. 2	
13	.16	.30	58	78	10	10	0	s. 1	.14
14	.12	.35	61	79	10	1	0	s. 5	.14
15	.26	.34	66	77	1	0	sw2	sw3	.03
16	.32	.37	56	76	0	0	n. 2	ne 1	
17	.37	.34	56	75	8	7	n. 2	ne 3	
18	.34	.34	57	79	6	4	ne 2	ne 1	
19	.31	.34	59	83	6	7	ne 2	se.1	
20	.35	.36	63	80	6	4	s. 3	s. 2	
21	.34	.37	60	86	0	5	n. 1	n. 2	
22	.46	.16	63	86	8	5	sw1	sw1	
23	.52	.51	68	82	0	0	n. 1	c. 1	
24	.53	.52	66	86	0	3	sw2	0	
25	.50	.52	66	85	0	7	0	w. 2	
26	.39	.39	66	86	0	5	0	w. 4	
27	.50	.37	69	87	0	5	0	w. 2	
28	.39	.34	69	87	0	2	0	sw4	
29	.18	.17	74	87	5	4	sw1	sw5	
30	.17	.17	70	86	6	5	sw1	sw2	
31	.17	.17	72	85	4	4	sw1	sw2	
	.20	.25	65	86	5	4	0	sw6	
	29.27	29.29	62	79	average.			Tot'l rain	1.78

JUNE.

Days Mo.	Barometer. Sun rise.	Barometer. Sun 3 o'k p. m.	Thermometer. Sun rise	Thermometer. Sun 3 o'k p.m	Clearness of sky. Sun rise.	Clearness of sky. Sun 3 o'k p.m	Course of wind. Sun 3 o'k rise	Course of wind. Sun 3 o'k p.m	Rain in inches.
1	29.27	29.28	71	96	10	4	w. 1	sw4	.08
2	.30	.36	67	83	4	5	w. 2	w. 3	2.54
3	.36	.40	67	85	3	5	n. 1	w. 3	.03
4	.39	.36	63	82	7	2	n. 1	w. 3	
5	.34	.18	71	90	6	5	0	w. 4	
6	.18	.26	66	79	5	8	n. 1	w. 4	
7	.33	.35	64	79	0	0	n. 2	ne 1	
8	.39	.38	66	78	0	0	ne 3	ne 3	2.54
9	.33	.32	66	69	0	0	ne 5	ne 6	2.05
10	.33	.33	65	65	0	0	ne 5	ne 5	.37
11	.19	.18	64	76	0	0	ne 3	0	.08
12	.19	.20	62	75	0	2	ne 1	0	.78
13	.33	.34	66	80	6	4	0	0	.20
14	.33	.33	67	79	2	5	sw1	0	
15	.33	.32	63	78	0	5	n. 1	nw2	
16	.32	.33	66	83	10	2	n. 1	n. 1	
17	.32	.33	68	84	9	4	n. 1	s. 2	
18	.34	.37	71	85	6	3	n. 1	sw2	.28
19	.36	.36	71	85	0	4	s. 1	sw4	.68
20	.32	.32	73	82	1	4	sw4	ne2	
21	.33	.32	71	82	3	2	w. 3	w. 3	
22	.22	.37	66	77	7	0	w. 1	ne 3	
23	.24	.48	62	74	6	1	ne 3	c. 3	
24	.45	.53	54	79	6	0	ne 2	ne 3	
25	.49	.49	56	80	4	6	n. 1	w. 2	
26	.30	.40	58	80	10	8	n. 1	nw1	nw2
27	.39	.38	64	82	2	1	w. 1	w. 2	
28	.33	.38	72	85	3	5	se.2	sw2	
29	.39	.38	70	85	5	3	n. 1	sw2	
30	.34	.33	73	85	7	7	sw1	sw4	.02
	.35	.35	66	80	.			Tot'l rain	9.65

RAIN TABLE

With reference to the changes of the Moon.

Day of change.	1st day after.	2d day after.	3d day after.	4th day after.	5th day after.	6th day after.	7th day after.	Total.
	4.79	7.71	9.56	10.48	10.01	9.94	5.34	54.43
	7.43	9.55	10.31	10.48	10.01	9.94	5.34	52.99
	14	18	23	21	20	14	11	144
	5	15	17	17	17	12	9	103
	11	18	17	17	17	12	9	111
	5	10	11	13	8	6	3	70

COMPARATIVE TABLE.

	1846.	1845.
Amount of rain in April.....inches.	4.43	.12
" " May..... "	1.78	1.21
" " June..... "	9.65	.48
" " the half year.....	27.09	7.93
Average temperature in April.....deg.	62	67
" " May.....	71	67
" " June.....	73	78
" " the half year.....	69	60
Average Barometer in April.....inches.	29.38	29.37
" " May.....	29.28	29.36
" " June.....	29.34	29.47
" " the half year.....	29.29	29.39

Am't of rain for each day of the age of the moon in 1845 and 1846.....
Am t omitting light and short sh'wrs.

No. of days on which there was rain
Number omitting showers.....
No. of days on which the rain began
Number omitting showers.....

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BOTS.

The Natural History of the Horse Bee,

With a Variety of Experiments and Observations on Bots, very interesting; communicated to the Medical and Agricultural Register, in a letter from the Rev. ROWLAND GREEN, Jr., dated Mansfield, Mass., February 20, 1806.

DR. ADAMS:—Within the circle of my acquaintance there has been many horses lost by bots. This was considered as a growing evil, and prompted the writer to endeavor to trace them through their several stages. Many experiments were made to ascertain facts, from which the writer has not knowingly deviated. Imperfect as the history is, it is offered for your perusal; and if you should think it would be beneficial to the public, or be the means of leading to some more effectual remedy, you may make what use of it you shall think best.

NATURAL HISTORY OF THE HORSE BEE.

The natural history of horse-bees is involved in obscurity. Many concurring circumstances hinder us from exhibiting a complete history, their economy being different from that of other insects. They are, in a certain period of their existence, placed beyond the scope of observation; hence it is almost impossible to trace them from their first or imperfect state to their last or perfect.

They are the most contemptible of all insects; and there is scarcely any part of their existence in which they are harmless. From this circumstance, the following observations and experiments were made, hoping that they would lead to the discovery of some effectual remedy.

Many valuable horses are lost by these insects, which (while in their imperfect state,) for a season inhabit the stomach, prey upon it, destroy its texture, and introduce convulsions and death.

The insects, in their perfect state, commonly present themselves to our observation; therefore we shall begin with them in this state, and endeavor to trace their offspring through their various gradations of "youth, vigor, and old age," or until they arrive to the perfect state, which is completed in about 12 months.

The insects appear towards the last of June or first of July, but are most numerous in August and September. Few are to be seen after one or two cold evenings. In 1801 they appeared on the 22d of June, and towards the last of September following there was a severe frost, after which but very few were seen, although very numerous before.

There are two kinds, one larger than the other. The difference in their appearance is, the smaller kind have generally more down, and are of a darker color than the larger; also, the smaller have transparent wings, but the wings of the larger kind have darkish shades. The principal difference in their economy is, that the larger kind generally cast their eggs on those parts of the horse where he can bite, especially on the anterior legs, but never under the throat; whereas the smaller never cast their eggs on any part of the horse except under his throat. These last prove very troublesome to the horse, as any farmer can testify. Each kind varies in size, but in general they are about three-fourths of an inch in length. The body of the female is much larger than that of the male, it being conical, or ending in a tube, (through which the eggs are passed,) which when they fly is folded up. They are very expeditious in cementing their eggs to the hair, especially the smaller kind, which do it with incredible quickness.

The eggs are fastened to the hair by a strong cement, which neither the heat of the animal, combined with moisture, nor frost, will dissolve. They are about three-fourths of a line in length and of a light yellow color, and are always placed on the hair with the largest end downwards. One female, of a middle size, was known to contain 891 eggs—this being the last work assigned, which when concluded, the male and female perish.

It has been supposed that the horse's stomach was the only fit place for the eggs to hatch, and that the eggs were taken in by the horse's biting himself, &c., but this is not well founded. These eggs, like all others, require a certain time to hatch. The insect in miniature must have time to expand before it can burst from its confinement; and this it may do, if the atmosphere is of a proper warmth, in about 20 days* after the egg is cast; but they do not generally burst the eggs so soon, either from cold weather,† (which retards their coming out, and perhaps their growth,) toughness of the shell, or for the want of pressure. When the insect is formed, and ready to break from its prison, it seems to wait for some pressure, on which the shell is broken at the largest end; and the insect, though very small, appears to be active. When this minute creature bursts the shell by its own accord, it commonly remains for some time only a part out of the shell, waiting perhaps for the horse to take him in. They are now ready to enter the horse's stomach, which they do by the horse biting himself or others; or they may fall on the grass, and be taken in while the horse is feeding. It is probable that those of the smaller kind, under the throat, may travel to and enter the mouth, and from thence be carried into the stomach.

These young bots (commonly so called) are provided with two sharp hooks, by which, when they arrive at the stomach, they take hold, and there prey upon the horse until they arrive to their full growth: but fortunately very few come to maturity, most are destroyed in their infancy; yet it is too often the case that too many remain consistent with the life of the animal. When they are full grown, they are about three-fourths of an inch in length, and about one-fourth of an inch in thickness at the larger end, which has every appearance, to the naked eye, of being the seed of the insect, but the reverse of this is true. At the smaller end (which is somewhat pointed,) are the two hooks by which they hold fast. They are covered with a thick tough skin, with ten folds or rings, which seem to be a chain of annular muscles, whose fibres being contracted render the rings more narrow than before, and by these means they move from place to place, stretching forwards and taking hold with the hooks, and then contracting themselves, which contraction draws them onwards; then unfasten and stretch again, and so on. In those rings, except the three posterior, are set numerous small sharp points or thorns, projecting backwards, which prevent them from slipping back when moving.

They penetrate deep into the stomach, forming holes in it, and there hang by their hooks, which are exceedingly sharp. If they at any time lose their hold they immediately catch again. Not any part of the stomach is exempted from them; but they are most numerous near the passages into and out of the stomach, where they many times place themselves in great order. They are of all insects the most tenacious of life, at this period; and at this time it is that they prove so destructive to horses. Those horses that die of bots, most commonly die in the months of February, March or April; however, this depends on the number and growth of the bots, and the injury done to the stomach. How long it is necessary for them to dwell in the stomach is unknown; but in the months of May, June and July, especially the two latter, they pass the intestines and immediately seek refuge in the earth, at an uncertain depth, according to the hardness of the soil. At this time they are of a light color. The second day after they go into the earth they become contracted in length, less active, and of a light mahogany color. In one or two days more, stiff, hard, and the color darker:—they are now rather more than half an inch in length, and nearly one-fourth of an inch in diameter, oblong, motionless, and the points and hooks almost obliterated. They do not cast off the skin, (which becomes a shell,) as many other insects do, when they pass into the chrysalis or aurelian state. The wings when formed are folded up, but expand when they arise to new life. In thirty days after they enter the earth, the bee or perfect insect breaks the shell near its smallest end, and comes out a renovated creature; "everything is changed, all its powers are new, and life to it is another thing." With certain individuals there is some variation as to the length of the aurelian period; from certain causes it may be protracted beyond the usual period. They in many respects resemble the honey bee, especially when flying; they are of a lighter color, and have not the tongue necessary to draw honey from flowers. It is probable they eat not in the perfect state, being doomed only to the continuation of their species. Their legs are six in number. They are not active in the night. A further description perhaps is not necessary.

General Symptoms of Bots in Horses.—Sometimes horses which are hard worked discover no apparent symptoms until death. In young horses the symptoms are generally better ascertained. In general the horse loses flesh, coughs, eats but sparingly, bites his sides, and sometimes with violence. These symptoms continue and increase for a longer or shorter time, according to the violence of the case, and then a discharge from the nose commonly takes place; and at length stiffness of the legs and neck, staggering, laborious breathing, convulsions and death.

Appearance on Dissection.—Bots in abundance collected near the passages into and out of the stomach, and of various sizes, according to the time of their residences there. The texture of the stomach penetrated and greatly injured. The internal coat of the stomach appears thickened and preternaturally hard on those parts where the greatest injury is done. In four out

*September 12, 1802, placed a number of eggs (just cast,) in a moderate temperature of heat; on the 30th four hatched, and on October 2d, two more came out by pressure; others hatched not so soon.

†January, 1802, after severe frosty weather, eggs were taken from a horse and placed in a warm room; some hatched in five days, others in twelve. Eggs cast in September may not hatch until the spring following.

of five dissections the lungs were found greatly inflamed; some parts in a state of suppuration, others in a putrescent state. The one whose lungs were not marked with inflammation, was a young horse of two years old, whose lungs had never been injured by hardships.

Query.—Why this inflammation, &c., on the lungs?

The irritation arising by the action of bots in the stomach, may produce a general inflammatory disposition in the system: but as the lungs of horses, by hard usage, are more predisposed to inflammation and its consequences than any other given part of the body; the inflammation fixes there, and in many (if not most) instances seems to be the immediate cause of death.

Experiments to remove Bots from the Stomach.—Aloes, rum, mercury, jalap, brine, linseed oil, pepper, tincture of tobacco, decoction of pink root, &c., are all ineffectual. This will not appear strange when we consider how tenacious they are of life. Nothing is more injurious than rum, and other heating things, to the irritable state of the stomach, whose texture is nearly perforated in numerous places.

Almost every farmer in Massachusetts has some specific, and frequently one of the above named, or those of less consequence. A farmer's horse sickens with cold, or pain in the stomach, from hard travelling perhaps: he asks his neighbor, what is the matter? He answers, the bots. What shall I do? Give him rum. The rum is given, and the horse recovers immediately. Well, what is next? Why, rum has cured the bots. In like manner other things obtain credit for killing bots.

Experiments to make Bots let go their hold without the Body.—The stomach laid open, the following things were applied to no effect, but in some instances they appeared to hang the stronger—rum, brine, lime, fish oil, British oil, burnt alum, corrosive sublimate, spirits of turpentine, tincture of aloes, decoction of tobacco, pepper, volatile spirit, elixir camphor, weak elixir vitriol, &c. &c. Actual fire would cause, them to let go, although not in all cases, sometimes certain individuals would cling the faster, and die like a good soldier at his post, before they would relinquish their hold. They will live hours after they are considerably scorched by a candle. Strong vitriolic acid would immediately cause them to let go their hold. This acid, joined with oil or water, (equal parts,) would answer the purpose, though not so effectually as the acid by itself. This acid was found to be more effectual than aqua fortis.

Experiments to destroy Bots without the Body.—The following experiments were made at different times, and on bots that were three quarters grown, or more.

		h. m.	
Immersed in Rum,	lived	25	others not so long.
Decoction of Tobacco,	lived	11	others not so long.
Strong elixir vitriol,	lived	2 18	
Volatile spirits,	lived	56	
Spirits of turpentine,	lived	45	
Essential oil of mint,	lived	1 5	
Decoction of pink root,	lived	10	
Fish oil,	lived	49	
Linseed oil,	lived	10	
Solution of nitre,	lived	2	no effect.
Elixir proprietatis,	lived	10	no effect.
Beef brine,	lived	10	no effect.
Solution of indigo,	lived	10	no effect.
Elixir camphor,	lived	10	no effect.

The experiments which had no effect were discontinued at the expiration of the time specified. Bots cannot endure the cold so intense as to freeze.

Preventive Means.—Scrape off the eggs when laid on the horse, every eight or ten days. A much longer interval will answer the purpose, even once in twenty days; but there is a greater certainty of destroying the whole in short intervals, as some may be overlooked at one time and not at another. This practice must be continued through the season of them, and may be performed with ease with a sharp knife. The eggs should not be scraped off where the horse can feed, as in that case the young bots might be taken in. It is difficult to remove those eggs laid under the throat with a knife, but they may be destroyed with a hot iron, made for that purpose.

Palliative Means.—From what has been said, it appears exceedingly difficult to remove bots from the stomach; they are covered as with a coat of mail, and seem to be proof against anything that can be thrown into the stomach with safety.

As no certain method has been found effectual in removing them from the stomach, the whole indication seems to be to remove irritation and inflammation, and this to be done by blood-letting and a free use of mild oils. Blood-letting has a tendency to remove the inflammatory disposition, and oils lubricate the fibres of the stomach, and tend to obviate the effects of the stimulus which produces inflammation and death. However, all this ought to be done in the early stages, and even then the event is very uncertain.

In most instances it appears that the immediate cause of death was the local affection in the lungs; and in most instances where the local affection of the lungs did not exist, it appears that the irritation occasioned by the bots introduced convulsions ending in death.

When the lungs are much affected death is always certain; but in those instances where the lungs are not affected, there is considerable probability, that by blood-letting and a free use of oils, the effects of the insects may be warded off for some time, perhaps long enough for them to come to maturity, at which time they cease to act.

From Thaer's Principles of Agriculture.

RYE.

Secale cereale (common rye.) Of this grain we have but one species, and all its numerous varieties are distinguished by no botanical characteristic, but merely by some difference in their nature, occasioned by peculiarities in the mode of cultivation.

Autumnal and spring rye acquire the properties that give rise to these appellations, in the same way as autumnal and spring wheat do; we have already described this. The following are the properties of autumnal rye: It remains longer in the ground, grows more bushy, and does not put forth its stems or seed stalks until late in the season. We have one variety which came originally from the Russian provinces on the shores of the Baltic, and which has all the properties of autumnal rye. Those varieties known by the names of Archangel Rye, Norwegian rye, St. John's Rye, &c., are one and the same, and no dissimilarity between them can be discovered.

I cannot yet make up my mind whether or not the kind termed Wallachian rye is of a different nature. It is more than probable that there has been some mistake respecting it; for fifty years ago Silberian barley (hordeum cæleste,) was regarded as a species of rye, and called Wallachian rye; and not six years ago some of it was sent to me under that name. The real Wallachian rye has no distinguishing characteristic. Every kind of grain which is for some years subjected to a mode of cultivation similar to that pursued in gardens, and the seed of which has been carefully selected, undergoes some changes in its nature; but it is not difficult to foresee that when it comes to be again cultivated in the open field, the existence of these alterations will be of short duration.

That kind of rye which comes to us from the Russian provinces on the borders of the Baltic, and the German name of which may be translated "bushy rye," is far superior to others. It resists inclement weather better, grows fuller and higher, is not so easily laid, and when sown on a good soil with proper care, always yields a large amount of produce. It must, however, be got into the ground before the end of September. If sown later, or on poor ground, these advantages will not be so manifest. It puts forth its blade and stems, flowers, and ripens much later than common rye; and in order to have it ready for reaping about the same time as the other, it must be sown very early. This variety undergoes no alteration. I have been unable to perceive the slightest degeneration even when it has grown near enough to other kinds of rye to receive the pollen blown from their stamens.

Land containing a large proportion of sand is best adapted for rye, which is the only grain that can be cultivated on a soil containing 85 parts in 100 of sand, or more. With us, land of this nature is always called rye-land. Soils containing less than eighty-five parts in a hundred of sand are also adapted to the production of rye.

The richer the land the more vigorous and luxuriant will the rye be. This grain, however, answers on poor land, which wheat does not. But this depends much upon the nature of the land. Sandy soils part with their humus so much more easily than clays do.

If an exhausted field or portion of land be left in repose for some years, it will collect sufficient nutrition to enable it to bear a crop of rye, though it must be admitted that it will only be a poor one.

Neither is rye so liable to be injured by any acidity in the soil as wheat or barley would be, and, consequently, it may be cultivated on marshy, or heath and furze land, which has been drained.

Rye may therefore be regarded as the most precious gift of God to the inhabitants of sandy and poor countries; without it, many districts would have been uninhabitable.

The degree of preparation bestowed on the soil, and the nature of the crop which precedes the rye, are not of so much consequence as these points would be if wheat were to be sown. A sandy soil, such an one as is best fitted for the production of rye, requires but three plowings, while more tenacious soils amply repay the expense of a fourth, by the increased amount of produce which they then yield.

Those preparatory crops which are advantageous to wheat, are equally so to rye when it is sown on the soils on which they can be cultivated. A diminution in the produce of the rye crop is almost invariably observed when it is made to succeed potatoes or linseed.

Rye bears being sown on the stubble of some other grain, or even on its own, much better than wheat does. It is also well known that in some countries rye is sown three or four times in succession on the same land; but the crops thus raised are so miserably poor that all unprejudiced persons have discarded such a rotation. Not even rich and repeated ameliorations can prevent the produce in grain from falling off sadly, although the straw may vegetate luxuriantly. All those isolated cases which are brought forward for the purpose of proving that the second crop has been finer than the first, and of defending this mode of proceeding, cannot overcome general experience, and might, if investigated, be very easily explained away. New manure buried a short time only before the sowing took place, and the decomposition of which had been prevented by drouth or humidity, would always be injurious to the first crop, while it would favor the vegetation of the succeeding ones.

This mode of proceeding may, however, be excused, where the ground is only fit for the production of rye, and where straw is worth as much or more than grain.

It is true that it is not absolutely necessary to pay so much attention to the choice of the seed for a rye as for a wheat crop; nevertheless, perfect and ripe seeds, free from disease, will always fully repay the attention bestowed on their selection. Rye can only bear a very light covering: if sown too deeply in the ground, and especially where the soil is tenacious, it will often be unable to germinate, and will perish. This is the reason why it is so dangerous to bury rye with a plow: I have experienced this to my cost. If the soil is very dry, and remains so after the sowing has taken place, rye sown in rows may have some advantages over that

which has been sown broadcast, because it shoots up more evenly and equally. But as the kind of temperature which will succeed to the sowings cannot be foreseen, it is always most prudent to have recourse to the harrow, unless the seed is to be buried by passing the extirpator superficially over the ground, which mode of proceeding is certainly preferable to any other.

In our climate, the best time for getting the seed into the ground is somewhere between the middle of September and the middle of October. In some countries, however, the rye is sown in the open field during the whole of the winter, and even up to the end of February, and at times with great success. This is done to enable it to benefit by the ameliorations bestowed on the land in the winter.

Many impartial observers assert that the latest sowings are those which can be most depended upon; but, on the other hand, the crops are never so large as those obtained from earlier sowings where they do succeed. The worst period for getting the seed into the ground is from the middle of October to the middle of November. But the bushy rye, of which I have already made mention, must always be sown early in the year; it can scarcely be got into the ground too soon. I have even sown it in the middle of June without its coming up that year. When not sown till October, it grows very feebly; and its lateral shoots being behindhand when the ears begin to form, remain poor and weak.

From eighteen to twenty metzen of rye are generally sown per acre. When bushy rye is sown in August, or about the beginning of September, from twelve to fourteen metzen of seed will be quite sufficient, if it is sown evenly and regularly. It grows so full and luxuriantly that three-fourths of the plants are choked, and but one-fourth remain. In the spring the fields often look so clear that those farmers who are not accustomed to this grain blame themselves for having been too stingy with their seed. But it would have been just the same if they had sown it more thickly, for in the autumn the plants increase and grow so full that they push against each other; each one puts forth ten or twelve blades or more, and, provided the soil is rich and the weather favorable, the whole field appears closely covered with a luxuriant crop. As this kind of rye comes up, and puts forth its leaves and shoots much later than any other, it often, in May, appears to be very much behind other crops in point of vegetation, but before June is over it has far surpassed them.

Rye crops are equally as much benefitted as wheat by being harrowed in the spring, especially where a hard crust has formed over the surface of the soil: but this tillage or cultivation is never bestowed on it. Harrowing is exceedingly beneficial to rye, even where the soil is of a very sandy nature; but in these cases the operation must be performed with light wooden harrows, and not until the plants have put forth their strong roots. Where these latter have been torn up by frost, especially from a spongy soil, or uncovered by the wind, it will be better to use a roll.

The flowering season is a more critical period for rye than for any of the other cereals; nor can the farmer reckon with any certainty on the success of his crop until this has passed. A white frost coming on about the flowering time may wholly or partially prevent the formation of the grain. This evil frequently only attacks the hedges of the field, or those parts most exposed to the wind, and frequently only injures one side of the ears, viz: that one next to the quarter whence the wind comes. Where this has been the case, the ear loses color, the points of the husks pucker up, and the husks are found to be empty.

Rainy, damp, or very windy weather, occurring about the flowering season, has a pernicious influence on rye. Occasional showers do it no harm, even when they are tolerably frequent, provided that there are a few hours of warm, sunny weather between each; for during rain the rye closes up its valves, and when the sun afterwards comes out, the anthers spring up so vigorously that the pollen from the stamens covers the field like a thick cloud. But during continuous rains the anthers undergo an alteration in the valves, and rot; or, at any rate, impregnation does not take place; or if it does, the embryo of the grain is putrified and lost. It is thus that the disease termed the spur or ergot of rye is engendered, and that curious, blackish, violet-colored excrescence formed, which is so well known, and of itself appears to be of no consequence, but swallowed in large quantities, and especially while fresh, occasions such dangerous and mortal diseases in both men and animals.

Strong, vigorous rye is, however, better able to resist the influences of foreign causes even during the flowering season, than weak and sickly plants.

When the flowering time is over, it will be easy to discover whether fecundation has been accomplished or not, or, in other words, whether or not the husks contain their grain: it is only necessary to hold the ears up to the light in order to ascertain this, because the impregnated valves appear transparent. But as with rye the flowering process proceeds but very slowly, it is as well not to be in too great a hurry to calculate the probable success of the crop, lest we form an erroneous judgment. When the plant is further developed, the empty husks will be felt on passing the hand over each ear.

Rye is ripe when the straw becomes pale; when its yellow hue fades almost to white, and the knots have lost every trace of green; the grain is hard, easy to be detached, and falls out on the plant's being struck or shaken. But Cato's maxim must always be observed with regard to rye: *Oraculum esto biduo citius, quam biduo serius metere*, (get in your harvest two days too soon rather than two days too late.)

On land of tolerable quality, and which from its nature is as well adapted for rye as for wheat, the average produce of these two kinds of grain will be nearly or quite the same in volume. I have, however, never known an instance in which a rye crop averaged more than twenty-two bushels per acre, while much larger crops of wheat are frequently obtained, although it must be confessed that it was from land much too stiff for rye. Twelve bushels may be regarded as a very fair amount of produce; but now and then the crop barely yields three bushels per acre. Where it is less than this, it may be said altogether to fail; a soil on which this is usually the case, hardly repays the expense of sowing it, and has no nominal value as arable land. The weight of a bushel of good rye is from 76 to 86 pounds.

Next to wheat, rye may be said to contain the largest amount of nutritive matter of any of the cultivated cereals. It contains an aromatic substance, which seems to adhere more particularly to the husk, since that agreeable taste and smell peculiar to rye bread are not perceptible in that which is made of rye flour that has been passed through a very fine bolting cloth. The smell, as well as the blackish hue, may be restored by means of a decoction of rye bran in warm water used in making the dough. This substance appears to facilitate digestion, and has a peculiarly strengthening, refreshing and beneficial effect upon the animal frame.

In places where rye is the chief article of food, the price of this grain is not so invariable as it is in others, or, at any rate, it remains more in accordance with the abundance or scantiness of the crops. Foreign demand has in this country but a very indirect influence on its price. With us, rye regulates the price of all other products; and even, by the wages of manual labor, the price of all kinds of manufactured commodities. The circumstances of the locality may be such as to render it more advantageous to grow other products, but the demand for rye is always regular and certain.*

*This remark is chiefly applicable to the north of Germany, or to countries where the inhabitants live chiefly on rye, which is not generally the case either in France or Switzerland.—*French Trans.*

All soils containing an excessive proportion of sand, and which are not too much exposed to humidity, will be found to bear better crops of rye than of any other kind of grain, provided that the sowings are carefully executed.

This grain exhausts land much less than wheat. In a previous section we have admitted, as a general principle, that rye absorbs thirty parts in a hundred of the nutriment contained in the soil. As this grain yields a larger quantity of straw than any other, it will, if this straw is reduced to manure, restore a larger portion of the nutriment which it has absorbed than any other; besides, its straw is peculiarly adapted for all the purposes of an agricultural undertaking.

Spring rye is simply a variety of autumnal rye, and may, as I have before observed, easily be changed into autumnal rye. It is generally made use of to replace the latter, when it has been impossible to sow the seed in time; and the ground is not fit for any other kind of grain, and especially for the purpose of deriving benefit from the manure bestowed on the soil during winter. It thrives well on land which is too sandy and too dry for barley or oats. After potatoes or autumnal rye which has failed, spring rye succeeds admirably, provided that it has been sown as early as possible, and in a soil properly prepared for its reception.

Spring rye otherwise seldom yields an amount of produce at all equal to that of autumnal rye, and sometimes altogether fails. Its grain is small, and has a very thin husk; but contains such excellent flour as to cause it frequently to fetch a higher price than autumnal rye.

It ought to be sown early, viz: either at the end of March, or about the beginning of April; autumnal rye should be sown at the commencement of March. Spring rye is not unfrequently sown on the stubble of autumnal rye, after an amelioration of fresh manure. The soil is only prepared for this kind of sowing during the cold and wet winter months; consequently, dog's tail grass, bent grass, and other varieties of *agrostis*, multiply rapidly. In general, no fields are found to be so infested with weeds as those in which rye is chiefly cultivated. Such land has hence, often, and very unjustly been accused of being disposed by Nature to produce beat grass.

From the New England Farmer.

A CHAPTER ON LIME.

Mr. Baeck:—I forward you the following chapter, thinking it may serve to give *some* of your readers more definite ideas of the several compounds of lime.

Lime as taken from the quarry, is called carbonate of lime; limestone, marble. If pure, it consists of about 44 per cent. of carbonic acid, and 56 per cent. of lime. When the limestone is subjected to the intense heat of a lime kiln, the acid is driven off, and the hundred pounds of limestone put in the kiln come out but 56 pounds of burnt, caustic, or quick-lime. (The fact of this difference between the burnt and unburnt lime, is something of an object, where it has to be carted some distance.) If the burnt or quick lime is left exposed to the air, it gradually imbibes from it carbonic acid and moisture, and the lumps crumble, or slake into a powder; it is then termed air-slaked, or effete lime, and will, in time, by the absorption of carbonic acid, become, chemically, or nearly so, what it was before being burned—that is, carbonate of lime.

If water is thrown upon the newly burnt lime, it readily slakes into a fine powder, and it is then termed water-slaked, or hydrate of lime. In this process of slaking it absorbs about 24 per cent. of water, which is chemically combined with the lime, and is in a much more solid state than ice, and can only be driven off by a strong heat; or by long exposure to the air, it is displaced by carbonic acid.

Sulphate of lime, gypsum or plaster of Paris, is an abundant product of nature. When pure it is, in 100 pounds, composed of 46 per cent. of

sulphuric acid, 33 per cent. of lime, and 21 per cent. of water. When gypsum is exposed to a red heat, the water is driven off, and then, strictly speaking, it is "plaster of Paris."

Phosphate of lime is a combination of phosphoric acid and lime, in the proportion of 54½ of lime, and 45½ of acid. It is not a very abundant product of nature, although it is found in small quantities in several different locations and countries. It has been said that it existed in large quantity in the province of Estremadura, in Spain.

From the similarity of its composition to bones, it has been thought that it might be imported into England, and in a finely powdered state, answer as a substitute for bones.

Within some two or three years, Dr. Daubeney, of England, has visited the above named place, and ascertained there is but a small vein of the phosphate, some six or eight feet in thickness, and but a part of pure phosphate of lime.

In England, there are some limestones, or rather strata in the limestone, that contain caprelitis, fragments of bones, teeth, &c., that contain a considerable amount of phosphate of lime, and it may in some measure answer as a substitute for bones, though I believe it has not been used to any great extent.

In regard to the value or use of lime for agricultural purposes, there seems to be a difference of opinion among writers upon the subject. Professor Johnston devotes some forty or fifty pages of his published lectures, delivered at Durham, in 1841, to the subject of lime in all its bearings; and from that time to the present, he is a strong advocate for its use, and is continually recommending the use of it to the farmers in Scotland and England. The English farmers have used it for improving their lands from time immemorial, and unquestionably with profitable results.

Mr. Ruffin, of Virginia, who is well known as an able agricultural writer, on both sides of the Potomac, from the St. Lawrence to the Rio Grande, has spent years of unwearied study and practice, upon the use of lime and marl for manures, and his valuable Essay on Calcareous Manures, with Prof. Johnston's works, can be most profitably studied by farmers.

Lime and marl are used in vast quantities for improving the soil, and increasing the crops in Pennsylvania, New Jersey, and many of the Southern States. Mr. Rives, of Virginia, stated in 1842, that he had used about 12,000 bushels of lime on about 150 acres of land. He says that he has not perceived that it much benefitted the crop of corn or wheat that immediately succeeded the liming; but this, he says, "was more than compensated by the marked, unequivocal and decided effect that I have never failed to perceive from lime alone, in the clover succeeding the wheat. "All my conclusions," says he, "in regard to lime, would lead me to the opinion that it is the most permanent of all manures."

Lime has been used in New England, sometimes with good results, at other times without any apparent effect. So with plaster of Paris, guano and other substances. It has generally been supposed that lime would be a good application for the wheat crop, but it sometimes fails. In the N. E. Farmer of Oct. 10th, 1838, you, Mr. Editor, gave us some account of the farm of the Hon. B. V. French, of Braintree, in which you state that "in his efforts to raise wheat the present season, he has had a complete failure, although a liberal application of lime and other manure was made, and the best variety of seed procured; yet he has the mortification, after his field exhibited the most flattering appearance, to see the whole of it blight and fail."

At one of the agricultural meetings at your State House, in February last, Mr. French gave some account of his attempts to raise wheat, (as reported in the Boston Cultivator.) One year he failed in raising a crop of Black Sea Wheat—destroyed by the rust. Upon a gravelly soil, he reaped a crop of 23 bushels to the acre. "He then consulted a chemist, who thought lime was wanting in his soil, and he recommended 160 casks to the acre. (That chemist was a dealer in homeopathic doses.) He did not apply so much, but limed liberally, and sowed two bushels to the acre; it grew well and was promising till the berry was about filling, when it blasted, and there was not a peck to the acre."

Perhaps if Mr. French had plowed his land the previous autumn, and applied his lime then, the result would have been different—it would have had time during the winter to have become carbonate of lime—and some of its alkali would have been dissolved, and rendered the silex in the soil soluble, so as to have given a stronger coating to the straw, and probably have prevented the rust. And applying newly slaked lime to highly manured land, has the effect of liberating the ammonia, and it flies off into the air and is lost to the farmer. If Mr. F., after taking one or two crops of hay from this limed land, had then plowed it and sowed wheat, I think he would have obtained a good crop.

One of your correspondents, (over the signature of "Authentic,") who has recently, through your columns, had a little sparring with "M. A.," of Pembroke, on the cultivation of wheat, recommends the application of ten casks of air-slaked lime (in August or September,) per acre, for winter wheat. Where that amount of lime had been used, forty bushels of wheat per acre were harvested last year in Massachusetts.

There is no question but lime has frequently been misapplied and injudiciously used. Used in too large quantities, its effect would be to destroy for a while all vegetation. Quick, or newly slaked lime upon highly or recently manured land, would drive off the ammonia. I have within the past year been asked by more than a dozen farmers, how much lime they should mix to a cartload of clear manure. They have, somehow, got the idea that lime will add to the value of their clear manure—while the truth is, its application would very much lessen its value. Lime is valuable mixed with peat or swamp muck. If the peat or muck contain sulphate of iron, or alumina, it will decompose it, and the lime will become gypsum, or plaster of Paris, and the acidity of the muck neutralized and converted into good manure.

Where lime is as dear as it is here—from $1 50 to $1.75 per cask—I do not think it would be good economy for farmers to purchase it to spread broadcast upon their lands; but for *composting* with manure and muck, to be used on soils containing salts of iron, either the sulphate or oxide of iron, from my own experience I am satisfied of its economy, even at the prices named. Where I applied a limed compo t six years ago, the land has produced nearly double the amount of several kinds of crops that the same kind of land has that had an equal amount of clear manure. Of its durability, I am of the opinion of Mr. Rives.

Since writing the foregoing some weeks ago, I have received a file of the London Gardeners' Chronicle, for March and April. In the No. of April 4th, there is a report of an experiment of "Spanish Phosphorite," or the phosphate of lime mentioned in this article. The experiments with the phosphate of lime, in comparison with several other manures, was made by or under the direction of Prof. Daubeney.

The experiments with twelve kinds of manures were made upon an exhausted piece of land. There were thirteen plots of ground.

	Lbs. of roots
No. 1. Without manure, produced	14,298
" 2. Shavings of bones, 10 cwt. to an acre	19,239
" 4. Nitrate of soda, 1½ cwt. " "	28,459
" 5. Spanish phosphorite alone, 12 cwt.	28,639
" 6. Spanish phosphorite, with sulphuric acid, 12 cwt. per acre.	30,869
" 7. South American guano, 250 lbs. per acre.	31,114
" 8. Bones with sulphuric acid, 11 cwt.	31,893
" 11. Bones finely powdered, 12 cwt.	36,185
" 13. Stable dung, 22 tons to the acre.	39,476

Prof. Daubeney says: "As the Spanish phosphorite, which appears to act so beneficially, is wholly destitute of organic matter, it seems to follow that the more valuable portion at least of what is applied to the land, when bones are scattered over it, is the *phosphate of lime*, and not, as some have supposed, the oil or gelatine."

I do not think it worth the while to copy all his table of manures, as my object was to show the effect of the natural phosphate of lime.

The same paper also contains an article on the application of lime to the land in autumn, copied from the Farmer's Gazette, in which the writer argues that lime applied in the autumn at the rate of 240 bushels of slaked to the acre, will all be dissolved out of the soil by April. The writer says: "Now, suppose this ample dose is, at a heavy expense, laid on by the 5th of October, and the field has a moderate slope; it is all, or nearly all, dissolved and washed out of the soil by the rain, before the 15th of the next April! No lime remains but any little that was spread in lumps. It is all gone to the nearest stream, before I get a single crop off it. Is this good economy?"

If that is the fact, I do not think it is good economy; but his statement is in direct opposition to Mr. Rives's opinion, contrary to my experience, and probably to that of thousands of others who have used lime. I do not know but the rain water of Scotland (where the writer resides,) has greater solvent powers than our Yankee rain water; here it takes about 800 lbs. of water to dissolve one of lime.

A week or two since, I received from the author, Hon. J. H. Hammond, of Silver Bluff, South Carolina, a printed copy of a letter he addressed to the Agricultural Society of Jefferson County, Ga., written by the request of said Society, on the use and application of "shell marl."

Gov. Hammond has used marl (about 60 per cent. of it is carbonate of lime,) for a number of years on his plantation, with good results. He says:

"I cannot give you a better evidence of the firmness of my faith in the virtue of marl, than to state, that notwithstanding the discouragements of the last three extraordinary seasons, I have, at great expense, brought up from Shell Bluff, within four years, over 300,000 bushels, carted it out, and spread it over about 2,300 acres of land, and am at this moment as actively engaged at it as ever. Nor do I look forward to a period when I expect to cease using it to a considerable extent every year, either on fresh lands or increasing the dose on those already marled."

The length of this communication prevents my making more extracts from this valuable pamphlet, except one relating to gypsum. Mr. H. says:

"Sulphuric acid itself is often used as a manure, but experience has fully established the fact, that it is of little value except on calcareous soils; and what is more remarkable, that sulphate of lime will also act with far greater effect on limed land. I tried some of it myself the past year on marled land. I rolled the cotton seed in it, previously to planting them, and thus applied it at the rate of only one peck of the plaster per acre. I am satisfied that the product on the few acres to which it was applied was one-third greater than on similar adjoining land, marled also, but not plastered."

He adds, in a written note to me—"These acres, the plastered and unplastered, received equally about 30 bushels of lime per acre, last spring. Is it possible that the 3 quarts of additional lime in the peck of gypsum could have made a difference of 33 per cent. or *any* difference, in the produce. I was struck with the absurdity of Boussingault's theory, and mentioned it, last summer, to Mr. Allen, of the American Agriculturist, New York, who replied that it must be a *misprint*. I thought of writing something about it, and was glad to see your article."

The article here referred to by Mr. Hammond I suppose was a communication of mine published in the N. E. Farmer, of October 22, 1845, in which I attempted to show that M. Boussingault was wrong in his assertion that the appli-

cation of gypsum was but an indirect way of *liming* land; and further inquiries, since then, have only more strongly confirmed me in the opinions I then advanced. M. Boussingault deservedly stands high as a scientific and practical farmer, and in charity I should hope that Mr. Allen was right in his conjecture that the assertion above mentioned is a *misprint*, or that it was a mistranslation. L. Bartlett.

Warner, N. H., May 28th, 1846.

FUTURE AGRICULTURAL IMPROVEMENT.

Extract from Report of the Commissioner of Patents.

There are some things which seem to authorize our augury of still greater advances in agricultural improvement. And in touching on these, we shall, at the same time, suggest the points of deficiency.

The first ground of encouragement on which we rely, then, is, *increasing agricultural knowledge.* To any one who will take the pains to examine the list of agricultural periodicals, and compare it with that which would comprehend all the weekly or monthly journals of this description a few years since, the contrast will appear striking. Nor is it only in the number of these, and the wider extent of publication and circulation which is enjoyed by them, that this difference is manifest. They are not merely printed in more sections of our country, but they are much superior in their appearance and their contents, to say nothing of the beautiful and highly finished illustrations which make a part of them. Instead of being confined to results at home, they are filled with letters from able correspondents abroad, as well as condensed views and extracts from foreign works of high reputation. We have thought it might not be an uninteresting addition to our appendix to subjoin a list of our agricultural periodicals. These weeklies and monthlies having more or less extended circulation, exert a very important influence on the public mind, and thus a direction has been given to the public feeling. The effect of this, and the impulse which has been given, are seen in the various channels which are everywhere opening to meet the craving for greater supply. The editors of many of our public journals have discovered that mere political intelligence, or scraps of literary intelligence and wit, are not all that are demanded from them by the yeomanry of our country. There must be an agricultural department, or a column, at least, devoted to agriculture, to secure the patronage of the farmer subscriber; and, accordingly, there are not a few of our political journals which weekly furnish articles, selected or original, on subjects connected with this great branch of American industry.

Another means of diffusing such knowledge, is the publication of volumes of standard merit relating to agriculture. We think it truly an auspicious era in our country when such works as Thaer's, Liebig's, Johnston's, Mulder's, Dana's, Petzholdt's, Youatt's, and many more too long a list to name here—are brought within the reach of our agriculturists. If they do not at once give up former views, and adopt those which accord both with science and experiment, yet we can hardly doubt that in many cases these will exert a modifying influence on their practice. Gradually they may be led to feel the importance of such things, and another generation, if not the present, will be found to be imbued with correct principles of agricultural science.

The brilliant success which has attended recent demonstrations on the part of the well-trained and thoroughly disciplined minds who led the way in the reformation of agricultural chemistry and vegetable and animal physiology in their applications to practical use, has prompted new aspirants to fit themselves thoroughly to share in the nicer discriminations and new discoveries yet to be made.

We hail it as a cheering promise in this respect, that there are minds of enlarged views and accurate investigation abroad among us, and operating on the most intelligent of our agricultural population. These authors, whether of our own or other countries, are only the precursors of a constantly increasing agricultural literature, which is destined to render more efficient the means at our command for covering our land with smiling fields and waving harvests, so that literally the wilderness may yet "bud and blossom as the rose." The increased training of the youthful mind agriculturally, is also another feature which augurs well for us. We refer here to elementary treatises adapted to the young, to the establishment of agricultural schools, and to the proposed introduction, in a degree, of some of these topics in our common schools. There is much not merely to expand and invigorate, but also to interest the mind, in agriculture, studied in its bearings on various sciences. Chemistry, with its beautiful illustration of combination or decomposition; geology, with its marvellous and time worn relics of past ages; entomology, and its curious developements; together with all the mysteries of animal economy, vegetable physiology or botany—all are made to open their treasures and present their attractive claims. The young student is brought thus to a world of wonders; and his attention once arrested, he cannot but find that agricultural study, in the broad view which should be taken to its domain, has sufficient to amuse and to discipline the faculties of intellect and heart. Its influence can scarcely fail to be salutary, as it leads him to the great laboratory of nature, and shows him how the operations of Providence keep at work the means of supply, and that decay is only succeeded by reproduction in some other form of vegetable life. It is scarcely necessary to say that, with these inspirations of science, he will be the promoter and patron of improvement in every shape, and that he will be foremost in upholding the agricultural club, the County or State association, with its fairs for exhibition of products of industry. These, too, the more they are multiplied, will exert a wider influence. Our countrymen are apt to observe and to invent; but they need more precision and discipline in the developement of their operations. As these are acquired by a severe training in science, the results will be seen in a thousand ways. We point to one desirable improvement which, if it were accomplished, would doubtless exercise no little influence on our agricultural prospects. We refer to the adoption of some such course as is taken in the great agricultural meetings in various countries of Europe, where a week is spent by persons brought from all parts in discussing subjects of agriculture, previously arranged in a printed programme. Some idea of what we mean may be gathered from the perusal of Mr. Fleischmann's letter, and also the translation of the regulations relating to the great agricultural meeting at Breslau last summer. It is true, that something of the same kind on a small scale has been attempted at Albany, Boston, N. York and other places, during the sitting of the State Legislature, or weekly, and we see not why the object might not be attempted and executed successfully on a much larger scale in our own country.

Another ground on which we rest our augury of prospective improvement in this great branch of national industry is *the application, in new forms of enterprise, of the products of the soil, and of the departments of collateral husbandry.* To take a single instance for illustration. It is but a few years since the improvements were introduced by which such quantities of lard and lard oil are prepared for the market. The business connected with this has already run out into varied channels, and so it must be with every invention which appropriates the fruits of the farmer's toil. One branch of labor gives rise to yet another. But our career in this respect seems but just begun. The vast increase of inventions, the numerous shapes through which industry is developed, all furnish reason to believe that we have by no means reached the end of our progress. The enlargement of these outlets of skill and enterprise, and the prospect of increased civilization through our commerce abroad, will undoubtedly have a tendency to make our land teem with an industrious population, whose wants will multiply as their wealth shall increase; and thus, through the diversified reciprocities of trade at home and abroad, a more steady and reliable market be created, which shall help to enrich the diligent and reward the efforts of successful economy. It will not be long, as we confidently believe, before an average uniform price at points equi-distant from the great marts of commerce will be established throughout our land by means of telegraphic communication, and the facilities of conveyance be so multiplied as to check the inequalities induced by speculation, and give assurance that they who provide by the sweat of their brow for an extending empire of freedom, shall not labor in vain. If affluence may not be the lot of all, yet steady prices, on which they may count, will aid the contented and industrious spirit to enjoy the comforts and many of the luxuries of life, of which others in the same employment and occupation in foreign countries are so greatly in need.

From considerations like these, (and others, too, might be mentioned,) if we are not mistaken, there is ground for cheering augury of agricultural improvement, which, though its progress may be gradual, will yet be certain and permanent, as well as productive of happy effects on our country and the world. That there is a rising feeling in favor of agriculture, the ten thousand voices echoing back from every quarter to us, in approbation of the humble efforts made from year to year in collecting, and, through their own representatives, laying before our farmers and planters the information of various kinds within our reach, abundantly testifies. We might, likewise, refer to the embodiment of this feeling in resolutions at the farmers' convention, urging the importance of their claims to regard, and as it meets us stronger and stronger from year to year in the agricultural journals in all parts of the country. Never was there a fairer time to aid its developement. Without resorting to more questionable means, which might rather injure than benefit, it lies in the power of those who occupy places of influence to lend a warm-hearted co-operation to every effort of improvement, and to diffuse as much as possible a generous spirit of enterprise into all the branches of agricultural industry. We indulge, we are sure, in no fancied dreams when we say that the past years have only been the harbinger of a more perfect agricultural economy. It is with presages like these, while we see our bounds enlarged, we watch every indication of the awakening of the mind of our country to the importance of true science and practical knowledge. It is matter of gratulation to learn that a new agricultural journal has made its appearance, like a star first breaking through the darkness, in any section of our land, which, till recently, could furnish no such proof of advancing knowledge. The information that a successful experiment, too, has added another name to the lists of our products, or that the introduction of some choice specimen, either animal or vegetable, has brought to the agriculturists of those States the means of yet greater progress in improvement, is read with the confident expectation that another impulse has been given to the energies of industry, the results of which after ages will record with grateful satisfaction. Compared to the whole, each individual enterprise is but as a pebble dropped into the wide waters; but as even that slight motion agitates the nearest surface, and one wave after another spreads silently on, yet further and further from the place where it begun; so the community, in increasing circles, will feel the effect of every such event. One and another will follow on—a township, a county, a State, and yet larger portions of our country will in turn welcome the stranger, till it shall have made itself a

home, and become domesticated and acclimated among our products.

Esto perpetua! is the prayer of every patriot as he casts his eye over our land of varied clime, and soil, and product, and people. With no stinted hand have the gifts of a kind Providence been strewn around us. The earth and its increase---flowers, fruits, animal, bee, worm and fowl---all bear their tribute to supply our wants, and so profuse are the means of sustenance and comfort, that every year, almost, only serves to lap us in greater plenty. It is to agriculture---

"The art that calls the harvests forth,
And feeds expectant nations"—

we must look as the oldest employment, and the most necessary occupation of man. Honored, it will make our country glorious in the true strength of a nation---its virtue, intelligence and enterprise. Neglected, the arm of prosperity will be shattered, and our experiment may end in doubt and dismay.

Southern Crops and Culture.

The following, from the ever busy pen of Dr. Phillips, will be read with interest and advantage by every Southern planter. This gentleman has done much, very much, by both precept and example, towards the improvement of our agriculture; and everything he writes deserves a careful perusal. This seems to be the first of a series of communications to be made to the *American Agriculturist.* The others we will publish as they appear.

I know it is impossible to persuade the planters, of the cotton region especially, and I doubt not of your Northern country also, that they have any interest equal to the present full crops. As I think there is, when I write, I give my convictions; I must therefore say what I think, which is, that a *proper management* of our land is of as much, if not more, advantage in a general rule, than the making of *large crops.*

If a planter will exert himself to protect land, he will gather for a life-time fair and remunerating crops; whereas, by the common careless mode of planting, he will make for five years good crops, the next five he will make ordinary, the next five still smaller, until within less than twenty or twenty-five years his crops will be so bad, that he is forced to extraordinary exertions in working his land, or to emigrate. Is this not so?

In much of our Northern country, lime, marl and manures are cheap; and conveyance is cheap. These things are demanded on account of the previous bad culture of the cultivators. Here, all these things are dear, but fortunately for us, they are not needed, our soil being comparatively new, and where the surface soil is worn, the subsoil possessing all the requisites of a good soil. We have yet one more advantage, our winters are so much milder and shorter we can grow grain cheaper; and the cowpea will grow among our corn without material injury. I have repeatedly referred to these facts, but they are in my estimation of so much value and of so easy application, that I must continue to allude to them even if I repeat "line upon line, and precept upon precept." The policy is, to protect land from the sun, from washing, and from the exhausting effects of cropping. Whether this can be done, and good crops gathered for 50 to 100 years, I will not dare affirm; but this I will do—much of our lands lying near to the water courses, and the flat lands in the western part of Mississippi, can be kept near their present state of product for many years.

We never remove cornstalks from our land, as is done in many portions of the United States; many have burnt them off, as they do cotton stalks—these are therefore generally returned to the land. If the pea be sown among corn about the 1st of June, the vine will cover the land entire before the hottest of our summer be past, and if not fed off, will give a vast quantity of vegetable matter to the earth; these, with the cornstalk, will nearly counterbalance the deterioration caused by taking off the corn and the fodder—and if we were to sow down in October, Egyptian oats or rye, on corn and cotton land, to be left on the ground until planting time, I feel certain that the washing rains of winter would do but little injury, and that the return to the earth would be ample. There can be no doubt as to the vegetable matter, and I presume there is a sufficiency of inorganic matter in our soils to last many years without any material injury; for we only export the cotton wool, having, you may say, all the balance to return to the land. What the intrinsic value of cotton seed is, taking the stable manure as a standard, I cannot say; but I am fully convinced that they ought to be used only as a manure. I am satisfied as to feeding hogs with them, having tried them effectually. The experience of all men can never induce me to use them again. I have lost in twelve months full 60 hogs, that should now have netted me 12,000 lbs. of pork, and which I could now sell for about $500. I say not that my loss is entirely attributable to the seed; but I know that I lost some very choice mixed hogs, which were killed by the seed. As to feeding cattle with them, I am so doubtful that I exclude my stock entirely. I would then only use them for manure. A brother planter of mine, who is devoted to planting, informs me that he has manured in the drill, and that the yield was about one-third gain, which, if only 300 lbs., would be $4 or $5 per acre; this for the first year; $2 to $2 50 for the second year; and $1 to $1.25 for the third, would be some $10 per acre in three years. I would use enough to do permanent good, say about 100 bushels per acre, thus manuring about one-third of cotton land yearly, at a trifling cost. Thus far, the labor and cost is trivial, and all the corn land and one-third of the cotton land has been manured. There should be enough rye, oats and peas saved, to plant the succeeding crop. You have no conception of the quantity of grass that follows an oat or a rye crop, in this country on fair land. I have no doubt but I could have cut a ton per acre, and then left a heavy after-math to turn under. I know some *theorists* deny this—but that matters not.

To the above I would recommend at least half an acre to be planted per hand of sweet potatoes, one-third to one-half of an acre with artichokes. I know that ordinary land producing say 8 to 10 hundred pounds of cotton per acre, will produce 1,000 to 1,200 pounds sweet potatoes. My experience with artichokes is too limited to speak positively; but when we reflect that the leaves are large and hairy, that the product is from 200 to 1,000 bushels per acre, and that no portion of the crop is fed off from the land, the improvement must be certain. The stalk and leaves contain more alkali than most any other plant yields, and very largely of ashes. I have understood that some writer has determined—for himself—that sweet potatoes exhaust the land very much; all I can say to this is, I have assisted in planting them for 25 to 30 years, and have made up my mind that a good crop of sweet potatoes, leaving the vines on the ground, is equal to a good manuring.

There is yet all the manure from lots, stable and hog pen to use, which, though small, yet will add somewhat to the general result. This can be vastly increased by hauling in leaves and corn-stalks. In addition to the improvement from manures, I would urge as equally important, rotation. A friend who dined with me this day, who was bred to farming, and who is no theorist, made confession of his conversion to the soundness of the doctrine. He was incredulous, and changed this year mostly through necessity. He says, though he was injured by worms and a bad stand, that he has made a better crop than he ever had before. If we will examine into the material taken up by some crops from the earth, we can see that there is sound reason in the matter. Let us take wheat and oats. Wheat takes up 10 per cent. of potash, and 20½ of soda; whereas, oats require only 6 of the one and 5 of the other. If wheat be persisted in for several years, these alkalies must become scarce on farm lands; whereas, if a crop that would probably take less or restore a portion, were planted, and the land allowed to grow up in grass or weeds, there would be some certainty of making other good crops. I have seen an *improved* crop of cotton grown on land after it had grown one crop of oats, which were fed off to hogs on the land.

Draining is another important addition. Many are prepared to pounce on this—"what! drain our lands here when we need so much moisture!" The advantage of draining much of our upland would be sure, in getting a stand of corn or cotton earlier; of its growing off earlier; and in course of its needing moisture in midsummer, much less. But if the land be drained so as to draw off the water that the earth cannot absorb, it cannot prevent the earth from retaining as much moisture; and from being less liable to being impacted by water, will really retain moisture longer— besides, the early shading of the land will retain it. By getting corn up earlier, and it growing off earlier, it can be laid by earlier, and thus we shall have more time to attend to cotton.

We loose too much time in fencing, and if we would adopt hedging with the nondescript rose, or the microphylla, we could have time to labor much at other improvements. Just think of three-quarters of a mile of fencing per hand and calculate the cost. Why, sir, the yearly cost would put in the ground a hedge, and one-tenth the expense would keep it up as long as we should live. Besides, timber is more scarce in some regions, and getting so in many others, which will cause an increase of expense.

I might say something of pasturage, of its saving of corn, of its ability to keep up stock, etc. But I am tired of writing, and I suppose my friends are of reading. I therefore close by subscribing myself M. W. Phillips.

Edwards' Depot, Miss.

From Colman's European Agriculture.

On the Admixture of Soils.

One of the most common and obvious suggestions in the improvement of the soil, is that of rendering, as far as practicable, plastic and adhesive soils free and permeable; and, on the other hand, that of making those soils, which are loose and light, close and compact. In the former case, in order to effect the desired object, draining has been applied with great success, and must be regarded as the basis of such improvements. Without draining, indeed, and a complete riddance of the superfluous wetness and moisture, little is ever to be hoped for in any case. In order to effect the latter object, rolling with heavy rollers, and especially treading with sheep, have been resorted to; and several farmers, with whom I have had the pleasure of forming an acquaintance, abandon all expectation of a crop, unless the ground, after being sown, is thoroughly trodden by sheep, which treading, for the purpose specified, may be considered even as more effectual than the application of the roller.

But an improvement of a more substantial and permanent character is attempted by what may be termed an "admixture of soils;" by the addition of clay to sandy soils, and of sand to clayey soils. In agricultural books and addresses, I have often seen this method recommended, with a great air of sagacity and confidence, as an obvious process of improvement, of very easy accomplishment, by persons who understand little of practical agriculture, and very imperfectly appreciate the difficulties of such a process. The transportation of soil is among the most expensive operations in husbandry, and can scarcely be expected to be carried on, on a very extensive scale. To convert a clayey soil into a siliceous soil, or, on the other hand, a siliceous soil into a clayey soil, so as deeply and permanently to change their character on any extensive surface, must be left to those great geological changes which are alike beyond human prescience, command or con-

trol. Amendment, rather than change, is all that human skill and ability are likely to effect; and I shall detail in this matter such examples as have come under my observation.

The application of sand to clay, like the application of sand to lime in the making of plasterer's mortar, has, in general, especially if the clay is wet when the sand is so applied, a tendency to give it hardness, rather than to render it friable and open. Where the land is in a state of dryness, and newly plowed, the application of a limited quantity of sand might serve to render it more open. That this would be the whole effect to be expected from it, and this to a degree uncertain, and that it would effect no chemical alteration in the soil, seems generally agreed. That a portion of silica is essential in the formation of all the cereal plants is established; but in all clays there is presumed to be a sufficiency for this purpose. In peat lands it may be otherwise. A distinguished practical and scientific farmer, the late Mr. Rham, states that he has never known an instance in which the application of sand to clayey soils has been found to succeed in rendering them more porous. The expense of laying on the large quantity of sand that would be required must probably swallow up any profit that could be derived from it. Mr. Pusey, however, showed me an example in which a clay land field in grass had been decidedly benefitted by a top dressing of sand from a neighboring hill. Whether the sand, in this case, had any peculiar chemical properties, from which the benefit of the application was derived, did not appear.

It is not so, on the other hand, with the application of clay to light soils; and this has been practised in England so extensively, and with so much success, that I shall detain my reader with some prominent examples. Of the application of clay in the improvement of peat lands, I shall speak presently; I now refer only to its application to sandy and light lands, with a view of giving them compactness. The object of applying clay, indeed, may be twofold; the first to produce a closeness of soil, and the second, that of obviating their too great dryness, the property of clay being to absorb and retain moisture both from the atmosphere and that which falls in rain.

One of the most extensive applications of it which I have witnessed, was on the farm of the Duke of Bedford, at Woburn, a place distinguished, under the care of its present noble possessor, as under that of his eminent predecessor, for a most intelligent, scientific, extensive, and successful husbandry; in all its various arrangements, and the completeness and extent of its operations, surpassed perhaps by no one in the kingdom, or hardly, indeed, rivalled.

The intelligent manager of the place, Mr. Burness, states that he finds "the application of clay to his light soil of great advantage. It makes the straw much stronger, with a better ear, and standing much better up in wet seasons. When the land is highly manured, without being clayed, the crops are liable to fall down, become lodged and spoiled." He adds, likewise, that he finds claying of great advantage to the turnip crop.

The practice is to put the clay on the clover leys as early as the crop is off, and get it broken in pieces as much as possible before the land is plowed for wheat. It is also laid on land that is under fallow for turnips early in the winter, that is, on land which has been plowed preparatory to its being cultivated in turnips the ensuing season. This is done that it may have the chance of the winter and spring frosts to become well pulverized before it is plowed down; and this he prefers to spreading it upon clover leys.

He goes on then to speak of some experiments. "We clayed last summer four acres, and left two acres not clayed on an old sward and light soil. The clay was put on in July, and lay all the summer; was plowed up in November, and pressed," (an operation which I shall describe presently, "and the wheat dibbled into the grooves. In February, we top-dressed the six acres with good farmyard dung; and, as late as the beginning of May, I thought there would not be half a crop, although plenty of ends; but toward the middle of the month the clayed part began to look of a much darker appearance than the two acres which were not clayed; and, at the present time," (when he gave this account,) he thought, "there was one-third part more on the clayed than on that which had not been clayed, although managed in every other way the same."

He goes on to say that, in January, 1841, he clayed some land which was going to be a turnip-fallow the following summer; and in the month of April, when he began to harrow and plow the land, the clay broke down and slaked like lime, and worked in with the soil. There was not much apparent difference in the turnip crop that summer, as the other part of the field was sown at a different time, and he was not able to tell the difference; but the ensuing year, he says, "the barley looks much stronger and stiffer in the straw, and stands much more upright, than in the land which was not clayed, where the greater part of the crop is down on the ground, and exposed to be rotted by the rain."

The quantity applied to the acre is generally about fifty loads; I suppose single horse cart loads are meant. If more is to be applied, it is advised to make the application at successive times, as, in his opinion, more given at once would do harm. Nearly all the light soil on the farm of the Duke of Bedford, near Woburn Abbey, has been clayed, and a great deal of it twice; and, in every instance, its beneficial effects have been established. I myself can bear witness to the neatness and excellence of the cultivation, though I had not the pleasure of being there when the crops were standing upon the ground. The clay may be dug from the pit at any time most convenient for the farmer, and, if turned over once or twice, will mix much better with the soil, though, of course, the expense of the operation must, in such case, be increased. Mr. Burness says, his plan is to dig and cart it on to the field at once.

Mr. Pusey is of opinion that this substance, denominated clay, contains a great deal of lime, and is, in fact, a stiff marl.

Another eminent Bradfordshire farmer, whom I have the pleasure of knowing, speaks of the application of clay or marl, customary in his neighborhood, as varying from 50 to 150 cubic yards per acre. He deems the smaller quantity preferable at one operation, as it mixes more steadily with the soil, and though it may not last so long, comes sooner into operation. He has applied it to clover leys in summer, and to turnip fallows at different times. He advises to have it dug in winter, and to cast it upon the turnip land in the spring, when it has had time to dry, and has become lighter of carriage.

We have the testimony of another skillful farmer, a tenant of the Duke of Bedford, who has pursued the practice of claying land to a great extent. Not satisfied with the quality or quantity of his produce, he has clayed 420 acres, in every instance with good effect. Upon the gravel and sand land he has put forty loads per acre, containing forty bushels per load. On the moorland, covered with rushes, he has put seventy loads. The time of applying it is directly after harvest, or in winter, if there has been a frost. At the former time, it is done with less labor to the horses and less injury to the land. The clay gets dry, and as soon as rain comes, it may be harrowed about, when, according to his opinion, it will begin to act beneficially to the land by correcting the acidity, of which most lands have too much, thereby making food for plants of what was inert in the soil, and giving the land that solidity which it required. In one case, he speaks of witnessing the decided advantages from it, after a lapse of fourteen years from its application.

The First Bale of New Cotton.

The Charleston City Gazette of April 12th, 1788, contains the following notice of the first bale of Cotton produced in the United States.

"A correspondent has favored us with the following information, which he tells us may be relied on: A gentleman in Christ Church Parish planted one acre of land with Cotton seed, which has produced a bag of cotton wool weighing 267 lbs. nett; this he has sold at 15 pence per pound, so that he got for the whole 16l. 13s. 9d.; it was on examination of an exceeding good quality; the planter declares, that had he attended it properly, it would have produced more. He further says, that one of his hands could with ease take care of seven or eight acres, until the Cotton is ready to take in, at which time he must have the assistance of small negroes to pick and carry it into safety. As the mode of cleaning it in this country formerly, is what the planters dislike, we have the pleasure to add, that there are persons in this State who can make the necessary machines for picking it, as well as for carding and spinning it. This commodity bids fair to become a principal staple article of export from this State, for if one negro can manage seven acres of Cotton, and it sells at the above price only, his labor will bring his owner in 116l. 16s. 3d. per annum, supposing also that each acre of land produces only 276 lbs. of Cotton. It is well known that the Cotton manufactories in Great Britain will take any quantity that the State can raise, as they are deemed by good judges to be now only in their infancy.

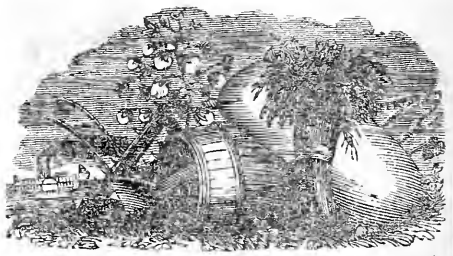
Southern Ladies.

In the number for June of Mr. SKINNER'S valuable work, the *Farmers' Library*, we find the following tribute paid by the editor to Southern Ladies. Every man who has been brought up in the Southern States, will be able to appreciate the justness of Mr. SKINNER'S description.

"The more (he says) any man of discernment sees of the world, and reflects on the relations subsisting between the offices performed by the various members that constitute one family, the more deeply will he be impressed with the dignity and importance of the duties which social arrangements assign to the mistress of every well regulated family, and the high honor and esteem to which she is entitled when those duties are well performed.

"Let but her part be neglected, or carelessly, or ill-performed, and chaos soon takes the place of order, neatness and economy take their departure, and domestic misery and ruin are too sure to enter, close on the heels of pride and indolence. There is nothing more beautiful, nothing to which a sensible man more readily pays the homage of his admiration and respect, on his entrance in the domestic circle of the old Southern States, than the cheerfulness and alacrity with which he still sees the ladies there, both mother and daughters, of the most opulent and best bred families, play out in full measure their appropriate parts in the management of domestic affairs, and when occasion demands, even of the out-door concerns. To be familiar with all the duties of housewifery, seems to form, in fact, as we have lately witnessed with high gratification, a part of the education of young ladies of the amplest fortune, the most refined manners, and the highest intellectual cultivation. And where, it may well be asked, can beauty and intelligence be seen to more advantage than in the exercise of duties which do and ought to constitute a great portion of the employment, sometimes of daughters on whom the loss of a mother may devolve the care of a household, and especially of every married woman who would see her husband prosperous, respected and happy?

"All who are at all familiar with the history of rural life in the old plantation States, must know of instances of remarkable women, who, with an energy of character almost beyond their sex, have grappled with adversity brought on by the indolence, extravagance or misfortunes of their husbands; and while clearing their estates of the most frightful embarrassments, have contrived to educate their families, and finally to leave them in the enjoyment of their wonted respectability and independence. Forever honored be the memories of such noble women."



The Southern Cultivator.

AUGUSTA, GA.

VOL. IV.. NO. 9..SEPTEMBER, 1846.

The Press--Ourselves.

☞ Our brethren of the press have recently placed us under such obligations for their many kind and flattering notices of our efforts in the cause of Southern Agriculture, that we scarcely know how to relieve ourselves. All we can do in return for these repeated courtesies is to tender our most sincere and grateful acknowledgments.

☞ The proposition of the editors of the "*South Carolinian*," we accept with great pleasure. The cuts may be sent by railway.

☞ An account of the formation of the Monroe and Conecuh Agricultural Society, and the Address of Dr. WATKINS, on being elected President, came to hand too late for this number of the CULTIVATOR.

☞ Mr. P. DAVIDSON'S article on "Mineral Manures," is also laid over for October, for the same reason.

Col. McDonald's Proposition.

Just as our paper was going to press, we received the unwelcome intelligence of the death of this devoted friend of Agriculture; an eloquent tribute to whose virtues, in all the social relations of life, from those who knew him best, will be found in this number.

This melancholy event will necessarily contract our remarks on the present occasion. We cannot, however, do less than call upon the friends of Southern Agriculture to rally to the support of his proposition, not less as a memento of his noble zeal in their cause, than in justice to themselves. Let it be carried out to the letter, and you will have cause to venerate his name, and your children will rise up and call him blessed.

He was indeed your friend. Imitate therefore his example, and make this proposition the crowning act of a well spent and virtuous life.

In presenting the names of those who have thus early requested to be numbered among the THOUSAND, we should be pleased to have accompanied the list with their very flattering and encouraging letters, but our space will not permit. We must therefore content ourselves with simply appending the list of names, placing at the head of the column the distinguished mover, as a tribute to his zeal in the cause:

COL. A. MCDONALD, Eutaula, Ala.
E. MCCROAN, Louisville, Geo.
T. W. RUCKER, Elberton, "
C. DOUGHERTY, Athens, "
G. B. HAYGOOD, Watkinsville, Geo.
WM. T. DEWITT, Hopewell, Ala.
H. E. CHITTY, Henry Co., Ala.
WM. CUNNINGHAM, Monroe Co., Ala.,
C. B. ZUBER, White Sulphur Springs, Geo.
J. C. HENDERSON, Macon Co., Ala.

In addition to these, JOHN H. NEWTON of Athens assures us he will send us ONE HUNDRED subscribers. C. T. WILLIAMS, of Meriwether, and A. GREEN of Greene county, promise to send us as many as they can.

Whose name shall we enter next upon this list? Friends of Agriculture! speak out!

Hay.

In no department of Agricultural knowledge are Southern Planters so far behind the age, as in that which relates to raising grass, and cutting and curing hay. Many efforts, indeed, have been made to introduce foreign grasses, but nearly all have resulted in failure, partly from bad management, but chiefly because the grasses with which the experiments were made, being natives of more northern climes, cannot withstand the power of our Southern sun. In the meantime, everything in the shape of native grass has been neglected. Crab grass especially has been an object of peculiar abhorrence—so much so, that, until very lately, it has been almost impossible to persuade any one, that there is a single good quality about it for any purpose whatever. So too with Bermuda grass—a grass that in India, in the time of Sir William Jones, was worshipped, because it was looked upon as a special gift of their Deity, bestowed for the food of the Sacred Bull. In these Southern States no language has been strong enough wherewithal to condemn it.

In the belief that many of the prejudices against these two grasses are being overcome by the influence of good sense; and that our readers would be pleased to know how to turn both of them to the very best account—crab grass especially, as it is so abundant and so luxuriant this year—we have copied from the *Albany Cultivator* the following discussion on the proper stage for cutting grasses, and the best modes of making hay. Every one of the speakers is known extensively as an eminent Agriculturist; and living in a region where grass is the main crop, their opinions are entitled to great respect:

Mr. BEMENT said he had formerly been in the habit of cutting timothy grass quite late. It was easier cured after it had got pretty ripe. But he found in using hay thus cut, that it wanted substance, and he had ascertained that the best time for cutting was while the grass was in blossom. In making clover hay, he had adopted Judge Buel's plan. He thought it best not to expose it much to the sun. His practice was to cut in the morning, let it lay till noon, and then cock it, and let it sweat for two or three days, according to the state of the weather. On putting the hay in the barn, he had used about four quarts of salt to the ton. Hay thus managed, came out in the spring very bright and sweet. In the ordinary way of curing clover hay, the best parts are wasted.

Mr. HOWARD was aware that there were different opinions as to the proper stage for cutting grass; but he thought the observance of certain principles might afford a guide in the case. For example, the stems of grasses were filled, just before the formation of the seed with a starchy or saccharine substance. In perfecting the seed, the stems were exhausted of this substance, it being consumed in forming seed. Now, if the herbage, is the object, the plant should be cut before the nutriment has passed from the stems. If seed is the object, the plant must, of course, be allowed to attain a good degree of maturity. Hay made from ripe grass may 'go further,' or 'spend better,' as the argument is; and it is admitted that this may be true, for animals are less inclined to eat it; but this is no proof that it is more nutritive. He spoke of the different modes of curing hay, with nearly all which he said he had been acquainted. Clover hay was altogether better when cured in cock, than by any other mode he knew practised. All hay was better for undergoing, to some extent, a sweating in the cock. Coarse timothy was thus rendered much softer, and was less strawy, and stiff, and every description of hay less likely to be 'mow-burned.'

Mr. BETTS was not in favor of mowing a great deal of grass while the dew is on. He was in the habit of spreading the swaths as soon as the ground was dry, and he always had it well cocked up before night. The next day, if the weather was good, he opened it again; if it did not dry enough, he put it together again; but his object was to get it so that it would do to put it in the barn. He was in favor of using a little salt with it. He had sometimes found his hay heat too much in the mow. From being hurried, he had occasionally put a load in the barn too green. To stop the heat and fermentation which had ensued in such cases, he had made holes in the hay with a crowbar, and scattered in salt. In this way he had stopped the fermentation, and saved his hay in very good order.

Mr. GARRETSON, of the assembly, from Dutchess county, said he generally cut from 150 to 200 tons per year, chiefly timothy and red-top. He generally begun when the grass was in blossom. His method was to cut in the morning, spread the swaths lightly, and in the afternoon put it in cocks. The next day, if the sun came out, it was again spread, and, if made enough, put in the barn with a little salt sprinkled on it. About three quarts of salt to the ton was as much as he used. There was danger of using too much.—He had formerly used more salt, and was satisfied his animals, particularly sheep, had suffered by it. It occasioned scouring, and, by keeping their bowels out of order for some time, they died. He usually got about two tons to the acre. In the latter part of the season, it would sometimes make enough in one day.

Mr. MACK always directed his men to make hay as rapidly as possible. He had often made it and put in the barn in one day, and never had better hay. He was always particular to secure from dew when it must be left over night. It is said by some who had much practice in making hay, that it is never injured from its own internal juice, but only from rain or dew.

Mr. SOTHAM did not like the plan of salting hay, neither did he like the hay that was made in one day. If it could be so made that it would take no hurt in one day, it must have been too dry for good hay before it was cut, or else very light burden. He would as soon have good bright straw for cows or sheep, as timothy hay after it had gone to seed. He cuts clover when a part of it is in blossom and part in the head; cuts all his grass early. It takes longer to make hay cut this early; but for cows, and sheep especially, it was a great deal better. The objection to salting hay was that animals were forced to eat salt, whether they wanted it or not, and it made sheep scour. His hay came out of the barn of a bright green color, and his stock would fatten on it.—There was another great advantage in cutting early; the roots retained their life and strength better, and the after feed and future crops were much more abundant. He did not like timothy for hay; he never saw it in England; the farmers there thought it was too coarse and wiry for stock. Rye grass made good hay; would yield in England two tons per acre. Pacey's was the best variety. Red-top made good hay. He had tried sainfoin; it did not come up well; there was always a difficulty about it in this respect, because the seed was good only a short time; it could hardly be brought across the ocean and vegetate. If we could get it here it would be very valuable, especially for dry lands. As to pasturing mowing lands, some land would not bear it, particularly if wet; but he fed his dry lands very close, in the fall, with cattle and sheep, and experienced no damage from it.

Judge CHEEVER said he would cut his clover in blossom—not sooner. He would let it take the sun one day, but not enough to have the leaf break off; then put it in small cocks and cure it, until, by a few hours' drying, by turning over and breaking the cocks, the fluids would be so far out of it that it may be housed without hurting. The length of time necessary to cure it, will depend upon the state of the weather, and the larger or smaller growth of the crop. Upon this the farmer must exercise his judgment. He would not cut timothy until it had passed out of the blossom. Professor DAVY, in his Agricultural Chemistry, says that 64 parts of clover hay,

cut in blossom, produced 10 parts of nutritive matter, and the same taken in seed; timothy, 10 parts in blossom and 23 in seed. This, in timothy, is probably too much; but that the nutritive matter in timothy improved after the fall of the blossom, he had no doubt. Red-top comes to maturity later, and he did not think there was much difference whether cut in blossom or soon after. He believed timothy cut in blossom would, pound for pound, produce more milk, when fed to cows or sheep, than it would cut afterwards; but for horses and other stock, he thought it more nutritious to stand a little longer. It certainly improved in weight.

He preferred mowing his hay, as far as he could, when free from dews or water. He let the swaths take the sun a few hours, until the top got a little wilted or seared, before turning. It thus held up the greener parts when turned over and spread, and permitted the air to circulate under it. It also gave the ground between the swaths time to dry, which was important in hastening the curing. In this way, he avoided the necessity of turning the hay after being spread, which was one of the most tedious processes through which the hay had to be passed, and of course the most expensive. He never permitted his hay to take dew when it had sun enough to wilt it considerably, if he could help it. The dew discolored it, and he had never been able to restore the fine fresh color afterwards. He preferred letting his hay stand over night in the cock. He could then better tell of its fitness to be housed. It is very easy to break up the cocks and give it more sun if necessary, and the slight fermentation or sweating in the cock, which is checked and dried off in carting, is a great preventive against heating in the mow. Hay heated in the mow is sure to be discolored. Some people insist that it is not injured for feeding, especially to cattle. It may be so. I know that flour, corn, or oats, which have been heated until they are musty, are thought not so good. I do not know why hay should be.

On the approach of rain, I always put all the hay that has had any sun of consequence in the cock. If the storm is a long one, it may turn yellow, so that it cannot be restored, but it will retain most of its nutritive matter and its weight; whereas, if left spread out to take the rain, it loses both, and is much worse discolored. I never use salt upon my hay but upon compulsion. When the weather is good, I dry my hay sufficiently to keep, and as soon as I can I house it: but sooner than leave it out to take a storm, even in the cock, I would put it in a little short dried, and apply salt to save it, as I would sooner have it salted than musty.

Dr. LEE thought it the best way to mow grass after the dew was off; spread it, dry it as much as possible, and rake it into winrow. If it was dried enough—and it would frequently be so—he would load it from the winrow, and save the labor of cocking it up.

Sumach.

Ever since we called the attention of Southern Planters to Sumach as a crop likely to be profitable, we have been endeavoring to collect the information necessary to enable us to answer such inquiries as those contained in the following letter. As yet we have not been able to get the information we wanted. We have no personal experience on the subject, and those persons to whom we have written have not as yet replied to our inquiries. Our readers must, therefore, exercise a little patience, resting assured, in the meantime, that they shall have, in due season, all the information we can collect on the subject from any trustworthy source:

MR. CAMAK:—Some of your readers with myself are anxious to know the mode of cultivating and preparing for market the Sumach, and if the planter would be remunerated for abandoning other crops. We would be glad to know the value of the consumption in the United States, the probable quantity grown here, and the quantity imported. Your readers, no doubt, will be glad to hear what information you may possess upon the subject at length, as many may not have the books you may refer to. Yours, &c.,

Bath, August 1, 1846. C. W.

Asparagus.

Coming so early in spring, and being withal, when properly grown and cooked, so palatable and so healthful, every thing connected with the growth and improvement of Asparagus must be interesting. We have, therefore, given to the following article a prominent place in our paper, in the hope that it may induce those who have Asparagus beds to treat them properly, and those who have none, to set about furnishing themselves with the means of enjoying the luxury of *good* Asparagus. Every direction contained in the article is good—and the results stated are sure to follow—saving and excepting the size. We don't underwrite, by any means, that it will be as large as "my hoe handle" It will be large enough, however, for any use. Particularly as to cutting, is the direction important. Let any one try it, and our word for it, he will never thereafter have his Asparagus cut under ground:

HOW TO RAISE "GIANT" ASPARAGUS.—There are sold in the seed stores several sorts of asparagus, which claim to grow to unusual size, and produce giant stalks. I have bought and planted these sorts, and found them not perceptibly different from the common old sort.

I want to tell you and your readers, if you will have a little patience with me, how I grow common asparagus, so that it will always rival any giant production, whether from Brobdignag or Kentucky. Every one who has seen my beds has begged me for the *seed*—thinking it a new sort—but I have pointed to the *manure heap*—the farmer's best bank—and told them that the secret all laid there. The seed was only such as might be had in every garden.

About the first of November—as soon as the frost has well blackened the asparagus tops—I take a scythe, and mow all close to the surface of the bed; let it lie a day or two, then set fire to the heap of stalks, burn it to ashes and spread the ashes over the surface of the bed.

I then go into my barn-yard: I take a load of clean fresh stable manure and add thereto half a bushel of hen dung; turning over and mixing the whole together, throughout. This makes a pretty powerful compost. I apply one such load to every twenty feet in length of my asparagus beds, which are six feet wide. With a strong three pronged *spud*, or fork, I dig this dressing under. The whole is now left for the winter.

In the spring as early as possible, I turn the top of the bed over lightly, once more. Now, as the asparagus grows naturally on this side of the ocean, and loves salt water, I give it an abundant supply of its favorite condiment, I cover the surface of the bed about a quarter of an inch with fine packing salt—it is not too much. As the spring rain comes down, it gradually dissolves. Not a weed will appear during the whole season. Everything else, pig-weed, chickweed, purslane, all refuse to grow on the top of my briny asparagus beds. But it would do your eyes good to see the strong, stout, tender stalks of the vegetable itself pushing through the surface early in the season. I do not at all stretch a point, when I say they are often as large round as my hoe handle, and as tender and succulent as any I ever tasted. The same round of treatment is given to my bed every year.

I have a word to say about *cutting* asparagus, and then I am done. Market gardeners, and I believe a good many other people, cut asparagus as soon as the point of the shoot pushes an inch or two through the ground. They have then about two inches of what grows above ground, and about four or six inches of what grows below. The latter looks *white* and tempting; I suppose people think that for the same reason that the white part of celery is tender the white part of asparagus must be too. There is as much difference as between a goose and a gander It is as tough as a stick; and this is the reason why people, when it is boiled, always are forced to eat the tops and leave the bottom of the shoots on their plates.

My way is, never to cut any shoots of asparagus below the surface of the ground. Cut it as soon as it has grown to proper height, say five or six inches above ground. The whole is then green, but it is all *tender*. Served with a little drawn butter, it will melt in your mouth. If your readers have any doubt of this, from having been in the habit, all their lives, of eating hard sticks of white asparagus, only let them cut it both ways, and boil it on the same day, keeping the two lots separate, and my word for it, they will never cut another stalk below the surface of the bed.

North Carolina Farming.

In the SOUTHERN CULTIVATOR for February last, (page 27, vol. 4,) we gave an account of the production of 113½ bushels of corn, on an acre of land, in Buncombe county, N. Carolina. This statement naturally excited a good deal of inquiry as to the means by which this result was produced. The editor of the *North Carolina Planter*, addressed a letter to Mr. PATTON, on whose farm the corn grew, and received the following very interesting answer:

PLEASANT RETREAT, N. C, Jan. 2d, 1846.

DEAR SIR—I hasten to reply to your favor of the 19th ult. Your request would have been complied with sooner but for the absence of Mr. Patton and myself, until the present time.

The land on which the corn in question was produced is river bottom, dark sandy soil, one year previous in clover pasture, turned under (in December) from 10 to 12 inches deep, with a large cast mould-board two horse plow. It laid in that condition until the first of April. It was then what we call listed, which is to make one furrow the width we wish our rows and then run one on either side of the first furrow, so as to make a small ridge where the first furrow was made. Ours was done with what we call the twisting shovel, called by some the half shovel, about two-thirds the depth of the first breaking, and the rows 4 feet distance; and the last of April we laid it off for planting, crossing the ridges 3 feet distance about the same depth of the last plowing; so making the hills distant 4 feet one way, and three the other.

We then took manure from a hog pen, where hogs has been fed a considerable length of time, and put one common shovelfull to every three hills on a part of the ground; the other part we put manure in from a cow pen, where cows were penned and fed every night, the manure put up in heaps in winter and let stand so until taken to the field. The manure, after put out in the hills, was mixed up with the soil with shovels, and then the corn dropped on it, and covered three or four inches deep. I put 4 grains to a hill, and when the young corn had from four to five leaves on it, I thinned it, leaving three stalks in a hill, taking out generally the middle stalk, so as to give what was left better room. At this stage I gave it the first plowing with the common shovel plow, deep and as close as I could run the plow, without covering the corn, following with the hoes levelling the earth round the hill, not hilling or hoeing up any earth round the corn. I gave it a second and third plowing, following, in the same manner as at first, with the hoe. I do not recollect the exact number of days between the plowings, but think about 14 or 15. The two last plowings were performed with the twisting shovel, and the last plowing considerably shallower than the first, and not so close to the corn.

The part that was manured from the hog pen grew up faster in the spring and was of a darker green throughout the season, and was better corn than the part manured from the cow pen. I am inclined to think, and from experience too, that either is better on sandy soil than stable manure, and not as liable to fire on any kind of soil we have.

I have endeavored to give you as correct a statement as I could do, how "the thing," (as you term it,) "is done in Bunkum." I am no more than a plain homespun Buncombite, and hope you will excuse my plain and blunt manner of writing. Very respectfully, your ob't. serv't.,

A. PORTER.

Thos. J. Lemay, Esq., Raleigh, N. C.

CORRECTION.—In the remarks prefacing a letter from W. R. Ross to Dr. Cunningham, under the head of "Subsoil Plowing," in our July No., page 106, 4th line, the words "*conscientious* point" should read "commencing point."

Death of Col. A. McDonald.

The Eufaula (Ala.) Shield of the 22d inst. comes to us clad in the habiliments of mourning for the late Col. ALEXANDER McDONALD. Though personally unknown to us, we have been for years familiar with his name and estimable character, and we should be derelict in our duty, while paying this brief tribute to the memory of a sincere christian and zealous philanthropist, not to acknowledge his many and repeated kindnesses to us as publishers of the SOUTHERN CULTIVATOR, with the last most noble effort in behalf of which our readers are familiar.

From the Eufaula Shield.

DEATH OF COL. McDONALD.—The sad duty devolves upon us to record the sudden and melancholly death of our esteemed friend and useful fellow-citizen, Alexander McDonald. He died at his residence in this place, on Sunday morning last, the 16th inst.

A week previous to his demise, he was in the enjoyment of fine health, as robust and active as we had ever known him,—but a few days sickness ended his mortal career—and he lives in another and happier state of existence.

Our friend enjoyed a high reputation among all who had the pleasure of his acquaintance. He was, emphatically, an honest man—he wronged no man in reputation or purse—he spoke evil of none, and his motto seemed to be, "to do all the good he could, and as little harm as possible."

But we did not take up our pen to write an eulogy upon the character of our departed friend,—the reader will find below an obituary, prepared by one of his agricultural friends, in which his efforts to promote the great cause of Agriculture are particularly noticed;—another article is in preparation, by a member of the Church to which he was attached, in which his character as a man and christian, will be held up as an example worthy of imitation. Suffice it then, for us to add, that Alexander McDonald lived the life of a Christian, and died as he had lived—expressing a readiness to answer the summons, if the Lord, in his wisdom, should see fit to call him from time to eternity. He has left an affectionate wife to mourn his sudden departure---and while she drops the tear of griet over the mound of earth which marks the resting place of his mortal remains, her wounded spirit is soothed by the assurance that she will meet him again—

"Where sickness and sorrow, pain and death,
Are felt and feared no more"

OBITUARY.—Departed this life, on the morning of the 16th inst. at his late residence in Eufaula, Barbour County, Ala., Col. Alexander McDonald, in the fifty-fifth year of his age.

Col. McDonald was, for many years of the latter part of his life, a devoted friend to the cause of Agriculture. He not only wrote much in favor of the cause of Agriculture, as the sheets of many of the leading Agricultural works will attest, but he took an active and leading part in holding up and sustaining the Barbour County Agricultural Society. It often happened, in the history of this Society, from its peculiar location, in a new and unsettled country, that it had to struggle through many difficulties. Amid all these times of trial, Col. McDonald would never, for a moment, relax his exertions. The surrounding difficulties appeared only to stimulate him to new exertions—and often, when all but himself, had despaired of its continued existence, by his untiring exertions, he would, in some way, manage to revive its dormant existence, and bring it into new and improved life and action.

His exertions in the cause of Agriculture, appeared to be particularly directed to the culture of Cotton and the improvement of its staple. In this department he was unsurpassed by any one in this section of country, and equalled but by few, in the quality of his cotton.

Col. McDonald has, also, distinguished himself, in his late liberal offer to be one of a thousand to procure twenty thousand subscribers for the Southern Cultivator; and we fear that this laudable undertaking will suffer from his decease.

This active friend to the cause of agriculture, now rests from his labors. His work on earth, is done. His friends feel a well-grounded hope, that he is now reaping the reward of a well-spent life. His example remains for us to imitate; but his cheering voice in the great cause of Agriculture, is forever hushed in the silence of death. C.

Yankee Farming.

We have often, in the pages of the CULTIVATOR, referred to the neatness, economy, industry and enterprise prevailing on farms in New England:—so often indeed, and in such terms, as perhaps to make some Southern Planters despair of ever attaining to any thing like the same perfection, in the practice of their profession. Now, as a small crumb of comfort to such despondents, if any such there happen to be, we present to them another view of Yankee Farming. How must our lazy conks of the sunny South be exalted in their own estimation, when they learn that "two thirds of the New England Farmers," notwithstanding all that has been said in their praise, carry on their business pretty much as the like business is very generally carried on here. Read the letter which follows. We find it in the "*Boston Ploughman;*"—and really it reads very much like a description of very common Southern management;—so much of it at least as describes the practice of the aforesaid "two thirds of the New England Farmers."

SAVE ALL THE MANURE.—*Mr. Editor*,—Manure! Manure! What can a farmer do *without* it? What *can't* he do with it? And yet though all may admit its worth, how far from economical are many in its manufacture or application. If the yards are well filled with "stuff from the sides of the road" once a year, and well plowed through the summer they consider nothing more can be done in the way of "making manure."

Now, for a moment, to consider what we depend on to impart value to our compost heap. Of chief importance is the solid excrement of our stock. Two thirds of the New England farmers allow the sun and rain to waste half of this article. How? Why! They throw it out from their stables daily on to the heap in just sufficient quantity to *shingle* it well over so that by the next morning's contribution that of the previous day is as dry as a last year's robin's nest! If, instead of the sun, we should have a "dull spell," the heap fares little better. The fall of several hogsheads of water from the eaves, washes off the finest part into the road, or perhaps the well.

Then as to liquid manure. Our friends who practice as above stated, don't know anything about it. Their barns set flat on the ground. All that falls, escapes to the ground, or dries up on the floor. Again, look at the cow-yard All the droppings lie scattered about, game for chickens. If it should be a fair day, no risk of clean stives at night!

Without any apology, a few words as to *my* way. I occupy a barn with a *cellar*, which is my hog-pen. A scuttle in the floor enables me to tip down a load of rich earth from the bank of the river, every few days. I keep the hogs at work mixing this up with all the droppings, which, whithout the *least exposure*, are put down. Rainy days, when some of my neighbors "go a fishing" I slake a cask of lime down the scuttle, and then step in among *very* respectable company and finish what they may not have completely done.

Manure is the *food* of plants in a great measure. Something may be obtained from the atmosphere and the earth, still manure is the cause of beautiful and luxuriant vegetation. *Let none be wasted!* SAVE IT ALL!

Concord, July 18th, 1846. W. D. B.

Original Communications.

Green Barley a Substitute for Indian Corn.

MR. CAMAK:—Having noticed in the May No. of the CULTIVATOR, an inquiry from one of your South Carolina correspondents in regard to Barley, and not having noticed in any of the succeeding numbers a response to that inquiry, I hope you will consider it in good place, as the season is fast approaching for sowing, to suggest a few particulars, the result of some experience and observation, touching the cultivation and use of this important and too much neglected grain. I say important, because it is the deliberate opinion of the writer that there is no small grain of more importance to the farmer, or that will make so profitable a yield to the same quantity of ground. That it is neglected needs no demonstration, as perhaps there is not one dozen farmers in every fifty in the South who make any sort of advantageous and successful use of this almost perfect substitute for Indian corn.

Having been a peculiar subject of the unprecedented drought of 1845, which for a time hung like an incubus upon the energy and industry of the agriculturists, paralyzing, in some sections, his best directed efforts, I immediately set about taxing my managing and economical powers, to see if anything could be done to make up for a deficiency of corn, where not more than one-fifth of a crop was realized. Among the most successful of these efforts was that made in the cultivation of Barley.

After hauling a considerable quantity of stable manure, ashes, rotten straw, &c., upon a little more than one acre of thin land, sufficient, I would say, not to be more particular, to give the entire surface a tolerably good coat—the lot was well broken up, having previously spread the manure as regularly over the surface as could be conveniently done. The barley was then sown, about a bushel and a half to the acre, and well plowed in. This was about the 10th of October. The whole was then turned loose to the seasons until some time in February, having kept fat during this time a large gang of pigs, without a grain of corn The winter, being unusually severe, thinned the stand very much, perhaps one-sixth the quantity which stood upon the lot having perished by cold.

At the above specified time, February, my mules and horses were growing quite thin under hard service upon the daily use of twenty-four ears of corn, cut oats, fodder, straw, &c, in sufficient quantity. A resort was now made to the green barley, it having grown sufficiently high to grasp in the hand and cut with a reap-hook. It was soon ascertained that this food was prefered by the stock to all other kinds, corn not excepted. A reduction was therefore made in the quantity of corn, from twenty-four ears per day down to only five, to each horse or mule at night, and the other food considerably lessened. Under this latter course of feeding my mules and horses improved and did better than upon the original plan above stated.

This small lot continued an abundant supply for six head of working animals for nearly two months, filling three large troughs each day at noon and night during the whole time. The result was a neat saving of at least fifty bushels of corn, and a considerable amount of oats, fodder &c. In addition to all this, there was great improvement in the health and appearance of the stock.

These animals were kept at hard work during the time they were fed upon this green food, notwithstanding which fact, they did not sweat or scour more than ordinarily. This is a remarkable fact, not understood by the writer, as all other kinds of green food used to the same extent by working animals, will produce these effects more or less. These facts have suggested the belief, that green barley is *sui generis*, possessing peculiarly fibrous, esculent and nutritious qualities not contained in any other species of green food.

Green wheat and oats were also used, of which the former is best, but neither can be fed to working animals to any great extent without the ordinary quantity of corn and fodder at the same time, as they will weaken and reduce the animal by sweating and scouring. I have also been informed that green rye will not answer alone for working animals, it not being sufficiently nutritious to sustain them during hard labor, and is liable to weaken by sweating and purging.

It is believed, from the writer's experience and observation, (and this opinion has been abundantly confirmed by some of the best farmers in this portion of Georgia,) that green barley in the spring of the year is the best food for horses known in this country, when combined with a small quantity of corn and fodder or cut oats. Horses kept stabled and well attended to otherwise, will fatten faster on an abundance of green barley, a little meal and cut oats, than upon any other combination of food known in this country. This is a matter of experience alone, independent of chemical analysis. Whether the elementary principles which exist in fat are superabundant in green barley, the writer has had no means of determining, not being prepared to analyze the article.

The rule to be observed in feeding working animals, or those to be fattened, is to keep them well salted, give a little dry food, and then give them as much barley as they can consume, which is no small quantity, as they are exceedingly fond of it, preferring it to all other kinds of food.

Green barley is also an excellent food for milch cows, sheep and hogs, fattening the latter almost equal to corn. There is very little doubt that a luxuriant pasturage of barley will keep hogs in better health and order than all the corn that is commonly spared by farmers for hog feeding. As barley is of a very exuberant growth, small fields from five to ten acres of it could be cultivated with but little expense for this purpose, and thereby save all the trouble and expense of feeding hogs on corn during the winter and spring. In addition to all this, after the hogs have grazed all winter and spring, up to the first of April, they may then be taken off and the barley will seed, and make a fine yield if the ground is well manured. After saving a sufficiency for seed the hogs may again be turned on the pasture; and the writer affirms, without jest, that of all the grain that he has yet tried, barley seeded will make a poor hog curl his tail the soonest. But be careful to keep other stock from the pasture, after the barley begins to get dry, as the long beards will make the mouth sore, and also lodge in the throat and produce a bad cough This does not occur with the hog, he masticates the dry heads with impunity. It may be understood then, that dry barley, before it is threshed out, does not answer for the cow or horse. But after the heads are well beaten and broken with the flail, so that the mouth and throat will not sustain injury by the beards, a bushel of barley is said to be superior to the same quantity of corn for any kind of stock.

To every farmer at the South who has not yet cultivated barley, I would say, fail not to make the following experiment the coming fall: Lay off a lot one acre and a fourth in extent, haul out a sufficient quantity of stable manure, ashes, rotten cotton seed, either or all combined, to cover its whole surface, so that there will be no mistake about its being rich, for if it is not rich it will not answer for barley. Then use a subsoil plow, long coulter, or some long plow, if neither of the first named are at hand. After breaking up once or twice thoroughly when the ground is in good order, sow from a bushel and a half to two bushels barley, as regularly as possible, and plow or harrow in, and without a remarkable accident, the writer vouches, that there will be no acre upon the farm, that will make so profitable a yield.

Nothing larger than small pigs should be permitted to run on the lot, as treading will prevent the luxuriant growth of the barley. As soon after Christmas as it gets high enough to cut with a reaping hook or mowing scythe, it is ready to commence upon, and by the time you have cut over your lot it is ready to cut over again, and so on for several times. After it gets high it may be cut with the cradle. It should be cut regularly each time, as any that may be left will go to seed, and probably be gathered at the next cutting and injure the horses' mouths. One-fifth of the lot should be reserved without cutting for seed.

If farmers who have from ten to twenty head of working animals would prepare and sow three lots of this sort, successively on the first September, October and November, they could have a continued supply of the best and healthiest food for their stock throughout the spring. But let me repeat to any farmer who may chance to come short in corn, that barley cultivated successfully is a perfect substitute for this staff of life, so far as specified in the preceding remarks.

I forgot to mention at the proper place that cow-penning is an excellent way of preparing those lots, if thoroughly done.

Respectfully, A. C. Rogers.

Woodlawn, Crawford Co., Ga., Aug. 1, 1846.

Respect for Labor.

Mr. Camak:—It has always been the avowed object of our agricultural journals and societies, not only to improve the soil and increase the products of the country, but to elevate Agriculture as a profession. Your correspondent will attempt to show, that they have not yet fully succeeded in attaining the latter object, and that many popular notions of the day in regard to the respectability of the learned professions, are fraught with injury not only to the planting interests in particular, but to society in general.

That agriculture does not occupy that rank among the professions which it so justly merits, and is destined yet to assume, is obvious to the most casual observer. In fact, the great mass of the people regard Medicine, Law, and many other professions of life, as far superior to it in point of respectability. And strange to say, this belief is fostered and encouraged by the planters themselves. In vain may the honest and hard-working yeomanry of our land complain of the low esteem in which agriculture is held, while they pursue a policy so adverse to their interests—so suicidal in its very nature. It appears to be a great desideratum that the youth of the country should distinguish themselves or "*astonish the natives;*" and to accomplish this desirable end, they are advised to abandon the pursuits of their forefathers and embark in the speculations of trade, or, what is still more gratifying to parental vanity, study some of the learned professions. By paternal influence, the talents and energy of the country are thus diverted from their proper channel, and the unhappy victims of a false ambition are thrown upon the tender mercies of public professions to reap their precarious and uncertain rewards. As a necessary consequence, too, these highly lauded pursuits are completely over-stocked with candidates for public patronage, and we often recognize in the loafer, the drunkard, and the gambler, an unsuccessful competitor, who bears with a very ill grace the burden of a learned profession.

To compute the whole amount of evil that accrues to the community from this unpardonable folly would be a difficult task. We may, however, safely conclude that these zealous devotees at the shrine of distinction lose in the items of health, happiness and integrity of character. They lose in health, because long years of close study and bodily confinement are requisite for acquiring a profession as it should be acquired. Indeed, bad health may almost be considered an index of qualification in the learned professions, as their most distinguished votaries are so often found in that condition. Besides the inroads made by ill health upon happiness, the constant fear of failure, their entire dependence upon a fickle populace for patronage, and the bustle and turmoil of a public life, must greatly curtail their peace of mind. Agriculture, as is generally admitted, is more conducive to virtue than any other profession; and when an individual abandons it and substitutes another in which there is a constant scramble for employment, and flattery and sycophancy not only form the order of the day, but often *carry the day*, he must necessarily divest himself, in a great measure, of that stern independence and moral courage, which have always been the distinctive traits of the farmer's character. These remarks are not intended to throw any obloquy whatever upon the learned professions or their advocates, but simply to point out a few of the physical and moral dangers that beset them, and to expose the folly of deserting agriculture and embarking in those professions when so much is lost by the exchange.

Among other causes that have contributed to lower agriculture in the scale of respectability, is the contempt with which manual labor is regarded by a certain class of the community who, in their own estimation, form the very cream of gentility and refinement, "the upper crust" of society. This contempt is carried to such an excess that some of them would almost be ashamed to notice homespun honesty if found between the handles of the plow. These sage exquisites can see nothing clownish in making a box of pills, or in filling out a writ or subpœna; but in plowing a furrow of land or planting a grain of corn, there is something very ungent el—there arises an unpleasant odour "betwixt the wind and their nobility." What did not disgrace Cincinnatus in the proudest days of the Roman Republic, would throw a foul blot upon the fair escutcheon of *their* character. It is strange that a belief so contemptible in itself, and originated by the drones of society, the non-producing loafers of the day, should exert an influence so extensive and so prejudicial to the respectability of agriculture as a profession and occupation.

But sufficient has been said to show that our agricultural journals and societies have not yet compassed one of the prime objects of their existence, however useful they may have been in other respects. To introduce new and superior methods of culture, and to improve the soil and stock of the country, does not embrace the whole duty of the planter: it should be a point of professional pride with him to render his pursuit attractive to all classes of the community *for the sake of its respectability*—an end that can never be attained while manual labor is considered a drudgery and disgrace, and the planters who engage in it, clowns. The youth of the country, too, should remember that two of the most distinguished sages of the "Eternal City," Varno and Cato, in ancient times, wrote upon agricultural subjects; that the inimitable Georgics of Virgil are treatises on husbandry; and that Jussieu, DeCandole and Liebig, in modern times, have been proven to associate their illustrious names with agriculture when developing the constitution and organization of the mineral and vegetable world.

The odium and contempt that are thrown upon the manual labor of the agricultural and mechanical professions, must have arisen from the fact that this kind of labor is mostly carried on by the poorer classes, (who are obliged to do it,) and by the negro slaves. The exquisites of the day, from a fear of being looked upon as individuals of the Plebeian and Ethiopian orders, have thrown their ridicule not only on these classes, but upon the occupation itself. It is hoped, however, that the worthy yeomanry of our land will no longer tamely submit to this discipline, but rise up in the might of their power and revenge the insult offered to the great mother of all the arts, sciences and professions of life.

I will now conclude, Mr. Editor, hoping that an abler correspondent will suggest some plan, by which, if manual labor cannot be raised in repute, it may, at least, escape some of the ridicule cast upon it by the *would be* aristocrats of the country. Very respectfully, yours,

Carolinensis.

Fairfield Dist., So. Ca., July 28, 1846.

Dried Peaches.

Mr. Camak:—I received a few days since the regular numbers of the 4th volume of the Southern Cultivator, and have been confined to my house through indisposition ever since. I have read portions of the first four numbers, and must say to you, I am much pleased with their contents. I have felt a deep interest in an improved mode of cultivating our lands in this country, and since reading your valuable paper that interest has been greatly increased. I think I have discovered recently in the community a growing anxiety in the subject. I intend to act with more energy, and endeavor to arouse myself and neighbors to a proper investigation of facts, and try to form a Society. If we succeed, sir, we may call upon you and your valuable correspondents for further information, and we shall need the Cultivator, of course, to impart that information.

As the season for drying fruit is now at hand, and not being apprised that the readers of the Cultivator would not be pleased to know how to save the dried peaches from the worm or bug, which costs them so much trouble to procure, I will let you know what the experience of my family is on that subject, and if you think it useful you can let your readers know it.

So soon as we get our fruit well dried, we put them up in sacks, and mix freely through the whole sack the green China leaf; we have used the berry but think it safest to use the leaves.

We put the sacks safely away, and find no necessity ever after to sun them. Those we have now of the last year's crop are as pure and bright as when put up.

Yours respectfully, CHAMBERS.

Oak Bowery, Ala , July 25, 1846.

Another Corn-Sheller.

MR. CAMAK:—I see in the February number of the Albany Cultivator a communication from Mr. C. N. Bement, in which he speaks in very high terms of Mr. T. D. Burrall's Corn-Sheller. He thinks it quite an improvement upon all its predecessors. The cut as presented to us in the Cultivator is certainly a neat little affair. I have no doubt it is a good article and well worthy of public patronage, and its inventor has my best wishes for its success. Every farmer should rejoice to see such improvements in anything so well calculated to facilitate any portion of his necessary business, and certainly there are but few articles more necessary upon every farm of any extent than a good corn-sheller.

But Mr. Bement, in his amusing account of this machine, says it's "a mere pocket edition, and is capable of shelling from ten to twelve bushels per hour."

This is all very well, and no doubt very true. But he goes still further and says, "it cannot be beat." Now, 'tis an old saying, that Doctor's will differ, and why may not farmers differ also? I, too, have a corn-sheller, a plain, substantial concern, got up at home, (though the principle is not entirely new,) made at home, and kept only for home use. All the materials of which it is made cost me perhaps not over a dollar, and the mechanical labor nothing, as it was done by my own rough workmen. It is as plain and simple as anything can well be imagined to answer its purpose, has been in use for several years, and no loss of time in patching or mending; and as to durability, I think I can go a little farther than Mr. Bement has done, and say that mine will not only "last a man's life time," but will do his children after him; and I can see no good reason why the grand children that follow should not find it a good old sheller, still doing good work. But as this is speculating a good ways in the future, I will come back to facts as I have them before me.

I have never made but one trial to ascertain what quantity I could shell in any given time. A few months since in shelling my seed corn, at the winding up, I had a lot of fine large ears. The floor had been previously cleaned up, and when everything was made ready, the boys went at it in good earnest, and in just 20 minutes the last cob was stripped naked; and on measuring up, which was done carefully, I was somewhat surprised to find we had 12½ bushels, being at the rate of 37½ bushels per hour. I am perfectly satisfied from this trial that the machine is capable of shelling 40 bushels per hour. But to do this it requires four hands; one to turn it, and three to feed. It shells but one ear at a time, but does it in such a hurry that no two hands can keep it supplied. It shells large, small and short corn equally well, and a large ear as quick as a small one. The cobs fall under the machine in the edge of the corn, but I find it a very trifling job to separate them in taking up the corn. I would be glad if I had it in my power to send you a cut of this machine, and still more so if each one of your subscribers (who has any corn this scarce year,) had one of the machines to shell it with. P. E. DUNCAN.

Greenville, S. C., April 3, 1846.

Florida Coffee.

"Within the infant rind of this small flower,
Poison has residence, and medicine power."
Shakspeare.

Observing in the CULTIVATOR for December last, some inquiries made respecting the Florida Coffee, I take the liberty of answering your subscriber, who turns out to be a neighbor of mine, and with whom I have since had communication on the subject. It has been observed ever since this weed made its appearance in this part of Alabama, that no animal or bird eats its seeds or roots or leaves. This was the result of the observation of planters, and regretted; but it is a mistake. I have for two years past observed that my hogs eat both the roots and seeds: as soon as I perceived this, I likewise perceived another fact, which I connected with the former as cause. I ceased to raise hogs, and what I had already raised began to die. I am well aware that throughout the neighborhood, and as far as I could draw information, that the death of hogs, and even a cessation in the propagation, to a great extent, of the species, became the general complaint amongst planters. Whether I am correct or not, in ascribing the calamity amongst the hogs to the right cause, I will not determine; but this is my opinion. It has become so general a complaint that now most planters are in market buying meat—many who never bought before, and some who have been in the practice of selling pork. The general scarcity of meat and the failure to raise hogs, or the difficulty, has been commensurate with the growth of the Florida Coffee, and may be the cause. This I leave for further observation. The root, in taste, is much like aloes. The seeds are very hard, and have a faint, nauseous taste--both poisonous, I have no doubt, else birds, fowls and beasts of all kind would not be so averse to it, and unless upon the point of starvation, for want of corn and mast, will not touch it. Being so well convinced of its deleterious effects upon my own hogs, and thinking it might have some influence as a cause of the great scarcity and difficulty in raising hogs, will be my apology for troubling the public with my crude notions—hoping at the same time that I may be mistaken. Your subscriber,

W. AWTRY.

Burnt Corn, Alabama, July, 1846.

Paying our Debts--Ground Nuts.

MR. CAMAK:—In looking over the Calendar for January in the first number of the 4th volume of the SOUTHERN CULTIVATOR, I find the following:—"If you have any valuable facts to add to the general stock of knowledge, prepare and send them for publication, as a partial return for the advantage you have received from others on similar subjects." Now, my dear old friend, I have been a regular subscriber to the CULTIVATOR from its first number, and I may say also that I have been an attentive reader, gaining from it much useful knowledge, and a severe spurring on to exertion in my vocation, which, I believe, in the long run, will add to the weight of my pocket as well as to the heft of my crops. I regularly sent my dollar, and as regularly received the CULTIVATOR, and appropriated the knowledge gained from its numerous correspondents to my own benefit for the last three years, without once dreaming that I was still in debt.

I must thank you, friend Camak, for the gentle hint just quoted above, reminding me that although I have paid my dollar to the publisher, I am still in debt to my brother farmers for knowledge gained. I will now proceed (and hope all the readers of the CULTIVATOR will do the same,) to pay a portion of my debt, by telling a correspondent of yours how to make Ground Peas or Ground Nuts.

In the March number of the present volume, page 41, I find the following editorial:

"GROUND NUTS.—Though the cultivation of this article is connected with our earliest recollection of field labor, yet we must depend on some of our correspondents to supply the information wanted."

I think the best time for planting the Ground Pea is about the first of April. Lay off your ground precisely in the old way for planting corn, say four feet each way, throwing three furrows together one way, and then crossing with one furrow. Shell your peas and then drop two knernels in each cross, and cover shallow, whether with the hoe or plow. The poorest sandy land that you have is the best, if you can put a handfull of manure in each hill to enable the plant to spread out its leaves to the sun. After the pea is up, break up your land with the scooter plow, and make it as mellow as possible. The after culture must be done with the sweep, taking care not to run under the vines so as to cut off the young peas that are just forming. Let the hoe hands follow the sweep and carefully pick out the grass and weeds from the hill. In no case must the vines be hilled up, or dirt put upon them. If rabbits are suffered to nip off the leaves, notwithstanding they do not touch the vine, it will stop growing and refuse to bear. That will show how important it is to have the vines lie flat on the ground and turn up their leaves to the hot sun. The ground pea is like the old negro Rabbit, it is good for everything. Horses and mules will eat vines and peas. Milch cows are very fond of them, and I have never found anything that would fatten hogs half so fast or make half as delicious bacon. As soon as you begin to expect frost, commence gathering by running a scooter plow under the vines and loosening the ground, so that the peas will draw out without tearing off of the vine. Then let a hand follow with a long grubbing hoe and strike into the root of the vine and lift it up and shake off the dirt and turn it over to be cured in the sun. After the vines are cured they may be stacked or housed according to convenience. A. R.

Woodland, Hamilton Co., Fla., July 25, 1846.

Planters! Respect Your Profession.

MR. CAMAK:—At the expulsion of our progenitors from the garden of Eden, and not until, by the great increase of their progeny, they had eaten all the fruits of that delightful abode, and not until Mother Eve, with that laudable curiosity characteristic of her sex, had partaken of the only tree left in the garden untouched and forbidden, did our eyes and understanding become open and enlightened. It was then agriculture especially, as well as all other arts and sciences, dates its origin. It was that act that assimilated us to God, and displayed to man his nakedness and ignorance; without which, he would now be a naked, ignorant and wandering savage, seeking a precarious existence by instinct. Is it not surprising that the occupation ordained by our Creator for man, and taking precedence of all others, should now be in its infancy, whilst most of the other arts and sciences have arrived at their culmination? I was led into this train of thought by seeing and observing how particular, even our planters are, in selecting and devoting their brightest and most intellectual sons, to Law, Physic and Divinity, whilst the dullest were invariably destined for the farm. True, most of those reserved for the farm are taught to read; but what do they read, or study? I will tell you by giving you an account of some young planters whose father is independent; after which, you may judge how applicable the picture is to your own acquaintance. In their bed room was a blowing horn and a fine double-barrelled gun. At his door was outstretched half a dozen or more emaciated hounds. On his walls were hung, with the horn, his ammunition bag and his Sunday clothes. With these last, he would invest himself to show out his handsome person and empty head, at a protracted meeting, a muster, or a Temperance gathering, where he was sure to meet Lawyers without briefs, Doctors without patients, and Farmers too lazy to work, with some Divines more vain than pious, and some boarding-school Misses, not there for the purpose of catching the young planter, but for some other profession, whose votaries had some brains, some information, or at least a show of it. Even the common foot pedlers would oust the planter's sons with the ladies.

Now, sir, how has this this state of things happened? It all comes from the prevalent prejudice against "book farming." We have religious, political, and even temperance papers, besides scientific journals; and of all these we may feel proud—but why may not agriculture be promoted by papers as well as other branches of human knowledge? Let every planter then commence his education, and no matter how old, he will be benefitted himself as well as benefit others. He will find that himself and sons will soon cease to bear the op-

probrious epithet of clodhopper, and find themselves on an equality with the learned professions, and compete successfully with them for the various offices in the gift of the people, and fill them as honorably and ably.

I will venture the assertion that no profession is calculated so well to expand the mind and improve the morals as agriculture--none so well calculated to impress upon our minds the wisdom and goodness of our Creator. There is more philosophy in the growth and maturity of a single ear of corn, than in all the artificial tinsel of a court, or even in the prodigious results of steam and magnetism. Look at the graceful figure of the stalk—its tinsellated crown and silken zone, and then the luscious ear, teeming with its lactiferous and rich juices. Then look at the multifarious purposes it can be made to subserve. Let me enumerate a few, that the young planter may open his eyes to the importance of his calling. We first contemplate its beauty, even in its sere and autumn leaf, then its rich and nutritious grains. It even begins, before maturity, to afford food. When ripe, it feeds man and beast, and affords the toper a delicious alcohol. After this view, let him calculate the number and extent of its roots, and he will be (to go no further,) lost in wonder at the great provision nature has furnished it for its support, and will suggest many useful hints for its proper culture.

If you think these few desultory observations will aid in the smallest degree in promoting the cause of Agriculture, and stimulating the planter to greater efforts to improve his mind, as well as his barren soil, give it a place in the CULTIVATOR, and oblige an

AMATEUR PLANTER.

Burnt Corn, Ala., June 30, 1846.

Rowe's Corn-Crusher.

MR. CAMAK—By request of Mr. Hurt, of Ala., made through the SOUTHERN CULTIVATOR of last month, I undertake to give him some of the particulars respecting my corn and cob crusher. Mr. Rowe of Cincinnati, Ohio, is the inventor. I purchased mine of Dr. J. Shelby, of Nashville, Tenn., one of Mr. Rowe's agents. It cost me, in that city, $250; freight, by the way of N. Orleans and Savannah to Macon, about $33.

Mr. Rowe says that one of these crushers will last a hundred years. Perhaps it will. I see nothing in the wear of the one I have to dispute it, notwithstanding one can certainly be afforded for less money. The weight of one is near 2500 lbs. nearly all cast iron. The one I have in use will grind about forty bushels per day. By adding weight sufficient it can be made to grind much more. The grinding or crushing is done by two cast wheels running round in a cast circular trough or hopper. In this trough the wheels are set opposite each other, six feet apart. There is no gearing required to put one of these crushers in operation. Two mules or horses is team sufficient to work one. It requires a house 34 feet square and 12 feet pitch to put one in for successful operation. After one of these crushers is properly put up for grinding, it cannot be put out of order by fair means.

I need not undertake to describe the work that has to be done by a mechanic to put one of them in operation, as Mr. Rowe sends printed instructions to enable a mechanic to put them up. After adding a fair price for a house to work one of these crushers in, to that of the crusher, with all other expenses, making at least $400, most men will be their best judge whether it would be good economy to have one or not. By referring to my communication of last November or December, there may be seen some account of the different articles which I had ground in mine, as well as the quantity of corn I believed I should save by its use in one year. I am, dear sir, yours respectfully, &c., JOHN FARRAR.

Stanfordville, Ga., August 14, 1846.

Though a man without money is poor, a man with nothing but money is still poorer.

Mastodon Cotton.--Circular.

DEAR SIR:—The great attention awakened by the introduction of the MASTODON COTTON into the United States, together with my earnest desire that it may succeed in promoting the great interests of the South, may be a sufficient excuse for this communication.

The seed were procured (as I suppose) near the northern extremity of the Gulf of California, where there are extensive uninhabited regions, and where cotton of various kinds is sometimes found growing wild. Its transfer to Mississippi therefore (the same latitude,) keeps it still in its native climate.

That you may not be imposed upon in the purchase of seed, it is proper for you to know, that, with but two stalks growing in 1842, its cultivation in 1844 had not extended beyond my plantation, except in a single instance in my neighborhood. In 1845 it was first raised by others. But its valuable properties not then being generally known, it became much *mixed* and *crossed*, in many instances, with other cotton; and hence the vast quantities of *mixed seed* throughout the country. And besides this, *extensive frauds* have been committed by the sale of quite different kinds of seed as "Mastodon." *A large commission house in New Orleans has been extensively engaged in this business*, and many parts of the country have become flooded with spurious seed.

Should you wish to cultivate the Mastodon, you would do well to get seed that is *genuine*, and it is nearly equally important, that it be neither *mixed* or *crossed* with other cotton. I would also suggest the greatest care in keeping your seed pure. To prevent it from degenerating, plant small quantities of *picked seed* occasionally, to use for seed.

I have from the first taken the greatest possible care of my seed, and have my present crop growing entirety from PICKED SEED. I shall put my seed up carefully for sale, with my name on each sack. They may be had in New Orleans of Buckner & Stanton, and Hooper & Merrye; in Mobile, of Mauldin & Terrel, and shall also have agencies in the principal places in Alabama, Georgia and South Carolina. To secure *my seed* it should be specially inquired for.

The Mastodon should be cultivated precisely as other cotton, except that it should have a little more distance. The seed are very large and white. To obtain a high price for the cotton, it should be handled and ginned well.

By taking the "SOUTHERN CULTIVATOR," Augusta, Geo., $1 per annum, you may learn more upon this important subject. Almost any of the Southern newspapers will be of value to you in this respect. Allow me also to say, that my brother, Maj. M E. Abbey, of Columbus, Miss., and Mr. D. F. Miller, of La., have, I believe, taken great pains in preserving the purity of their Mastodon seed.

By noticing these remarks and circulating them among your friends, you will promote the interests of cotton growing, and oblige yours respectfully, R. ABBEY.

Boston Plantation, near Yazoo City, Mi., Sept. 1, 1846.

TO CURE A BURN.—A lady, a preacher of the Society of Friends, in New York, was so successful in curing burns, that many of the lower class supposed her possessed of the power of working miracles. The following is the recipe for the medicine:—Take one ounce beeswax, with four ounces burgundy pitch, simmered in an earthen vessel together, with as much sweet oil as will soften them into the consistency of salve-when cool—stir the liquid after taken from the fire till quite cool. Keep it from the air in a tight box or jar. When used, spread it thinly on a cloth and apply it to the part injured. Open the burn with a needle and let out the water till it heals.—*Exchange Paper.*

Multiply the figure 9 by any other single figure, and the two figures composing the product added together, will make 9. Thus 9 multiplied by 4, make 36, which two figures added together, makes 9.

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1844, *and arranged to suit the Southern States.*

CALENDAR FOR SEPTEMBER.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

From the 1st to the 20th of this month is the proper time for sowing wheat in the Northern States. If put in before, excessive heat and drought prevents early and rapid germination, which is desirable, and exposes it when up to the ravages of the Hessian fly. If sown later, the plant seldom acquires sufficient depth and strength of root to stand the frost heaving of winter, and it is more liable to mildew or rust in the following summer. As this is the great agricultural staple in many of the States, it is of vast consequence in the aggregate, that every precaution should be taken to insure good crops. If clay lands have been pared and burnt, or under-drained, or well charged with enriching vegetable manures, by which they have become lighter and more pervious to air and water, it is sufficiently prepared by two good plowings a little time previous to sowing; if such condition is lacking, no proper preparation can be made on such soil for wheat, without a good summer fallow, in which the soil is thrown up, where not saturated with rain so as to bake, and exposed to the ameliorating influences of air, sun and dews. When this has been thoroughly done, such soils produce a large growth of the best wheat, and in Europe they are universally considered the very choicest wheat lands. When the ground is in good condition to receive the seed, it may be sown and harrowed in with a heavy drag, burying the seed about four inches. The experiment has been tried for a series of years in Scotland of plowing it in to a depth of six inches; but we lack evidences of its utility in this country. The seed should be *perfectly clean*, free from light chaffy grains. To insure this, either raise it yourself, such as you know to be good, or pay a little extra and get it from an approved source, by which you will secure another advantage more than equivalent to the additional cost, the benefits of a change of soil which is an advantage in all seeds The next operation is preparing the seed. This is usually done by washing it in a strong brine, in which the light and imperfect grains and the smut will float, and may be poured off. If very smutty, it should be washed three times thoroughly. After the brine has been mostly drained out, quick lime must be sifted upon it, and stirred so that every grain shall have a good coating. This process assists the future crops in two ways, by effectually destroying smut, and by giving an early and healthy growth to the plant. This is the system adopted by the best wheat-growers in the central part of New York, the great granary of the North Young's Annals gives the result of several experiments in sowing wheat, which proved that while one bed of unprepared wheat gave 377 heads of smutty wheat, those soaked in ley twenty-four hours, and lime water the same time, each, gave not one head of smut. This month seed corn should be selected. It can only be well done in the field. It ought to be taken from those stalks which have the greatest number of large, round, well filled ears. In this way the Baden and the Dutton corn have attained all their well earned celebrity. Never top your corn. It may dry up after topping, but there is an end to nourishment, as all the sap that goes to make the grain, first ascends into the leaf above the ear, where it is elaborated and perfected, and then descends to the ear for the perfection of the kernel. Fatting animals should now be pushed with all imaginable speed. Much more flesh can be put upon them from the 15th of August till the last of November,

than in the same time during the cold weather, and on a much less quantity of feed. Indeed, so important is the difference, that it would be judicious for every man to reserve grain enough from his last year's stock, to feed his swine, cattle and sheep till his new crops are in readiness. If you have the right kind of swine, Berkshire, China, or any of the best improved breeds, they may be got in excellent condition on a clover pasture, the droppings from the orchard, and the slops from the dairy, so as to be easily fitted for the butcher. The exportation of pork to Europe, and its large consumption for lard oil, recently commenced in this country, will make it a most important object for the farmer hereafter, to select and propagate only the best breeds. Finish cutting and securing your crops of hemp and tobacco, if not previously done.

Kitchen Garden.—Select a dry, warm, protected place, and plant the lettuces sown last month for spring use. If the weather prove dry, let them be well watered. Early in this month the Spanish kinds of radish can be sown, and on the approach of frost taken up and preserved for winter use in the same way as turneps or beets. Hoe and thin out the crop of turneps during this month. About the middle of the month, sow cabbage seed to remain in the seed bed all winter, and be ready for transplanting in the spring. Sow cauliflower and broccoli also to furnish plants for the spring. Gather each kind of seed as it ripens, and dry it well before putting it up.

Fruit Garden and Orchard.—Budding and inoculating peaches can be continued, and also the other fruits as long as the bark will peel. Trees and shrubs may be propagated by cuttings and layers. When it is necessary, trim pines, firs, walnut trees and maples, as the sap will not so much exude as in the spring. Plant beds of strawberries.

Flower Garden and Pleasure Grounds.—The directions for last month will also apply to this. Prepare beds for planting tulips, hyacinths, anemones, ranunculuses, and other flower roots and shrubs that are to be planted next month.

Plantation.—In this month, as well as the two succeeding, much time will be occupied in picking cotton, ginning, pressing and hauling. Pick the cotton clean; admit no trash; look for the quality rather than the quantity. Do not attempt to gin too much in a day; let the mules take a steady, slow gate, for rapid motion will cut and break the fibre. In pressing, put in about 450 pounds in a bale; run the screw well home, and cover every particle of cotton; sew the sides and ends of the covering neatly, while in the press, if possible; put on not less than seven ropes—eight is more common.

In this month or the next sow Egyptian oats, rye and wheat. Sow 2 to 3 bushels of oats, and 1½ to 2 bushels of wheat or rye, to the acre. Sow grass seeds both in this month and October.

Do not pick cotton when wet, for, besides the trouble of drying, the dirt and leaf become attached and stain it; and it frequently happens that quantities of cotton are kept wet by cloudy, rainy weather in September, in which the seeds sprout and injure materially the product. A few of those wet days can be employed in housing corn, gathering peas, preparing pastures, fencing and other repairs.

In Florida and the southern part of the Union, three cuttings of tobacco can be taken from the original plant; the last cutting, however, will be of rather a weak quality. As soon as one crop is cut another immediately springs up. In selecting the sprouts, only one to each stalk should be allowed to grow, and this from those the most deeply rooted—all other sprouts should be destroyed. If, however, a plant is allowed once to be checked in its growth, it can never recover. In promoting the drying of the leaf, fire should never be resorted to, because it would impart a flavor injurious to the tobacco itself. In order to procure vigorous tobacco plants, the seed ought to be procured from the original stalk, and not from the second or third growth. It is best to allow a few plants to go to seed for the express purpose.

As we may expect showers in this month, sow spinach, lettuce, water and garden cresses, cherville, endive, parsley, late cauliflowers, cabbages, radishes and turneps. Inoculate with the bud, or set out monthly roses. Large carrots may be set out for seed this month if not previously done. Save pumpkins for winter use.

Agricultural Meetings.

Meeting of the Agricultural Society of Jefferson County.

The annual meeting of the Agricultural Society of Jefferson county, was held in Louisville on Wednesday the 12th inst. President P. B. Connelly in the Chair. The President, on calling the Society to order, in a few very pertinent remarks, appropriate to the occasion, congratulated the Society upon the very flattering prospects which were already following the comparatively small exertions made for the advancement of agricultural improvement among us; and from the lively interest manifested on the present occasion, confidently anticipated ultimate success to crown the labors of the Society—and in conclusion, announced to the body, that in accordance with their Constitution, on the return of their anniversary, the important duty devolved upon the Society of electing their officers for the following year.

It was moved by Dr. P. S. Lemlie, and agreed to, that the Society proceed forthwith, to the election of its officers for the following year.

Whereupon, the following named gentlemen were chosen:

P. B. Connelly, President.
Henry B. Todd, 1st Vice-President.
Eli McCroan, 2d do.
Bennett B. Smith, 3d do.
Sherrod Arrington, 4th. do.
Bekiah S. Carswell, 5th, do.
Hamilton Raiford, Corr'g Secretary.
A. R. Wright, Recording Secretary.
John W. Bothwell, Treasurer.

The following gentlemen were also chosen, in accordance with a provision of the constitution, to constitute with the above named officers, the Executive Committee: John W. Alexander, T. W. Batley, Henry Arrington, Robert Boyd, and Henry Batley.

After which, the Corresponding Secretary presented to the Society a package of fifty-seven varieties of seeds, from the Agricultural Department of the U. S. Patent Office, for distribution among the members, together with a copy of the Report of the Commissioner on Patents, furnished to the Society through the courtesy of the Hon. J. McPherson Berrien.

After sometime spent in deliberation, discussion, and interchange of views among the members, the following resolutions were unanimously adopted:

Resolved, That the annual fair of this Society be held on Wednesday, the 11th of November next, and that the following gentlemen be a Committee of Arrangements for the occasion: P. B. Connelly, J. W. Bothwell, T. W. Batley, B. S. Carswell, A. J. Tarver, Eli McCroan, J. W. Alexander, Henry Batley, Henry Arrington, B. B. Smith, A. R. Wright, Arthur W. Walker, P. S. Lemlie.

Resolved, That any member of the Society who may desire to submit any agricultural produce, for premium, may have the same examined and measured by one or more members of the Executive Committee, whose report will be sufficient authority with the Society.

Resolved, that the thanks of this Society be tendered to Gen. James H. Hammond, and the Hon. J. McPherson Berrien, for their liberality and courteous attention to this Society, and that the Corresponding Secretary be instructed to present the same to those gentlemen.

Resolved, That the members of the Society who may take a portion of the seeds furnished by Judge Berrien from the Patent Office, be requested to report the result of their experiment with the seeds, and to furnish a portion of the product for the use of the Society.

Resolved, That the Treasurer be directed to purchase for the use of the Society, a complete sett of the Southern Cultivator, and subscribe for the ensuing volume.

Resolved, That the Corresponding and Recording Secretaries be exempted from the annual expenses of the Society.

Resolved, That a copy of these proceedings be furnished for publication in the Southern Cultivator, with a request to the editor to publish therein.

On motion, the Society then adjourned till the regular meeting in November.

P. B. Connelly, President.
A. R. Wright, Recording Secretary.

Albany (Baker Co.,) Agricultural Society.

The Albany Agricultural Society met August 11th, pursuant to adjournment. On motion of Hon. Lott Warren, it was

Resolved, That a committee be appointed by the Chair to nominate gentlemen as officers of this Society, term of office agreeably to the provision of the Constitution, to continue until the anniversary meeting in November next

Hon. Lott Warren, Col. John Tompkins and Capt. H. Griffin, were appointed that committee, and after a few moments recommended as President, Col. John Mercer; Vice-President, H. Griffin; Recording Secretary, S. N. Boughton; Corresponding Secretary, T. D. Mathews; Treasurer, John F. Spicer; all of whom were afterwards duly elected by ballot.

The Society was then fully organized by the installation of its officers, and Col. John Mercer, the orator of the day, in a short but appropriate address advanced many sound and practical thoughts with reference to the subject of scientific agriculture.

The committee appointed to arrange the business of the meeting recommended the appointment of the following committees:

1st. Committee for procuring an orator for the next meeting.

2d. A Committee in each different neighborhood for the purpose of visiting plantations and reporting to the next meeting of this Society, (which will be the annual meeting,) on the following subjects, viz: 1st. The character and quality of the soil. 2d. How much small grain sowed, when sowed, if manured, how and when, and the product per acre. 3d. How much land planted in corn, how much in cotton, how much old and new land, how much manure, how and when was the manure applied, how planted, in hill or drill, and the space between the stalks, how often worked and how worked, and the average product per acre. The attention paid to the recuperative resources of the plantation by raising negroes, and different kinds of live stock, repairing buildings, fences, &c., raising fruit trees, potatoes, sugar-cane, tobacco, &c., and any kind of crop the owner of the plantation may wish examined, and report on which the committee may think worthy of their attention.

3d. A Committee to prepare a plan for the offering and awarding of premiums.

In accordance with the foregoing recommendations the following committees were appointed, viz: Committee to procure an orator for the next meeting—Lott Warren, H. Griffin and J. Tompkins. Committee to examine the plantations on the south side of Fowltown creek—L. B. Mercer, Thos. H. Moughon and R. Q. Dickinson. On the west side of said creek—Jos. Bond, B. H. Eley and E. Janes. In the vicinity of Albany—R. Q. Dickinson, H. Griffin and Lott Warren. In the section around Byron—J. Tompkins, Robt. Lunday and C. T. J. Singleton. The Committee on Premiums—N. Tift, D. A. Vason and Jas. Bond.

The following resolution was offered by R. Q. Dickinson, and adopted:

Resolved, That we earnestly and cordially

recommend the members of this Society to take and *read* the Southern Cultivator, edited by James Camak, and published by J. W. & W. S. Jones, at Augusta, Geo.,—a work containing much useful information on the subject of agriculture.

On motion of John Tompkins, the meeting adjourned until the second Thursday in November next. JOHN MERCER, President.

S. N. Boughton, Sec'y.

Barbour Co. (Ala.) Agricultural Meeting.

The regular meeting of the Barbour County Agricultural Society was held at Glennville on Saturday, the 11th July. The President, John M. Raiford, in the Chair. The proceedings of the previous meeting were first read in order. Reports of Committees appointed to examine crops was called for. The following was submitted, and on motion of John A. Calhoun, Esq., was adopted as appropriate, though somewhat deferred:

TO THE BARBOUR COUNTY AGRICULTURAL SOCIETY.

The undersigned Committee appointed by the President to examine the condition of the crops in the lower section of North Cowikee, having discharged the duties assigned them, with much interest and all the attention in their power, beg leave to report the result of their investigation—merely premising, that without definite instructions as to the extent of the duties your committee had in view, in making their observations, the following particulars, (without transcending as they conceive their proper sphere of business,) not on the present appearance of the crops, but the mode of planting and cultivating it—and what preparations of the different products composing the crops were planted.

Before stating the information obtained on these subjects, your Committee would remark, generally, that the crops, within the limits assigned them, are entirely on the hammocks of North Cowikee and the land immediately adjacent, extending from the Clayton road, near Glennville, to the junction of north and middle Cowikee. The lands are of a deep rich soil, level, and of alluvial appearance, capable of producing as they usually do, as heavy crops of corn and cotton perhaps as any land within the extent of country occupied by your society, yet owing to the too frequent rains during the spring and early summer, the present crop is found not to be as early or as promising as usual at this time of the year. Your committee would not, however, be understood as intimating that the crops are *sorry;* considering the season and the local situation of the land, the crops may be represented as good. We find the object had been on the plantations examined by us, to plant both corn and cotton early, and, to some extent, in the corn crop, it had been successful, but in most, if not in every instance, where cotton has been planted earlier than the first week of April, a failure was the result. Owing to the difficulties of the season alluded to and from having to be planted again, a stand was not obtained as early as if it had not been attempted so soon.

We estimated that the bulk of the corn crop was planted about the 1st March—the distance usually given, we find is, when planted in hills, 4 feet each way, and when in drill, 5 feet by 2½.

The cotton crop was planted from 1st to 10th April, in drills, generally 4½ to 5 feet apart, and 18 to 24 inches in the drill. In one crop we observed the cotton had been left twice as thick as intended for an ultimate stand, as a precaution against the ravages of the cut-worm. Your committee would respectfully suggest that a disposition to crowd crops is too prevalent. We find that, on an average, corn and cotton have been planted nearly in equal quantities on the plantations submitted to our inspection, and although we were glad to discover that, on some places, the other items of an important character in a well proportioned crop had not been disregarded, yet we think too strong a disposition is evinced, as we conceive, to increase the cotton crop, to the neglect of wheat and other varieties of small grain, as well as full potatoe and pea-crops. Yet on some plantations we found a degree of attention highly commendable bestowed on those articles, and on every one a good prospect of an abundance and to spare of the substantial necessaries for man and brute.

Your Committee are in justice bound to offer the opinion that the general views displayed in the arrangement and cultivation of the present crop are very judicious.

It appears to have been the general policy, adopted after preparing the land well for planting, to obviate difficulties of the season, by cultivating upon the draining system—by bedding to crop, and leaving a water furrow to carry off the water to the ditches and outlets previously arranged; but for this precaution, the crop must have been, as we conceive, more liable to injury.

We find it to have been the plan generally adopted, to work the corn crop first, and early, and lighter as the season advanced. We recommend this plan to the confidence of the Society in future, where it has not been adopted.

It is gratifying to your Committee to be able to state, that the crops, within their limits, are comparatively clean of grass.

We found the work bestowed on the cotton crop, since the late heavy rains, to have been highly beneficial, and that it is now in a very improving condition.

By way of summing up the general views already expressed, we concur in the opinion that a fair corn crop has been realized, and that with favorable rains and a late fall, an average, if not a full cotton crop may be anticipated.

Your Committee commend to the Society the general system of management found existing within the scope of their observations.

They found the overseers at their posts engaged in the prompt and faithful discharge of their responsible duties.

The negroes engaged on the plantations seemed to be well cared for and well provided, not only with the implements of their avocation, but with many means of comfort and happiness.

Your committee regret to find that all the attention is not paid to the improvement of plantation fixtures and conveniences that is desirable, yet as far as they are able to ascertain, this has not resulted from a want of taste or wish to engage in it, but rather of that necessity attending planting operations in a country not longer reclaimed from the wilderness than this has been.

Your Committee, in conclusion, beg leave to urge upon the attention of the Society, the propriety of offering some inducements to members to engage in such a system of improvement as time and convenience will allow, that will not only be profitable, but that they may display not only the industry but the taste and refined sense of the *Agricultural profession.*

All of which is respectfully submitted.

M. A. BROWDER,
MALACHI IVY,
M. M. GLENN, } Committee.

After the adoption of the above report, Dr. E. E Dubose and A. Frazier, Esq., stated, in behalf of their respective Committees, without reporting formally, that the condition of the crops within their limits was such as they found to be common on similar land. The corn crop might be considered good. The cotton crop promising, though later by ten or fifteen days than the crop of last year, and that they discover a disposition, attended with encouraging results, to increase the small grain crops in many places.

The President called on the members present to state their opinions relative to the difference of the present year, compared with last. Messrs. Calhoun, Jackson, Richardson, and others, concurred in the opinion that the present cotton crop, owing to the seasons, was fifteen days later than common.

An interesting interchange of ideas incidentally came up, on the use of cotton seed for manuring, in which Mr. M. A. Browder suggested that they should be applied in moderate quantity (according to the quality of the land,) on top of the ground just before plowing the corn the first time.

J. A. Calhoun concurred with Mr. Browder in opinion, and from his observation and practice in Carolina, where the manuring was in some mode necessary, had been satisfied, the suggestion was a good one.

Dr. Richardson urged no objection to the mode, but was satisfied that on fair land in this country, the quality need not be as great as usually imagined. He stated he was accustomed to using but little in each hill of corn, and by planting but one stalk with suitable distance, the end was better secured than by wasting the quantity without suitable precaution as to distance. Dr. R. sustained his experience on the subject with a scientific theory.

The President propounded several questions to different members, alternately, in the discussion of which much useful information was elicited.

To the first, which was, "what quantity of corn and cotton is planted per hand, and what is the average product per acre?"—

M. A. Browder answered that he had not measured his plantation so as to make an accurate estimate, but aims to plant from 15 to 20 acres per hand, and of that, one-third more of corn than cotton. He calculates on about 20 bushels of corn per acre, on second quality of land, (considering the best creek land of that class,) and 1,400 to 1,500 lbs. of cotton per acre, about the average of his crop. He thinks part of his last crop would have yielded 2,000 lbs. could it have been well saved. Other gentlemen agreed on all important points with Mr. Browder in his estimates.

The second question was, "what is the advantage of oxen for farm purposes, in comparison with horses and mules; and what is the best mode of breaking and managing them?"

Maj. Dennard thinks that if oxen were fairly tried they would be preferable to horses or mules for hauling off crops short distances—he had seen them used for such purposes to great advantage in the West.

Mr. Browder was of opinion that oxen are very valuable on every farm for saving food of a costly kind; convenience in hauling about plantations; they may be made serviceable in the plow in turning over heavy lands, and by kind and careful treatment, and working them at first in the same team with old yokes, they may be easily and well broke—then by working them together with mules they may be made to walk fast.

Mr. Guice had adopted the plan proposed by Mr. Browder, and found it very proper—he would recommend it.

Mr. Calhoun said he had not tried them, but was not disposed to consider them as valuable as they were thought to be, in consequence of lacking speed and ability to travel a distance, though he was disposed to give them a trial—he, however, felt satisfied that the mode of gearing them, like a horse, would be preferable to the yoke in use commonly, which he considered cruel.

In answer to the third question, which was, "what are the best means of raising and fattening hogs?"—

Dr. Dubose answered that hogs should be attended to particularly, when young; not be suffered to pine or want; that they should be pushed in growth by feeding on ground food, cooked or otherwise for variety, instead of corn constantly. Advocated the importance and practicability of every farmer raising his own supply even if it cost more than if bought from the drovers.

A. E. Jackson agreed with Dr. DuBose as to the importance of raising hogs, but as to the means of doing so, he considered the corn-crib the main dependence.

Maj. Dennard suggested that, in addition to the helps proposed by the other gentlemen, that woods pastures would be found very advantageous; but really doubted whether the profit of raising hogs would pay the cost.

Dr. Richardson advocated the necessity of

raising as far as possible, our own supplies, though it be attended with cost and attention. He prefers the grazier breed, because they weigh well at an early age, and do well where they can graze. He suggested the importance of having different suitable enclosures, so that they may be separated to advantage when necessary; and advised that on physiological principles they should be fed while young on a great variety of food, and that a great saving might be made the result of boiling provisions for them during the whole progress of their growth. He uses for this purpose a great quantity of squashes, peas, artichokes, &c.

M. Calhoun stated that he had failed in this country in raising hogs, which he attributed mainly to a want of proper enclosures, without which they are apt to stray and get wild. He contended that it is cheaper to raise by feeding on a variety of such articles as had been suggested, than to buy pork or bacon, and decidedly better policy; and stated, he was experimenting with ground peas and potatoes planted in his corn crop for the benefit of his hogs. He preferred the common breed.

To the fourth question, which is as follows: "What quantity of food should be given to field hands, when they have free access to vegetables and milk?"—

Dr. Richardson was of opinion that 3 lbs of bacon per week was sufficient, perhaps too much. He was disposed to think that in this climate two pounds would be more healthy if the deficit were supplied with a well prepared vegetable diet. He recommended shallots, cabbages, turnips, peas, squashes, tomatoes, okra, &c., to be substituted in part, instead of a full allowance of animal food, not only as a saving, but healthy precaution for laborers, in this climate particularly, where nature pointed out the propriety of such a substitution in her dispensation of the abundance of those things.

Mr. Browder stated, it has been his plan, as a matter of policy, and conducive to the health of his slaves, to have particular attention given to cooking the vegetables with their meat, and was satisfied that one-half might be saved and their health better secured. Milk, he considered highly advantageous, and he was careful to have a good supply of common peas saved for their use through the winter.

There were some other important questions discussed, but from the length of the report, are reluctantly omitted.

Dr. Richardson suggested that every member of the Society should become a subscriber for one of the Eufaula papers, so that reference could be had to all the proceedings without mistake or disappointment, and particularly as very great accommodations had been rendered the Society by those papers, in publishing for the Society, and the interest they had taken in promoting its interest, the Society should feel bound to assist in extending their circulation. The unanimous sanction of the Society was given to the suggestion.

The names of Messrs. A. Bowdrie, Esau Brooks, and Brittain Rogers, were offered and regularly entered members of the Society.

On motion of John A. Calhoun, Esq, Benj. Gardner was elected Assistant Recording Secretary.

Next meeting announced by the President to be held in Eufaula, on the 2d Saturday in August next.

On motion, the Society adjourned.

M. M. Glenn, Secretary.

Making Vinegar.—Vinegar, according to a writer in the Genesee Farmer, is cheaply made. We republish his recipe:

"To eight gallons of clear rain water, add three quarts of molasses, put into a good cask, shake well a few times, then add two or three spoonfulls of good yeast cakes. In summer, place the cask in the sun; in winter, near the chimney, where it may be warm. In ten or fifteen days, add to the liquor a sheet of brown paper, torn in strips, dipped in molasses, and good vinegar will be produced. The paper will, in this way, form what is called the "mother," or "life of vinegar."

This looks reasonable, and, what is of more importance, it is supported by the inductions of chemical science throughout.

To make Johnny Cake.—Take two large cups of meal, one cup of flour, and one cup of sour milk, one egg, one table-spoonful of molasses, and a tea-spoonful of saleratus, dissolved; mix thoroughly, and add sufficient sweet milk to cause the batter to spread in the pans; then bake in the usual way.

To Ascertain the Speed or Velocity of Machinery.—In all ordinary machinery, the motion of some part thereof is sufficiently moderate to admit of the counting of the revolutions or vibrations thereof. Having compared the motion with time, and ascertained the number of revolutions per minute, of a driving wheel or drum, multiply that number by the quotient obtained by dividing the diameter of this wheel by the pulley or pinion which receives a motion directly therefrom. But if these two diameters are such that one cannot be divided by the other without a remainder, then reduce each to inches and decimals, and apply the rule of proportion, multiply the diameter of the first wheel by the number of its revolutions per minute and divide the product by the diameter of the small wheel, pulley, or pinion, and the quotient will show the velocity thereof, in revolutions per minute. If another drum or gear wheel is mounted on the shaft of this second rotary, and motion is communicated therefrom to a third axle pulley, the same process may be repeated to ascertain the velocity of the third shaft. In this way the velocity of the mandrills of the most violent motion may be accurately ascertained.

Temperance Legislation.—The Legislature of Maine have enacted a law forbidding the sale of intoxicating liquors at wholesale or retail, except for medicinal and mechanical purposes. Penalty for the first offence from $1 to $20, second offence $5, to $20, with a bond of $50 to abate the nuisance for six months, and forfeiting all money received for liquors thus sold.

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☞All communications, must be post paid, and addressed to JAMES CAMAK, Athens, Georgia.

SOUTHERN CULTIVATOR.

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Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1841, and arranged to suit the Southern States.

CALENDAR FOR OCTOBER.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

October is an important month for the farmer in the colder part of the Southern States. In this, he has to collect his roots, apples, corn, and store them up for safe-keeping through the winter. Secure sugar beet and mangol-wurtzel before heavy frosts occur. Very light frosts do not injure them while in the ground. They should be perfectly matured, or they will afford less nutrition. This may be known by some of their leaves turning yellow. If allowed to remain beyond this time, there is a new elaboration of their juices, and much of the saccharine principle, which is the fattening one, is destroyed. Turnips and parsnips may be left till in danger of freezing in the ground, and the latter, if not wanted for winter use, are better for remaining till spring. In this case, all the water must be carefully led away from the beds, or they will rot. Potatoes are ripe when the vines are decayed, and they should never be dug before. All roots ought to be protected from the sun after digging, by throwing over them some of the leaves or straw, and as soon as the dirt attached to them is dried, carry them at once to the cellar or pit. Too little care is used in storing roots. The air ought to be carefully kept from them, by putting them in barrels loosely covered, or in bins well guarded by straw or turf, and they are still better for having light mould or sand sifted into the interstices. Such as are stored in the fields, may be placed in pits, where the ground is dry and sandy, somewhat excavated below the surface, and piled above it to the height required. A coating of straw must first be laid over them, carefully thatched over the heap like shingles, to carry off any water that may leak through the exterior covering of earth, which may be added to the depth of a few inches, just sufficient to prevent injury from early frosts. The covering for winter need not be completed till later, as by leaving the earth loose, the escape of moisture from the roots is facilitated, as well as the gases, which are generated by the partial heating and curing of the roots, which takes place when they are thrown into heaps soon after they have been dug. When finally covered over for the winter, a hole on the top should be left, or several, if the pit be a long one, in which, a wisp of straw must be placed, which will allow the escape of all moisture and gas. If the ground is a stiff clay, the roots must be placed on the surface of the ground, and a ditch dug on every side, one foot below them, so as to carry off all the water; otherwise, the lower strata will be spoiled by the water retained on the surface.

Winter apples ought to be carefully picked by hand, and placed in bins or barrels, and entirely excluded from the air. They should occupy a dry, cool cellar, or upper room, in which the temperature is not below the freezing point. If they should become frozen, they must be kept covered and allow the frost to escape gradually, when the effect will be scarcely perceptible; yet when this occurs, they do not keep as long in good flavor as if untouched by frost. If you have clay land, much of the plowing for the following spring may be done in this month, throwing it into high furrows as much as possible. If there be no demand for your fall apples, they are worth much more to feed to stock, swine and cattle, than for cider; dispose of all in this way but such as are wanted for the winter use.

Secure your winter squashes and pumpkins by placing them in a dry, cool place, and you may have the luxury of good vegetable and pumpkin pies during the winter. All the garden seeds should be carefully selected and placed beyond the reach of decay and vermin. Prepare all your supernumerary stock for market; cull out your choicest animals for breed and use, and sell and fat the remainder. Be careful to avoid an overstock for winter. One half the animals well kept, will yield more profit than the whole half kept. Set out trees for the ensuing spring. They may be transplanted any time after the sap has ceased to flow, which occurs when the buds are fully developed, and the leaves fallen. This is the proper time to cut wood for the year. Fuel cut from July till November is more valuable than if prepared at any other season. If not convenient to draw it, let it remain on the ground.

Timber cut during these months is also much more durable, notwithstanding the popular opinion to the contrary.

Kitchen Garden.—Keep the crops of spinach entirely clean; they can now be thinned out, leaving the plants four or five inches apart. Lettuces for early spring use should be treated in the same way. Those for late fall use should be transferred to frames, and protected from frost during the night. The same mode can be adopted with cabbage plants for fall and winter use. During the latter part of the month cut down the asparagus tops, and give the bed a coat of well rotted stable manure to the depth of two or three inches. This can be done, however, as well next month.

If hemp is wanted for early breaking, spread it out this month for dew-rotting. The lint, however, is whiter and better to defer it till December for latitudes below 40°; a higher latitude, November is the best month.

Fruit Garden and Orchard.—Continue propagating by layers and cuttings; plant beds of strawberries that may have been omitted last month. They will be less likely to suffer from the heat of the ensuing summer, than if planted in the spring. Most kinds of hardy fruit and forest trees, may now be trimmed and cleared of lateral shoots and suckers. All kinds of hardy deciduous trees and shrubs can be transplanted this month as soon as they have shed their leaves. Fall planting is preferable for good sized trees, as during the winter they can firmly establish themselves, and be ready to throw out sufficient roots in the spring to withstand the heats of summer. Small seedlings had better be left till spring, as they are liable to be thrown out of the ground by the frost in winter.

Flower Garden and Pleasure Grounds.—About the middle or latter end of the month plant tulips, hyacinths, &c. Select a warm, mellow soil, and let it be highly manured with well rotted compost.

The ranunculus and anemone can now be planted, and all other varieties of bulbous and tuberous rooted flowers. Seeds of bulbous and tuberous rooted flowers can now be sown to obtain new varieties. Continue to transplant perennial and biennial flower roots. Plant some bulbous roots in flower pots for winter blooming. The latter part of the month, pot your tender roses and everything else that requires protection in the winter, and have them ready to move in on the sudden approach of any cold weather. Flowering and ornamental shrubs can now be found and also propagated by layers, cuttings and suckers. The latter part of this month new pleasure grounds may be formed and all hardy deciduous trees may be transplanted, as soon as they have shed their leaves. Live hedges can now be planted. Continue to mow your lawns, clean the gravel walks, cut and carry away all weeds, decayed flower stems, fallen leaves, &c., and prepare ground for spring planting.

Plantation.—To the sugar planter, as well as the cotton grower, October and November are the most important months in the year. To the cotton grower, the work of these months will be nearly the same as that of September; as to the sugar planter, it will claim his special attention. In the early part of October, let him commence and get everything in readiness for cutting and grinding his cane. Repair the roads leading from the cane fields to the mill, if necessary; put your carts and yokes in order; procure and sharpen the knives or hooks for cutting the cane; see that the mill or rollers are properly geared, well oiled, and are clean. If your business will warrant it, procure by all means a steam engine, rather than use horses or mules in grinding. See that the kettles are well set, and that the flues are strong and cleared of filth. Put in order the coolers, and all minor implements used in the operations. Also prepare barrels or hogsheads for filtering; and look to the gutters or conductors for conveying the juices or syrups, and see that they are tight, and properly fitted to your work. Draw and split fuel for boiling if it has not been done before.

By the last of October, in ordinary seasons, more or less of the cane attains its usual maturity in Florida and Louisiana. When this period arrives, the first thing to be done, is to provide for future crops. Give early attention to the saving of seed, on account of the injury which seed cane receives by frost, and which is liable to occur before the middle of November. The general rule observed in saving cane for planting, is to reserve such a portion of the crop as is the least valuable for grinding. Hence, those fields which have produced cane from the same stubble for two, three or four years, and which now require, from the stinted growth they produce, to be replanted with cane or some other crop, are selected to furnish seed canes. The canes from such fields are small and short, having the joints nearer together, each of which sends up shoots called rattoons. One acre of such rattoons is sufficient in ordinary cases, for the planting of three acres of land. They are cut near the ground and carted to the vicinity of the fields where they are to be planted out, and then formed, when not planted as soon as cut, into long beds, about fifteen feet wide, which are called *mattresses*. These are made by commencing at one end of the bed and placing a row of canes, with their tops on, across it—the tops directed outward. Upon

this a second row is laid, so that the butts are placed about eight inches or a foot in advance of those of the first row. Upon the second row a third is placed in like manner, and so on. By this arrangement the lower part of the stalk is preserved from the cold, by the tops; except in two or three layers across that portion of the mattress last formed, where the protection is afforded by four or five inches of earth.

A great part of the planting may be done with about three feet of the rejected cane tops, to which a greater portion of the green leaves are attached at the time of gathering the crop. These, when not reserved for planting, should be left on the field for the protection of the stubbles; but when cut for planting, it is better to cut them one or two joints longer than usual, and to form them into w inrows across the field. In this case, from two to four rows should be thrown into one, and arranged as respects the over-lapping, like the mattresses above described. The fields from which these tops are obtained, are often those that were planted the previous year, and in which the cane is high, and somewhat prostrated at the beginning of the grinding season. Hence it is necessary to cut this earlier to prevent it from rooting at the lower joints. When the force of the plantation will permit, the land should be planted as fast as the seed-cane is cut. Canes planted at this season should be in the driest fields, and covered to the depth of three or four inches, in order that they may take an earlier start next spring, than if they remain in the mattresses during the winter. The remainder, and by far the greatest part of the planting, may be deferred until the grinding season is over, which varies from the 20th of December to the middle of January; and often it is not completed before the first of March. The covering given to the canes is more and more shallow as the season advances, until the close of February, when it rarely exceeds two inches.

In preparing the ground for planting cane, it should be first thoroughly ditched or drained, and then plowed and harrowed; after which, it should be drilled, at distances varying from 33 inches to six feet apart, according to the newness and strength of the soil. Into these drills or furrows there should be laid, three or four inches apart, two parallel rows of cane tops, from two and a half to four feet in length, and covered with earth at a depth corresponding to the season of the year in which the planting is done.

Housing and Curing Tobacco.

From the Louisville Journal.

Having had frequent applications for information as to the mode of housing and curing the celebrated Mason county cigar leaf tobacco, I have thought that I could best fulfil the wishes of my friends by giving the information desired through the medium of the Louisville Journal and Dollar Farmer.

The tobacco planters of Mason county invariably cure their tobacco without the application of artificial heat, except occasionally during damp and rainy weather; it is, therefore, of great importance to construct their houses so as to afford a free circulation of the air when hung up. But as it is very injurious to tobacco to be exposed to dews and driving rains, while curing, it is necessary that tobacco houses should be tight enough to guard against any injury from this source. The great desideratum, then, is, so to construct tobacco houses as to protect the tobacco from the effects of rains and dews; and at the same time afford a free circulation of air through every part of the tobacco house.

To accomplish both these objects, and at the same time afford the greatest facilities and saving of labor in hanging tobacco, I recommend the following plan for a tobacco house, sixty by forty-five feet. The same plan will suit for a house of greater or less length than sixty feet, though in general, it would be better to increase the number, rather than the size of tobacco-houses, as they could thus be placed in situations more convenient to the ground in which it is intended to cultivate tobacco.

Plan of a Tobacco-House 60 *by* 45 *feet.*

Let a piece of ground be selected, as convenient as may be to the place where tobacco is intended to be cultivated, at least sixty feet long, without any inclination either way, or as little as possible; and forty-five feet in the other direction, with barely sufficient fall on the surface each way, to carry off the water dripping from the roof on each side. Along the lengthway of this ridge, let two rows of posts be set, parallel to each other, and twenty-one feet apart. The posts may be set in rows ten or twelve feet distant from each other If the former distance be preferred, seven, if the latter, six posts will be required in each row These posts should be eighteen feet long, measuring from the surface of the ground (if the ground is not perfectly level, the length of the posts must be so arranged as to bring all their tops to a horizontal level,) and tenanted on the top. Plates must be run from end to end on the top of these posts, (splicing the plates to make them long enough.) The posts on the other side must be connected together by cross-ties, (strong enough to hang tobacco on.) The upper ties to be morticed in the plates, and secured by stout locust or oak pins. Another set of ties should be inserted so as to leave a space of four feet four inches, measuring from top to top. A third set of ties still four feet four inches lower. Each of these, like the ties morticed in the plates, should be firmly secured to the side posts by mortices and stout pins. These last ties will be about nine feet from the ground, and sufficiently high for a wagon and team to drive under them with convenience. A fourth set of ties should be inserted about five feet from the ground, one end let into the post by a mortice of the usual kind, and the other by a side mortice. These ties should not be pinned, but left unfastened, so that they may easily be taken out and laid aside when housing tobacco, so as to admit a wagon and team to pass through the house from end to end The two ends of the building should be so framed as to admit of a double door at each end, wide enough for a wagon and team to pass entirely through. These doors must open outwardly, and in clear weather should be kept open, when tobacco is hanging in the house, so as to admit a free circulation of air. The rafters should be set on the plates, four feet from centre to centre, and by making them pretty taut will admit of two cross ties each, for hanging tobacco on; and thus the roof will hold as much tobacco as one tier in the body of the house. To afford an abundance of air to the tobacco in the roof, there should be a door in each gable end, which should be kept open all dry days till the tobacco is perfectly cured. On the cross ties, connecting the two sides of the house, rails or sawed scantling should be laid, so as to admit four ranges of tobacco sticks, four feet two inches long. When tobacco is first hung, these sticks should be one foot apart from centre to centre. When the tobacco completely wilts, which it will do in a day or two after it is hung up, there will be open spaces left between the different ranges of sticks, and thus the air may freely circulate from end to end, partly through the folding doors, and partly through those in the gable ends. Allowing the sticks to be one foot apart, and admitting the roof to hold one-fourth as much as the body of the house, the contents of the whole will be one thousand five hundred sticks, or twelve thousand plants, supposing each stick to hold eight.

The above is a description of the main building, twenty-one by sixty feet. On each side of the main building should be a range of posts corresponding with those in the main building, and twelve feet therefrom. These should be tenanted and have plates thereon, the tops of which should be about twelve and a half feet from the ground. These plates should be connected with the plates of the main building by rafters spiked on each plate, and also by three tiers of cross-ties, the first ranging with the top of the side plates, and connecting with the posts of the main building; and the other two from posts, each set four feet apart, measuring from top to top. The whole should be firmly connected by tenants and stout pins. These three ranges of cross-ties will admit of hanging three tiers of tobacco on each side of the main building, and will hold one thousand and eighty sticks, and eight thousand six hundred and forty plants. It will be seen from the foregoing calculations, that the house will easily hold at the first hanging, twenty thousand six hundred and forty plants. As the tobacco when partially cured may be closed up, so as to leave the sticks about eight inches from centre to centre, the house, by re-hanging, will hold one-third more than the above number of plants, say about twenty-seven thousand five hundred.

The house should be enclosed with plank, erect, and placed side by side, without lapping; pine plank, and that not seasoned, will answer best. This mode of covering the sides and end of the house will sufficiently secure the tobacco from the weather, and by the shrinking of the plank will admit some air through the cracks. In planking up the sides it will be necessary to hew the outsides of the posts, and ship-lap pieces of scantling for nailing the planks to.—The top pieces thus ship-lapped, should be inserted about twenty inches below the side plates, and the planks on the two sides should extend no higher than to cover the pieces to which they are nailed. Thus there will be the space of twenty inches under each of the eaves, for the admission of air. To prevent rain from driving in at these apertures, broad plank should be suspended to the plates by hinges, so as to raise and let them down according to circumstances. Thus, on each side, as well as at the two gable ends, air may be freely admitted.

The outside posts all around should be of locust or cedar, and firmly set in the ground. The inside ones may be set on broad rocks having a firm foundation. For these, shorter posts, therefore, will answer.

I have been assured that a house thus built, if well braced at the corners, will stand perfectly secure, without setting any of the posts in the ground. As, however, posts set on rocks, lying on the surface would be liable to settle more at one place than another, I would prefer having all the outside posts planted about three feet in the ground. If locust or cedar posts are not to be had, I would recommend white oak posts well charred at the ends, as far as they are to be inserted in the ground.

Having completed the description of the house, I will add a few words as to the most economical plan of housing tobacco.

It should be placed on sticks in the field where it grew and hauled to the tobacco house by hanging it across a long frame, say twenty-five feet, fitted up as a wagon bed, and placed on wheels coupled at a suitable distance. The frame should be about three and a half feet high, and the same width. On this frame the sticks may be crowded as close as can be done without bruising the tobacco. The wagon thus loaded, should be driven through the centre of the house; and the sticks having each the proper number of plants, should be transferred to the places to be occupied by them.—When the two sheds and the main building are all filled except the two lower tiers of the latter, then the tier next above the ground tier should be filled on each side, with one range of sticks, leaving the middle still open for the wagon to pass through. When this is completed, so much tobacco should be hauled and unloaded as will be sufficient to fill up the second tier, and the whole of the ground tier. The second tier should now be completed, and the cross-ties of the lower tier should be replaced and filled with tobacco. A house thus constructed and filled with tobacco as herein directed, will not require the application of artificial heat, and, therefore, nothing need be said on that subject.

A. Beatty.

Wealth is desirable only when honestly acquired and blessed by contentment.

From the Farmers' Cabinet.

Model Farm of the Union.--At Mt. Airy, near Philadelphia, Pa.

James Gowen's Report to the Committee on Farms.

GENTLEMEN: It is known to most of you, that since I became a farmer I have spared no pains to fulfil the duties of the calling in a manner creditable to the community in which I live, as well as to myself and the Agricultural Society to which I belong; that while improving my own practice, I have endeavored, by sundry means, to stimulate others to compete with me in spirited efforts to arrive at excellence in the highly useful and delightful pursuits of agriculture; and to promulgate as far as in me lay, such improvements and results as were likely to promote the general interests of the farmer. In carrying out this object, I have, as part of the system, always been found competing with the crops and cattle for the premiums offered by "The Philadelphia Society for promoting Agriculture." It is, therefore, in accordance with this practice, that I now present my farm as worthy of note, when you come to award the premiums committed to your distribution; in view of which, and in fulfilment of the rules and regulations of the Society, I submit for your consideration a general statement of its character and condition.

The Homestead farm contained, when I removed to it in 1834, about 60 acres, since which I have added to it by purchase, some 40 acres, all of which is contiguous; making over 100 acres, exclusive of the Woodland Farm, in Cheltenham township, Montgomery Co., part of which is cleared and worked by me, and is in fine condition, as you may recollect from my communication on the crop of rye raised there in 1842.

From long neglect and a bad practice, previous to my coming on the Homestead, I found it in every respect in a wretched condition. The results of bad plowing and bad seeding, were visible in the unevenness of the surface, and the pernicious weeds that seemed to have entire possession. I at once took up the old fences which divided about 40 acres into small fields, plowed it up, eradicated the briers and brambles that filled so large a space along those fences, and removed the stones within plowing depth. It was cropped according to circumstances; alternately with potatoes, corn, grain, &c., until the soil had been brought into proper subjection in the fall of 1839, when it was laid down for grass, by sowing it with grain and timothy; since which it has not been disturbed, with the exception of about eight acres in rye, this year; and yet this last summer it cut, I may safely say, two tons to the acre, and expect it to do as well next summer, should the season prove favorable.—By this practice, I brought every inch of the land to bear, and saved ten years' expense, or wear and tear of the six fences which formerly stood inside this section. The fields in future will be divided by hedges of the *Maclura thorn* or *Osage Orange*, raised by myself; four of these hedges already in, with plenty of quicks on hand to supply the remainder. These remarks, you will please observe, apply to the land lying on the southeast side of the lane that divides the farm. The land on the northwest side, opposite, called the Springfields, was, if possible, in a still worse condition. Owing to the swampy nature of part of it, and the washings from the higher lands on the other side the lane, the posts were every spring thrown out of place as the frost left the ground, while the ravines, furrowed out by thaws and heavy rains, set at defiance all attempts at cropping or farming. To obviate the yearly setting up of the fences, which was not only expensive, but vexatious, I substituted a stone and lime wall for the post and rail fence. The wall is about half a mile long, is two feet below the suface at every point, two feet broad at base, and averages over six feet high from the bottom, ending with an eighteen inch coping. One large underdrain, with grating at the mouth, takes the water from the lane, while several smaller drains keep the surface of the land perfectly dry. The ravines were well filled up, and ever since, for a series of years, good crops of potatoes, corn, grain and grass have been taken, where formerly grew spatterdock and rushes.

The land added to the farm at sundry times within the last five or six years, was, in general, in as bad a condition in many respects, as the worst of that already described; indeed, it could furnish material for a more repulsive picture than any that has been drawn yet; but as most of you have repeatedly seen it in its original state, I need not trouble you with a description. To show its condition now, I need only remind you that two years ago I obtained a premium for raising upwards of four hundred bushels of Mercer potatoes to the acre, on this land; and that on the succeeding year, from the same potato land, I took upwards of fifty bushels of wheat to the acre, without any additional manure. Also, that last year I submitted a field of some seven acres of corn, on another portion of this land, which yielded at the rate of 200 bushels of ears, equal to 100 bushels shelled corn to the acre. My reports on the condition of these fields, and the aforesaid crops, are in possession of the Society. The corn land was in this year with potatoes and oats.—The potatoes, four acres, yielded over 200 bushels to the acre; the oats were very good.—It is now laid down with wheat and orchard grass. This sketch, with your own personal observations, will afford you some idea of what I had to contend with, and what I have accomplished in the way of improving land, and the present condition of my farm.

From the difficulty and expense in procuring manure from the city, and after three or four years experience in that mode of supply, I gave it up, and adopted the plan of making a supply on the place, by an increased stock of cattle; from which I have derived my sole supply ever since, with the exception or light dressings of lime and gypsum, and a small lot of stable manure, which I was tempted to purchase a few weeks since, at auction, and which I can dispense with, should I meet with a purchaser before its removal in the spring. The keeping and breeding fine stock, had in itself strong claims upon my judgment, as well as my taste; as I could never think a farm was what it should be, unless it could exhibit fine cattle as well as an improved culture. To maintain this stock, and bring my land to a high state of cultivation, by the most efficient and economical practice, has been a leading object; and to accomplish this, required no ordinary management on such a farm. The stock in cattle has ranged, for years, from forty to fifty head, in addition to the necessary horses, with a large stock of swine for breeding and fattening; and these I have fed from the produce of the farm, except the purchasing, occasionally, of some straw, and supplies of mill-feed for the horses and swine, and some meadow hay for the cattle, selling frequently its equivalent in timothy. During the same period I have sold hundreds of bushels of rye, some wheat, and, on an average, four hundred bushels potatoes annually, with some three to four hundred bushels of carrots, besides providing for the family. But the chief income was derived from the cattle, of which I shall speak more at large presently.

My expenditures during the whole period could not be otherwise than large; as I could not put up so much stone fence and picket fence as to enclose my farm, without incurring a heavy outlay; but I view these improvements as cheap in the end. It may be safely inferred, that there is not, at this day, any farm of the same extent in this part of the country, that can so easily be worked, or will require so little expense for a series of years, in keeping the fences in order, especially when the hedges are taken into account. I am also of opinion that, taking in view the condition of the soil, as to the depth and richness, as well as its being entirely free of stones and other impediments, that I can make it produce as much as any farm of its size in any part of the country for a series of years, and at as small an expense.

The secret of keeping so large a stock on so little land, consists in my practice of partial soiling, and green crops, whereby I make some four or five acres do the work of thirty acres, in the 'slow and easy go way.' From May to August my cattle are confined to one or two fields, most commonly one, to which they are driven more for exercise in the cooler parts of the day than for pasture, they being fed in the stables early in the morning, at noon, and at night with food cut for them from a lot adjoining the barn-yard. This food is generally of lucerne, orchard grass and clover, oats and corn. The patches from which the corn and oats are cut, are always sowed with turnips in August. No one can credit, unless he has had proper experience in the matter, the quantity of food that one acre of lucerne, one of rich orchard grass and clover, and one of oats and corn, afford from May till August, nor can he estimate the great saving in manure, much less the comparatively good health of the cattle, from not being exposed on naked fields, under a fervid sun, toiling all day in search of food. This practice allows me to crop almost the whole of the land, and to make some 120 to 150 tons of hay annually. In the fall, from August till November, the cattle have the whole range of the mowed lands, as I do not cut second crop grass for hay. Then for winter feed, I have always an acre of sugar beet, half an acre of sugar parsnips, half an acre or more of carrots, for my horses, and generally three to four acres of turnips. I report to the committee on crops this season, over 100 tons of these roots. In 1843, I gathered from one acre 1078 bushels sugar beets, 60 pounds to the bushel: carrots at the rate 687 bushels; sugar parsnips, 868 bushels. This year 972 bushels sugar beets; 970 bushels carrots; 700 bushels sugar parsnips; and from three and a half acres, 2500 bushels of turnips, sowed with timothy seed.

The farm buildings consist of three substantial stone barns, one 70 feet by 33, another 50 by 26, and another hipt roof with cupola, 57 by 25, besides a large overshoot stable and hay-house, stable high, of stone, 60 feet by 30. The lower floor of all these are made of broken stone, and lime, planked, being vermin proof.—There are also a corn-crib capable of holding 1200 bushels of corn, one barrack, ample hog pens, and sheds for carts and wagons. The barn buildings have been filled this fall to their utmost limit, except the corn crib.

A substantial stone wall encloses the principal manure heap. The drainings from this heap are led into a place under ground from the kitchen, as well as drainings from pig pens and the washings from all the yards. These drainings form an important item in the supply of manure to my land. It is a saving which I cannot estimate at less than $200 a year. This liquid, by a simple process, is applied to the patches of roots, &c., and to this may be ascribed my great success in raising such crops.

The dwellings, green house, shrubbery, and gardens, I need not describe; but it is in point to notice the nursery of young ornamental trees, and Maclura for hedges, raised on places mostly waste on other farms, from which I have an ample supply for my own setting out, and a considerable stock to spare, of Magnolia Tripetalla, or Cucumber tree, and Silver Maple, of fine size, suitable for transplanting. I sold over fifty dollars' worth last spring of these trees, and have several hundred dollars' worth still on hand, for sale.

Of *Improved Cattle*, my first efforts was with the celebrated 'Dairy Maid,' still owned by me. Her first calf, Leander, by Whitaker's Prince of Northumberland, was reared and kept by me for breeding. Dairy Maid's calves alone, exclusive of Leander, have already sold for more than $500. It would be curious to trace her profit at this day, by stating an account of her first cost, her keep, and that of her son Leander; crediting her by sales of her own calves and grand calves, deducting for the portion of capital which was invested in the dams that produced the grand calves. To do this would

extend this paper to an unusual length; suffice it to say that Dairy Maid has long since paid for herself, and that those who laughed at me for giving $540 for one cow, may turn this statement over in their minds, and think whether, since 1838, any investment of theirs, to the same amount, in any other branch of husbandry, has paid so well. But they may exclaim that 'you cannot do the like again.' Yes I can; for if the price of fine cattle be reduced through their becoming plentier, (thanks to those who made them plentier,) the principal invested may not be so large, in the purchase of one animal to begin with, but there cannot be a doubt, if she be superior or superlative, the produce of such an animal will realize as good a per centage as did that of Dairy Maid. But there is a satisfaction beyond that of the pocket, and that is, that Dairy Maid's breed will be of infinite service to the country. Her calves and grand calves are pretty well scattered already—and I make no doubt, but wherever found they will demonstrate the high character of the parent stock.

My sales for the last two years, exclusive of Dairy Maid's calves, amount to over $2000. The stock now on hand is about 40 head, principally Durhams, among which are Dairy Maid, Cleopatra, Walnut, Victoria, Ellen Kirby, Miss Model, Victorina, Judy, Bessy Bell, &c. &c. The butter sold for the last two years exceeds $750. This is a respectable item, when the calves that were reared, and the supply for my family, are taken into view. From early fall to spring, the butter averaged 70 pounds per week—the quality highly appreciated abroad as well as at home. In butter, cream and milk, there is no stint at Mount Airy; so of fruits, vegetables, hams, &c. If I be a large producer, I may be also classed as a large consumer, and did I not produce, the market would suffer accordingly.

In the hog line, I have been quite successful, at least in bringing the animal by judicious crossing, to great perfection. I fatted off my old Lincoln and Berkshire boars, and my Hampshire and Chester county sows, last month; they weighed from 400 to 450 lbs., sold for $86 24. Have sold the last two years of pigs, designed for breeding, $150; bacon, lard, &c., over $120, besides having on hand 14 fine young barrows, last fall's pigs, now ready for slaughter. which will weigh from 250 to 300 lbs. each, value $150. The stock on hand consists of one fine boar of Lincoln, Hampshire and Berkshire breed; one brood sow of Berkshire breed, 12 shoats and seven pigs. The sow and pigs are the same that took the premium at the last Agricultural Exhibition.

Building and work independent of the farm, induced to the keeping of a heavy stock of working horses, consisting of five, employed occasionally hauling stone, sand, &c. They are the same horses originally purchased, at at and since the commencement of my farming operations; having neither *sold, lost* nor *exchanged one*. The two carriage horses average 20 years old each; my favorite of these is quite 25. So much for management in this department. The implements—wagons, carts, plows, harrows, &c. &c.—are in keeping with the farm, and are well kept as you may observe.

I keep no farmer on the place in the character of manager, having never, as yet, been able to find a man qualified to conduct the operations of the yard and field, in a manner as they should be. My practice is to hire one man for general work, at $20 to $25 per month; also, two hands for out-door work alone, who are capable to work at any job of farming. They have employment from early spring to the first of December, at 75 cents per day—these three find themselves. Then there are two men engaged constantly, feeding and taking care of cattle, feed manure, &c., who receive from $10 to $12 per month, and found. By this arrangement, I have always a pretty strong force on emergencies, and to avail myself of seasonable operations. My work is generally well done and timely done.

I have thus given you a general insight into the condition of my farm, and the system by which it has been brought to its present state of perfection. If substantial fences, clean fields, well worked land, good crops, good barns, and splendid cattle, be essential to constitute a good farm, I trust you will find none of these features wanting on mine.

Very respectfully, your obedient servant,

JAMES GOWEN.

Mount Airy, De. 24, 1844.

From the American Agriculturist.

Salt as a Fertilizer, &c.

The value of salt for agricultural purposes has long been known both in Europe and in this country, and why it has not been more generally used is beyond my comprehension. More than one hundred and fifty years ago, Sir Hugh Platt, an eminent writer of the day, speaks very decidedly of the benefits which might be derived from the practice of sprinkling salt upon land, and calls it "the *sweeetest* and *cheapest*, and the most *philosophical* material of all others." He relates the case of a man who, in passing over a creek on the sea shore, suffered his sack of seed corn to fall into the water, and there it lay until it was low tide, when, being unable to purchase more seed, he sowed that which had lain in salt water; and when harvest time arrived, he reaped a crop far superior to any in the neighborhood. The writer adds, however, that it was supposed the corn (grain) would not fructify in that manner, unless it actually fell into the sea by *chance*; and therefore, neither this man nor any of his neighbors, ever ventured to make any further use of salt water!

That salt is an excellent manure, experience, the most satisfactory of all evidences, clearly proves.

It is stated in an English publication, that "a farmer in the county of Sussex, some years since, had a field, one part of which was very wet and rushy, and that the grass produced upon it was of so sour and unpleasant a kind, that the cattle would not graze upon it. He tried several methods to improve it, but all to no purpose; at last hearing of the benefits of salt as a manure, he determined to try that; for which purpose he procured a quantity of rock salt, which, in a random way, without any regard to the precise quantity, he threw upon the rushy ground, fencing it off from the other part of the field, the effect of which was a total disappearance of every kind of vegetation. In a short time, however, it produced the largest quantity of mushrooms ever seen upon an equal space of land in the country. These, in the spring following, were succeeded by the most plentiful and luxuriant crops of grass, far exceeding the other part of the field in richness of verdure and quickness of growth. Though this salt was laid on twenty years ago, this part is still superior to the rest of the field."

From the information which I have been able to collect, I am inclined to believe that salt, when sparingly applied, is valuable as a fertilizer, and useful in killing the grub and wire worm, which often injure, and sometimes even destroy whole crops; and it has been found by experiment the past season, that the scab, or disease which has proved so disastrous to the potato crop in all sections of the country, has not been found on land that had a proper dressing of salt.

Judge Hamilton, of Scoharie, informed the writer that he had found great advantage from using salt on his potato ground last spring. After plowing, he caused four bushels of salt to be sown on the furrow, upon one acre of the field, and harrowed in. Potatoes were then planted. Part of the field was not salted. Although the season was remarkably dry, the salted acre was observed to maintain a green, vigorous appearance, while the other part looked sickly and stunted. On lifting them in the fall, those potatoes where salt was applied, were of good size, smooth skin, sound, and of good quality, and yielded a fair crop, while of those on the unsalted part of the field, although the soil was fully equal to that of the salted portion the yield was considerably less, potatoes small, and much eaten by worms. His neighbor had a field of potatoes on the opposite side of the road, soil similar to his own, who planted them in the usual way; the consequence was, his crop was small in size, inferior in quality, and most of them rotted soon after digging—they were diseased.

Dr. Bogart, who has charge of the Sailor's Snug Harbor, on Staten Island, informed me that he applied four bushels of salt to one acre of his potato ground, last spring, and thinks he derived great benefit from it. Though the crop was not a large one, the potatoes on the salted portion were of much better size, skin smooth, and free from disease. The vines were more vigorous, remained green, while those on land of the same quality adjoining, which was not salted, shrivelled and died prematurely; the potatoes small and soggy, and less in quantity.

C. W. Johnson, a distinguished agricultural writer, strongly recommends salt as a manure, at the rate of from ten to twenty bushels to the acre, to be sown two or three weeks before the seed is put into the ground. He says the benefits are as follows: "1st, when used in *small* portions it promotes putrefaction. 2d, by destroying grubs and weeds. 3d, as a constituent of direct food. 4th, as a stimulant to the absorbent vessels. 5th, by preventing injury from sudden transitions of temperature. 6th, by keeping the soil moist."

It would seem from all the facts I have been able to collect, that salt corrupts vegetable substances when mixed in small quantities, but preserves them when it predominates in a mass; that in dry seasons its effects are more apparent, and whether it attracts moisture from the atmosphere, or whether it acts as a condiment or stimulant, is of little consequence, so long as its effects are certain.

On account of the small quantity of salt, in weight, required for manuring lands, it is no inconsiderable recommendation, because, on that account, it may with ease be conveyed to the most rough, steep and mountainous parts, to which the more bulky and heavy manures most in use could not be carried, but with infinite labor, and at an expense far exceeding all the advantages to be effected from it.

Salt alone is considered by some rather too severe and harsh in its nature; but mixed with ashes, say six of salt and ten of dry ashes, well beat up together, which is sufficient for an acre, and spread upon the furrow, and harrowed in, it will prove a real enricher. C. N. BEMENT.

From the Greenville Mountaineer,

Improvement of Southern Soils.

Col. TOWNS:—In passing through the District I see many good pieces of low ground about being buried by the red mud, washed by the rains from the gullies on the adjoining hillsides. Could not much be conveniently done to prevent this? I guard ditches which run at different points across the face of such hills, so as to conduct off the water more slowly, and throw brush into the gullies so as to stop the downward progress of the clay and sand; and a general coating of brush and trash on the gullied surface above, so as to promote the growth of some sort of vegetation, as well as to impede the downward force of the current of water. I say, would not the employment of these various means pay well for the labor and time thus laid out?

Again: when any portion of a field becomes worn and inclined to wash, would it not be a much better policy to *plow it deep and manure it well*, than to leave it uncultivated, as is now most generally done? By the one course the spot would be restored to fertility, and by the other, that much land would not only remain valueless, but be constantly, every rain, doing injury to the land that lay below it. This much I intended to say in my last, but want of room compelled its omission.

Having disposed, for the present, of the means necessary to prevent the land from washing, I will next invite the attention of the farmers of Greenville to some suggestions for managing so as to exhaust our fields less, at the same time that we increase the amount of manure to carry back to them. It seems to be the general belief among the most important agriculturists, that the ripening of the seed of our cultivated plants exhausts the soil much more than the production of the whole of the green plant. For example, that two crops of Clover or Oats fed off in the bloom will not impair the fertility of a given soil more than one crop of either when the seeds are all permitted to ripen. It is equally true, that when stock consumes the whole of a given crop, they make more manure than they would if only the ripe seed had been consumed. Had our farmers not best *act* on these principles, more than they have heretofore? If more grass and green crops were raised, could not as much stock as is now made, be produced with much less deterioration to our farms? The same amount of stock, full fed on green crops, would, it is believed, give as much manure as they do now, and therefore the difference must be in favor of sustaining, at least, if not improving, the productiveness of our farms. But says one, this reasoning would do very well for the grass country of Kentucky, but this *climate* does not suit grass. In reply I would say, the *climate* of Kentucky is about as much superior to ours for corn as it is for grass; and if we are to make no grass because it grows better in Kentucky, why, we had just as well quit raising corn, *too*. Much of the soil of Kentucky is very *rich*, and is that much better for grass than ours; but in all the mountainous parts of this District, and the country sufficiently near the mountains to secure sufficient moisture, grass will grow as well as in any part of the world on soil of the same quality. It may not be as good for one month in the year, or the hay may not be as rich in nutriment as Haywood or Yancey in N. Carolina; but what I mean to say is, that one acre of good grass in the upper part of Greenville District, judiciously managed, will be worth as much in the course of the year, to maintain stock, as anywhere else; for if the pasture was less rich, it will last a great deal longer, and if the hay is less nutritious, the winter in which it is fed is much milder, and animals require a less nutritious food than where the weather is more severe. In addition to this, we have in the common corn field pea, of very great importance, a green crop, both for feeding green and cured, the benefit of which is denied by the *climate* to those countries where grass does better than with us.

Farmers of Greenville, can't you raise more stock than you do? can't you do it, without feeding so much corn from your cribs? Can't you save more manure than you have been doing? The true answers to these questions, and the proper practice based thereon, may not afford such general interest or excitement, as the news from Gen. Taylor's camp; nevertheless there is one, at least, that considers them of more importance to the prosperity and happiness of the District. I love very much to hear the glorious news from the Rio Grande, but let us not in our patriotic exultations over the faithful performance of *duty*—by our *noble* little army—forget or neglect our own. AGRICOLA.

From the American Agriculturist.

How to Sustain and Improve the Quality of the Soil.

It has become an important inquiry among many of our farmers, how they shall fertilize such of their lands as are yielding large burthens of produce, which are taken off the premises for sale? Where remote from a large city, or places for supplying manures, this is a most important query, and one which they are highly interested in having answered correctly. It is absolutely certain, that farmers cannot annually rob their farms of large crops of grain, grass and roots, without either supplying manure to the soil, or losing rapidly in its fertility. We shall briefly indicate some of the most obvious resources for sustaining and improving the productiveness of the soil.

In the first place, not an ounce of animal manure should be suffered to be wasted, either liquid or solid. When not dropped on the feeding grounds, but around the stables and yards, it should be carefully saved and treasured up, where it cannot waste till used. This should be carefully and judiciously compounded with turf, or peat, or vegetable matter, so as to retain all its gases, and not be permitted to drain away, and as soon as a proper time offers, it should be carried on to the fields and at once incorporated with the soil. Another resource for many of our Eastern farmers, is the immense stores of peat and muck that are within their reach, and which tends greatly to benefitting a light, sandy or loamy soil. All the animal matter, ashes, leached or unleached, should be carefully collected and applied to their land, and any other fertilizing substance which is to be found around the premises or can be collected at not too great an expense in the neighborhood.

But in many cases where the stock of cattle is not large, and the produce sold from the land is considerable, some more definite and certain means for sustaining a farm must be resorted to. With the most intelligent and systematic agriculturists, a proper rotation is adopted, which has been found by experience, to be adapted to the locality and products. By this is meant, a regular succession of crops on the same field through a series of years, which at their expiration, are again repeated. They are so arranged that two grain crops never follow each other, but are separated by root crops, grass, &c. This system prevents the necessity of the soil yielding similar ingredients through two or more successive seasons, which it will seldom do to an extent sufficient to produce a good second crop. Time is required for it to decompose such of the ingredients which it contains, as are necessary to form what are called the inorganic portions of the plant, in such conditions as to be taken up and appropriated by the plant. It also enables the cultivator to apply his green or putrescent manures to such crops as are most properly adapted to receive them. Such are corn and roots, and nearly all the objects of cultivation excepting the smaller grains.

The great object of rotation, however, is to give the land rest as it is termed, when allowed to remain in grass or meadow; or refreshment when clover or other fertilizing crops are plowed into the soil for manure. Such crops carry back to the soil so much of its materials as they have taken from it, and in addition, important elements which they have abstracted from the atmosphere; and they are found by long practice, to be of great benefit in sustaining the fertility of the soil. Before passing on to a consideration connected with this particular point in the subject, of the highest importance, we would say, that a large share of the benefit to the land, derivable from this practice, may be secured, by feeding the clover to such animals as will consume it on the ground. We say a part only, for all the food which goes to supply the respiration of the animal, which is no inconsiderable share, passes off again into the air, and is lost. Another part is stowed up in the augmented size of the animal, for it is certain that whatever weight it acquires while feeding, is at the expense of the soil. If milch cows are pastured, the abstraction of valuable ingredients is still greater, as it has been found that pastures fed off for a long time by cows, have been robbed of large amounts of phosphate of lime, and other important matter. If horses are thus fed and taken on to the roads or elsewhere to work, it is evident that large quantities of this manure will thus be lost to the fields supplying the food.

Sheep are undoubtedly the best adapted to the object we have in view. They remain stationary in the same fields where they feed, and return to them all they have taken, save what escapes by respiration, evaporation, or is stored up by the wool or carcass. They also drop their manure on the highest and driest parts of the ground, where it is more beneficial than elsewhere; and we would most earnestly recommend the introduction of sheep husbandry on a more or less extended scale, to any farmer who practices the system of turning in crops for manure. The necessity of carrying them through the winter, will still further provide the materials for fertilization, by accumulating a store of manure from this source, which, without the sheep or a full equivalent in other stock, would not be thus secured.

But to recur to the subject of turning in green crops. It is evident at a single glance, that this system does not accomplish all that is necessary in sustaining the full measure of fertility of land subject to close cropping. In a rotation consisting of clover and wheat simply, we find that the wheat abstracts large amounts of phosphate of lime, potash, gypsum, salt, &c., &c., which, if nothing be added to the soil, except the clover crop, will in a few years reduce any ordinary soil to so low a point, that it cannot yield profitable returns. The land may continue to yield for a long time; but it is evident that it is losing properties at every successive harvest, which must be supplied to it, or it will eventually be exhausted.

The true and only remedy for this is, to ascertain by analysis, either of your own or the well established researches of others, precisely what of the inorganic materials, such as are inherent in the soil, and not found to any appreciable extent in the atmosphere, are taken from the land by cropping or feeding, and not returned to it by straw, manure or offal of any kind, and return those materials to the land in such available shape as will enable future crops to supply themselves with all they require. This is indispensable to a succession of good crops and prolongs fertility, and no farmer is wise who neglects this practice for a single year, however seemingly well his adopted system may answer, which does not embrace the foregoing practice.

From the Northern British Review.

Rotation of Crops.

It is better to prevent the special exhaustion we have been speaking of, than to cure it.—It is often difficult to discover what the land really requires, and therefore to cure the evil when it exists. The only method of preventing it, with which we are yet acquainted, is by the introduction of a skilful rotation or alternation of unlike crops. In adopting such a rotation, we only copy from nature. In the wild forest, many generations of broad-leaved trees live and die, and succeed each other; but the time comes at last, when a general pestilence seems to assail them all; their tops droop and wither, their branches fall off, their trunks rot. They die out, and a narrowed leaved race succeed them.

This race again has its life of centuries, perhaps; but death seizes it too, and the expanded leaf of the beach, the ash and the oak, again cheer the eye—playing with the passing zephyrs and glittering in the sun. So in the broad meadow, the old pasture changes, and new races of humble grasses succeed to each other as the field increases in age. The alternation of crops, therefore, asserts to itself something of the dignity of a natural law; and man is evidently in the right course when he imitates nature in a procedure like this. But upon what do its good effects depend? Why do the broad leaved alternate with the narrow in the ancient forests? Why do the grasses change in the old meadow? Why does the farmer obtain a larger produce, and for a greater number of years, by growing unlike crops alternately, than by continuing year after year to grow the same? The reason is not merely that one crop carries off more, and another less, of all those things which all our crops derive from the soil, but that one crop carries off more of one thing, and another crop more of another. The grain carries off phosphorous, the straw silica, the bulb alkaline matter.

After, perhaps, fifteen or twenty successive crops of the same kind, the surface soil through which the roots are spread becomes so poor in those substances, which the crop especially requires, that the plant cannot obtain from it a sufficient supply to nourish and bring to maturity the full grown plant, within the time allotted to it in our climate for its natural growth. The roots do their best; they collect as diligently as they can, but winter comes on and the growth ends before the plant is fully matured. In the

case of corn, the first effect of a scarcity, say of phosphoric acid, is to make the ear smaller, and the number of grains less; the next to continue the growth into the winter, and only when a very fine season occurs to ripen the ear at all. But suppose we alternate the corn crop, which in its grain carries off phosphoric acid, with a hay crop, which requires much silica, or a root crop to which much alkaline matter is necessary—then the one crop would live upon and remove what the other had left in greater abundance. Instead of robbing the soil every year of the same substances, we should be exhausting it more equally of all; and we should be able, for double the time at least, to crop it without the risk of its ceasing entirely to give us a profitable return. We should gradually work up also every available substance in the soil, whether such as are naturally present in it, or such as we have ourselves added in the form of manure. What is true of the simple alternations of corn with a green crop, is more true still of a longer and more complicated rotation. The greater the variety of crops we grow, and the longer the interval between the successive crops of the same kind, the more perfectly do we avail ourselves of the benefits which an obedience to the suggestions of this principle is fitted to confer upon us. No rotation, it is true, however skillful, will alone prevent the land from becoming ultimately exhausted. Nothing but regular and generous manuring will do this, unless there be, in springs from beneath, or in the decaying fragments of rock mixed with the soil, or in substances brought down from higher ground, or in the nature of the rains that fall upon the land, some perennial source of those substances which the crops always carry off from the soil. But in a skillful rotation there is this virtue, that land which is subjected to it cannot be ruined in so short a time. If one tenant use it ill, it may come into the hands of another before ruin is so far irredeemable that the farmer who has a rent to pay cannot reclaim it with a prospect of immediate profit to himself.

Extraordinary Experiment with Wheat.

The American Agricultural Association held its monthly meeting on Wednesday evening. Hon. Luther Bradish presided. R. L. Pell, Esq., of Pelham, detailed an experiment in the cultivation of wheat, which appeared to us entirely new. He said that on the 4th of October, last year, he cleared the tops from a potato field, burnt them, and returned the ashes, with the view of sowing wheat. The seed was prepared thus: soaked four hours in brine that would buoy up an egg; then scalded with boiling hot salt water mixed with pearl ashes, then through a sieve distributed thinly over the barn floor, and a dry compost sifted on it, composed of the following substances: oyster-shell lime, charcoal dust, ashes, brown sugar, salt, Peruvian, guano, silicate of potash, nitrate of soda, and sulphate of ammonia. The sun was permitted to shine upon it for about half an hour, when the articles became, as it were, chrystalized upon the grain. In this state it was sown at the rate of 2½ bushels to the acre, directly on the potato ground, from which the tops had been removed, and plowed under to the depth of five inches, harrowed once, a bushel of timothy seed sown to the acre, and harrowed twice; at the expiration of 15 days, the wheat was so far above ground as to be pronounced by a neighbor far in advance of his, which had been sown in the usual way on the 1st of September, 34 days earlier. A composition made by Mr. P., containing 30 different chemical substances, was spread broadcast over the field before the wheat came up, at an expense not exceeding three dollars. The yield per acre was somewhere about seventy bushels.

The flour made from this wheat, which weighed nearly 65 lbs. to the bushel, received the first premium at the last Fair of the American Institute. The superiority of the flour was owing to the enormous amount of gluten it contained. Mr. P. read Dr. D. P. Gardner's analysis of the flour, which showed that it contained 18 per cent. of gluten after having been dried by an air pump over sulphuric acid. His manures were applied for the purpose of producing gluten.—*N. Y. Commercial.*

From the South Carolinian.

The Southern States should go Largely into the Culture of Wheat.

Wheat has acquired the first rank of all the cereal grains, in consequence of the nutritious quality and large quantity of gluten which it contains. Gluten is the "viscid elastic substance which remains when wheat flour is wrapt in a coarse cloth, and washed under a stream of water, so as to carry off the starch and soluble matters." This substance, in a state of purity, is inodorous, insipid, tenacious, adhesive and elastic. If separated from the starch, &c., and kept warm, it freely ferments. It is an essential ingredient in all grains, and is also found in a number of vegetables and fruits. It is also the essential part of yeast, and resembles albumen so nearly that it is difficult to distinguish it from that substance. From the large quantity of nitrogen which it contains, it has been called the *Vegeto-animal* principle. According to the experiments made by the celebrated M. Magendie, in the feeding of animals, it has been proven that "gelatine, fibrine, and albumen, when taken singly, do not possess the power of sustaining life." The reverse is the case, however, with gluten, upon which animals thrive well and long.

We go at length into this scientific description of the component parts of wheat, which consist of gluten, starch, sugar, gum, bran and water, so that our remarks may be comprehended. Starch is by far less nutritious than gluten, and abounds in the proportion of from about 6 to 1 part of gluten. From all that has been developed by the aid of science, it has been clearly proven that gluten can be varied and increased by climate, and the character of the fertilizers used to promote the growth of the plant. This fact has been well attested. The difference in climate upon a fair trial and by analysis of the grain, has resulted in the following satisfactory statement in favor of the warmest regions in which wheat is grown:

WARM CLIMATE.

Starch	56.05
Gluten	14.55
Sugar	8.48
Gum	4.90
Bran	2.30
Water	12.30
	100.49

Let the reader look below at the result of the analysis of wheat grown in a cold climate, and compare the great preponderance of starch with that of the former. Also observe the large quantity of gluten and sugar contained in the grain grown in a warm climate, and estimate the comparative value of that which contains so large a proportion of those essential ingredients, which constitute in the main the nutritious qualities of the grain, with that which is greatly deficient in those substances.

COLD CLIMATE.

Starch	71.49
Gluten	10.96
Sugar	4.72
Gum	2.32
Bran	1.
Water	10.00
	100.49

These statements fully show the great superiority of our climate over more northern regions for producing the most nutritious grain, but the agriculturist who wishes to embark in the successful growing of wheat, should not allow his inquiries to stop at this point; for that is only the advantage which nature has given him in the ingredients of this grain after it is produced. It is the business of the Southern agriculturist to apply that science to the culture of this grain, which will enable him to compete in the quantity produced, and by excelling in quality, thus make this branch of farming profitable. Here is the difficulty upon which experimenters with wheat have failed, for they did not understand the comparative value of fertilizers used to improve the quality of the grain. Experiments have shown that the following is the relative value of fertilizing manures which have been tried:

Wheat, average crop	gluten, 19. 0
Raised on soil manured with ox-blood	31.24
" " " human Fæces	33.94
" " " Urine	35. 1
" " " Horse manure	13.68
" " " Cow "	11.06
" " " Cotton seed	18.16

This statement is not entirely applicable to our system of applying manures, for the increased quantity of gluten both from the manure of horses and cattle, is much greater than is stated; as all the urine of the animals, which is not estimated in the above, is incorporated in it. The manure of horses, applied as it is usually carried out from our Southern farm lands, is capable of yielding an increase in gluten of 23 per cent., instead of 13. 68 per cent., as stated in the above table, and is the best manure we can apply in large quantities to our wheat crops. It is more warming, and hence more beneficial than the manure of cattle, which is of a very cold nature. Imparting stimulating nourishment to the young wheat plants, it gives them such a healthy and vigorous start, that they readily appropriate all the food which is furnished for their organs both by the soil and the manure, and the whole crop is soon out of harm's way.

It is our opinion, that by the aid of highly stimulating manures, we may be able in the South to grow as many bushels of wheat as do the northern farmers, with the great advantage that in actual nutriment, five bushels of our wheat will be equal in value to six bushels of the best northern wheat. The wheat crop in the grain growing portions of South Carolina is not subject to more vicissitudes than it is in the North—for their crops are equally ravaged and blighted by Hessian fly, rust and smut. In fact, if we were to make the comparison, we would see that though they take great pains in cultivating this grain, it is far from being a certain crop, and that the reverse is the case with us; for with no preparation it usually makes a fair average crop. We have shown the influence of climate on this grain in inducing the production of great nutrition, and also the effect of artificial fertilizers of the soil. In our next we propose to give our actual experiments, made with a view to test the effect both of soil and manure on grain brought from the wheat growing region of New York.

From the Providence Transcript.

Butter Making.

The annexed article is from one of our most experienced and intellectual agriculturists. Of his successful practice we can attest, as we never saw finer butter, not even in Philadelphia, than we have eaten at his hospitable mansion.

Milk Apartments, &c.—The milk cellar should be deep, well ventilated, and dry; the bottom covered with stone flagging. Bricks will absorb milk and other liquids that may fall upon them, and will soon contract mildew, the smell of which, like the odor of cheese, vegetables, fish, or foul air of any kind, will be imparted to the cream and butter. Over this cellar should stand the dairy room, with shelves to set the milk upon in cool weather; the cellar is to be used during the extremes of heat and cold. The temperature of the milk apartment, if possible, should never be above 65 nor below 45d. Set kettles should not stand in the dairy-room; neither should cheese-making, nor cleansing milk-vessels be done there, but in a convenient room near by.

Cream may be kept good much longer, if it be kept in a white oak vessel, with a tight cover, and a faucet or tap near the bottom, to draw off the milk when it settles, before the customary

daily stirring. The quality of the butter is much improved by this management. If the milk be not drawn off, and it be churned with the cream, the butter will be longer in coming, and it will show specks of sour curd, taste like cheese, and will soon become rancid. Butter will come quickly at all seasons of the year, if the cream be of a temperature of from 60° to 70°; to this end, use hot water in winter, and ice in summer; *but never add either to the cream, in or out of the churn.*

Salt.—Pure salt chrystalizes into perfect cubes. All other forms of chrystalization found in common salt, arise from impurities; those of a needle shape in Liverpool bag, or blown salt, indicate the presence of lime, magnesia, &c.—One great cause of the failure of making good butter, may be traced to the use of impure salt. Rock salt, and the large lumps of Turk's island, washed, dried, and finely pulverized, are preferable to all other kinds, being highly preservative, and hardening the butter, so that it will be sooner ready to work over in warm weather. The Liverpool bag or blown salt, the Salina salt in small bags from New-York, and the fine part of every kind of imported salt, contain a great portion of impurity. Less than one ounce of pure salt, is sufficient for a pound of butter, many put in but half an ounce.

In the manufacture of cheese, a preference is sometimes given to Liverpool bag or blown salt. This contains salts of lime and magnesia, which attract moisture from the air, and have the desirable effect of softening the cheese, and the pungent bitter taste which they impart to it, is an improvement in the estimation of some.

General Remarks.—The cream should not rise more than 36 hours; it should be sweet when taken off, and sweet when churned; yet there is a degree of maturity to be acquired by keeping.

The kegs for packing butter should be made of white oak, bilging in the form of casks for the more perfect seclusion of air, and convenience of transportation. If the butter is not to be sent to a warm climate, or a foreign market, let the bilging kegs have moveable covers, to accommodate inspection; they should be soaked in strong brine, made also of pure salt, in order that justice may be done to the purchasers in tare, and to save the butter from being spoiled for one or two inches deep all around, from its contact with dry wood. In case the wood is anything but white oak, there is danger of its giving an unpleasant taste to the whole. For the convenience of families, the size should vary from twenty-five to fifty pounds. A keg of butter is exposed to the air for a long time, while on broach in a small family, and the bottom, in consequence, becomes rancid.

The consumer will cheerfully pay an extra price for one hundred pounds of butter, packed in four kegs instead of one. No salt should be put on the sides, bottom or between the layers If the kegs are made with covers, put a cloth over the top, and cover that with pure fine salt. Keep a cloth wet with strong brine over the butter, while the keg is filling, to exclude the air. The practice of washing butter is not approved of in Europe; it destroys its fragrance and sweetness by dissolving the sugar of milk, which it is said is always present in good butter. It is practiced in Holland, when the article is designed for exportation to India; then the operation is usually performed with cold, strong, limpid brine made of pure salt and water; water that has lime in it will not answer, as the lime is readily absorbed by the butter.

To exclude the air more effectually during the process of putting down, let a little melted sweet butter be run into the cavity, where the bottom, head and staves come together, then after each layer is completed, let the dairy-woman pass her finger round so as to press the butter hard and close against the side.

Don't be prevented by shame from asking questions when ignorant, was the remark of a celebrated Persian Philosopher.

From the N. Y. Shipping and Commercial List.

Cotton Crop of the United States for the year ending August 31, 1846.

NEW ORLEANS.

		Bales.	*Total.*	1845.
Export:				
To Foreign ports..	834,775			
Coastwise.....	220,082			
Stock on hand, 1st Sept., 1846.....	6,332			
		1,061,189		
Deduct:				
Stock on hand, 1st Sept. 1845.....	7,556			
Rec'd from Mobile.	6,356			
Rec'd from Florida.	5,884			
Rec'd from Texas..	4,249			
		24,045	1,037,144	929,126

MOBILE.

Export:				
To Foreign ports...	301,735			
Coastwise.....	115,893			
Stock on hand, 1st Sept. 1846.....	7,476			
		425,109		
Deduct:				
Stock 1st Sept 1845.	609			
Rec'd from wrecked ships.....	1,275			
Rec'd from Texas..	666			
Rec'd from N. O'lns.	593	3,143	421,966	517,196

FLORIDA.

Export:				
To Foreign ports..	49,981			
Coastwise.....	90,215			
Stock on hand 1st Sept. 1846.....	1,088			
		141,284		
Deduct:				
Stock on hand 1st Sept. 1845.....		100	141,184	188,693

TEXAS.

Export:				
To Foreign ports..	11,324			
Coastwise.....	14,184			
Stock on hand 1st September, 1846..	1,500		27,008	

GEORGIA.

Export f'm Savan'h:				
To Foreign ports—				
Uplands.....	60,380			
Sea Islands.....	8,472			
Coastwise—Upl'ds.	106,229			
Sea Islands.....	2,225			
	186,306			
Burnt in Savannah.	1,843			
Stock in Savannah 1st Sept., 1846....	5,922			
Stock in Augusta & Hamburg, 1st September, 1846.....	9,906	203,982		
Deduct:				
Stock in Savannah and Augusta, 1st Sept., 1845.....		9,071	194,911	295,440

SOUTH CAROLINA.

Exp f'm Charleston				
To Foreign ports—				
Uplands.....	160,233			
Sea Islands.....	19,527			
Coastwise—Upl'ds.	87,841			
Sea Islands.....	476			
	268,077			
Exp. f'm Georget'n,				
To New York.....	3,852			
Stock in Charleston, 1st September, 1846.....	8,709	280,638		
Deduct:				
Stock in Charleston 1st Sept., 1845....	10,879			
Rec'd f'm Savannah	16,397			
Rec'd from Florida, Key West, &c...	1,957	29,233	251,405	426,361

NORTH CAROLINA.

Export:				
Coastwise..			10,637	12,487

VIRGINIA.

Exports:				
To Foreign ports..	1,208			
Coastwise.....	3,505			
Manufactured.....	10,787			
Stock on hand 1st September, 1846..	100	15,700		
Deduct:				
Stock on hand, 1st September, 1845.		2,418	13,282	25,200
Received at Philadelphia and Baltimore, overland..			3,000	
Total crop of the U. States.....			2,100,537	2,394,563
Total crop of 1846, as above.....				2,100,537
Crop of last year...				2,394,503
Decrease....				293,966

GROWTH.

Crop of 1826-7, b's	937,000	1836-7...bales,	1,422,930
1827-8.....	712,000	1837-8.....	1,801,497
1828-9.....	857,744	1838-9.....	1,360,532
1829-30.....	976,845	1839-40.....	2,177,835
1830-1.....	1,038,848	1840-1.....	1,634,945
1831-2.....	987,477	1841-2.....	1,683,574
1832-3.....	1,070,438	1842-3.....	2,378,875
1833-4.....	1,205,394	1843-4.....	2,030,409
1834-5.....	1,254,328	1844-5.....	2,394,503
1835-6.....	1,360,725	1845-6.....	2,100,537

CONSUMPTION.

Total crop of the U States, as above stated.....			2,100,537
Add—			
Stocks on hand at the commencement of the year, 1st Sept., 1845:			
In the Southern ports.....		30,783	
In the Northern ports.....		67,687	98,420
Makes a suppply of.....			2,198,957
Deduct therefrom—			
The export to Foreign ports	1,666,792		
Less Foreign included.....	349	1,666,443	
Stock on hand at the close of the year, 1st September, 1846:			
In the Southern ports.....	41,033		
In the Northern ports.....	66,089	107,122	
Burnt at Savannah.....	1,848		
Burnt at Philadelphia.....	347		
Burnt at New York...	600	2,795	1,776,360
Taken for home use.....			422,597

Quantity consumed by and in the hands of Manufacturers.

1845-6....bales.	422,597	1836-7 ...bales,	222,549
1844-5.....	389,006	1835-6.....	236,733
1843-4.....	346,744	1834-5.....	216,888
1842-3.....	355,129	1833-4.....	196,413
1841-2.....	267,850	1832-3.....	194,412
1840-1.....	297,288	1831-2.....	173,800
1839-40.....	295,193	1830-1.....	182,142
1838-9.....	276,018	1829-30.....	126,512
1837-8.....	246,063	1828-9.....	118,853

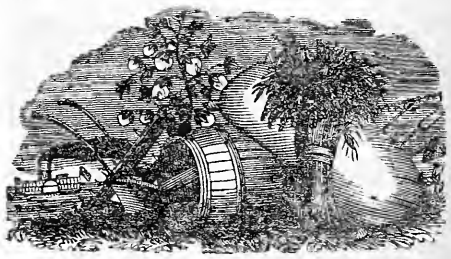
By the foregoing statement, it will be seen, that the crop falls short of last year's by 293,966 bales—add to this the quantity put down for Texas, and the actual difference is 320,974.

Our estimate of the quantity taken for consumption, does not include any Cotton manufactured in the States south and west of Virginia, nor any in that State, except in the vicinity of Petersburg and Richmond.

The quantity of new Cotton received at the shipping ports up to the first inst. amounted only to about 200 bales, against 7,500 bales last year.

PHILADELPHIA BUTTER.—*Its high flavor, and the source whence this is derived.*—My Dear Sir:—During one of your late visits to Philadelphia, we had some conversation relative to the rare qualities of Philadelphia butter, which, though good at all times, is at one season distinguished by a peculiarly high and delightful flavor, not to be found, in the same degree, so far as I can learn, in butter made in any other part of the Union. I told you that I thought I had discovered the source of this peculiarly grateful flavor, and now undertake to redeem a promise made to write you on the subject. It is only at one season of the year that the flavor is in greatest perfection, and hence our housekeepers call it 'May Butter,' and sometimes 'Grass Butter.' The limits of the season of highest flavor may be set from about the middle of April to the middle of June. Now it is precisely during this time that the old, unplowed meadows and pasture fields, in the vicinity of Philadelphia, abound with a species of grass so highly odoriferous as to have obtained the name of *Sweet-scented Vernal Grass.* Botanists call it *Anthoxanthum odoratum.* The scent somewhat resembles that of vanilla. It grows about a foot or eighteen inches high, rising above the surrounding grass. Its stem is very small and round, with a few long and slender leaves. Its odor will alone be sufficient to distinguish it from all other grasses found in our pastures. When in blossom, the air is often highly charged with its scent, and at this time I seldom ride into the country without gathering a handfull of the grass to enjoy its rich perfumes at leisure, and perhaps store it away in a drawer. As it is so very forward in its growth, so does it show the earliest signs of decay. About the middle of June the fields and meadows where it abounds assume a yellowish appearance from the dying of the stems of the first growth. The cattle press these aside to get at greener herbage, and now the high flavor of our butter declines.

The Sweet-scented Vernal Grass is a native of Europe, whence it has doubtless been introduced into the vicinity of Philada.—*Far. Lib.*



The Southern Cultivator.

AUGUSTA, GA.

VOL. IV.. NO. 10.....OCTOBER, 1846.

THOSE

TWENTY THOUSAND SUBSCRIBERS!!!

STILL THEY COME!!

It would be highly gratifying to us, if our limits would permit us, to copy the letters of all those who enlist under the banner of our lamented friend McDonald, but as they would occupy too much space, we must content ourselves with only a few of them, and enroll the names of the others. We had hoped that ere this, the list would have swelled to a much greater number, and, though disappointed in this, we are cheered with the feeling which the proposition has awakened, and we doubt not that hundreds will flock to the standard during the month of October. Let the friends of Agriculture, in every county and neighborhood, arouse and buckle on their armor in her cause and the march of improvement will be onward—onward—onward!

Let us then have "a long pull, a strong pull, and a pull altogether," during the month of October, and our cause will triumph as certainly as truth triumphs over error, or as industry and economy will outstrip indolence and prodigality in the race for a competence. We have not space to say more.

Col. A. McDONALD, Eufaula, Ala.
E. McCROAN, Louisville, Ga.
T. W. RUCKER, Elberton, Ga.
C. DOUGHERTY, Athens, Ga.
G. B. HAYGOOD, Watkinsville, Ga.
WM. T. DeWITT, Hopewell, Ala.
H. E. CHITTY, Henry Co., Ala.
WM. CUNNINGHAM, Monroe Co., Ala.
C. B. ZUBER, White Sulphur Springs, Ga.
J. C. HENDERSON, Macon Co., Ala.
JAS. J. BANKS, Enon, Ala.
Gen. A. W. GREER, Taliaferro Co.
SINGLETON HARRIS, " "
J. S. LASSETER, " "
JARED L. TURNER, Greene Co.
J. P. C. WHITEHEAD, Waynesboro, Ga.
E. F. HURT, Macon Co., Ala.
B. F. BORUM, " "
WM. B. S. GILMER, Chambers Co., Ala.
JOHN A. CALHOUN, Eufaula, Ala.,
JOEL HURRT, Crawford, Russell Co., Ala.
GEORGE SEABORN, Pendleton Dist., S. C.
MARTIN McNAIR, Richmond Co., Ga.

☞ Several articles prepared for this No. are unavoidably omitted.

Ourselves.

We thank our correspondent 'ZACHARY' for the good opinion he expresses of the SOUTHERN CULTIVATOR. Commendations from such a quarter are worth something.

We hope ZACHARY may be induced to continue his contributions towards the advancement of Agricultural improvement. One who is so capable of giving, as ball-players say, good licks on our side, should by no means withhold them. He may, by using the rasp himself, and by inducing others to use it too, be the means of doing great good.

If ZACHARY will look over the editorials of the CULTIVATOR, he cannot fail to notice that we have used the rasp pretty freely on divers occasions. But still, on looking back ourselves, we are not entirely satisfied with what we have done. This short-coming, however, is not so much our fault as it is that of the public. Our subscription list has been too small. We candidly confess our inability to preach, with becoming energy, to a thin congregation. Dean Swift might go through the church service with all proper fervor, with nobody present but "Dearly beloved Roger." But every one is not Dean Swift. He stood alone and apart from his race in many things besides preaching. There is always wanting in such cases, with common men, that secret something—mesmerism, or some other *ism*, call it what you please—emanating from a large assembly, that is absolutely necessary to get the steam up in one addressing such assembly. And this is as true of writing as of speaking. If, therefore, the husbandmen of the South want the CULTIVATOR to exercise an influence commensurate with the wants of Southern Agriculture, they must, one and all, earnestly set about getting the 20,000 subscribers proposed by our deceased friend, Col. McDONALD.

Apples.

Our mountain farmers ought now to be making their arrangements to supply our Southern cities with apples. If they can be persuaded to pursue their own true interest, such a thing as a Northern apple will not be seen in Charleston, Savannah, Mobile, Montgomery, Columbus, Macon, Augusta, or Columbia. But to supply these markets they must prepare for them a marketable article; not such stuff as they now offer for sale—deficient, not in quality, for Southern apples can't be beat anywhere, but in the way in which they are handled. It seems as if they were beat off the tree with a pole, and tossed into a wagon pretty much as if they were stones. The consequence is, they come to market so bruised and injured every way, as to be hardly fit food for pigs. Indeed, a thrifty Yankee farmer would not give such apples to his pigs. But if they are properly handled, nothing that can be brought to market will command the cash more readily. And if our mountain farmers do not take advantage of their position in this respect, they deserve to be condemned to undergo the penalty of never once more hearing the exhilarating jingle of the almighty dollar.

In the *American Agriculturist* for September it is recommended that apples intended to be preserved for winter and spring use, should remain on the trees until quite ripe, which usually takes place at the coming of the first heavy frosts. They should then be plucked from the trees by hand, in a fair day, and packed up immediately in casks, in alternate layers of dry sand, plaster, chaff, sawdust, or bran, and conveyed to a cool dry place, as soon as possible. The sand or sawdust may be dried in the heat of summer, or may be baked in an oven at the time required to be used. The peculiar advantages arising from packing apples in sand, are explained and commented upon as follows, by the late Mr. WEBSTER, author of the American Dictionary of the English Language. 1st. The sand keeps the apples from the air, which is essential to their preservation; 2d. The sand checks the evaporation or perspiration of the apples, thus preserving in them their full flavor—at the same time any moisture yielded by the apples is absorbed by the sand—so that the apples are kept dry and all mustiness is prevented. My pippins, Mr. W. says, in May and June, are as fresh as when first picked.—Even the ends of the stems look as if just separated from the twigs. 3. The sand is equally a preservative from frost, rats, &c. But after the extreme heat of June takes place, all apples speedily lose their flavor, and become insipid.

The fine apples we have seen, brought from our Southern mountains, if they were cared for according to Mr. WEBSTER's directions, could be readily sold, in March and April, in our Southern cities, at 6 to 9 dollars per barrel of 3 bushels. Is not this sufficient inducement for Southern apple growers to bestir themselves?

And then there is Apple Butter—a more delicious or wholesome article—wholesome because simple—never was set before a hungry man. Here is the way they make it. The next time we go to the mountains we hope to see it on every table.

PENNSYLVANIA APPLE BUTTER.—To make this according to German law, the host should, in the autumn, invite his neighbors, particularly the young men and maidens, to make up an apple butter party. Being assembled, let three bushels of fair sweet apples be pared, quartered, and the cores removed. Meanwhile, let two barrels of new cider be boiled down to one-half. When this is done, commit the prepared apples to the cider and let the boiling go on briskly and systematically. But to accomplish the main design, the party must take turns at stirring the contents without cessation, so that they may not become attached to the sides of the vessel and burn. Let the stirring go on till the amalgamated cider and apples become as thick as hasty pudding, then throw in powdered allspice, when it may be considered as finished and committed to the pots for further use. This is Apple Butter; and it will keep sweet for many years. It is a capital article for the table.—*N. Y. Mechanic.*

A New Grass for the South.

As our people abhor crab grass or Bermuda grass so much, perhaps we ought to congratulate them that, in Oregon, there is a grass that will no doubt suit them exactly. It will suit them in this, that it is none of your common every-day articles, growing at home, and inviting us hourly to avail ourselves of their good qualities; but a real foreign article, coming from over the hills and far away, and therefore, by Southern rule and Southern practice, entitled to a preference over everything domestic. The Rev. Mr. SPALDING, in an account of the manifold blessings that are showered upon the inhabitants of Oregon, recently published, gives an account of this grass. From his very imperfect description, we judge it to be the same with the famous muskeet grass of Texas and Mexico; the same grass on which the vast herds of buffalo that range the western and southwestern prairies, live and thrive so wonderfully. If it be the muskeet, or even if it be another sort, and comes up to Mr. SPALDING's estimate of its good qualities, no effort should be spared to introduce it on Southern plantations. Who will undertake it? It won't cost either much trouble or money:

"The country is one extensive prairie, except the mountains, which are covered with several species of pine, cedar and fir. The prairies are rolling, and with the exception of a narrow belt

of sand and sedge upon the Columbia and portions of the Snake river, are everywhere covered with the bunch grass, which, from observation, I judge to be a richer, heartier food for animals than corn, oats and the best pasture of the States. It is a fine solid stalk, growing two feet high, with fine leaves, holds its freshness through the winter, I mean the old stock, which mingled with the young growth which usually springs fresh in the fall, forms a food for animals through the winter, preferable to the best hay. Horses and oxen perform labor at all seasons upon this grass simply without the aid of grain, which I now think disposes the animal system to various diseases. When I pack, I usually travel from 35 to 40 miles a day, each horse carries 200 pounds, rest an hour at noon without taking down the packs, camp sun two hours high, hobble horses, drive up in the morning at sunrise, find horses will endure such labor for 25 or 30 days, resting of course on the Sabbath, upon this grass without injuring them. Their wind is evidently better than that of horses fed on grain and hay. I have rode from Dr. Whitman's station to this, 125 miles, in 19 hours, starting at nine o'clock at night, driving a spare horse before for change, but this was no advantage, for I find it is more fatiguing to a horse to be drove than to be rode."

Agricultural Education.

In the last volume of the CULTIVATOR, we very earnestly urged upon the Legislatures of the Southern States the necessity of providing, in our State Colleges, the means of enabling our young men to become acquainted with the principles of Agricultural science. Well, what was the result? The legislatures met—wrangled their usual time about party politics, passed laws for private ends, or, perhaps, for the benefit of what they call the learned professions; but not the first syllable was uttered, so far as we know, in reference to enlightening, elevating and ennobling that profession whose great business it is to convert earth, air and water into bread, meat and clothing. And so we have been left, for another year, to mourn over the besotted stupidity that has for ages past controlled the destinies of these Southern States—the fairest portion, by far, of Uncle Sam's heritage.

In Yankee-land it is quite otherwise. The people there know which side of their bread is buttered. Indeed, they have, both in matters of trade, and of national legislation, treated us very much as the huzzy is represented in the song as treating her poor devil of a husband; they have made us butter their bread for them on both sides and all around the edges, and have left us to get along, as we best can, on "*their left off crusses.*" As an instance of their policy of making money out of us, and serving themselves at the same time—both very commendable purposes, so far as they are concerned, but most disgraceful to us—we notice the establishment of a professorship of Agricultural Chemistry in Yale College. They know very well that every planter in the Southern States, who cares properly for the welfare of his children, will have them well educated, if he can; especially in scientific Agriculture, now that the public attention is beginning to be directed that way. And as Yale College has always been very much frequented by the sons of Southern planters, by furnishing this additional inducement to go there, we have no doubt the number will be greatly increased:—thus adding largely to the millions of dollars annually spent abroad by the South for what, on every principle of patriotism, and of sound economy, ought to be provided at home.

But let our Solomons of the South alone—let them rest in their glory. For the one party, that POLK was made President, for the other, that CLAY was earnestly sought to be made so, is glory enough in their day and generation:—far more precious and enduring glory, than to have originated and perfected any measure whose object is to develope the resources of the country, and scatter plenty over a smiling land.

At a late meeting of the Corporation of Yale College, the following resolutions were passed:

WHEREAS, It has been represented to this Corporation, that a benefactor of the College proposes to give five thousand dollars for the endowment of a professorship of Agricultural Chemistry and of Vegetable and Animal Physiology, provided that $20,000 be raised for that purpose:

Resolved, That there be established in this College a professorship of Agricultural Chemistry and of Vegetable and Animal Physiology, for the purpose of giving instruction to graduates and others not members of the undergraduated classes; and that the Corporation will now proceed to elect a professor of those branches of science, that while effects to complete the endowment are in progress, he may devote himself to studies preparatory to his entering on the duties of that office—it being understood and provided that the support of this professor is in no case to be chargeable to the existing funds or resources of the College.

Resolved, That there be also established a professorship of practical chemistry, for the purpose of giving instruction to others than members of the undergraduate classes, in respect to the application of chemistry and the kindred sciences to the manufacturing arts, to the exploration of the resources of the country, and to other practical uses; and that a professor be now appointed to that office, whose compensation, till other provision can be made, shall be derived exclusively from fees for instruction and for other purposes.

Resolved, That President Day, and Professors Silliman, Kingsley, Olmsted, Woolsey, and Salisbury, be a Committee to report at the next annual meeting of the Corporation, or any intervening meeting which may be convenient, their opinion of the expediency of arranging under a distinct department of the university, those courses of instruction which are, or may be given to others than members of undergraduate classes, and which are not included in the departments of Theology, Law and Medicine, and that if in their opinion such a department is expedient, they report such arrangements and regulations as may be requisite for the full organization of the department.

Southern Independence.

Step by step—slowly, though surely, we hope—are the people relieving themselves from their hitherto abject dependance on others for necessaries and luxuries of life, which they ought to produce at home. Canal flour is now seldom heard of in our Southern interior cities. The demand for flour is supplied by an article quite as good, in flour manufactured at home, from wheat grown on our soil. So, also, will it soon be, we hope, with every thing else that can be grown on Southern soil or manufactured by Southern industry. So is it already with lime as well as flour. So let it speedily be—as speedily as can be—for moral revolutions always proceed slowly, often only by generations—with potatoes, apples, hay, beef, pork, carriages, saddles, bridles, shoes, plows, hoes, spades, &c., &c., &c., &c., yea, even down to hops and axe-handles. Just to think of bringing hops from New York to the interior of Georgia, as we have known to be done; and hay from the North round the Florida Cape, through the Gulf, and up the river to Tuscaloosa!—why it is almost enough to make a saint swear.

Mr. Force is entitled to the thanks of every friend of the South for his effort to make us independent in the article of cheese:

CHEROKEE CHEESE.—We copy the following from the last Coosa Journal, published at Rome, Floyd county, in this State:

"We have received from Mr. R. J. Johnson a specimen of the cheese manufactured at Mr. Force's Dairy, in Chattooga county. We are a great lover of cheese, and we pronounce this most excellent, equal to any manufactured in the United States. The taste is very fine and the color exceedingly rich. Mr. Force has gone into the business upon the right principle, and will do the country much service by its introduction in our midst. The cheese is equal in every respect to the Northern, and can be made here at much less expense, as the cows almost all the year subsist entirely upon the range. Mr. Force informs us that he will manufacture this year twelve or fifteen thousand pounds.

Opinions of the Press.

Among the numerous flattering notices of the SOUTHERN CULTIVATOR, which have appeared in our exchanges, for all of which we repeat our acknowledgments, the publishers have culled the three following, to which they beg to call the attention of the reader. We should certainly be insensible to the good opinion of the public, if we did not feel highly flattered by such notices from those who are so competent to pass upon the merits of our publication. It was our purpose to have extended our remarks in introducing these encomiums from our brethren of the press, but the crowded state of our columns forbids. Let the planters read and weigh their contents, and decide how far the opinions of such intelligent, practical men should influence their good opinions of the SOUTHERN CULTIVATOR:

From the Southern Planter.

DOLLAR PAPERS.—A newspaper can only be furnished at the low price of one dollar per annum when it is very extensively circulated, and there are very few regions of the Southern country that will afford a patronage sufficient to justify a paper at such a price. In Georgia this fact has been demonstated by the proposed discontinuance of the "SOUTHERN CULTIVATOR," one of the best agricultural papers in the Union, which will be stopped, probably, for want of patronage. When this fact was announced in the paper itself, Col. Alexander McDonald, of Eufaula, Ala., with that public spirit for which he is so remarkable, determined to make an effort for the support of a journal so justly esteemed. He proposed to make one of a thousand individuals who would procure and pledge themselves for twenty subscribers to the paper. Other gentlemen have followed suit, and there is much reason to hope that the effort will be crowned with success. Those who appreciate the benefit of agricultural papers are deeply interested in extending their circulation. No man will publish a dollar paper in the Southern country with the patronage usually bestowed upon them, except as a secondary thing, and in a large majority of instances we believe they hardly

pay expenses. Either the cheap system must be abandoned in the South or its advocates must sustain it by their exertions. Any of our friends who wish to back Col. McDonald in his laudable enterprise can address the Southern Cultivator, Augusta, Geo. We shall be happy it by this notice we can do anything to sustain so able and so worthy a contemporary.

From the North Carolina Farmer.

"The Southern Cultivator"—This is the title of a most excellent agricultural paper, published monthly by Messrs J. W. & W. S. Jones, in Augusta, Geo, and edited by James Camak, Esq, of Athens, at the very low price of one dollar a year. The August number comes to us filled with interesting and substantial matter, particularly suited to the Southern farmer. We should be glad to see this paper, as a worthy co-laborer in the great cause of agriculture in the South, extensively patronized in North Carolina; and it is gratifying to observe that some noble spirits in Georgia are exerting themselves in the most liberal manner to extend its circulation. Col. Alexander McDonald has, with praiseworthy zeal, come forward and proposed to be one of a *thousand* who will *each* furnish twenty subscribers to the next volume of that paper, desiring to raise twenty thousand subscribers to the work. Truly does the Cultivator remark, "the proposition is a noble one; designed to promote the interests and prosperity of the whole people of the South, and is, therefore, eminently worthy of so public spirited and enterprising an agriculturist as Col. McDonald." All who wish to unite with him in thus increasing the circulation of that valuable periodical, are requested to send their names to the publishers by the first October, that they may make suitable preparations, if the enterprise succeeds, for corresponding improvements.

From the South Carolinian.

Southern Cultivator, for August.—We greet every succeeding number of this work with increasing interest. It should be in the hands of every planter South of Virginia. An Alabama planter, Col. McDonald, of Eufaula, proclaims himself "one of a thousand," to procure twenty subscribers each, for volume 5; and we understand that they still come in such numbers as to give hopes that at least 5,000 subscribers will be secured. This is the best evidence we can give of the estimation in which the work is held by those who know it. We might add, that the able editor, Mr. Camak, frequently extracts the *hard sensed* articles of "Cracker" and others from the South Carolinian, which is another testimonial of his editorial skill.

Original Communications.

Agricultural Reading--Rasping--Permanent Improvement.

Mr. Editor—I hope by this time the patrons of the Cultivator have so far swelled your subscription list as to secure the continued publication of the work. It is worth twenty times its cost, and needs only to be known to be read by every farmer and housekeeper in the State. Unfortunately, too many among us do not indulge themselves in the habit of reading anything; and strange as it may seem, are willing to rear up their children as destitute as themselves of knowledge and a taste for books. But the strangest of all our prejudices is the aversion which some respectable persons have to what is tritely called "Book Farming." The mechanic arts, from the highest order of house-building down to the tanning of leather and dyeing of cloths, all have, in this age, the benefits of literature—all have derived the greatest improvements from the labors of the press. All classes of mankind acknowledge new and improved methods of conducting the business of their respective trades and professions except the reluctant farmer, who is, or pretends to be, quite satisfied that the teachings of his father and his own experience have put him in possession of everything that need be known by a tiller of the soil! Some of my brethren of the plow may believe this of themselves, for they are in general a conceited, headstrong set; but many of them do not, whatever they may say. The truth is, that reading any book or paper, for the want of practice, gives them a good deal of trouble; and what is still less creditable, they really grudge the pittance that a book or paper costs.

The contributors to your monthly sheet have not, I think, written as much in a spirit of sharp criticism as the country requires. Reports of success and failure in cropping operations have doubtless done much good, but reviews of the general condition of our plantations could hardly fail to suggest and probably introduce important changes. We are not apt to court the company of fault-finders, yet it must be admitted that one of them is worth a score of "mealy mouthed" flatterers. We want men, and women too, who will frankly and honestly point out our errors and short-comings. It has been said that the gentler sex are more addicted to such deeds, of might or by kindness, than ours—and if true, it may go far to account for the fact, which is, I think, incontestible, that housekeeping in Georgia exhibits the fruits of far more industry, skill and taste than *farm-keeping*. Now if this superiority of the former is to be accounted for by reference to that "freedom of speech" to which ladies are by some supposed to have an inherent proneness, why should not the rougher half of mankind profit by good examples, and in strains of wholesome censure, give becoming license to their tongues and pens? Be assured, Mr. Editor, we are much in want of fault-finders; and if you cannot contrive to draw some of your correspondents into this service, you must take up the rasp yourself, and make us sluggards feel it to the quick. If possible, awaken in the plowmen of Georgia some of that high-toned ambition, that keen sense of the useful and the beautiful, for which their wives and daughters are so justly distinguished.

It is quite impossible for any observer to compare the modes and practices pursued on most plantations in this State with those of older and more improved countries, without being struck with the wide difference, nay, the prominent repugnancies that such comparison presents. In one, we have progressive regeneration—improvement in fertility, wealth and health—in the other, prospective poverty and degradation. Why is this so? Certainly not because this country is less favored by nature with soil, climate and commercial facilities. The reverse of this is true. What then is the matter? A wilful submission to the consequences of bad husbandry—a systematic waste of the means indispensable to thrifty cropping and the permanent improvement of our real estates. We seem to have forgot that everything in this world wears out by use; and that every thing we find it necessary to use must, from time to time, undergo repairs. A rich field is as certainly ruined by bad management, exhausting crops without manure, &c., as a well-conditioned team by incessant work and deficient forage. The consequences are precisely what ought to have been expected. The proprietor of five hundred acres in Georgia may sell it for from two to five dollars per acre—but the same number of acres in Connecticut or Massachusetts readily commands from thirty to seventy-five dollars an acre. The Northern farm is four times as rich as it *once* was; the Southern reduced almost to barrenness. The Northern farm, after paying the expense of annual, regular manuring, yields from six to twenty per cent. net profit, while the galled fields of the Southern but parsimoniously supply the wants of an economical family. Our whole progress has been made in a wrong direction, and nothing can save us but a countermarch. When it shall become the settled purpose of planters and farmers, so to conduct their business as to augment the *real estate* part of their capital, *by giving every year increased fertility to their fields*, the country will soon become renovated, and Agriculture will be the same attractive and thrifty pursuit here which it is known to be in older, richer and more enlightened countries.

Zachary.

Col. McDonald's Proposition--Coming to the Rescue.

Mr. Camak:—In the September No. of the Southern Cultivator I perceive the announcement of the death of Col. Alexander McDonald, as taken from the *Shield* of this place; and accompanying it, an appeal to the friends of Agriculture, to sustain his proposal "to be one of a thousand to raise twenty thousand subscribers for the Southern Cultivator." As a member of the same Society to which Col. McDonald belonged, and as one who has fought many battles with him in the good cause of Agriculture, in this new part of the world, I ask of you to substitute my name for his, as he has been called from his field of labor. I make this request, in the absence of any other applicant for the same post. My professional labors, added to my farming pursuits, so fully occupy my time as to prevent me from that full devotion to the cause of Agriculture which characterized Col. McDonald, and I would, therefore, cheerfully yield to any other member of *our* Society the honor of the post which I ask. But as I fear no other name will be offered from this Society, to fill his place, I make a tender of my services, and claim to take his place.

The prospects of our cotton crops are truly deplorable in this section of the country. A short time since our hopes were high, and we were calculating on a full average crop. But now, no one calculates on more than two-thirds of an average crop, while many insist on its being not more than a half crop. I am of opinion that we cannot make more than two-thirds of an average crop; and if the boll-worm and caterpillar should continue their present ravages much longer, we must fall below this standard. If this estimate be correct, and the rest of the cotton region suffer to the same extent with us, the crop of 1846 will not exceed 1,700,000 bales—assuming an average crop, *now*, to be 2,500,000 bales.

If we have good reason to be disappointed, on account of our cotton crops, we have, fortunately for us, good reason to rejoice over one of the most abundant *provision crops* that we have ever raised in this section of country. If we were free from debt we would, therefore, have no reason to complain of the results of the year. But, unfortunately, many of our citizens are still in debt, and unless the price of cotton rises considerably they must be greatly depressed. With sentiments of respect, yours, &c.,

John A. Calhoun.

Eufaula, Ala., Sept. 5, 1846

More of the Right Spirit.

Mr. Camak:—It affords me much pleasure to see that several gentlemen have responded to the noble proposition made by the late and much lamented Col. A. McDonald. I wish that the number may increase until you will be under the necessity of issuing "an extra," in order to make room for their names. From a communication in the April No. it will be seen that I have all along entertained the belief that the friends of the paper would not suffer it to go down for want of patronage. My confidence in their ability and willingness to sustain it is still unshaken, and now that you have told us "how many subscribers you want," you may expect soon to receive names enough to enable you to send out a paper "as good as the best in the land—plates and all." I love my native State, and while I wish her citizens prosperity and happiness, I am proud to see that my adopted State does not intend to be distanced in the race. May a noble emulation spring up between them. Whenever the people at large can be induced to read good Agricultural papers, the work of improvement will certainly commence.

You have furnished a good paper, and it should be the business of its friends to extend the circulation. Friends of the cause! come up to the work. From my own experience, I know that you can do much. Take your little book and pencil along, whenever you ride out, and when you meet a friend ask him for a dollar, and tell him that you intend it as a special benefit to himself. In this way you can do much—

and you will rarely meet with a refusal. At any rate, you will have (what many of you have not had before) a clear conscience, in this matter. Try it. The writer in this way, sent more than "twenty" subscribers for the year 1846, and intends, if life and health are spared, to try to do better for 1847. As you want something definite to act upon, Mr Editor, put me down for twenty, and I will increase the number, if I can.

Allow me to thank Mr. FARRAR and Major ROSS for answers to my inquiries about their crushers; Maj. R.'s were private. Respectfully,

JOEL HURT.

Crawford, Russell Co., Ala., Sept. 10, 1846.

Crops in Mississippi—Smut in Wheat—Croup—Inquiries.

MR. CAMAK—Like my friend A. MCDONALD, (if I may use the term of one whom I know only as a contributor to your invaluable paper,) I quit (not plow and hoe but) spade, and mall, and wedge, to give you and your readers an idea of the prospects of the crop in this, the Eastern, part of Mississippi. Our preparations for planting were much better than usual. Having had a short crop, the previous year, we had more time to increase our fall sowing of grains, and our bedding and fallowing, as well, also, as to add, by clearing new lands. Thus, we have planted a larger crop of small grain, corn and cotton, than in any previous year during the past twelve, which period covers my residence in this State. The spring and summer have been remarkably wet, and, of course, cultivation has been bad and grass abundant, so much so that our wheat, rye, and oats have moulded, sprouted and rotted in the fields; and what we have found time to sun, makes but poor flour, and I fear will make very bad bread.

The ridge lands on the Tombigbee and Warrior rivers have a very fine crop of corn and cotton, looked well until recently, having rather more size than usual on the first of July; but since then the boll-worm, as we term them, has attacked the cotton, squares, blooms and bolls, and now there is literally no cotton left on the stalk to open. Our bottom and flat lands were drowned in the spring, and the wet summer has prevented the corn and cotton on them from making or promising to make even a half crop; and the worm has been as destructive on what little formation has been on them, of blooms and bolls, and we are now, instead of picking 150 to 200 lbs. of cotton per day, actually hoeing grass out of the cotton fields with our weak hands; and I am engaged in ditching and draining, having suffered so much from the excess of rain that I have concluded to put all my spare time in this kind of work, to better prepare for such a season in future, as I have more land cleared than I can cultivate.

Our lands are chiefly prairie and creek bottoms, and hauling is so heavy in winter that I find it best to make and haul rails in the summer, and repair fences during winter or spring, as is generally not the practice in this section. But I find that my team is by this plan in much better condition for winter and spring plowing, and my hands less exposed, as most of our rail timber lies in swamp and creek bottoms

I would inquire of D. G., of Busbyville, Houston county, Ga., if he has tried wheat seed two years old; and if his experiment proved that it did not smut; and, if so, if that season the smut was as abundant as usual on the farms of his neighbors.

I, last season, bought my seed wheat, (my own having smut so bad that I thought even blue-stone, had I known the recipe for using it, would not avail,) and while sowing, I learned from an old man I accidentally met with in travelling, that to scald in boiling water from 3 to 5 minutes on sowing the worst wheat seed, and I would have no smut. I tried it, and am pleased to communicate to you and your readers that not a head of injured wheat was this spring found in the small field of scalded seed, while a good many heads of the other, which I thought entirely free from smut, were injured. I used a pot in the field and immersed a handled basket filled with wheat in the boiling water. I once used blue stone without success, but am now satisfied that it did not remain in soak long enough. I think, from the experience of the Benton County, Ala., farmers, that it should be soaked from 24 to 36 hours, to insure it a preventive.

While on recipes indulge me while I give you another, for the cure of croup among children:

Apply a warm bath; so soon as out, cup or bleed; then give Spanish float Indigo, sulphur and saltpetre in molasses, the size of a cow pea each; and in half an hour give castor oil, common dose.

It will cause a foaming or frothing at the mouth, and sometimes nose, and very generally the child will have to be roused out of a sound sleep to give the oil.

Suffer me to suggest to all your readers that have not carefully read and thought on M. W. PHILLIPS's letter, in your August No., to do so, and act upon its suggestions, and, my word for it, they will never repent it. I am confident, from several years experience, that rest in the heat of the day is not labor lost, but gained. I wish you had a contributor from some prairie district of country who would give his views to the public in the copious and free style of M. W. P. or friend MCDONALD, and if you could induce our old friends Judge JNO. MOORE, or THOS. C. BILLUPS, both of Noxube county, or Col. GEO. H. YOUNG, of Lowndes county, Miss., to engage in this work, you would much benefit some few subscribers, and add to your own list, which, at least, would afford pleasure as well as profit to my old school fellows, the Publishers.

The worm in cotton is general, so far as I have heard—80 miles East, 100 North, 60 West, and 25 south of me—and I here predict that the receipts at Mobile, during the next season, will be 100 to 150,000 bales short of the past season, unless the crop on the Alabama river turns out 25 per cent. over an average; and from the opinion of travellers, the New Orleans receipts cannot be so large as the past year. TREP.

Query?—Do your Georgia planters sow successfully rye and oats in the fall on corn land, without plowing in, and turn stock in to tramp and cover. If so, how long ought the stock to run on it? Would hogs not destroy too much of the grain; and if a cold winter, would not much more be killed by freezing?

I hear you have a large white-bearded wheat, is it freer from smut and rust than the common varieties of white wheat? T.

Near Wahalak, Kemper Co., Miss., Aug. 23, 1846.

Mineral Manures.

MR. CAMAK:—In looking over the last year's volume of the SOUTHERN CULTIVATOR, I came across Prof. Shepard's Analysis of Cotton, Cotton Seed, &c. Professor S. ascertained that cotton wool (fibre or lint,) contained, in its composition, for every ten thousand parts:

Potassa	31
Lime	17
Magnesia	3
Phosphoric Acid	12
Sulphuric Acid	1

or that for every ten thousand lbs. of cotton wool raised upon a soil, it required about 60 lbs. of the above substances.

In twenty-four analyses of different plantations in Burke county, Geo., made by Mr. Cotting, taking the mean of the above substances, which he found, with the exception of phosphoric acid, of which he gives no account, we find the result as follows: Sulphate of Potash 2 1-10 per ct., Lime 4⅓ per cent., Magnesia ½ per cent., Nitrate Potash ½ per cent. The phosphoric acid, which must evidently exist in these soils, is, I presume, included in what Mr. C terms "soluble animal and vegetable matter"

Now an acre of land contains 43,560 square feet. Allowing the soil to be on an average six inches in depth, we shall have 21,780 cubic feet of soil, equal to about 17,820 bushels, or 1,140,480 pints, and the average specific gravity of these soils is 2½ times as great as water, therefore the above amount of soil would weigh 2,851,200 lbs.

Taking the mean of the minerals and acids found by Mr. Cotting as before stated, we should have in this amount of soil:

Lime	123.552 lbs.
Potassa	35.993 "
Magnesia	14.256 "
Sulphuric Acid, (united with potassa,)	27.216 "

If then an acre of this soil yield 1,000 lbs. annually of seed cotton for thirty years in succession, the amount of the above minerals would not be appreciably diminished, if the seed be returned to the soil. But if the seed be not returned to the soil, it will make no material difference, with the exception of the phosphoric acid, of which we can make no calculation as to the amount contained in the soil.

But none of these soils will produce cotton to this extent before it becomes exhausted. Upon what then depends this exhaustion? Is it from a failure of the phosphoric acid contained in the soluble animal and vegetable matters of the soil?

Whether this be the case or not, we know that the production is greatly increased by the application of decomposing vegetable and animal manure formed by supplying lots and stables with litter from the woods and other sources, which mixes with and absorbs the solid and fluid parts of the excrements of our domestic animals.

We find too, from the analysis of cotton seed made by Prof. Sheppard, that nearly fifty per ct. of their inorganic constituents is phosphoric acid, which, if not returned, the soil will, as he states, rapidly "become completely exhausted and unproductive." Does this not point to the application of the immense beds of shells and shell marl, so liberally disposed through the counties of Burke and Jefferson, which by their gradual decomposition would supply the waste? For these marls and shells, like all other substances of animal origin, contain phosphoric acid to a greater or less extent Then lime also, where there is a deficiency, as there seems to be in some places, or where there is a superabundance of undecomposed vegetable matter, would be very beneficial. The experience of Gov. Hammond, to whom the agricultural public are so much indebted, is sufficient proof of the benefit of marling.

As to applying other mineral salts, unless there is an ascertained deficiency, I cannot see the use, whether in form of "Bommer's method" or otherwise. Of the benefit to be derived from the application of decomposing vegetable matter there is no doubt. Yet if it is not placed sufficiently deep, so that a constant moisture secure a steady and gradual decomposition, it may prove injurious to a single crop in a dry season, as many *surface* farmers can testify from last year's experience. Lime will undoubtedly hasten the decomposition of vegetable matter, yet if there is not an abundance of these matters in the soil upon which it can act, it may prove injurious in too great quantity.

There is another substance called "green sand" which contains, judging from the composition of the rock from which it is decomposed, a considerable per cent. of lime and potash. It has been recommended as a mineral manure. I do not know, but would like to be informed whether it is a profitable application.

But I presume, Mr. Editor, you are tired of this yarn, so accept my best wishes and best efforts also for the success of the SOUTHERN CULTIVATOR. P. DAVIDSON.

Indian Hill, August 17, 1846.

Cure for Bots.

MR CAMAK:—Having seen an article in the last number of the CULTIVATOR headed "Bots in Horses," and there being no certain cure given, made me desirous of making known to the public a remedy, which I believe is known only to a few individuals, and is a certain cure for that disease, unless they have perforated the stomach:

Take a piece of Indian meal dough of the size of a walnut, flatten it on the hand and pour thereon sixty grains of red precipitate, (which may be obtained from an Apothecary or Doctor,) and close the dough over it, making a kind of pill. Then raise the horse's head, draw out his tongue, lay the pill as far back as possible on the tongue, and let it go, which will carry the pill so far back that the horse cannot throw it out of his mouth. Nothing more is required, only light diet for a few days.

By the above directions, I have known horses relieved from the most excruciating agony in a few minutes. Would not a few doses of this be a most useful "pocket companion" for wagoners, coachmen, etc? A SUBSCRIBER.

Gravel.

MR. CAMAK:—I would like to elicit, through the columns of your interesting paper, a remedy for a disease, which is prevalent among horses, called "Gravel." A FARMER.

Progress of the Brinkleyville Vineyards, and some Ultraisms Noticed.

Mr. Camak:—Every branch of agricultural enterprise would appear to be entitled to advocacy in periodicals edited expressly to promote improvement in the most primitive and useful of all arts. But in the new world, if any one branch has more claims to a hearing than another, it may be such an one as is in a pioneer state of advancement; as may be said of the vineyard enterprise—an enterprise that should interest American farmers generally.

But there are some peculiar reasons for Southern farmers turning their attention to the vineyard business. A few of these I will briefly state. And a very prominent reason is, that most Southern climates and soils are admirably adapted to the American mode of culture of native or American grapes, and the superior excellency of American made wine. A conclusive proof of this position is the very luxuriant growth of our forest and other native grapes everywhere in the South, and the peculiar zest and healthiness of our American wines wherever due skill and pains are exerted in making them. Let it be remembered that, in the agricultural census, the Southern exceeded the Northern States in the wine product, and North Carolina in particular ranked highest by some thousands of gallons. And it may be remarked that, in some of the Southern States, where cotton is no longer of profitable culture, the vineyard business fitly may take the place of that great staple.

And besides, a laudable self interest, a patriotic motive, should sway our Southern farmers toward vineyard employment, or that of helping to save our country from dependence on foreign lands for annual millions of dollars' worth of wine.

And it may be added, the motive of freeing us from an enormous expense for a liquor not so unequivocally medicinal and otherwise excellent as the rightly American made fermented juice of our own native grapes.

It is related in Goodrich's standard "History of the United States," that what particularly attracted the attention of the first voyagers to North America was the abundance of fine native grapes everywhere seen, compared, for clusters and excellency, to the Bible grapes of Eschol. Pity the circumstance of abundance of best kinds of native grapes had not been availed of by the after settlers of the country in order to prevent the retarding of native American vineyards and modes of wine making, through the injudicious introduction of foreign grapes and modes!!

Here I venture to observe that, as making, it is thought, the most wine of any individual in the Southern States, I hope it will not be deemed vanity or presumption for me to state my success as a doer of what I recommend to my fellow agriculturists of the South. In various periodicals of our country I have detailed, at some length, my principles and practice as to vineyards, and exhibited them as American throughout. I therefore merely state here, as evidence that my American system is onward in improvement and profit, that I have circulated my choice and most select American vines through all parts of the Union, for orders and remittances, (I am credibly informed that my native Halifax ranks a first-rate grape, sent to France,) and that their culture, so far as heard from, is very satisfactory; and that of about fifty barrels of wine made in two past vintages, (my peculiar or American mode of making insures both the safe keeping and quick maturity of the wine,) I have sold nearly all, with a fair prospect of an increasing steady demand far and near in the United States. And I further state here, that so abundant is the bearing of my vineyards now, that I calculate about 40 barrels of wine, of still improving quality, will be the product of the present vintage. This abundant vineyard product is one only of a worn-out plantation greatly improved in seventeen years.

And one peculiar satisfaction attending my success in the vineyard cause is, that my wines, so far as I have heard and seen, subserve the purpose for which, as a leading motive, I first undertook the business; or that besides the superior medicinal qualities of good American wines, they indirectly promote the cause of true temperance; or, as a substitute for the use of ardent spirits, they tend to check the dire effects of their excess; and therefore I look forward to the period when our country, like European wine making ones, will be temperate, and distilled liquors not used as a beverage, or scarcely at all, unless for the purpose of mixing with and insuring the safe keeping of wines.

And after mature observation and reflection on the temperance movements of our day, as well as participation therein, I opine that a good christian church, whose members are under most solemn vows to be temperate in all things, is a most excellent Temperance Society. But I am so far from supposing that other than Church Temperance Societies, even if ultra in some of their leading features, are militating against the desirable consummation of the vineyard cause just named, that I consider them also as subsidiary thereto. Yet, I consider all really ultra views and action in any cause, however good in itself, as calculated to injure by reaction that cause, or that so far as ultraisms may have any effect, sooner or later, they will prove deleterious unless counteracted in some way. A wrong principle, or a right one overstrained to a wrong, is uncharitable injustice of one part of mankind to another. Such is ultraism, but too rife, as to some things, in our day and country. But pernicious ultraisms will predominate long only in despotic lands, not in free America. Yet to this end, or their correction, they need public exposition like other bad causes.

The denunciation of others for temperately using things lawful is a crying anti-republican sin against the right of private as well as public judgment and action. The maxim of such denunciation is: "Not right to suffer others to go wrong." (This maxim will do when station and authority demand its appliance.) And to determine the settling of the right in their own favor, and the wrong against all others, the despotic in church, state and physic, have another maxim very convenient for their purpose, viz: "No man (not of us, or our party, the *Simon Pures* of the earth,) has a right to think for himself;" and by consequence, those so fortunate as to be listed in the cause of such despotism, must think for all others not in their way of thinking. Hence, in matters of religion, (which, if truly christian, requires the highest energy of individual thought,) those thus despotically inclined put themselves in place of Deity himself, as to others differing from them; and hence infer that it does not pertain to Roman Catholic despotism alone to teach that, "the more ignorance and abjectness of mind, the more piety.

The maxim in contrast with the above abhorrent ones is, "that in all things lawful, others and all others, have as good a right as we to think, judge and act for themselves;" and therefore we would be detestable tyrants to interpose persecution of words or deeds to prevent others from the free exercise of those rights conferred on all by the Father of all. In short, to end these general views of ultraisms, I remark that it becomes freemen to be "eternally vigilant," or to thus pay the price of liberty in order to its continued possession.

Many reformation and revolution devotees of genuine religious and republican liberty (centering in the right of the people's private judgment) as well as true freedom of the press, sacrificed their lives as the bloody price thereof. And we should preserve it by vigilant watchings against encroachments upon our dear-bought rights from every quarter.

To apply the above general principles, to the cause of temperance in particular: well to examine whether it is not selfish ultraism to denounce Temperance Societies, or, in other words, the perfect right of all citizens to form themselves into Societies to promote any lawful object; and, it may be added, to abstain from meats and drinks, as swine's flesh or wines, or, say luxuries of any kind in eating, drinking or wearing, as tobacco, ardent spirits, or silks or satins On the other hand: well to reflect whether either individuals or Societies denouncing others for refusing or not choosing to forego any of heaven's blessings, is not the same kind of selfish ultraism as the opposite extreme. Let us here notice such ultraism as to wine in particular.

It appears as plain almost as any other truth in the Bible that wine is ranked as a blessing alongside of bread itself, the staff of life, yet liable, like all other blessings, to intemperate abuse. Temperance is emphatically the right use of things lawful. And to say that scripture wine was not, as the modern, capable of abuse by intoxication, is like the pitiful subterfuge, or begging the question in dispute on the part of the abolitionists, when they say that the word servant in the Bible never means slave. Let them prove that. The curses of scripture against drunkenness by wine, and the many caveats against its intemperate use, show clearly, without other proof, that scripture wine was the real fermented juice of the grape, and therefore, not mere grape juice, but genuine wine, capable of producing intoxication whenever taken to excess; and although I consider it a sound temperance principle that the young and healthy should never resort to the daily or habitual use of any stimulant; yet the instance of our Saviour, the greatest pattern of true temperance, making and using wine at a wedding, fully countenances the use of wine for all, on convivial occasions.

One of the greatest of imposters, Mahomet, forbade wine to his followers. But the great and true Messiah so made, used, and openly countenanced wine, that by the hypocritical Pharisees of old, he was reproachfully called a "*wine bibber.*"

I am aware that while the foregoing sentiments coincide with those of the great body of true christians in all ages, that they also may disagree with the views of a portion of the now existing christian public in our land

But I am also fully aware that ultra views and action against true, moderate and benign Bible positions are rife in our day on diverse matters. For instance: the Bible sanctioned slavery; that, in course of Divine Providence, renders the lowest class of our Southern population, the blacks, greatly better off than the same class in the North, and especially the degraded starving white poor of Europe, and elsewhere on the Eastern continent. This is denounced by some called christians; who, not content with not owning slaves themselves; or refraining from availing of a privilege (proved by stubborn facts, benign in its tendeneics) conferred by their Bibles, and conformable to the usages of the most enlightened and moral nations, and people, of all ages of the world; would also, like the fabled dog in the manger, cut off all others from said privilege.

Another gross instance of ultraism, as to capital punishments for most atrocious crimes.

Some in christian lands not only would subject the good citizen to the destruction of the merciless and bloodthirsty assassin, but virtually denounce the Bible declaration: "that whoso sheddeth man's blood, by man shall his blood be shed."

Other pseudo philanthropists and infidel ultraists, would, in despite of Heavenly precepts, banish the rod of correction from schools and families.

But I forbear, though full of my subject; considering that the few hints, which I have just adduced, may evince my position in regard to true temperance, or the benign cause I aimed to promote by vineyards and wine making.

In haste, yours, &c. Sidney Weller.

Brinkleyville, Halifax Co., N. C., Sept., 1846.

Sowing Wheat.

Mr. Camak:—On reading the last number of the Albany Cultivator, I notice some remarks made by a farmer of Louisville, Ky., on sowing wheat, which accords with my views and practice for several years, and as the time of sowing is near at hand, I will give you my plan; perhaps some one may be induced to try it. In the first place I sift my wheat through a coarse sand sieve, that the small and imperfect grains may be separated from the good. I then put it gently into strong brine and skim off and throw away all that will float. The seed remains in the brine about twenty-four hours, then taken out and rolled in lime. This is to prevent smut as well as to separate all imperfect grains from the good.

I prepare the land by breaking and harrowing until it is in good order, and always harrow in my seed instead of plowing, and try to get it in by the last of September or first of October, when the earth is moderately dry. The quantity I sow per acre is three gallons, (broadcast,) and I generally find my wheat thick enough. Although a great many of my acquaintances sow a bushel per acre, I don't know any that make better wheat than I do.

Then why all this waste of seed? Every farmer knows that a grain of wheat, if favored,

will produce from ten to fifty heads, say the former, and each head forty grains (which is not extravagant,) would be four hundred grains from one. Well, if one grain will produce four hundred, one bushel should produce four hundred bushels. But, instead of that, only about ten bushels are obtained from one sown, which is considered by the most of farmers here a very good yield per acre, which is in fact only one-fourth of a head to each grain sown. I think the secret lies here, that those bushel sowing farmers turn their wheat in very deep late in October or November, without previously breaking the land, and by the time the wheat gets up and forms a stem or fibre sufficiently strong to afford roots near the surface, (as soon as this takes place the roots at the grain perish,) the cold winter weather finds it with but a few short roots, and must remain so until spring, and then can only afford a few slender stalks with small short heads, while the grain but an inch deep comes up immediately, and the roots first thrown out remain permanent and have time to increase their number and length, and a quantity of blades which enables it to stand the winter, and will grow off in the spring and yield a number of fine, healthy stalks with large heads full of plump grain.

When I tell some of my neighbors that shallow covered grain will stand the winter better than that covered deep, they laugh at the idea. Very well. I have succeeded well for the last seven years on the above plan, and do not feel disposed to abandon it until I find out a better.

Respectfully yours, J. D. Havis.

Houston, Ga., August 19, 1846.

Cotton—Caterpillar.

Mr. Camak:—As I am one of your subscribers, I feel in duty bound to contribute all the information that I am in possession of, that would enhance our Cotton crops, by destroying the worms which have been, and are now, making such havoc on some farms that the crops will be an entire failure. I, for one, believe that all diseases and disasters have their effectual remedies, which if rightly applied, and at the right season, will prove successful. I know there are many farmers who disdain to believe any thing like experiments to be profitable. They are an anti-prosperous kind of beings (not Farmers,) who are content to sit on the stool of do nothing and murmur at Providence, and will not even listen to any new idea, take hold of no new inventions, but hold on to the old rules. Father larnt them well; father cut off his pig's tails when he castrated them, and they do it too; and father lost about one pig in ten or fifteen, and they do too. Well, *Anti*, just ask your neighbor who has hogs with long tails if he ever loses any by castration, and my word for it he will tell you no, scarcely ever; and on the other hand ask your neighbor who has short tail hogs if he ever loses any by the operation. He will say, oh yes; some how or other I never can get a good hand to attend the operation, as I know I always attend to these things when the sign is in the fat, and my pigs die. Well, sir, lay down your prejudice, and never cut off a pig's tail and they will not bleed to death. Try it; and as I shall tell you how to keep the worm out of your Cotton, try it also; and if either fails, just publish your name in the Cultivator, and I will pay the subscription for one year of all who will try it fairly and fail.

About the first of July I discovered the worms had made their appearance in my Cotton. About that time we had a few very warm days which made them disappear; and I saw no sign of them till about the 15th August; and then on close examination, I found nearly every stalk had more or less worms and eggs; in the bud of the stalk, I counted as many as 12 eggs and saw some at the stage when the worm was coming out of the egg. The eggs are very small, about the size of mustard seed, and of a pale dove color. The worm, when it first hatches, commences eating the bud where the eggs are deposited. The worm, when first hatched, is about the size of a small ant's body; and in a few days they will shed and commence searching for the squares. On the 15th I caught numbers of the flies which lay the eggs, about sun set, and found their bodies full of eggs. I made it a business every evening to go into the field to catch the fly and examine them; and I found every evening they had less eggs in them; and on the 20th day I caught numbers of the flies, and in pulling them in two I found they had layed out their eggs, or at least I could find none in them. I had not topped my Cotton till I found at what time the flies had stopt laying. As I wished to make an experiment, I started my hands to topping and gave them instructions to top as low down as they discovered any squares had opened, and also to top all the suckers; and I will assure you it looked like a ruinous business, as some times it would take one third of the stalk. I made the hands rub what was pulled off, so as to destroy what eggs and worms they gathered. At that time I offered to take 10 bags of Cotton for my crop, which was 70 acres; but since the topping I would not take 30. It is true it was a considerable task, as my hands would not top more than 1½ acres per hand a day.

I feel richly rewarded for my trouble and experiment, and know of a truth that others may be benefitted, if we ever should be troubled by the worms again.

I would have wrote sooner, but wishing to be satisfied with the experiment makes it too late to be of any advantage to the farmers this season, as the worm has got down into the large bolls.

But I dare say some *Anti* will say, Father topped his Cotton, and he had worms in it too, and I don't believe the experiment will do. But again, let Father keep his eye on the fiddler, and watch the fly, the egg and the worm, and top with judgment, as I have given directions, and he will say, away with prejudice. Give me instruction and let me know the signs of the times, which will be by taking the Cultivator.

September, 1846. Watts.

History of Husbandry.

Mr. Camak: I propose, with your approbation, and from my recollections of former, and information by present, readings, to give a succinct History of Husbandry, for the edification of such friends of the Southern Cultivator, whose time and money preclude to any satisfaction, such an investigation. By the comprehensive term Husbandry, I mean Agriculture and Horticulture, combined. I shall endeavor to treat the subject with accuracy and justice.

Husbandry is the oldest and leading business of man. Even at the creation, the hour of its birth, Adam was placed in a garden to "dress and keep it"—and hence the first manual operation of man, was in the uncovered air—and horticultural. It was an employment befitting celestial beings! And the Divine power walked in the coolness of the garden. After that moral catastrophe, the fall, the two sons first born to Adam, Cain and Abel, were, one a "tiller of the ground," and the other a "keeper of sheep"—primeval pursuits familiar to Farmers. In the progress of time, the process of business branched into the manufactures, which are always sustained by farming as the original foundation. The Deluge intervened. The new creation again found its Patriarch attending the soil; and Noah as "a husbandman planted a vineyard"—proof that the art of fabricating wine is lost in the lapse of immemorial time.

After the dispersion from Babel—the various families of mankind retained, or lost their civilization, *in exact proportion to their retainment or loss of the husbandrial art.* Even Babylon, the first built city, and those of the Egyptians, Greeks, Jews and Romans, were unrefined until in after ages the art of gardening had been better perfected. Nations that had no address in drawing sustenance from the land, but became hunters and fishers, living on the surface of an ostensible and precarious nature, were like the aborigines on this continent,—having lost sight of every vestige of Agriculture, and by consequence, of all the arts and refinements of life. "Among savage nations one of the first indications of advancement towards a state of civilization, was the cultivation of a little spot of ground for raising vegetables; and the degree of refinement among the inhabitants of any country, may be determined with tolerable certainty, by the taste and skill exhibited in their gardens." This fact is corroborated by an observation of the Indian tribes removed beyond the Mississippi, who are gradually becoming enlightened.

If the oldest record of our religion mentioned husbandry as the primary occupation, in like manner the oldest of the profane writers, Hesiod has spoken—in a book called the "Works and Days." The Cadmean art—the invention of letters, either by Thot of Egypt, or by the Brahmins of India, or as imparted to Moses by the finger of God, if it was not long before evident in the "*mark* set on Cain"—as an approach thereto—may have been known and used before the Greek, Hesiod. But Literati do not appear, aside from the Book of Job, to possess any authority anti-dating the Grecian Poet. The first writing, therefore, of man, as his first employment, was Agricultural. And the *Farmer* can stand up, and tell the *Free-mason*, that his brethren and his operation are the oldest in action—having survived the fall of empires, the decay of the works of art and the forgotten memorials of greatness; and yet, without the necessity of secrecy, or oaths, remained more entire!

The Chaldeans were probably the original farmers who retained possession of the soil, and improved it. After them, the Egyptians and the Persians. Nearly the rest of the descendants of Adam became Nomades, and went afar in every point of the compass, and planted colonies that in after ages frightened the refined Romans with their appearance, and finally, it seemed, subjugated that proud city, and populated Europe as she now is. Commerce, after Agriculture had completed its bounds, followed as a consequence. Phœnicians built Tyre, and engrossed the trade of the then known world. They were not agricultural on that barren rock; but by conveying produce between different countries they served an useful purpose. But let not merchants boast over farmers. Without the assistance and solidity of that useful son of the country, where would traffickers be?

In ancient times Agriculture, though not much mentioned by historians, too intent on depicting armies, must have been very universal, or else carried to a high state of perfection, since provisions were obtained for so many and such constantly succeeding wars. "The Greeks and Romans most celebrated for their military enterprises, were also most attentive to the cultivation of the soil." And often the very hands that guided the plow, periodically wielded the truncheon of the armies. Who has not read of Cincinnatus—who rose from the plow thrice to save the Roman Commonwealth, and then, as successively, went back to the plow again? Of Cato, who was the orator, the general and the censor, who lived on eight acres which he himself tilled, and in a hut, eating turnips? Of other leading men, both Roman and Greek, who during the principal times of their Republics, disdained not to harden their hands and cheer their honest hearts, upon the peaceful fields of Agriculture?

As Rome became more colossal, even before she became, unhappily for liberty, imperial, her great men proportionably neglected husbandry, and in their lofty pride disdained its useful, though humble, and life sustaining pursuits. Unlike our own peaceful Calhoun, and Clay, and Webster and Van Buren, the Mariuses and Syllas, the Pompeys and Cæsars of antiquity overlooked the fertile fields of the Roman boundary, and cast *Eagle-eyes* upon the impregnant lands of Gaul and the Orient. The state could not as a common weal survive this pride or ambition. She was smothered in their too warm and potent embraces after fame.

But long before the sad decay of alike Grecian and Roman glory, republicans had begun, at a self same hour, as if by mutual consent, to abandon agriculture, so far as regards personal practice or inspection, and to make men combined in armies the fearful crop of rapacity! The hour that saw the generation of the Cincinnatuses and the Catos depart from living Rome, and agriculture became confided to slaves,—the same attitude of events too that transpired in Greece—was the hour for the final departure of liberty from those regions. For when man as an owner has no tenure on the soil—what can be his motive for desiring the continuance of prevailing things, and of course by parity of reasoning, of liberty? Or when he does own, but makes the improvement of his tracts no *favorite* pleasure, leaves them to tenants, or forgets them, what guaranty has the State in his continued faithfulness?

Had the days of Cato continued to Rome—and had consecutively all design of conquests been given over,—the Roman Commonwealth had lasted to this day. But ambition disdains agriculture: it turns the plowshare into the sword; it transforms pruning hooks into spears; to this day its dreams, when balmiest, are of culverins and cannons, of gigantic calibre.

In giving its history, I would call attention to the peaceful tendency and patriotic quality of agriculture.

Numa Pompilius was the only one of the primitive monarchs of Rome, who would have imparted a peaceful tenor to the Roman spirit, and it was said landed cultivation was *his* delight. But the martial policy of Romulus, the founder, was too potential for the example of Numa. Rome was destined for a career of blood, and agriculture to be abandoned in its course.

The sinew of controversy inhered in the Patricians. Descended from the ravished Damsels of Sabina, they would be *conspicuous*, even over Cato, amid his eight acres. The more ancient a nobility, the more inveterate.

To give some cessation to these turmoils between Patricians and Plebeians and to avert civil commotion, the several consuls in their acute forecast, sent both parties, or the flower of them, to distant wars, and by the excitement of a spirit of conquest, directed, thus continually, the dangerous arms of the Romans from themselves and their city, upon contiguous, and, at length, upon distant kingdoms.

As these conquests grew into a habit and a passion, and from the introduction of oriental luxuries, the hardy Romans became enervated; forgot the primeval principle of eight acres to every family; enacted that five hundred become the policy; and, at last, that wealth may hold both land and slaves, the subjugated, without number, or restriction, until a Patrician had broad domains, and, in one instance, twenty thousand slaves.

But mark the sequel. If Cato was kept at home, and as Cincinnatus evinced by an application of mind upon his narrow, but to his simplicity sufficient estate, the ambition of Sylla had no such motive: nor did he perhaps ever finger an axe, hoe, or plow, or even oversee his laborers. And the destruction of the Gracchi, previously, those jewels of Cornelia, for attempting to restore the pristine purity of the commonwealth by deductions on estates, led the way to the alternate triumphs of Marius and Sylla, which introduced those of Cæsar, and then intervened the well known imperiality of Rome and its consequent "decline and fall." May not all this disaster be traced to the Patriarchal abandonment of agriculture? And does it not premonish Americans never to become weaned from a hold of affection to the soil!

The effort of Augustus to restore the cultivation of the soil to respectability, when Virgil at his command wrote his Georgics, was temporary. The Empire had already grown great and was unwieldy, and as the sword had been her marching guerdon to renown and power, so in the mysterious retribution of Providence, the same signal instrument also worked her destruction! The same results everywhere succeeded the same operations!

The maxims of Socrates and of Xenophon on tillage and the horse, had but little influence over their countrymen. Everything was bent to war, that too unfortunately natural passion of man's appetite—as in after times, in spite of the regulating maxims of LaFayette, leading to steady Liberty, the phrenzied French made the wildest license their idolatry. The same consequences followed alike to Agriculture and the State.

Other arts, and trades, and professions cannot, from the portable system of the occupation, be so patriotic as the fixedness of farming necessitates upon the Agriculturist. Farmers, it is proverbial, always wish to let Government alone. They never essay to pluck one pinion from the wing of embodied freedom. With such men, untroubled by pragmatic persons from the cities, our free Government would last forever. This, as I have exhibited, the Histories of past nations confirm—and this our own will.

Why did Cromwell remain content in England after the conquest of Ireland; why, unlike Buonaparte, did he not attempt the conquest of Holland, &c.? Because Cromwell was a plowboy! Whereas, the Corsican knew nothing, even of horticulture. Will my countrymen take the hint? Who and what was Washington?

In England, from which country, owing to our lineage by far, and to the synonymity of our dialects, we imbibe nearly all our husbandrial improvements. Agriculture was at a low ebb until the fourteenth century—and it seems, not cultivated as a science until the sixteenth century. [See Hazen's Panorama of the Arts and Trades—article, The Agriculturist.] In 1534, the first book on Agriculture there appeared. "It was written by A. Fitzherbert, a Justice of the Peace, who studied the Laws of Vegetation and the nature of soils with philosophical accuracy."

"Very little improvement was made on the theory of this author for upwards of a hundred years, when Hugh Platt discovered and brought into use several kinds of manures, for improving exhausted soils"

"Agriculture again received a new impulse about the middle of the 18th century; and in 1793 a Board of Agriculture was established by an act of Parliament, at the suggestion of Sir John Sinclair, who was elected its President. Through the influence of this board, a great number of Agricultural Societies have been formed in the kingdom, and much valuable information on rural economy communicated to the public through the medium of a voluminous publication under its superintendence."

At present, these associations are numerous in the British Isles, and adopting their example, numerous also in the United States. They inspect and instruct their members and the country through books, periodicals and lectures on every conceivable topic peculiar to Agriculture But Horticulture is not yet so perfected as the other branch of husbandry. It existed in Italy, Germany, France, and on Continental Europe, generally, long before its introduction by Charles the II. in 1660. And it is not yet generally diffused here, I think in consequence of our social system as to proprietary lands, being dissimilar, by virtue of the absence of Primogeniture, from the civil polity of that country; where broad domains, descending to first born or eldest son, remain with all ancestral improvements, from generation to generation, with the superadditions of recent embellishments upon the fruitions of centuries: Consequently the English Baron or Lord has over a hundred acres devoted to picturesque landscape, in the very bed of horticulture and gardenings, alone.

Let us not repine at this stern policy of our revolutionary ancestors. They were not visionaries admiring, like Pygmalion, the ideal statue for the beautiful reality. They would have Liberty, in *vulgar parlance*, and made her to be seen and felt! Old systems, therefore, have crumbled under their Constitution. But horticulture only suffers in the scenery. Every 'smart'-minded farmer or planter can derive all the uses of a bountiful horticulture in the compass of a few acres, by a judicious selection and management of all its varied items.

All our standard productions, except Indian corn and tobacco, are exotics. These two, like the wild Turkey, are indigenous to our continent. Cotton was introduced from some Eastern Island, where, as in China, it had long been cultivated. It was a tardy plant until a northern gentleman, Whitney, upon the soil of Georgia, invented the famous gin. "In 1791 the whole export of the Union was only sixty-four bales; but in 1834 it amounted to 1,000,617;" and now 2,000,000. The sugar cane became also an East India product, was long cultivated in China, and mention is made of its being in use among the Greeks and Romans during their days of prosperity. Previous to 1466, sugar was known in England chiefly as a *medicine*, into which country it had been sold from Arabia Felix, Egypt, Nubia, Ethiopia and Morocco. "Now, in point of importance, it ranks next to wheat and rice in the vegetable world, and first in maritime commerce."

Rice is also an Eastern grain. Now a staple of South Carolina. Wheat, the staff of New England, New York and Pennsylvania—oats, barley, and all other grains, excepting the Indian corn, as I before intimated, belong, by priority of cultivation, to other and remote lands. Although species of them *may* be found wild in the immense pampas of South America. Still our king vegetable, Indian corn, seriously carries the palm, from its adaptation for man and for every species of live stock he calls around his habitation.

But let it be borne in mind, that though living in this age of the 19th century, when steam and its triumphs are supposed *every thing*, and we are remembering our plodding ancestors and the ancients with contempt, that they knew some valuable arts with which we are unacquainted. Not all the ingenuity of Sir Humphrey Davy could detect the *materiel* of the Tyrian dye. Few modern if any statuary, have equalled—none have surpassed the statues of a Grecian Phidias, or Praxiteles, or Apelles—and on the science of husbandry, the countrymen of Cato, Brutus or Cassius, of Plato, or Zeno—might have known vegetative secrets to us entirely lost in practice. They boasted several writers—Theophrastus, Ælian, Varo, Pliny, Columilla and Palladius, and whom I have already named. When have we made a Colossus of *brass* bestriding over the masts of huge ships? The Rhodian still lives in memory, a wonder—while from neglected ancient maxims, many a modern might invigorate the productive agency of his lands. Very respectfully, yours,

J. J. Flournoy.

Agricultural Meetings.

Monroe and Conecuh Agricultural Society.

Mr. Camak: The citizens of Monroe and Conecuh counties had a meeting at the Burnt Corn Academy on the second Saturday in July last, and formed an Agricultural Society by the name of the Monroe and Conecuh Agricultural Society. The officers of the Society are: Dr. John Watkins, President; Dr. Wm. Cunningham, of Monroe county, and Nicholas Stallworth, of Conecuh county, Vice-Presidents; Samuel James Cumming, Recording Secretary; and John Green, senr., Corresponding Secretary. David Cannon, Jeremiah Carter and Ithiel Lee, Esqrs., were appointed to draft a constitution for the Society, to be submitted at the next meeting, which took place last Saturday. The gentlemen appointed to draft the constitution, submitted it to the Society, and it was received and adopted. Dr. Watkins then addressed the Society in a very appro-

priate manner. After which, the Society requested of the Doctor a copy of his address, to be published in the SOUTHERN CULTIVATOR. The Doctor granted the request. It was then agreed on by the Society, that the address, together with the proceedings be published in the SOUTHERN CULTIVATOR I have been instructed to forward the same to you for publication, and as it is the first Agricultural Society that has been formed in this section of country, and as Dr. Watkins is generally known throughout the State of Alabama, as a very intelligent man, and withal as one of our first farmers, we hope that his address, when read, will have considerable influence in calling the attention of our fellow-citizens to the grand object of our Society, which is the extension of the knowledge of the principles and practice of scientific agriculture. R spectfully yours,

JOHN GREEN, Sr., Cor. Secretary.

Burnt Corn, Ala., August 11th, 1846.

ADDRESS OF DR. WATKINS.

GENTLEMEN:—It will be unnecessary for me to state to you that the object of our meeting, and the aim of our Society, is the promotion of that most important of human pursuits, Agriculture, which not only feeds and clothes those engaged in it, but likewise all other productive avocations—besides a numerous class of individuals, in all countries and societies, "*nati consumere fruges*," or drones, who add nothing in return to the aggregate production of the industrial classes, on whom they live and depend for food, raiment and luxuries. Agriculture does all this, in addition to rearing a multiplicity of animals for the aid and comfort of the cultivator, and those engaged in the numerous arts and literary employments of mankind. Agriculture may be defined the art by which man produces from the culture of the soil, the various vegetable substances out of which he subsists and clothes himself. It may date its origin from the expulsion of our progenitors from the garden of Eden, and is therefore the oldest profession on record. But, whilst we are thus compelled to admit its great antiquity, and its indispensable necessity for the support of our species, we must, at the same time, make the humiliating confession that it is far behind its sister arts and sciences in the collation and development of its facts and principles. This tardy progress of agriculture, in modern times, may be mainly attributed to a very general belief that no study or information is necessary to cultivate the soil, which our Creator has made ready and unchangeable; and consequently to the practice of planters under this belief, of dedicating and educating their brightest sons to what is called the learned professions, of Law, Physic and Divinity; whilst for the planter, he devotes the dullest and most unpromising of his offspring. Another cause, more potent than the above, and the effect of it, is the too prevalent prejudice against book-farming. If we cast a retrospective view upon the history of mankind, for the diminutive period of a century only, we shall find that the progress of all the other arts and sciences, was preceded by free dissemination and discussion, by means of books and papers. Until within the first quarter of the present century, agriculture has had little aid from this source. Need we then wonder at the frequent and disheartening spectacle of worn-out fields, turned out to grow up in briars and pines, and washed into almost impassable gullies, and hear sensible men as they sigh over the barren field, exclaim, it is lost and irreclaimable forever. Is it true then, that all other arts and sciences have the means of advancement and perpetuity, whilst agriculture alone, the most indispensable of all, has the very seeds of destruction sown in its own operations. If this is the truth, and as is frequently asserted, southern soils are incapable of resuscitation, or amelioration, then indeed is our condition deplorable. If Providence is less bountiful to the planter than to other professions, then does the curse of Cain, the first planter, rest upon his descendants—then is there no science in agriculture. In vain have the experiments of chemistry developed the ingredients of component parts of the soil, and of its productions, if this knowledge cannot be made available. Then, like wandering Arabs, it is time to be making preparation for a move westward, and into some fresh country, to again begin the battle of conquering the forest. But if chemistry has discovered to us the nature and component parts of our soils, and of its productions, and the various agencies of air and water; and if we possess those ingredients that, with the aid of air and water, increase the fertility of the earth, and replace to it what our heavy rains wash away, and our hot sun exhales—then would it not be the duty of us all to commence this study and carry out its principles in our culture? These aids to agriculture, by her sister sciences, are certainly of vast importance to the planter and farmer. All the planter has to do, then, is to study and examine his soils, and the articles he cultivates, and adapt his manures accordingly. To the planter who possesses a plenty of rich virgin soil, and who is under the impression of its inexhaustibility, these hints and exhortations are superfluous; but, to the most of us, the time has come when we should commence the work of reclaiming and ameliorating our tired and exhausted soils, or else begin the preparations necessary for the abandonment of our irreparable homesteads. Believing, as I do, however, that our Creator is as bountiful to the planter as to other professions, and believing likewise that all the elements of the richest soils lie scattered around us, and awaiting our scientific application of them, and are accessible to us all, it is my purpose to put these developments to the test of experiment, before yielding to the very common belief of the irreclaimability of our soils. All soils consist mainly in clay, sand, and vegetable mould, and is rich or poor in proportion to the quantity of this last substance; clay being necessary for the purpose of absorbing and retaining water, and this vegetable mould, and the several salts which enter every soil, as well as adding tenacity to it, whilst sand renders the soil permeable for the roots, and prevents occlusion of the air and other nutricious matters from the vegetable mould. Although air performs a very conspicuous part in the nourisnment of plants, yet, without soil no planter expects to reap the fruits of his labor, although there are some species of aquatic and parasitic plants could not live in the soil.

It appears to me then, very plain, that all the planter has to do, in order to elevate his profession to a level with other professions, and to take from its followers the opprobrious epithet of "clod-hopper," is to educate his sons and give them the same preparatory and scientific instruction as he would for the lawyer, doctor or divine—and my word for it, you will see agriculture advance *pari passu* with her sister sciences, and the cultivators of the soil themselves advance in respectability to a level with other professions, and compete successfully with them for the highest offices in the gift of their fellow-citizens, and discharge them with equal honesty and ability. As the case is now, even the fastidious boarding school miss turns up her beautiful nose at the young planter, and takes refuge in the arms of the first loafer she meets; and even the common foot pedlar, with his trinkets and finery, carries off the fair prize from the clod-hopper, and all because they have some show, at least, of possessing brains. For, depend upon it, the ladies are very quick at detecting sense in the male sex, although they are often wofully deceived in our moral qualities. Then let me persuade those old planters who believe it unnecessary to educate their sons to qualify them to make corn and cotton, that without it they certainly lose caste in society, and sink far below the respectability and influence to which the universality and usefulness of their avocations entitle them—for above all other pursuits, agriculture is calculated to call forth the highest efforts of the mind, as well as to impress us with the loftiest conceptions of the wisdom, greatness and goodness of our heavenly Father. And, as planters are generally acknowledged to be the most honest, they may and will become, by a proper course of education, the most able and disinterested defenders of true religion and civil liberty. But what can be expected from an uninformed and uneducated class of men? Why nothing but a plodding on in the beaten track, without a single ray of light to cheer them on with the assurance of better days, easier work, and more production—supinely taking, with open mouthed wonder, everything told them by the better informed classes—looking, even upon the soil they murder, as one homogenous lump of matter, not caring to know that the simplest rock or lump of soil, is a compound of many other elementary substances. Then, is it surprising the young planter sits mum when every other class have ideas from which to draw for discourse? Then, I repeat, let the old planters educate their sons, and put into their hands such books and papers as will place them on a level with other professions. Whilst the physician has his medical journal, the lawyer his cases, the merchant and politician his newspaper, concentrating information from all quarters, touching their interests; the divine even has his paper to disseminate and defend his peculiar tenets; and, finally, it is even thought of importance, for the reformation of a few old topers and to endeavor to prevent the destruction of property and life, by alcohol, to have a paper—yet the clod-hopper must still bear the reproach of stolidity, for want of the proper sources of information being pointed out to him! Even the merchant and pedlar can discourse most eloquently about laces, ribbons and the fashions, whilst the planter knows no more of the soil he works than the beast he drives, consequently, has nothing to say of the wisdom of his Creator in the arrangement of the soil, and his bounty in affording him plenty, even under his unskillful culture. It should then be the duty of every member of the community, and especially of this society, to seek out the means by which the condition and character of the cultivators of the soil can be improved and elevated. For this purpose, nothing appears so well calculated as the formation of societies or clubs, for the purpose of stimulating curiosity and rewarding merit, and at the same time, to encourage the circulation and reading of such agricultural journals and papers, as have, in other parts of our favored country, been multiplied of late, for the use of the farmer. In conclusion, let me regret that the choice of a presiding officer for your society did not fall on one more competent to afford you practical information, although, I think, one more zealous in the cause would be hard to find.

Pendleton Farmers' Society.

MR. CAMAK—Enclosed, I send you a list of premiums to be awarded, by the Pendleton Farmers' Society, at its next anniversary meeting in October. As it presents rather a new feature, you will most probably think it worthy a place in the CULTIVATOR. It may encourage other societies to offer like premiums, instead of silver cups, money or diplomas.

Our Society having recently built a commodious hall, with a library and other rooms below, at a cost of some twelve or fifteen hundred dollars, is unable at this time to give large premiums. The Committee were, therefore, under the necessity of spreading a small amount over a list embracing all or most of the objects the Society has usually encouraged the production of. And, as a volume of either of the works will not only *seem* to be a more respectable premium than the amount it will cost, but really *will be* of much more *value* to the successful competitor, with the further and not less desirable objects of patronizing the authors, and encouraging Agriculturists to read such works, both for information and to do away with a foolish prejudice that exists with some against "book farming," a greater variety has been selected than usual, and all as appropriate to

the object for which the premiums are offered, as possible They only regret they were not able to embrace a more costly and extended list.

You will see, by the resolution respecting new members, that we are anxious to encourage the continuance of the CULTIVATOR. I know not that we shall effect anything by the offer, but be that as it may, I think our present Club will stick to me, and will, therefore, "*take the responsibility;*" and you may set me down a subaltern under our worthy Col. MCDONALD, and good for my quota of twenty subscribers for the next year. I hope we can furnish even more.

GEO. SEABORN.

The Committee appointed to report premiums to be awarded in October next, has had the matter under consideration and beg leave to offer the following:

Crops.—For the best acre of low-land Corn, provided the product is not less than 75 bushels, a Volume of Johnston's Lectures on Agricultural Chemistry. For the best acre of upland Corn, product not less than 40 bushels, the same. For the largest yield of Wheat, the product to be not less than 30 bushels on low land or 20 upland, to each, a Volume of the Farmer's Library and Monthly Journal of Agriculture. For the greatest amount from one acre of green Corn cut for provender, one Vol. of the Naturalist. For the largest product of Rice, the yield to be not less than 100 bushels per acre, one Volume each of the Albany Cultivator and Southern Agriculturist.

Stock.—For the best Stallion for farm use not over 3 years old, one Vol. Youatt on the Horse. For the best Mare, a volume of the same. For the best Jack raised in the district, not over 3 years old, a vol. of the same. For the best Bull, native or imported, one vol. each Treatise on the Cow, and Albany Cultivator. For the best Cow, one vol. each Treatise on the Cow and Southern Cultivator. For the best Ram of improved breed, one vol. L. A. Morrel on Sheep. For the best Ewe, the same.

Implements.—For the following implements of Agriculture, the price and efficiency to be taken into consideration: 1st. The best Sub-soil Plow, one volume Southern Cultivator. 2d. The best Turning Plow, one vol. Southern Cultivator. 3d. The best Harrow, one volume of the Muck Manual. 4th. The best Cultivator, one vol. Albany Cultivator. 5th. The best Roller, one vol. Southern Cultivator. 6th. The best Shuck and Straw Cutter, Productive Farming. 7th. The best Corn-Sheller, Farmer's Manual.

Miscellaneous.—For the best specimen of Butter, not less than 10 lbs., a Silver butter Knife. For the best piece of homespun, wool and cotton, not less than 10 yards, premium of $1. For the best do. do. wool or silk, 10 yards, $2. For the best piece of homespun for ladies' dresses, 7 yards, one spinning wheel. For 2d best, 7 yards, a pair of cotton cards. Best piece of flannel, half cotton, 10 yards, $10. Best blanket, wool and cotton, for negroes, $2. Best pair half-hose, all wool, 50 cents. Best pair half-hose, all Cotton, 50 cents. Best carpeting 10 yards, worsted, $2. Best carpeting, rag, $2. For the best bushel of Apples, to be presented to the Society, one vol. of the Fruit Culturist.

A discretionary premium Committee will examine the various vegetable productions tha may be presented, and deal with them according to their merits. Such as Cabbage-heads, Beets, Carrots, Parsnips, Celery, Potatoes, Turnips and Onions, Apples, Peas, Peaches, Grapes, Flowers, etc.

No animal will be entitled to a premium that has heretofore received one from the Society—nor none that is not of superior quality.

GEO. SEABORN,
O. R. BROYLES,
J. V. SHANKLIN,
} Committee.

The above report was adopted by the Society when the Chairman moved the following resolution:

Resolved, That the Secretary be directed on the first day of January next, to subscribe for a number of copies of the SOUTHERN CULTIVATOR, equal to the number of new members that may attach themselves to our Society between this and that time, and that each of said new members be furnished with a copy for the year 1846, which was also adopted by the Society.

ELAM SHARPE, Jr., Sec'y.

Farmers' Hall, August 13, 1846.

Clarke County Agricultural Society.

G. B. Haygood, Esq., having announced the death of our distinguished friend to the cause of Agriculture, Col. Alexander McDonald of Eufaula, Ala.,

On motion of Philip Clayton, Esq., it was

Resolved, That this Society has heard with unfeigned regret of the death of Col. Alexander McDonald of Eufaula, Alabama, the great friend and efficient promoter of Southern Agriculture; and take this method of giving expression to their sympathy, that one so useful has fallen in the midst of his noble and patriotic exertions.

Resolved, That a copy of the foregoing resolution be furnished the SOUTHERN CULTIVATOR for publication. G. B. HAYGOOD, Sec'y.

Sept. 1st, 1846.

Talbot Agricultural Society.

The Society having seen an account of the death of ALEXANDER MCDONALD, of Eufaula, (Ala.,) passed the following resolutions:

Resolved, 1st. That the members of this Society, sympathize with the family and friends of the deceased, in the loss of one so estimable in all the relations of life.

Resolved, 2nd. That they deplore the loss, almost irreparable, the farming community has sustained in the death of so intelligent, so enterprising, and so successful a planter, and, at the time of his decease, one who was perhaps doing more than any other, to advance the interests of Southern Agriculture.

J. CARTER, President.

THOMAS A. BROWN, Secretary.

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ORIGINAL PAPERS.

SELECTIONS, EXTRACTS, &C.

☞ VOLUMES I., II AND III. of the "SOUTHERN CULTIVATOR," can be supplied to all who desire them.

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SOUTHERN CULTIVATOR.

VOL. IV. AUGUSTA, GA., NOVEMBER, 1846. No. 11.

A CHAPTER ON BREAD-MAKING.

From Miss Beecher's Domestic Recipe Book.

OVENS.

On constructing and heating an oven.—The best ovens are usually made thus: After the arch is formed, four or five bushels of ashes are spread over it, and then a covering of charcoal over that, and then another layer of bricks over all. The use of this is, that the ashes become heated, and the charcoal being a non-conductor, the heat is retained much longer. In such an oven, cakes and pies can be baked after the bread is taken out, and then custards after them. Sometimes four bakings are done in succession. The first time an oven is used, it should be heated the day previous for half a day, and the oven lid kept up after the fire is out, till heated for baking. As there is so little discretion to be found in those who heat ovens, the housekeeper will save much trouble and mortification by this arrangement: Have oven wood prepared of sticks of equal size and length. Find, by trial, how many are required to heat the oven, and then require that just that number be used, and no more. The fire must be made the back side of the oven, and the oven must be heated so hot as to allow it to be closed fifteen minutes after clearing, before the heat is reduced enough to use it. This is called *soaking*. If it is burnt down entirely to ashes, the oven may be used as soon as cleared.

How to know when an oven is at the right heat.—An experienced cook will know without rules. For a novice, the following rules are of some use in determining: If the black spots in the oven are not burnt off, it is not hot, as the bricks must all look red. If you sprinkle flour on the bottom, and it burns quickly, it is *too hot*. If you cannot hold your hand in longer than to count twenty moderately, it is *hot enough*. If you can count thirty moderately, it is *not* hot enough for bread. These last are not very accurate tests, as the power to bear heat is so diverse in different persons, but they are as good rules as can be given, where there has been no experience.

How to know when bread is sour or heavy.—If the bread is sour, on opening it quick and deeply with your fingers, and applying the nose to the opening, a tingling and sour odor escapes. This is remedied by taking a tea spoon full of saleratus for every four quarts of flour, very thoroughly dissolved in hot water, which is to be put in a hole made in the middle, and very thoroughly kneaded in, or there will be yellow streaks. If the bread is light and not sour, it will, on opening it deep and suddenly, send forth a pungent and brisk, but not a sour odor, and it will look full of holes, like sponge. Some may mistake the smell of light bread for that of sour bread, but a little practice will show the difference very plainly. If the bread is light before the oven is ready, knead it a little without adding flour, and set it in a cool place. If it *rises too much*, it loses all sweetness, and nothing but care and experience will prevent this. The best of flour will not make sweet bread, if it is allowed to rise too much, even when no sourness is induced.

How to treat bread when taken from the oven.—Never set it flat on a table, as it sweats the bottom, and acquires a bad taste from the table. Always take it out of the tins, and set it up end way, leaning against something. If it has a thick, hard crust, wrap it in a cloth wrung out of cold water. Keep it in a tin box, in a cool place, where it will not freeze.

YEAST.

The article in which yeast is kept must, when new yeast is made, or fresh yeast bought, be scalded and emptied, and then have a salt spoon full of saleratus put in, and be rinsed out again with warm water. If it is glass, rinsing twice with warm water will answer. Junk bottles are best for holding yeast, because they can be corked tight, and easily cleansed.

Potato Yeast.—By those who use potato yeast, it is regarded as much the best, as it raises bread quicker than common home-brewed yeast, and, best of all, never imparts the sharp, disagreeable yeast taste to bread or cake, often given by hop yeast. Mash half a dozen peeled, boiled potatoes, and mix in a hand full of wheat flour, and two tea spoons full of salt, and after putting it through a colander, add hot water till it is a batter. When blood warm, put in a half a tea cup of distillery yeast, or twice as much potato or other home-brewed. When raised, keep it corked tight, and make it new very often in hot weather. It can be easily made when potatoes are boiled for dinner.

Home-made yeast, which will keep good a month.—Four quarts of water, two hands full of hops, eight peeled potatoes, sliced, all boiled soft, mixed and strained through a sieve. To this add a batter, made one-third of Indian and two-thirds of rye, in a pint of cold water, and then boil the whole ten minutes. When cool as new milk, add a tea cup of molasses, a table spoon full of ginger, and a tea cup of distillery yeast, or twice as much home-brewed.

Home-brewed yeast more easily made.—Boil a hand full of hops half an hour in three pints of water. Pour half of it, *boiling hot*, through a sieve, on to nine spoons full of flour, mix, and then add the rest of the hop water. Add a spoon full of salt, half a cup of molasses, and *when blood warm*, a cup of yeast.

Hard yeast.—This is often very convenient, especially for hot weather, when it is difficult to keep yeast. Take some of the best yeast you can make, and thicken it with Indian meal, and if you have rye, add a little to make it adhere better. Make it into cakes an inch thick, and three inches by two in size, and dry it in a drying wind, but not in the sun. Keep it tied in a bag, in a dry, cool place where it will not freeze. One of these cakes is enough for four quarts of flour. When you wish to use it, put it to soak in milk or water for several hours, and then use it like other yeast.

Rubs, or flour hard yeast.—This is better than hard yeast made with Indian. Take two quarts of best home-brewed yeast, and a table spoon full of salt, and mix in wheat flour, so that it will be in hard lumps. Set it in a dry, warm place, (but not in the sun,) till quite dry. Then leave out the fine parts to use the next baking, and put up the lumps in a bag, and hang it in a dry place. In using this yeast, take a pint of the rubs for six quarts of flour, and let it soak from noon till night. Then wet up the bread to bake next day. Brewer's and distillery yeast cannot be trusted to make hard yeast. Home-brewed is the best, and some housekeepers say the only yeast for this purpose.

Milk yeast.—One pint of new milk, and one tea spoon full of fine salt, one large spoon full of flour; mix, and keep it blood warm an hour. Use twice as much as the common yeast. Bread soon spoils made of this.

BREAD.

Wheat bread of distillery, or brewer's yeast.—Take eight quarts of flour and two of milk, a table spoon full of salt, a gill and a half of distillery yeast, and sometimes rather more, if not first rate. Take double the quantity of home-brewed yeast. Sift the flour, then make an opening in the middle, pour in a part of the wetting, and put in the salt. Then mix in a good part of the flour. Then pour in the yeast, and mix it well. Then add the rest of the wetting, using up the flour, so as to make a stiff dough. Knead it half an hour, till it cleaves clean from the hand. This cannot be wet over night, as, if the yeast is good, it will rise in one or two hours. Some persons like bread best wet with water, but most very much prefer bread wet with milk. If you have skimmed milk, warm it with a small bit of butter, and it is nearly as good as new milk. You need about a quart of wetting to four quarts of flour. Each quart of flour makes a common sized loaf.

Wheat bread of home-brewed yeast.—Sift eight quarts of flour into the kneading tray, make a deep hole in the middle, pour into it a pint of yeast, mixed with a pint of lukewarm water, and then work up this with the surrounding flour, till it makes a thick batter. Then scatter a hand full of flour over this batter, lay a warm cloth over the whole, and set it in a warm place. This is called sponge. When the sponge is risen so as to make cracks in the flour over it, (which will be in from three to five hours,) then scatter over it two table spoons full of salt, and put in about two quarts of wetting, warm, but not hot enough to scald the yeast, and sufficient to wet it. Be careful not to put in too much of the wetting at once. Knead the whole thoroughly for as much as half an hour, then form it into a round mass, scatter a little flour over it, cover it, and set it to rise in a warm place. It usually will take about one quart of wetting to four quarts of flour. In winter, it is best to put the bread in sponge over night, when it must be kept warm all night. In summer, it can be put in sponge early in the morning, for if made over night it would become sour.

Baker's Bread.—Take a gill of distillery yeast, or twice as much fresh home-brewed yeast, add a quart of warm (not hot) water, and flour enough to make a thin batter, and let it rise in a warm place all night. This is the sponge. Next day, put seven quarts of sifted flour into the kneading tray, make a hole in the center, and pour in the sponge. Then dissolve a bit of volatile salts, and a bit of alum, each the size of a hickory-nut, and finely powdered, in a little cold water, and add it with a heaping table spoon full of salt, to the sponge, and also a quart more of blood-warm water. Work up the flour and wetting to a dough, knead it well, divide it into three or four loaves, prick it with a fork, put it in buttered pans, and let it rise one hour, and then bake it about an hour. Add more flour, or more water, as you find the dough too stiff or too soft. A tea spoon full of saleratus can be used instead of the volatile salts and alum, but it is not so good.

Wheat bread of potato yeast.—This is made

like bread made with home-brewed yeast, except that you may put in almost any quantity of the potatoe yeast without injury. Those who use potato yeast like it much better than any other. The only objection to it is, that in summer it must be made often, as it will not keep sweet long. But it is very easily renewed. The chief advantage is, that it rises quick, and never gives the sharp and peculiar taste so often imparted to bread and cake, by all yeast made with hops.

Potato bread.—Rub a dozen peeled boiled potatoes through a very coarse sieve, and mix with them twice the quantity of flour, mixing very thoroughly. Put in a coffee cup full of home-brewed, or of potato yeast, or half as much of distillery yeast; also, a tea spoon full of salt. Add whatever water may be needed to make a dough as stiff as for common flour bread. An ounce or two of butter rubbed into the flour, and an egg beat and put into the yeast, and you can have fine rolls or warm cakes for breakfast. This kind of bread is very moist, and keeps well.

Eastern brown bread.—One quart of rye; two quarts of Indi n meal; if fresh and sweet, do not scald it, if not, scald it; half a tea cup of molasses; two tea spoons full of salt; one tea spoon full of saleratus; a tea cup of home-brewed yeast, or half as much distillery yeast; make it as stiff as can be stirred with a spoon with warm water. Let it rise from night till morning. Then put it in a large deep pan, and smooth the top with the hand dipped in cold water, and let it stand a while. Bake five or six hours. If put in late in the day, let it remain all night in the oven.

Rye bread.—A quart of water, and as much milk; two tea spoons full of salt, and a tea cup of Indian meal; a tea cup full of home-brewed yeast, or half as much distillery yeast; make it as stiff as wheat bread, with rye flour.

Rice bread, No. 1.—One pint of rice, boiled till soft; two quarts of rice flour or wheat flour; a tea spoon full of salt; a tea cup of home-brewed, or half as much distillery yeast; milk to make it so as to mould like wheat bread.

Rice bread, No. 2.—Three half pints of ground rice; two tea spoons full, not heaping, of salt; two gills of home-brewed yeast; three quarts of milk, or milk and water; mix the rice with cold milk and water to a thin gruel, and boil it three minutes; then stir in wheat flour till as stiff as can be stirred with a spoon. When blood warm, add the yeast. This keeps moist longer than No. 1.

Bread of unbolted wheat, or Graham bread.—Three pints of warm water; one tea cup full of Indian meal, and one of wheat flour; three great spoons full of molasses, or a tea cup of brown sugar; one tea spoon full of salt, and one tea spoon full of saleratus, dissolved in a little hot water; one tea cup of yeast; mix the above, and stir in enough unbolted wheat flour to make it as stiff as you can work with a spoon. Some put in enough to mould it to loaves. Try both. If made with home-brewed yeast, put it to rise over night. If with distillery yeast, make it in the morning, and bake when light; in loaves the ordinary size; bake one hour and a half.

Walnut Hill's brown bread.—One quart of sour milk, and one tea spoon full of salt; one tea spoon full of pulverized saleratus, and one tea cup of molasses, put into the milk; thicken with unbolted wheat flour, and bake immediately, and you have first rate bread, with very little trouble.

BISCUITS.

French rolls, or twists.—One quart of lukewarm milk; one tea spoon full of salt; a large tea cup of home-brewed yeast, or half as much distillery yeast; flour enough to make a stiff batter; set it to rise, and when very light, work in one egg and two spoons full of butter, and knead in flour till stiff enough to roll; let it rise again, and when very light, roll out, cut in strips, and braid it. Bake thirty minutes on buttered tins.

Raised Biscuit.—Rub half a pound of butter into a pound of flour; one beaten egg; a tea spoon full of salt; two great spoons full of distillery yeast, or twice as much home-brewed; wet it up with enough warm milk to make a soft dough, and then work in half a pound of butter; when light, mould it into round cakes, or roll it out and cut it with a tumbler.

Very nice rusk.—One pint of millk; one coffee cup of yeast, potato is best; four eggs; flour enough to make it as thick as you can stir with a spoon; let it rise till *very* light, but be *sure* it is not sour, if it is, work in half a tea spoon full of saleratus, dissolved in a wine glass of warm water; when thus light, work together three quarters of a pound of sugar and nine ounces of butter; add more flour, if needed, to make it stiff enough to mould; let it rise again, and when *very* light, mould it into small cakes; bake fifteen minutes in a quick oven, and after taking it out, mix a little milk and sugar, and brush over the rusk, while hot, with a small swab of linen tied to a stick, and dry it in the oven. When you have weighed these proportions once, then *measure* the quantity, so as to save the trouble of weighing afterward. Write the measures in your recipe book, lest you forget.

Potato Biscuit.—Twelve pared potatoes boiled soft and mashed fine, and two tea spoons full of salt; mix the potatoes and milk, add half a tea cup of yeast, and flour enough to mould them well; then work in a cup of butter; when risen, mould them into small cakes, then let them stand in buttered pans fifteen minutes before baking.

Crackers. One quart of flour, with two ounces of butter rubbed in; one tea spoon full of saleratus in a wine glass of warm water; half a tea spoon full of salt, and milk enough to roll it out; beat it half an hour with a pestel, cut it in thin round cakes, prick them, and set them in the oven when other things are taken out. Let them bake till crisp.

Hard Biscuit.—One quart of flour, and half a tea spoon full of salt; four great spoons full of butter rubbed into two-thirds of the flour; wet it up with milk till a dough; roll it out again and again, sprinkling on the reserved flour till all is used; cut into round cakes, and bake in a quick oven on buttered tins.

Sour milk Biscuit.—A pint and a half of sour milk, or buttermilk; two tea spoons full of salt; two tea spoons full of saleratus dissolved in four great spoons full of hot water; mix the milk in flour till nearly stiff enough to roll, then put in the saleratus, and add more flour; mould up quickly, and bake immediately; shortening for raised biscuit or cake should always be worked in after it is wet up.

A good way to use sour bread.—When a batch of bread is sour, let it stand till very light, and use it to make biscuit for tea or breakfast, thus: Work into a portion of it, saleratus dissolved in warm water, enough to sweeten it, and a little shortening, and mould it into small biscuits, bake it, and it is uncommonly good. It is so much liked that some persons allow bread to turn sour for the purpose. Bread can be kept on hand for this use any length of time.

From Chambers' Edinburgh Journal.

White and Brown Bread.

Several years ago, we threw out the surmise that the separation of the white from the brown parts of wheat grain was likely to be baneful to health. We proceeded upon theoretical grounds, believing that Providence must have contemplated our using the entire grain, and not a portion only; selected by means of a nicely arranged machinery. It struck us forcibly, that to go on, for a long course of years, thus using a kind of food different from what nature designed, could not fail to be attended with bad consequences. We have since learned that our views have some recognized support in science. The following paragraph from a recent pamphlet will at once serve to keep the subject alive in the minds of our readers, and explain the actual grounds on which the separation of flour is detrimental: "The general belief," says the writer, "is that bread made with the finest flour is the best, and that whiteness is the proof of its quality; but both these opinions are popular errors. The whiteness may be and generally is communicated by alum, to the injury of the consumer; and it is known by men of science that the bread of unrefined flour will sustain life, while that made with the refined will not. Keep a man on brown bread and water, and he will live and enjoy good health; give him white bread and water only, and he will sicken and die. The meal of which the first is made contains all the ingredients necessary to the composition of nourishment to the various structures composing our bodies. Some of these ingredients are removed by the miller in his efforts to please the public; so that fine flour, instead of being better than the meal, is the least nourishing; and to make the case worse, it is also the most difficult of digestion. The loss is, therefore, in all respects a waste; and it seems desirable that the admirers of white bread (but especially the poor) should be acquainted with these truths, and brought to inquire whether they do not purchase at too dear a rate the privilege of indulging in the use of it. The unwise preference given so universally to white bread leads to the pernicious practice of mixing alum with the flour, and this again to all sorts of adulterations and impositions; for it enabled bakers, who were so disposed, by adding more and more alum, to make bread made from the flour of an inferior grain look like the best or most costly, and to dispose of it accordingly; at once defrauding the purchaser, and tampering with his health. Among the matters removed by the miller are the large saline substances, which are indispensable to the growth of the bones and teeth, and are required, although in a less degree, for daily repair. Brown bread should therefore be given to nurses and to the young or the growing, and should be preferred by all, of whatever age, whose bones show a tendency to bend, or who have weak teeth. It is believed that brown bread will generally be found the best by all persons having sluggish bowels and stomachs, equal to the digestion of the bran. But with some it will disagree; for it is too exciting to irritable bowels, and is dissolved with difficulty in some stomachs. When this happens, the bran should be removed either wholly or in part; and by such means, the bread may be adapted, with the greatest ease to all habits and all constitutions."

Mr. Smith, in his late remarkable work on Fruits and Farinacea as the food of man, gives some illustrations of this doctrine. "Bulk," he says, "is nearly as necessary to the articles of diet as the nutrient principle. They should be so managed that one will be in proportion to the other. Too highly nutritive is probably as fatal to the prolongation of life and health, as that which contains an insufficient quantity of nourishment. It is a matter of common remark among old whalemen, that, during long voyages, the coarser their bread, the better their health. 'I have followed the seas for thirty-five years,' said an intelligent sea captain to Mr. Graham, 'and have been in almost every part of the globe: and I have always found that the coarsest pilot-bread, which contains a considerable portion of bran, is decidedly the healthiest for my men.' 'I am convinced, from my own experience,' says another captain, 'that bread made of the unbolted wheat meal is far more wholesome than that made from the best superfine flour—the latter always tending to produce constipation.' Capt. Dexter, of the ship Isis, belonging to Providence, arrived from China in December, 1804. He had been about one hundred and ninety days on the passage. The sea-bread, which constituted the principal article of food for his men, was made of the best superfine flour. He had not been long at sea before his men began to complain of languor, loss of appetite, and debility. These difficulties continued to increase during the whole voy-

age; and several of the hands died on the passage of debility and inanition. The ship was obliged to come to anchor thirty miles below Providence; and such was the debility of the men on board, that they were not able to get the ship under weigh again, and the owners were under the necessity of sending men down from Providence. When she arrived, the owners asked Capt. Dexter what was the cause of the sickness of his men. He replied, "The bread was too good."

From Colman's Agricultural Tour, No. 5.

General Rules for Plowing.

The depth of plowing, the width of the furrow-slice, the number of plowings which should be given to land, and the season at which it should be executed, depend on such a variety of circumstances that it would be difficult to prescribe any universal rules.

The objects of plowing are, to loosen the soil and to render it permeable to the roots of plants that they may extend themselves for nourishment and support; to make it accessible to the air and rain, from which, according to modern theories, it gathers both oxygen and ammonia for the food of plants; and lastly, to give an opportunity of incorporating manures with the soil for their support and growth. It has another object, of course, where greensward is turned over, which is, to bury the herbage then on the ground, and substitute other plants.

The depth of plowing varies in different soils and for different purposes. The average depth may be considered as five inches, but no direction on this subject will be found universally applicable. Three of the most eminent practical farmers with whom I am acquainted here, plow not more than three inches; but the surface mould in these cases is very thin, and the under stratum is a cold, clammy chalk. One farmer whose cultivation is successful, and who cultivates "a light, poor, thin, moory soil, with a subsoil of either blue or white clay, peat, or white gravel," carefully avoids breaking up the cold subsoil, and cuts up the sward with a breast plow, which is a kind of paring spade, and after burning the turf and spreading the ashes with a due application of artificial manure, consisting of equal quantities of lime, wood and turf ashes, at the rate of sixty bushels to the acre, and sowing turnip seed, cultivates between the rows with a single horse plow, which cannot, of course, take a deep furrow. The second year of the course, when he sows wheat, he plows it very lightly with a horse, after having first breast-plowed it, so as thoroughly to cover in the manure which the sheep who have been folded upon the land have left upon it. The third year it is breast-plowed, sown in turnips, and cultivated between the rows with a horse, as before described. The fourth year it is simply breast-plowed for barley. The fifth and six years it is in grass. Thus, in the whole course of a six years' rotation, this land is only plowed four times by men, and three times with a single horse plow. Another farmer in the same neighborhood says that, upon this description of land, any other than the breast-plow would not leave the ground sufficiently firm for wheat. Mr. Pusey, M. P., whose excellently managed farm I have had the pleasure of repeatedly going over, in remarking on the above accounts, says, "occupying similar land, I may add that I never plow it deeply but I repent of so doing, and am falling more and more each year, by the advice of neighboring farmers, into the use of the breast-plow, instead of the horse-plow. This manual labor is quite as cheap, for a good workman can pare such hollow tender land at 4s., or even 3s. per acre. It is possible that the drought of our climate in Gloucestershire and Berkshire, may be one cause of the success of this practice in those counties, and that the same soil if transferred to Westmoreland, would require deeper working. Therefore, without recommending shallow cultivation in districts where deep plowing has been hitherto practiced, I would merely warn beginners against plunging recklessly into the subsoil." These examples are certainly well worth considering. I do not understand that these practices at all militate against the doctrine of the advantages to be obtained from subsoiling. In cases where subsoiling and thorough draining are not applied, this shallow plowing may be preferred, as the mingling of the cold and inert subsoil with so thin a surface of vegetable mould would doubtless be prejudicial, at least for a length of time; but the improvement of such land by a system of thorough draining and subsoiling is another matter to which I shall refer in its proper place. There are considerable tracts of this moorish land—that is, a thin, black, coarse peat, not half decomposed, resting upon a cold and hard pan of gravel or clay, or what some persons have mistaken for marl, in Massachusetts and other parts of the country, the improvement of which, so far as my experience has gone, has been almost hopeless.

While upon this subject, I may as well give the results of the management of the first farmer referred to, and therefore subjoin them. "By this mode of management an economical system is followed up through the whole course, by being nearly all performed by manual labor, by which means a remunerating crop will be produced, and the land always kept firm, which is the only difficulty to be overcome on this description of soil. The farm when first taken by me was wet; as much out of condition, and as light and weak as it well could be—parts of it being merely held together by the roots of grass and weeds natural to moory land, but which must be very prejudicial to the production of those crops that are to benefit the farmer. I commenced by draining, and then pursued the foregoing system of cultivation, by which my most sanguine expectations have been realized, though I was told that the land would be too light and too poor to plant wheat after turnips. I have never found any ill effects from paring and burning, experience having taught me that it produces a manure particularly beneficial to the growth of turnips; thereby enabling me to firm the land by sheep." This farmer speaks of performing a great portion of his work with manual labor. I think some part of it might rather be called pedestrian than manual; for, if he plows his land by men he treads it out by women. He says, "before the horse-roll can be used, I send women to tread it, and if occasion require, tread it again, after which, I have it twice hoed. I have found more benefit from this mode of pressing than any other, being done at a time when wheat, on this description of soil, requires assistance."*

I have found other farmers, who, with their wheat crops on light, chalky soils, plowed in a very shallow manner, and then were accustomed to tread their land with sheep, in order to give the wheat plant a firmer footing; as, otherwise, in a very light soil, it might be thrown out by the wind. These cases, however, must all be deemed exceptions, and the general rule in England, where the soil admits of it, and manure is abundant, is that of rather deep plowing. Five or six inches is the average depth, in many cases much more than this. The loam, or vegetable mould, is, without question, the great source or medium of nourishment to the plants. Be it more or less deep, it is always safe to go to the bottom of this, and, by gradually loosening a portion of the subsoil or lower stratum, and incorporating it with the mould, and rendering it accessible to the air and light, it acquires the nature of mould, and the whole arable surface is enriched. The deeper the soil the more deeply the roots are permitted to descend, and the more widely they are enabled to spread themselves—unless they penetrate a substratum unhealthy from wet or the too great prevalence of some unfavorable mineral substances—so much the more luxuriant and productive is the vegetation likely to prove. The depth to which the roots of plants will go down in search of food or moisture, where the soil is in a condition to be penetrated by them is much greater than a superficial observation would induce us to suppose. It is confidently asserted that the roots of some plants--such, for example, as lucerne and sainfoin--go to a depth of fifteen, twenty, and even thirty feet. This seems scarcely credible. Red clover is known to extend its roots to the depth of three feet, and wheat to the depth of two or three feet, where the condition of the soil is favorable to their extension. Von Thaer, the distinguished agriculturist, says, "he has pulled carrots two and a half feet long, the tap-root of which was probably another foot in length." The tap-root of a Swedish turnip has been known to extend thirty-nine inches; the roots of Indian corn full six feet. These statements may appear extraordinary; but, by the free and loose texture of the soil, it is obvious a good husbandman will give every opportunity for the roots and their extremely fine fibres, to extend themselves as far as their instincts may prompt them.

Next to the depth of plowing the width of the furrow-slice is to be considered. This, of course, depends mainly upon the construction of the plow. A plow with a wide sole or base, in the hands of a skillful plowman, may be made to cut a narrow furrow-slice; but a narrow soled plow cannot be made to cut a wide furrow-slice, though it may sometimes appear to do so by leaving a part of the ground unturned, which the furrow-slice is made to cover. Where, as in old plowed land, the object is solely to leave the ground loose and light, it is advisable to take a very narrow furrow. Where, otherwise, the object is to move greensward or stubble ground, and to cover in the vegetable matter, such a width of furrow must be taken as will cause the slice, as it is raised by the share, to turn over easily. This width may generally be reckoned at nearly twice the depth, though less will answer; but a furrow-slice of equal sides would not turn but stand on end. The manner in which the furrow-slice will be turned depends somewhat upon the form of the mould-board, but more, in general, upon the skill of the plowman. Two modes are adopted; the one to lay the furrow-slice entirely flat, shutting its edge exactly in by the edge of its neighbor; the other, to lay it at an inclination of 45 degrees, lapping the one upon the other. The former mode, where land is to be sown with grass seed, and, as the phrase is with us, laid down, is undoubtedly to be preferred. Perhaps, in any case where a grain crop is to be cultivated it should be preferred, as its beneficial effects have been well tested in the United States. In the United States, however, from a higher temperature, the vegetable matter thus pressed down may be expected sooner to be decomposed, and thus sooner furnish a pabulum for the growing plants, than in a climate where, in a much lower and more even temperature, the decomposition cannot be expected to take place so rapidly. In other cases, and for vegetable crops—I mean in contra-distinction to grain crops—a different mode of plowing, that is, laying the furrow-slices one upon the other at an angle of 45 degrees, or half turned over, would leave the ground more loose, as well as expose a larger surface of the inverted soil to be enriched by the air. In this way, by harrowing and rolling, the vegetable matter will be completely buried. This mode of plowing is evidently preferred throughout the country, as I have seldom seen the sward completely inverted and laid flat, though I know the practice prevails in

* This is a use to which women have not as yet been put in our "half-civilized" country. I dare say, however, many persons think that it is very well to make such clever animals serviceable; their "keep," agriculturally speaking, is somewhat expensive; and, as they have their share in the pleasure of consuming, they may as well take their part in the labor of producing. Whatever any persons may think, however, I will say no such uncivil thing; but since the celebrated *danseuse* Fanny Ellsler, returned from the United States, after a two years' tour, with a gain of twenty thousand pounds, or one hundred thousand dollars, it cannot be denied that the Americans are quite willing to pay for the use of women's feet—in a way, we admit, more elegant, tasteful and classical, but certainly not more respectable, and not half as useful, as that of treading the wheat ground.

some counties. To avoid having any of the grass protrude itself between the furrow-slices, they have here what I have never seen in the United States, a skim-coulter, that is, a miniature plowshare, or blade, placed under the beam and so adjusted as to cut an edge from the furrow-slice as it is turned over; this piece so cut off, at once dropping down, and being buried under the furrow-slice as it goes over. The consequence is, that there is no grass on the edge of the furrow-slice to show itself, and great neatness is therefore given to the whole work. There is another mode of plowing which I have sometimes seen practiced, by which the furrow-slice is not merely lifted, but may be said to be rolled over, or twisted in a sort of bag-fashion. This seemed to me to be principally owing to the concave form of the mould-board, for no workman could have done it with a straight or convex form of mould-board. It would seem to render the soil more friable and loose; but every departure from a straight line, or wedge form of the mould-board, evidently much increases the draught. The skim-coulter to which I have referred above, somewhat increases the draught, but in a very small degree.

The great object of the English farmers in plowing seems to be the thorough pulverization of the soil, and they are therefore very seldom satisfied with one plowing, but their land is repeatedly plowed, scarified and harrowed. They cross-plow their land, and think it desirable to reduce the sward land to a fine tilth, tearing it to pieces, and bringing all the grass and roots, and rubbish to the surface, that they may be raked up and burned or carried to the manure heaps. The propriety of this practice is, in my mind, quite questionable. It would seem to me much better to turn the sward completely over, and then cultivate on the top of it, without disturbing the grass surface, leaving that, when thus turned over, to a gradual decomposition, that it might in this way supply food to the growing crop, whereas the abstraction of so much vegetable matter must greatly diminish the resources of the soil. Where, however, the field is infested with twitch grass (*triticum repens*)—in which, indeed, many of the fields in England abound to a most extraordinary extent—there may be no getting rid of it but by actually loosening and tearing it out; but where it is a mere clover ley, or an old grass pasture or meadow, the taking out and removing the vegetable matter seems to be a serious waste. Even the twitch might be managed where the crop is to be hoed, though in grain crops, its presence is extremely prejudicial.

Nutritive Properties of Peas and Beans.

Experience and observation induced us, long since, to form a very favorable opinion of the nourishing properties of peas and beans. The hardy lumbermen of Maine, in laying in a stock of provisions for their winter support, while engaged in cutting down the forest, never fail to secure a large supply of these articles; and we have been repeatedly assured by men engaged in that laborious business, that their ability to labor was greater when their food consisted, in a large degree, of peas and beans, seasoned with fat pork, than when feeding on other substances.

Oats and peas are known in some parts of our country, as forming the very best food for hard working horses. And we have formed, also, a favorable opinion of peas and beans for fattening. We cannot, however, say that their value is not greater for laboring, than for fattening animals—as chemical analysis seems to indicate—but we *know* that sheep have been fattened rapidly on beans and bean meal, and we have often seen hogs well fattened on meal of oats and peas ground together in the proportion of one part peas to two of oats, by measure; which would make the proportion by weight about equal. We have never heard any objection to the quality of pork so made.

But we think careful experiments are necessary to show the relative value of peas and beans compared with other substances, (Indian corn, for example,) in feeding different animals for different purposes. If peas and beans are, as contended by some chemists, better than corn for the production of wool, let it be practically demonstrated; if corn is better for making mutton, let it be shown—let us have facts, and no theories but what are based on them.

The value of peas and beans for human food is strongly set forth in the following extracts, which we take from an article by Dr. Buckland, published in an English paper. He remarks that the seeds of leguminous plants, "especially peas and beans, are loaded with the constituents of muscle and bone ready prepared to form and maintain the muscular fibre of the body of animals." "Hence," he says, "the rapid restoration of the shrunk muscle of the exhausted post-horse by a good feed of oats and beans. Hence the sturdy growth of the Scotch children on oat cake and porridge, and of broth made of the meal of parched or kiln-dried peas; on this a man can live, and do good work, for 1½d. a day; while the children of the rich, who are pampered on the finest wheat flour, (without the pollard or bran,) and on sago, rice, butter and sugar, become fat and sleek, and would often die, as sometimes they do, from such non-nutritious food, but for the mixture of milk and eggs they eat in cakes and puddings.

"An old laborer at Atbridge complained to his master, Mr. Symons, (who died in 1844,) that laborers feeding now on potatoes, could not do so good a day's work as when he was young, and when they fed on peas. 'Peas, sir,' said he, 'stick to the ribs.' He uttered the very truth of organic chemistry.

"In beans we have vegetable 'caseine,' or the peculiar element of cheese. What is more restorative or more grateful to man, when fatigued by labor or a long walk? As we heat or toast it, it melts, and ere it reaches our mouth, is drawn into strings of almost ready made fibre: and who has ever dined so fully as not to have room left for a little bit of cheese.

"What is so restorative as beans to the jaded hack or the exhausted race horse? Sepoys on long voyages live exclusively on peas. The working and healthy man and beast want muscle, and not fat; fat encumbers and impedes activity, and every excess of it is disease. We seldom see a fat laborer or a fat soldier, except among the sergeants, who sometimes eat or drink too much.

"Charcoal, which, next to water, forms the chief ingredient in potatoes, is subsistency to life, though not to strength. The same is true of the charcoal, which is the main ingredient of rice, sago, sugar, butter and fat. The woman at Tutbury, who pretended to fast for many days and weeks, sustained life by secretly sucking handkerchiefs charged with sugar or starch. During the manufacturers' distress in Lancashire, five years ago, many of the poor remained in bed covered with blankets, where warmth and the absence of exercise lessened materially the need of food. When Sir John Franklin and his polar party travelled on snow nearly a fortnight without food, they felt no pain or hunger after the second day; they became lean and weak by severe exercise and cold, but sustained life by drinking warm water and sleeping in blankets with their feet round a fire. Alas, a knowledge of such facts may become needful and useful in the approaching winter.

"It has already been stated, that the most nutritious of all vegetable food is the flour of peas, which was the staple food in Europe before potatoes. The flour of kiln-dried peas stirred in hot water makes a strong and pleasant Scotch brose, on which alone a man may do good work. Barrels of peas brose flour may be brought from Scotland, or prepared in England wherever there is a malt-kiln.

"In England, pea-soup and peas pudding are still a common and most nourishing food. Our fore-fathers and their children, we know, from nursery rhymes, ate

'Peas pudding hot, peas pudding cold,
Peas pudding in the pot and nine days old.'

"Let us for a part of this and next year once live as they lived 300 years ago. Boiled or fried slices of peas pudding are not unsavory food; and what boy would not prefer parched peas to nuts?

"Oat cake is the bread of all Scotland, and of much of Ireland, and of the north of England; and oatmeal made into broth and porridge, is the universal and almost the only food of highland children. Let those who have quailed under the charge of a highland regiment tell the results.

"Bread made of rye is the chief food of farmers and laborers in Germany and the north of Europe; it is of a dark color, and little used with us, but it is very nourishing, and in time of scarcity is a good substitute for wheat.

"Indian corn or maize is the food of man over a large part of the world, and makes bread and cakes, not very palatable to us, but better than nothing! in time of scarcity."

Dr. B. places a low value on our much esteemed Indian corn—admitting only that it makes "bread and cakes" which are "better than nothing in times of scarcity." The taste for different articles of food is undoubtedly formed in a great degree by habit. The Esquimaux relish the raw flesh and blubber of the seal—our American Indians their parched corn and bear's oil—the Scotchman his broth of oats or peas, or bread made from those articles—while we in this country, who have duly learned the "art and mystery" of cooking corn, consider it equally as "palatable" as any other article of bread-stuffs.—*Ex. paper.*

[From the Olive Branch.]

Green Crops.

The subject of turning in green crops as a means of enriching lands, has already been so frequently and ably discussed in most of our agricultural publications, that any allusion to its propriety at this time may appear absurd.

Yet there are some points connected with the theory in which this practice is based, that it may not be improper to dwell upon, especially as the *rationale* of the system appears to be somewhat obscure to most minds, or involved in the intricacy of the principle which many of our farmers do not appear fully to understand. That the mere turning in of a crop should actually conduce to the fertility of the soil on which it has grown, is what many have found it difficult to believe. There is, indeed, a difficulty with many in supposing that plants can actually grow and be matured without exhaustion of the soil which they contemplate as the only and sole medium through which all plants derive their nutriment, and to which, consequently, the plants or vegetables so grown, can return no more *pabulum* than they receive. The vegetable physiologist, however, assumes a widely different position in relation to this important point. He recognises the vegetable kingdom as divided into three grand and distinct orders or classes, and characterizes them, according to their different modes or habits of growth, by the three distinctive appellations of *terrestrial*, *aquatic* and *aerial;* the first comprising that extensive order, the individuals of which are indigenous to dry and arable lands, and which derive the most important part of their pasturage from the soil;—the second embraces all plants to which the classical appellation *aquatic* may justly be regarded as belonging, whether they be in their nature strictly marine or sub marine;—the third division contains only such as are known to derive a large portion of their subsistence, or the whole of it, from the air, and which are not, or appear not to be sensibly influenced by the nature of the soil to which they are confined.

To illustrate each of these orders by a distinct reference to individual plants would require more space than we have at present to devote. It will be necessary, however, to say that in selecting crops to be turned in, those ought invariably to be preferred which derive their sustenance principally from the air. A slight

knowledge of botany and the physiology of plants will be amply sufficient to direct the operator aright in this matter, and to unfold to him some of the complicated system of laws by which the beautiful and wonderful economy of vegetable nutrition is so admirably governed and controlled. "Nature is a skilful workman," and orders every thing so as best to subserve the great and important purpose for which it was designed—the welfare and happiness of man. Of the many crops usually selected by our farmers, for this purpose, buckwheat, peas and clover are probably in best repute. It may here be further remarked, that all plants of the culmiferous character, or which are distinguished by a profusion of broad and expansive foliage, are those which derive the largest portion of their nutriment from the air;—those plants having small leaves, being considered gross feeders, and consequently powerful exhausters of the soil.

During the last ten years, the practice of turning in green crops, has been extensively adopted, and so far as our knowledge extends, attended with the best results. Old worn out fields, which hardly repaid the cost of cultivation, have, by this means, been thoroughly renovated, and at a less cost than they could have been in any other way. In traversing through the country, we often seen farms which have been reduced by an erroneous and emasculating process of cultivation, to the state of barren heath. These, by turning in the slight vegetation they produce and following up the plan with a dressing of either of the above named crops, in their most juicy and succulent state, with a few bushels of caustic lime to promote fermentation, and correct the acidity always to a greater or less degree traceable in such soils, would endue them with a degree of productive energy that would render them fertile for years.

"'Tis folly in the extreme to till
Extensive fields and till them ill;
Shrewd common sense sits laughing by,
And sees your hopes abortive, die,
For more one fertile acre yields,
Than the huge breadth of barren fields."

The most proper time for turning in every species of green crop is when the plants are in bloom. Some writers have recommended deferring the operation till the crop has become matured, but this is contrary to the dictates of experience, though the result may, in some cases, have been attended with success. W.

From the American Quarterly Journal.

Experiments on Sowing Corn for Fodder.

It is not often in these advancing days of knowledge in farming, that we find a series of experiments conducted with more accuracy than were those which follow. I have procured them from the son of the farmer who conducted them, and the notes are the original ones in the hand-writing of the farmer himself. I wish it were more common for our farmers to make accurate memoranda of everything they do. But to the experiments. They are as follows:

1. On the 1st of June, 1823, S. B. sowed in a drill *bird corn*, very thick, on account of its smallness. The kernels were sown about one inch apart, or, in other words, one kernel to one inch square. The size of the bed sown was 9½ feet by 3 feet. The produce was cut on the 25th of August, and weighed fifty pounds in the green state. The proportionate produce per acre would be 34 24-100 tons, green fodder.

One month after, say about the 20th of September, the product weighed, when perfectly dry, 17½ pounds, which would give per acre about 12 tons dry fodder. This kind of Indian corn is called *bird corn*, and half a pint contains 2,400 kernels, or 307,200 to the bushel. One quart will sow 66 square feet, and it contains 9,600 kernels.

Rhode Island corn is next best, and contains 566 kernels to the half pint. One quart contains 2,264, and will sow sixteen square feet.

Eight rowed corn is next, half a pint containing 580 kernels; quart, 2,320 kernels, and will sow 16 square feet.

Next is flour corn, half a pint containing 360 kernels; one quart, 1,440 kernels, and will sow ten feet square. Southern or gourd seed corn ranks the same as this exactly.

2. Friday, May 29th, 1829. Sowed 19 quarts of flour corn on 150 square feet of ground. It yielded 14 bundles of corn fodder, which weighed 58 pounds. It was cut on the 8th of September, and secured on the 4th of October. Yield per acre, 7 tons, 10 cwt., 1 qr., 15 lbs.

3. Friday, May 29th, 1829. Sowed 8 quarts of Southern or gourd seed corn on 150 square feet of ground. It yielded 9 bundles, which weighed 38 pounds. It was cut on the 8th of September, and secured on the 4th of October. The yield per acre was 4 tons, 18 cwt., 2 qrs., 3 lbs.

4. May 30th, 1829. Sowed eight rowed white corn on 130 square feet of ground. Gathered 12 bundles, which weighed 51 pounds. It was cut on the 8th of September, and secured October 4th. Yield per acre, 7 tons, 12 cwt., 2 qrs., 8 lbs.

In this experiment the quantity sown is not mentioned, but was probably the same as in the 2d experiment.

5. June 12th, 1830. Sowed 3 bushels of tall corn for fodder, on a piece of land 92 by 32 feet. Cut on the 1st of September. Gross weight, 1 ton, 10 cwt., 0 qr., 16 lbs. Neat weight 579 lbs.

The weather was very dry from the 12th of June to the 1st of September, which is 2 months, 18 days. I am confident it was not near half a crop. If it had been sown earlier it would have been better.

I will here add one thing more from the note book of this farmer, for he seems to have been rather a curious man.

May 3, 1832. Counted the grains or kernels in half a pint of broom corn. They are 4,850 or 1,241,600 in a bushel.

Now how easy it would be for every farmer to keep a little note book, in which he could put down anything he does, and preserve it for the benefit of others. It would produce habits of confidence in himself, and encourage such habits in others. Every boy and girl brought up on a farm should be obliged every day to note down everything they do, and at night to make up a full journal of the whole day's operations. By this course they would soon become intelligent and observing.

From the Farmers' Library.

Cattle Trade.

The curious fact in *swineology* is affirmed by a Kentucky drover, that his hogs which weighed one hundred and fifty at starting, reached an average of one hundred and eighty on arriving at New York—being nearly half a pound a day while on the journey. On the other hand, the loss of weight—or "drift," as it is called—of cattle is equal to one hundred and fifty pounds, which a bullock of one thousand pounds weight at leaving home, lessens on his way to the Atlantic butcher. This drift, or loss, it is observed, is chiefly first in the kidney and fat of the entrails. It has been ascertained that a hog will set out on his journey to that bourne whence no *such* traveller returns, so fat as to have no cavity or vacuum in his corporation. If, as he journeys on, you don't feed him, he lives first upon and consumes his gut fat, then his kidney fat, and, lastly, his carcass wastes away.

In driving cattle, the practice is to stop (but not to feed) for an hour at mid-day, when the cattle, in less than five minutes, all lie down to rest.

A drove of one hundred and twenty cattle, as easily driven as a smaller number, is usually attended by a "manager" on horseback and two footmen. One footman goes ahead, leading an ox the whole way, say eight hundred miles. The manager on horseback takes his station behind the first forty head, and the third man on foot brings up the rear. There are stations along the whole route—country taverns, often kept by the owner of the adjoining farm, who thus finds a market for his own produce, and keeps at any rate a constant supply of what is needed for the drover. Wending their way through Ohio, the farmer supplies them with that glorious plant, the pride of our country, Indian corn, as they have feasted on it at home, stalk, blade and grain altogether; but, when on their melancholy journey, they touch the line of Pennsylvania, Mynheer brings forth his fragrant hay and corn already shucked, and finally, when they come late enough to market they are turned at night into grass lots, prepared and kept for the purpose.

The cattle reared in the corn regions of the West, especially in Ohio and Kentucky, have been heavily dashed with the short horn blood, by which their average weight has been increased, it is said, about two hundred pounds, with great improvement in their fattening properties and the quality of the meat.

A Kentucky farmer would now be very loth to let a bull of the much vaunted old Bakewell breed, with his straight back and long horns and fat all to itself overlaying the carcass, come within a ten foot pole of his herd of cows. Cattle with a strong infusion of the improved short horn blood, as by the late celebrated grazier, Steenbergen, are still esteemed to be preferable to the full blood, as being more thrifty and active.

For obvious reasons, cattle are not so much transported on railroads in this country as in England, where the distances from the feeding place to the market are so much shorter. Cattle will go very well on a railroad for 12 hours together, but then they must lie down, which they cannot do in the cars like a hog, that lets himself down and sleeps on the space upon which he stands. The charge, too, on the railroads in our country is too high. For lame bullocks that are sometimes sent from Harrisburg to the Philadelphia market, they charge half as much as it costs to drive them all the way—seven hundred and fifty or eight hundred miles—from Kentucky to New York—the one being $8, the other estimated at about $16.

The last of the Western cattle arrive in New York about the 1st of August, when they are driven out of the market by the grass-fed herds of more neighboring regions. The cost of road expenses of a drove of one hundred head from Kentucky is about $1500. Some of the latter droves come in on grass at a less expense; but, as before intimated, the decline or "drift," is greater than when fed on hay and corn, and the beef not so good.

Agricultural Chemistry.

No manure can be taken up by the roots of plants, unless water is present; and water or its elements exists in all the products of vegetation. The germination of seeds does not take place without the presence of air or oxygen gas.

Plants are found by analysis to consist principally of charcoal and æriform matter. They give out by distillation volatile compounds, the elements of which are pure air, coally matter, inflammable air, and azote, or the elastic substance which forms a part of the atmosphere, and which is capable of supporting combustion. These elements they gain either by their leaves from the air, or by their roots from the soil.

All manures from organized substances contain the principles of vegetable matter, which, during putrefaction, are rendered either soluble in water or æriform—and in these states, they are capable of being assimilated to the vegetable organs. No one principle affords the pabulum of vegetable life; it is neither charcoal nor hydrogen, nor azote, nor oxygen alone, but all of them together, in various states and various combinations.

Plants require only a certain quantity of manure, and excess may be detrimental, and cannot be useful.

Slaked lime was used by the Romans for manuring the soil in which fruit trees grew. This we are informed by Pliny.

Nothing is more wanting in agriculture than experiments in which all the circumstances are minutely and scientifically detailed. This art will advance with rapidity in proportion as it becomes exact in its methods.

Discoveries made in the cultivation of the earth are not merely for the time and country in which they are developed, but they may be considered as extending to future ages, and as ultimately tending to benefit the human race; as affording subsistence for generations yet to come; as multiplying life, but likewise providing for its enjoyment.

Potatoes in general afford from one-fifth to one-seventh of their weight of dry starch.

One-fourth part of the weight of the potato at least may be considered as nutritive matter.

The principal consumption of the carbonic acid in the atmosphere, seems to be in affording nourishment to plants; and some of them appear to be supplied with carbon chiefly from this source. Carbonic acid gas is formed during fermentation, combustion, putrefaction, and a number of operations taking place upon the surface of the earth; and there is no other process known in nature by which it can be destroyed but by vegetation.

It is usual to carry straw that can be employed for no other purpose to the dunghill to ferment and decompose; but it is worth experiment, whether it may not be more economically applied when chopped small by a proper machine, and kept dry until it is plowed in for the use of a crop. In this case, though it would decompose much more slowly and produce less effect at first, yet its influence would be much more lasting.

Manures from animal substances in general require no *chemical* preparation to fit them for the soil. The great object of the farmer is to blend them with earthy constituents in a proper state of division, and to prevent their too rapid decomposition.—*Ex. Paper.*

The Conversion of Vegetable Matter into Animal Substance.

The following summary of the views of chemists on this subject is extracted from Prof. Johnston's lectures on Agricultural Chemistry.

1. It appears that all vegetables contain ready formed—that is, form during their growth from the food on which they live—these substances of which the parts of animals are composed.

2. That from the vegetable food which it eats, the animal draws directly and ready formed the materials of its body—phosphates to form the bones, gluten, &c., to build up its muscles, and oil to lay on in the form of fat.

3. That during the process of respiration, a full grown man throws off from his lungs about 8 oz. and a cow or a horse five times as much, of carbon, every twenty-four hours; and that the main office of the starch, gum and sugar of vegetable food, is to supply this carbon.

4. That muscles, bones, skin and hair undergo a certain necessary daily waste of substance, a portion of each being removed every day and carried out of the body in the excretions. The main function of the gluten, the phosphates, and the saline substances in the food of the full grown animal is to replace the portions of the body which are thus removed, and to sustain its original condition. Exercise increases this natural waste, and accelerates the breathing also, so as to require a larger sustaining supply of food, a larger quantity to keep the animal in condition.

5. That the fat of the body is generally derived from the fat of the vegetable food. In cases of emergency, it is probable that the fat may be formed in the animal from the starch or sugar of the food.

6. In the growing animal, the food has a double function to perform; it must *sustain* and *increase* the body. Hence, if the animal be merely increasing in fat, the food, besides what is necessary to make up for the daily waste of various kinds, must also supply an additional proportion of oil or fat. To the growing animal, on the other hand, it must supply also an additional quantity of gluten for the muscles, and of phosphates for the bones. Hence, whatever tends to increase the sustaining quantity—and cold, exercise and uneasiness do this—will tend in an equal degree to lessen the value of a given weight of food, in adding to the weight of the animal's body. To the pregnant and the milk cow the same remarks apply. The food is partly expended in the production of milk, and the smaller and leaner the cow is, less food being required to sustain the body, the more will remain for the production of milk.

7. Lastly, that the quantity and quality of the dung, while they depend in part upon the kind of food with which the animal is fed, yet even when the same kind of food is given, are materially affected by the *purpose* for which the animal is fed. If it be full grown and merely kept in condition, the dung contains all that was present in the food, except the carbon that has escaped from the lungs. If it be a growing animal, then a portion of the phosphates and gluten of the food are retained to add to its bones and muscles, and hence the dung is something less in quantity, and considerably inferior in quality, to that of the full grown animal. So it is in the case of the milk cow, which consumes comparatively little in sustaining her own body, but exhausts all the food that passes through her digestive organs for the production of the milk which is to feed her young. The reverse takes place with the fattening ox. He takes but little else from the rich additional food he eats than the oil with which it is intended that he should invest his own body. Its other constituents are for the most part rejected in his excretions, and hence the richness and high price of his dung.

Farming on Twenty-five Acres.

A gentleman at the North who has given forty years of his life to a speculative pursuit, turned farmer at the age of 60, and his example might safely be imitated. He had nothing wrong to unlearn in his practice, and by the light of the New England Farmer and the other agricultural papers he performed all his operations. This is, emphatically, a "Book Farmer." Hear him speak for himself:

"I divided my land, devoted to rotation crops, into six fields of about 3½ acres each: a new field was taken up every year, and first planted with corn, then with potatoes, and sown with winter rye in the fall, after the potatoe harvest, and seeded down, remaining in grass three years before the rotation comes around. This course gives me one field to corn, one to potatoes, and one to rye, each year, and the other three to grass. I have in addition 2 acres of reclaimed bog which is not plowed, and 1½ acre for raising root crops and garden vegetables planted every year; the whole making about 25 acres, which, with two or three acres of salt marsh, and a small piece of woodland constitute my farm.

The first lesson I took in my new calling was to plow no more than could be *well manured*, and to have *help* enough to do everything *in season*. This has not been lost sight of. My first crops were pretty fair, and have been gradually increasing from year to year, so that the same land which seven years ago would rent for 4 per cent., has yielded more than 20 the past season, after paying all the expenses of cultivation. My last crops were estimated at $900, and, after deducting the cost of labor, board, manure, seeds, farming tools, taxes, &c., it leaves me a balance of more than $550 for rent of land. Have sold over $600 worth, and the balance is laid in for my own consumption, which is estimated at the same price as that sold. I could give a copy of the account in detail, if required.

It is no exaggeration in saying that I am more than a thousand dollars better off for the information I have derived from agricultural papers during the last seven years, in a small way of farming. From that source I have learned the best methods of composting manures and the kinds best adapted to distinct soils; the best rotation of crops and the selection of seeds, and the method of cultivating each kind; also, how to reclaim bogs, of which I had two acres of no value, but which, since that time have produced six tons of good hay annually. All this and much more I have gleaned from the experience of others, communicated through the medium of the press. But still, I am not so much of a "book farmer" as to believe one half that is published is of any benefit to ordinary farmers like myself. I have tried some experiments recommended in your paper, that proved a real disadvantage. Yet I am fully of the opinion that every farmer who can read ought to take an agricultural paper; for by selecting such advice as will apply to his particular soils and crops, he can treasure up something in the course of the year that will be worth more to him than the cost of the paper."

Toads not to be Trod on.

We have complaints from every quarter of the depredations of worms and flies—and anxious inquiries are made for remedies. We have killed off all the birds for fear they would steal a few kernels of grain—and we pay no more attention to a toad than if he was not born, like ourselves, to labor for a living. Crows we make war upon with more bitterness, if not at so great cost, as on the Mexicans; and pigs are not permitted to run in orchards lest they root and pick up green apples along with the worms that harbor there.

"Shall we receive good at the hand of Providence and shall we not receive evil?" It is the duty of man to turn to the best account the instincts of all the animals that are destined to accompany him.

Toads are as harmless as any of our fellow creatures, and toads will pick up every worm and fly in the garden provided you give them a fair chance.

Toads want a shelter from the wet and cold, and if none is provided in your garden or field they will not make these places their home though they find food enough. In Matamoros your warriors are uneasy without tents, and they too will quit unless a supply is furnished. You may find toads in plenty under your buildings where they find not half so good living as they would in your fields. They go for protection, and leave their best game to riot on your vegetables in the garden.

Last week we turned up a board several feet in length, that had been carelessly left near our garden on some plowed ground. Under this board were snugly lodged a number of large toads and a family of little ones, half an inch long. They appeared more happy than many families under more costly roofs, and seemed not much alarmed at the unroofing of their house, for they had the best of reasons for trusting us as friends.

We have removed this family—shelter and all—into our vegetable garden, and intend to provide more boards for others that may come till we have stock enough for the fodder. Flat stones are acceptable to these useful creatures; but a number of boards one foot wide and three in length will answer better. They will not be much in the way. They save much weeding, and the roots of vegetables will run as well under such shelters as when there are none.

And Now for Crows.—While we were writing the above, twelve crows gave us a loud call, and without farther ceremony alighted in our mown field and helped themselves, to their stomach's content, to the surplus grass-hoppers which the hens could not pick up. The crows on our premises this year have done more good than evil. They pulled up not a hill of corn after we sowed a peck or two on the surface of the field—and with their aid we shall have a fine lot of fall feed for cattle. Grasshoppers have often done ten times as much mischief on a farm as crows, and it is a moot question whether it is advisable to exterminate their destroyers.

We would electioneer right heartily for these

black pigeons and naturalize them, were it not for the war spirit which they too often manifest towards the weaker tribes of birds. But let it be remembered that these black warriors are so shy that they never carry off young birds from gardens or orchards near your dwellings.

If robins and other small birds are encouraged to build near the habitations of man they will prefer such locations to extensive forests and swamps, where hawks and crows and snakes are more apt to be their neighbors.

The Ignorant Farmer.

Imagine such a one taking a walk over his farm in July, immediately after a smart thunder storm; a delicious and peculiar fragrance rises up from the ground to the nostrils; a strippling schoolboy at his side looks up knowingly in his face, and says: "Papa, do you know where that sweet scent comes from?" "To be sure, child—from the ground." "Yes, but what makes it come from the ground?" "Why, the rain." "But what makes the rain bring it from the ground?" Papa looks foolish and confounded, whilst the junior boy in the junior class of agricultural chemistry comes out strong with his first lesson—"It comes from the ammonia, brought down in the rain more rapidly than the earth can absorb it, and which, being a highly volatile gas, is rising again into the air." "Nonsense! child." "But it is so, papa: Professor Liebig and Dr. Playfair, and all the great chemists say that it is so." "But how can they prove it boy?" "Why, in this way: they say that although the carbonate of ammonia is a fixed and visible body; yet if you spread finely powdered gypsum over a grass field you may walk over it after a thunder shower without perceiving this scent; for the gypsum (which is sulphate of lime,) lays hold of the ammonia and obliges it to make a very curious interchange—a sort of cross-marriage; for the sulphate leaves the lime and unites with the ammonia and becomes sulphate of ammonia, and the carbonate, abandoned by the ammonia, consoles the deserted lime, and becomes carbonate of lime, commonly called chalk. And thus gypsum, though not a manure in itself, becomes the basis of two manures—sulphate of ammonia and carbonate of lime. And the teacher says that if powdered gypsum be spread occasionally over the stables and the barnyard, it will catch all the ammonia that now goes off in smell, and, by the process before mentioned, increase the quantity and value of the manure." —*Ex. paper.*

MANURES: NATURE'S RECIPROCITY SYSTEM.—Mr. Downing:—The indefatigable Liebig, after his searching analysis into the nature and wants of vegetables, has arrived, it seems, at the conclusion, that, although other substances will be occasionally beneficial, yet we must resort to the Barn yard for the only substance which contains *all* the elements that plants require!

To my mind there is something satisfactory in being brought back after a tour of impatient search for fertilizers, to the simple usage of the earliest agriculturists, and there is a moral lesson taught by this result which makes us admire, as well as rely on the wise and beneficent laws of the Creator. He has so ordered it that the animals, and the land which sustains them, shall not only be mutually necessary and beneficial to each other, but *all-sufficient;* that when he decreed that man should live "by the sweat of his brow," and to struggle with "thorns and thistles," he provided not only the most powerful aid at the threshold of every culturist, but a substance which would have been a nuisance if it had been useless.

The pursuit of the natural sciences often conduct us to positions whence we can "look through nature, up to nature's God," and it adds a charm to the fascinations of country life, that it affords us the best opportunities for the cultivation of those sciences.—*Horticulturist.*

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1844, and arranged to suit the Southern States.

CALENDAR FOR NOVEMBER.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

IT is now time to close up the operations of the warm season, and provide for the cold. Finish collecting in all your crops, corn, turnips, cabbages, &c. and see that your cellars are well secured against frost, and your granaries against depredators. Finish the fall plowing. All clay land should be thrown into ridges for the action of the frost. One good plowing on such land in the fall is worth two or three in the spring, and as this soil has a great affinity for ammonia, while thus exposed, it will absorb large quantities of it brought down in the winter and spring, by the snows and rain, which it will yield to the crops the ensuing season. Examine the winter grain, and any water furrows which have become choked up, let them be opened. *Standing water will kill any useful vegetable*, excepting rice.

The yards should be well bedded with turf, peat, or muck, weeds, refuse straw, and other vegetable matters; and so constructed that the soluble parts of it, which are the best, shall not be drained off to help inundate the roads and ditches. If time permits, drains should be made to carry off the latent water, which destroys the crops or diminishes them so much as hardly to pay for the raising. Under ground, in preference to surface drains, should always be constructed, unless large quantities of water are required to pass. Give all your roots in heaps for the winter an additional covering before the ground is frozen. Have all the barns and sheds well covered and mended, and the racks and mangers all tight and in order, that no hay or provender may be wasted. Before the ground is frozen, look well to your fences. No meadows, winter grain, or even pastures, should be exposed to poaching from cattle, sheep or hogs. An animal will frequently do more hurt in one of them in a day at this season, than in a week while the ground is well settled in summer. In the meantime the household plants, the children, should not be neglected, and especially the older ones who have helped through the labors of the summer and harvests. Good schools must be provided for them, good teachers and good books. Their minds now, and indeed at all times, should be as closely watched over, as the more tangible things of the farm. On their correct, moral, and intellectual education, depends much, perhaps all their success in after life, and no fences should be neglected, or bars left down in their young minds. Good seed sown here, on good soil, and well cultivated, if the weeds of vice and bad principles are thoroughly extirpated, will never fail of producing an abundant harvest. It is not sufficient that their parents see them furnished with all the means for mental improvement; they must take an interest in their studies also. Daily examination into the progress of their children, should be the constant practice of parents; questions asked having a bearing upon them; the connexion between their studies and their own business pointed out, to show that they have a practical application to the concerns of every-day life; and they should be explained and illustrated in such a manner as to excite an interest and inquiry in their young minds. The discipline of the school ought to be inquired into, and the relative standing of the children; and when praise is due, bestow it, and where censure and even punishment are needed, they should not be withheld. No farmer would think of putting out his land to be managed by an agent without frequent and close supervision. Do not, therefore, put out the minds of your children, which are of infinitely more value, to the management of every individual, without a closer and more thorough attention than he gives to his grounds and his cattle.

Commence spreading out hemp for dew rotting, bearing in mind the observations on this subject last month.

Kitchen Garden.—If not done last month, many of the early vegetables may be sown for the ensuing spring, if you have not hot beds for forcing. The beds ought to be thrown up high, so as to avoid water during winter and spring, and being soon dry when the snow is off, the young plants will take an early start. They should be well filled with the more heating manure, as horse dung, &c. In these, tomatoes, lettuce, spinage, cress, &c., may be sown. The asparagus bed should have a large supply of rich manure, which the winter rains will drain of all its enriching soluble matters and carry to the lowest roots, and on the opening of spring, will be ready to furnish a fresh treat for the table. Let the lettuces in frames still be exposed to the air during the day, but be covered by the glass at night. Practice the same treatment with cabbages and cauliflowers in frames. Take up all remaining roots and store them as detailed last month. Rhubarb seed can now be sown, and will vegetate better than if kept out of the ground until spring. In the early part of this month, manure and trench the ground intended for early spring crops.

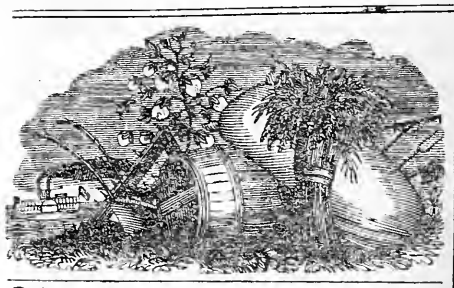
Fruit Garden and Orchard.—Gooseberries, currants, and raspberries, may now be transplanted. Of the latter the red and white Antwerp are considered the most desirable. Do this the early part of the month, and in the latter part lay down the raspberries, and cover them with sedge or any other kind of litter, or they may be killed, or at least injured by the winter. Dig and trench or plow the ground intended for planting in the spring.

Flower Garden and Pleasure Grounds.—The directions for last month will also apply to this, while the ground is free from frost. The latter part of the month cover the flower borders and bulbous beds, and also all flowering plants and shrubs with a litter of straw or of salt hay.

Plantation.—In the latter end of October, or early part of November, prepare for preserving sweet potatoes for the winter. Select a dry place, level the earth, and lay a bed of dry pine straw, so as to form a circle of about six feet in diameter. On this straw pile up the potatoes until they form a cone four or five feet high, over which spread dry pine straw 5 or 6 inches thick. Then cover the entire cone with corn stalks set up end-wise with the butts resting on the ground and the tops reaching over the apex, of a sufficient thickness to conceal all of the potatoes. Then cover the whole pile with earth at the depth of at least a foot, without leaving any air-hole at the top, as is frequently done. A small shelter should then be made so as to prevent the rains from washing off the earth. This may be done by inserting in the ground about the pile four forked stakes, on which rails may be placed to support the covering, which may consist of boards, bark, thatch or other substances. Potatoes can be preserved in this manner until June, nearly as fresh as when first put up.

In this month dress burr artichokes, taking away all their suckers, except three to each stock, open their roots, lay about them new earth and manure, and plant out suckers for another crop. Trim and dress asparagus beds by cutting down the stocks and burning them over the beds. Then dig between the shoots, level the beds, and cover them three fingers deep with fresh earth and manure, mixed. Continue to plant celery, set it in gutters, as it grows, and hill up; sow spinach, lettuce and raddish seeds, and plant out evergreens—they will do now perhaps better than in April. Plant vines or beans, and early peas.

IT is important to all invalids to know that castor oil may easily be taken mingled with orange juice—a little sugar being added to the juice, if the orange be not ripe and sweet.



The Southern Cultivator.

AUGUSTA, GA.

VOL. IV., NO. 11...NOVEMBER, 1846.

OUR FIFTH VOLUME.

WE have placed on our last page the *Prospectus* for the *Fifth* Volume of the SOUTHERN CULTIVATOR, and we also send with this No. printed handbills, containing the same, to every post office to which our paper is sent.

We take this occasion to remind our readers that the time for commencing our next volume draws near, and it behooves the friends of the work to bestir themselves, if they would see the CULTIVATOR sustained in a manner commensurate with the great interests it is designed to promote. Without your aid and co-operation, the success of any work in the Southern States, devoted exclusively to Agriculture, no matter how ably conducted, is extremely problematical—nay, impossible. With that aid, what can we not accomplish?

While we express our heartfelt acknowledgements for the exertions of those who have so nobly and promptly responded to our efforts, and arrayed their names under the banner of the lamented McDONALD, as well as others to whose individual exertions we are greatly indebted, we would urge upon those who have not yet come forward, but design doing so, the necessity of prompt and energetic action. Now is the time to put forth your exertions. There is a growing interest manifested throughout the country, in favor of Agricultural works, and we receive the most cheering accounts from all quarters. A vigorous and united effort now, while the fruit is ripe and ready to fall into your hands, and success, glorious success, will crown your labors. Will you make that effort?

Friends of the Work! Friends of Southern Agriculture! You who would see the miserable system of Farming which is blighting and desolating your homesteads—the fairest heritage beneath the sun—give way to an improved system of Scientific and Practical Agriculture, restoring lost fertility, and bringing plenty, happiness and contentment to every fireside in the land—arresting the Vandal spirit that defaces and desolates, and then emigrates to again commence the work of destruction anew—we entreat you, put forth your best exertions. Let each one act as if his individual exertions alone would ensure the success of the good cause. It is not only patriotic, but it is your interest to do so. Give us, then, your hearty and cordial support, and we will furnish you with a paper worthy your patronage—worthy of the great art of AGRICULTURE.

Here is the list of the noble spirits who have already arrayed themselves on the side of Agriculture, and determined to rescue the Cultivator, and elevate the standard of the great Mother of all the arts to the position it was designed to occupy: How many more are there willing to pledge themselves to procure twenty subscribers each to our forthcoming Volume? Here is our list:—

Col. A. McDONALD, Eufaula, Ala.
E. McCROAN, Louisville, Ga.
T. W. RUCKER, Elberton, Ga.
C. DOUGHERTY, Athens, Ga.
G. B. HAYGOOD, Watkinsville, Ga.
WM. T. DeWITT, Hopewell, Ala.
H. E. CHITTY, Henry Co., Ala.
WM. CUNNINGHAM, Monroe Co., Ala.
C. B. ZUBER, White Sulphur Springs, Ga.
J. C. HELVENSTON, Macon Co., Geo.
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Gen. A. W. GREER, Taliaferro Co.
SINGLETON HARRIS, " "
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J. S. WARREN, Elbert co., Geo.
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JAMES M. TOWNS, Yalobusha, Co., Miss.
GUY SMITH, Morgan county, Ga.
A. B. TURNER, Florence, Ga.
JOS. L. CHEATHAM, Jefferson co., Ga.
JOEL W. PERRY, Blakely, Early co., Ga.

Georgia, Alabama, Mississippi, South Carolina and Florida! how many more such friends of Agriculture can we enter on our list? Speak out!

☞The Report of the Committee of the Monroe and Conecuh Agricultural Society, we are compelled to defer till our December No.

Engravings.

The Publishers feel especial pleasure in being able, through the courtesy of Col. SUMMER, of Columbia, S. C., to afford their patrons some splendid engravings, accompanied by a sketch from his accomplished pen, of this very superior breed of cattle. It is the more gratifying to them, just at this period, as it will serve to show the friends of the work what they may expect in the next volume. It is our purpose, if we are at all sustained, to secure a variety of elegant embellishments for the CULTIVATOR, and we sincerely hope that our friends will stand by us in this effort to afford them a paper that every Southern man shall be proud to claim as a Southern work.

Agricultural Education.

In the last number of the CULTIVATOR we informed our readers that an Agricultural Professorship had been established in Yale College, Connecticut. We have just heard that J. P. NORTON, Esq., has been elected to fill the office.

Of Mr. Norton, and his qualifications for the office, Mr. SKINNER speaks as follows in the October number of the Farmers' Library: "Mr. N. had the fire and spirit and good sense to go, some years since, to Edinburgh, the head-quarters of chemical science as applied to agriculture, and has there had the advantage of pursuing the study under the ablest teachers, as well in the field as in the laboratory; and we shall be mistaken in the tokens of an improving public taste, if *his* class at College be not as numerous as he can do justice to. But we should suppose he would be demanded, if to be had, for the Smithsonian Institute at Washington.

"There must be a beginning to everything; and we apprehend the beginning is now, when agriculture will no longer lay in the rear of other pursuits, either in public opinion or in the fostering care of the Government, of the States, if not of the Union. Is there any good reason why the people should be taxed for educating two or three hundred [young men] every year, and to whom life commissions and good pay are to be given, to strengthen our arms for *war*, and yet not give one dollar to *teach* (without afterwards giving them commissions and pay for life,) and qualify men to go teaching, surveying and mapping, and the art of road-making and bridge-building, and chemistry, and mineralogy, and botany, and natural history, and all applications of the arts to industrial pursuits, which would promote a better knowedge of agriculture, manufactures and commerce?

"If the people had sense and self-respect enough to compel their representatives to expend one-fourth as much for the dissemination of *useful knowledge* and the *perfection of the industrial arts* as they now expend every year on war and warlike objects, the time would soon arrive when all wanton promoters of war would be dreaded and doomed as so many mad dogs."

The Horticulturist.

The first number of this work was published in July last. We have not noticed it before now, simply because we were not furnished with a specimen of it, until within a few days past. And even now we have received only the 2d, 3d and 4th numbers. The first has not been received. Will the publisher make the series complete?

Having examined carefully the three numbers we have received, it gives us great pleasure to say that it comes fully up to what we expected it would be; and our expectations were very high, from the established character and acknowledged ability of the editor. We would be very glad to see it extensively circulated among Southern planters; because, devoted, as it is, in part, to the inculcation of sound principles on the subject of the embellishment of rural residences, it could not fail in a few years to work a refinement of taste, and excite a love for the simple and the beautiful in rural architecture and landscape gardening, that would change the whole face of the Southern country.

The work is published monthly at Albany, N. Y., by Luther Tucker, and is edited by A. J. Downing, of Newburgh, N. Y., so favorably known as the author of "*Fruits and Fruit Trees of America*," "*Cottage Residences*," "*Landscape Gardening*," &c. Each number contains 48 pages, and is embellished with numerous engravings; and the whole—paper, printing and pictorial illustrations—is gotten up in the very best style of modern art. Subscription, $3 per year, payable in advance.

Bread and Butter.

We have introduced into this paper from Miss BEECHER's Book of Recipes—the best book on that subject, the ladies say, that has been published in this country—full directions for making bread. Such directions are sadly wanted in many Southern kitchens. With our fine wheat and flour unsurpassed, it is positively sickening to look at, much more to eat, the abomination too often made of it, and set before hungry people as bread. With such ample directions as Miss BEECHER gives, there can be no excuse hereafter for bad bread, but the inability to buy her book, or to subscribe for the CULTIVATOR.

What more natural digression than from bread to butter? And here, in the South, how very often is the butter a dead match for the bread. What a miserable apology for butter one often has to endure on Southern tables, especially where cotton is the main crop! The Rev. Mr. BEECHER, editor of the *Western Farmer and Gardener*, has taken pains to arrange the *bad* butter of the West under its appropriate varieties. We copy his article, because his arrangement describes so admirably the varieties of our Southern butter:

THE SCIENCE OF BAD BUTTER.

We took occasion, last year, to give our opinion of the butter which is so largely brought to this market. The article was deemed severe; but if they who think so had eaten of the butter they would have regarded *that* as the more pungent of the two. We have waited another year; and are now prepared more fully to testify against that utter abomination, slanderously called but-

ter, so unrighteously exchanged in our market for good money. For the most part, the cream is totally depraved at the start, and churning, working and packing are only the successive steps of an evil education by which bad inclinations are developed into overt wickedness. We determined to keep an eye upon the matter; and now give, from life, the natural history of the butter sold at Indianapolis.

Before doing this, we will express an opinion of what is *good butter*.

Good butter is made of sweet cream, with perfect neatness; is of a high color, perfeetly sweet, free from buttermilk, and possesses a fine grass flavor.

Tolerable butter differs from this only in not having a *fine flavor*. It is devoid of all unpleasant taste, but has not a high relish.

Whatever is less than this is bad butter; the catalogue is long, and the descending scale is marked with more varieties than one may imagine.

Variety 1. *Buttermilk butter.*—This has not been well worked, and has the taste of fresh buttermilk. It is not *very* disagreeable to such as love fresh buttermilk; but as it is a flavor not expected in good butter, it is usually disagreeable.

Variety 2. *Strong butter.*—This is one step farther along, and the buttermilk is changing and beginning to assert its right to predominate over the butteraceous flavor; yet it may be eaten with some pleasure if done rapidly, accompanied with very good bread.

Variety 3. *Frowy or frowsy butter.*—This is a second degree of strength attained by the buttermilk? It has become pungent and too disagreeable for any but absent-minded eaters.

Variety 4. *Rancid butter.*—This is the putrescent stage. No description will convey, to those who have not tasted it, an idea of its unearthly flavor; while those who *have*, will hardly thank us for stirring up such awful remembrances by any description.

Variety 5. *Bitter butter.*—Bitterness is, for the most part, incident to winter-butter. When one has but little cream and is long in collecting enough for the churn, he will be very apt to have bitter butter.

Variety 6. *Musty butter.*—In summer, especially in damp, unventilated cellars, cream will gather mold. Whenever this appears, the pigs should be set to churn it. But instead, if but just touched, it is quickly churned; or, if much molded, it is slightly skimmed, as it the *flavor* of mold, which has struck through the whole mass, could be removed by taking off the colored portion! The peculiar taste arising from this affection of the milk, blessed be the man who needs to be told it!

Variety 7. *Sour-milk butter.*—This is made from milk which has been allowed to sour, the milk and cream being churned up together. The flavor is that of greasy sour milk.

Variety 8. *Vinegar butter.*—There are some who imagine that all milk should be *soured* before it is fit to churn. When, in cool weather, it delays to change, they expedite the matter by some acid—usually vinegar. The butter strongly retains the flavor thereof.

Variety 9. *Cheesy butter.*—Cream comes quicker by being heated. If sour cream be heated it is very apt to separate and deposite a *whey*; if this is strained into the churn with the cream, the butter will have a strong cheesy flavor.

Variety 10. *Granulated butter.*—When, in winter, sweet cream is over-heated, preparatory to churning, it produces butter full of *grains*, as if there were meal in it.

Variety 11. In this we comprise the two opposite kinds—*too salt*, and *unsalted butter*. We have seen butter exposed for sale with such masses of salt in it that one is tempted to believe that it was put in as a make-weight. When the salt is coarse, the operation of eating this butter affords those who have good teeth a pleasing variety of grinding.

Variety 12. *Lard butter.*—When lard is cheap and abundant, and butter rather dear, it is thought profitable to combine the two.

Variety 13. *Mixed butter.*—When the shrewd housewife has several separate churnings of butter on hand, some of which would hardly be able to go alone, she puts them together, and those who buy, find out that "Union is *strength!*" Such butter is pleasingly marbled; dumps of white, of yellow, and of dingy butter melting into each other, until the whole is ring-streaked and speckled.

Variety 14. *Compound butter.*—By compound butter we mean that which has received contributions from things animate and inanimate; feathers, hairs, rags of cloth, threads, specks, chips, straws, seeds; in short, everything is at one time or another to be found in it, going to produce the three successive degrees of dirty, filthy, nasty.

Variety 15. *Tough butter.*—When butter is worked too long after the expulsion of buttermilk, it assumes a gluey, putty-like consistence, and is tough when eaten. But oh! blessed fault! we would go ten miles to pay our admiring respects to that much-to-be-praised dairy-maid whose zeal leads her to work her butter too much! We doubt, however, if a pound of such butter was ever seen in this place.

Besides all these, whose history we have correctly traced, besides butter tasting of turpentine from being made in pine churns; butter bent on travelling, in hot weather; butter dotted, like cloves on a boiled ham, with flies, which Solomon assured us, causeth the ointment to stink; besides butter in rusty tin pans, and in dirty swaddling clothes; besides butter made of milk, drawn from a dirty cow, by a dirtier hand, into a yet dirtier pail, and churned in a churn the dirtiest of all; besides all these sub-varieties, there are several others with which we have formed an acquaintance, but found ourselves baffled at analysis. We could not even guess the cause of their peculiarities. Oh, Dr. Liebig! how we have longed for your skill in analytic chemistry! What consternation would we speedily send among the slatternly butter-makers, revealing the mysteries of their dirty doings with more than mesmeric facility!

And now, what on earth is the reason that good butter is so great a rarity? Is it a hereditary curse in some families? or is it a punishment sent upon us for our ill-deserts? A few good butter makers in every neighborhood are a standing proof that it is nothing but bad housewifery; mere, sheer carelessness which turns the luxury of the churn into an utterly nauseating abomination.

Select cows for quality and not for quantity of milk; give them sweet and sufficient pasturage; keep clean yourself; milk into a clean pail, strain into clean pans—(pans scalded, scoured, and sunned, and if tin, with every particle of milk rubbed out of the seams.) While it is yet sweet, churn it; if it delays to come, add a little saleratus; work it thoroughly, three times, salting it at the second working; put it into a cool place, and then, when, with a conscience as clean and sweet as your butter, you have dispatched your tempting rolls to market, you may sit down and thank God that you are an honest woman!

Apples.

In the last number of the CULTIVATOR we inserted an article on the preservation of Apples. Here are Mr. DOWNING'S directions, which we extract from his "Fruits and Fruit Trees of America." The Apple crop is so very badly handled in the Southern States that when it comes to market it is really in a very unsaleable condition. This is the more to be regretted, seeing the demand that exists in all our Southern cities for *good* Apples every winter, and the very large amount of money sent abroad annually from these cities for supplies of Apples that might just as well be raised at home.

In order to secure soundness and preservation, Mr. Downing says, it is indispensably necessary that the fruit should be gathered by hand. For winter fruit the gathering is delayed as long as possible, avoiding severe frosts, and the most successful practice with our extensive orchardists is to place the good fruit directly, in a careful manner, in new, tight flour barrels, as soon as gathered from the tree. These barrels shoul l be gently shaken while filling, and the head closely pressed in; they are then placed in a cool shady exposure under a shed open to the air, or the north side of a building, protected by a covering of boards over the top, where they remain for a fortnight, or until the cold becomes too severe, when they are transferred to a cool, dry cellar, in which air can be admitted occasionally in brisk weather. A cellar for this purpose should be dug in dry, gravelly or sandy soil, with, if possible, a slope to the north; or at any rate with openings on the north side for the admission of air in weather not excessively cold. Here the barrels should be placed on tiers *on their sides*, and the cellar should be kept as dark as possible.

When apples are exported each fruit in the barrel should be wrapped in clean coarse paper, and the barrels should be placed in a dry, airy place, between decks.

Sumach.

We have not yet been able to get the information necessary to enable us to answer the inquiries of our correspondents, in relation to the culture of Sumach.

Fried Meat.

From the *Prairie Farmer* we copy the following very good article, under the head of

FRYING AS A MODE OF COOKING.

This mode of cooking is more common in the Western States than any other; and in some families than all others together. Whether the meat be bacon, ham, pork, veal, chicken, mutton, or fish, the same ordeal is appointed it—it is to be fried. There are cases, too, in which the manner of doing it is horrible to think of. We have seen ham put over a hot fire and fried full twenty minutes—till the whole house was filled with the fumes of burnt fat. A piece of manilla rope, cooked or uncooked, would be a delicacy compared to it; and as for digestion, we do not believe the stomach of a dog, alligator, or anaconda, could make any impression upon it.

Housekeepers should know that of all ways in which meats are cooked, *that of frying is the worst for the health of those eating them.* The animal oils are at the best pronounced to be more obnoxious to the stomach than any other alimentary matters. The influence of heat upon them effects chemical changes, which renders them worse still. In frying, meats absorb and retain a large quantity of fat which is for a considerable time subjected to a great heat; and is thus rendered unfit for the stomachs of children and weak people especially.

The cooking by broiling is far less objectionable, as the fat is separated from the meat, and escapes being heated to any such degree as in the former case. Broiling, baking, boiling and stewing are all better in respect to the flavor they impart to meats, and are quite as easy when adequate preparations for them are made, and are many times more favorable to health.

From all that we have seen, we are convinced that much of our western cooking is extremely vicious. How many of our people live almost wholly on warm bread, strong coffee and fried meats? A very large proportion, as we are assured. Can any body wonder at the brownness of complexion, want of nervous energy, and bilious habits of multitudes every where to be met with in the western States? This is a matter far too much overlooked. It is of great importance, and the remedy rests in a good measure with our female friends; and we hope their attention will be turned to it till a change, so far as needed, is effected.

Information Respectfully Desired.

As Chairman of the Committee appointed at the meeting of the Farmer's and Gardeners' Convention, at New-York, in October last to "collect information," the undersigned respectfully requests the Secretaries of all Agricultural Societies and Farmers' Clubs in the United States, to address to him a note, stating the locality of the Society, and the names of the President and Secretary.

The list, when completed, will be printed, and a copy sent to each Secretary. The object is to establish the means of correspondence, and interchange of information and views, for the better protection of the rights, and more efficient improvement of the practice of agriculture.

J. S. SKINNER, New-York.

Original Communications.

Sheep.

Mr. Camak:—I am aware that I can give you no new ideas on the subject of sheep management, yet I am willing to give you my experience in sheep husbandry. The soil most suitable for sheep is a dry one. It is emphatically an upland animal, and prefers high dry, ground for grazing, and always selects the driest points for feed and rest, and the various and nutritious herbage of upland and hill slopes are best adapted to sheep; but any dry land will answer. They are not so healthy when fed on cold, wet swampy land. To no other domestic quadruped is water more repugnant, (unless when necessary to slake its thirst,) as will be seen in its aversion to cross streams. Water is not so essential for sheep as other domestic animals, since their instinct leads them to graze early in the morning before the dew evaporates, and again awhile in the evening, when the temperature of the season is warmest, yet lambs will do better when suckling, if the mothers have free access to it at all times. No other domestic animal is known to manifest that fondness for variety of herbage equal to the sheep. No domestic animal feeds upon so many kinds of plants as the sheep; nor does any so quickly pine by confinement to any one kind. The disposition of sheep prompts them to range over a sufficient scope of country in search of food, and when they find plenty, they have but little disposition to ramble. They soon get accustomed to their walks and homes. They delight to range through the spontaneous growth of the woods. Sheep which have had the benefit of woods to retire to during the heat of the day in summer will be in better condition in the fall than others deprived of such grateful r treats.

It is worthy of remark that sheep which are suffered to roam at large in the summer season, produce more wool at a shearing than sheep that are kept entirely within enclosures, and the wool is of a better quality; sheep that run at large (if they escape the dog) will thrive and do well, so that variety of food, so conducive to the health and thrift of the animal, is thereby afforded, Nothing more conduces to the health of sheep during the summer than frequent change of pasture ground. This suits well the inclination of sheep; the health of the flock depends more upon frequent changes than the number of the flock.

If sheep are confined too long in one field they will soon become unhealthy. No matter how good the feed may be, it becomes tainted by their constant wandering over it; and hence, from their nice habits and extraordinary keenness of smell, will neglect it. When sheep are seen nosing here and there without eating contentedly, lose no time in removing them. Even if the pasture to which they are taken is short and less abundant, it will be fresh and untainted, which is reason enough for the change.

The sheep should be assembled as often as necessary during the tormenting career and flight of the gad-fly (which is between May and October) and their nostrils and adjacent parts kept thoroughly tarred, which can very quickly be performed with a paint brush or swab.

For winter management a lot should be prepared, well secured from the hogs and other stock, around the gin house or barn, for the sheep to be shut up in at night and rainy days during winter. The lot should be supplied with troughs to feed and salt in, and good dry shelter should be made in it for the sheep to go under when it suits them. And where sheep are provided with comfortable dry sheds or shanties, they will seek them when needed. The shelters should be scraped out as often as necessary and filled, and the manure thus saved will alone pay well for the trouble, besides the increased number of lambs that may be raised. Sheep should be protected, particularly against the cold drenching rains of winter. It injures their health.—They will stand severe cold, if dry, much better than wet, as frequent wetting of the wool renders the tops stiff and rotten. The necessity of protecting sheep from the cold winds and storms particularly of rain, is indicated as well by the instinct which invariably leads them in bad weather, to seek the shelter of fences, thickets, and anything else that will screen them from it. In the day, when the state of the weather will admit of it, they should be driven to a field where rye or some other small grain has been sown early in the fall for winter and early spring grazing, and occasionally, to the woods, where they can browse upon the under bushes of the forest growth, and whatever else they please. This contributes to their health; and pine boughs should occasionally be strewn in the lot for them to browse upon, which they are fond of.

It often happens that sheep become filthy about the tail. They should be immediately caught and tagged, for in this situation they are liable to be fly-blown, and without timely discovery the sheep is lost.

In addition to their grazing on the rye or other small grain during winter, they should be fed night and morning in their lot with cotton seed, peas, cut potatoes, turnips, or artichokes, hay, &c. Their food should be changed occasionally Peas is the best to promote the growth of wool. The fixed time for feeding should be about sun down, after which they can retire to their shelters should the weather require it, and early in morning.

The rams generally begin their service in September and should not be let to more than thirty ewes, and the buck should be withdrawn in the early part of October, for the growth of an early lamb is much more accelerated than a late one, and a dry ewe is preferable to a late lamb. During the tupping season the bucks should be well fed with some grain. The usual period of gestation with the ewe is five months, therefore they will begin yeaning in January, and seldom foal out of the lot, except, perhaps, during the day, when out grazing on the rye. It often happens that ewes will not own their lamb, particularly their first; in such a case sprinkle a little salt or salt water on the lamb, which induces the mother to lick it, after which she will generally allow it to suck. If she still refuses to let it suck, she must be caught two or three times a day, or oftener, if necessary, and held till the lamb sucks At first perhaps the teat will have to be placed in the lamb's mouth, and in a day or two this method seldom fails to conquer all difficulty. It is safer to keep the ewe in the lot two or three days so that she may be more at your command, as well as the mother of any of the puny lambs, before they are let to the rye field, keeping them well watered and fed while in the lot. The ewes for breeding should be selected from the finest, and finest only. It is best to class them in three classes, giving to the most perfect class the most p rfect buck. Much care should be taken as to male parentage, avoiding the in-and-in system, that is, where there is a relationship of blood.

It is by this vile system of breeding that so many dwarfy, worthless specimens of sheep are seen throughout the length and breadth of the land. By a judicious selection of the best stock rams that can be procured and changing them every year, (for this is the most important point in breeding) and breeding from the most perfect ewes, in a few years, those imperfections which characterize the size and fleeces of a large majority of the sheep, will be diminished and a breed raised that would not suffer by comparison with any common flock.

The proper time for spring shearing is between the 20th and last of April, according to the state of the weather; it is safer to defer it till the latter period; and for fall shearing the latter part of August is preferable. Sheep that are shorn in the fall do equally as well as those that are not shorn at this season, for those that are not shorn are more liable to shed their wool earlier in the spring, and in some cases become almost naked, particularly sucking ewes, and in this situation they are liable to perish in the cold, before the temperature of the weather becomes sufficiently warm. The manner in which sheep are generally shorn is *utterly disgraceful*, they appear as if their fleeces were *gnawned off* rather than shorn. The shears should be grasped about half way from the point to the bow, resting the thumb along the blade, which will give the shearer better command of the points, and in using the shears let the blades be laid as flat to the skin as possible; not lower the points too much, nor cut more than one or two inches at a clip, frequently not so much, depending on the parts and compactness of the wool—clipping from the rump towards the head.

The Scottish mode of castrating lambs is thought to be the best. With a sharp knife cut off about half of the testicle bag, or scrotum, then drop the knife and draw out the testicles (one at a time) with the teeth or pinchers. This pulls out the cords and less bleeding will follow.—Smear the place thoroughly with a mixture of hog's lard and tar.

Sheep should have salt and ashes, about equal portions, given them in a trough during the summer, every other week, or oftener. The ashes will prevent them from eating too much salt, and will keep them more healthy, and occasionally intermix a little tar and the flour of sulphur.

Respectfully yours, Raytown.

P. S. I should like to hear again from your correspondent, Mr. Middlebrooks of Newton, on the philosophy, in full, of his communication in the December No. of the Cultivator of 1845.

R.

Grafting in Summer.

Mr. Camak:—As you conduct an agricultural paper, I have thought proper to give you the result of an experiment, and as far as I know, a new discovery in the horticultural department, viz:—a new way to propagate fruit, or any other kind of trees, by summer grafting.

At any time in the season, when the sap is in an active state, make a horizontal cut into the stalk which you intend to engraft, to the depth of the graft you intend inserting; above which, at a distance to correspond with the length of your graft, you make another, and pare away the intervening bark and wood. Commence an incison from the lower cut and split the bark; then take the bud end of a limb of the tree you intend propagating; clip off the leaves and leave the foot stalks; cut into it at right angles and taper it off gradually towards the outer bark, on the opposite side, and the lower section will be about two inches long, of a wedge shape. Be careful not to injure the bark, and slip this betwixt the bark and wood of the incision you made in your stalk, and shove it down until the shoulder of your graft rests upon the solid wood of the stalk, and the top of the graft will then fall nicely into the open space from which the wood and bark was taken between the first and second horizontal cuts in the stalks as before stated. Then bind them tightly up with ribbon shaped pieces of cloth, either wet or saturated with grafting composition, and at the end of ten days remove the bandage, and the graft will have become completely incorporated with the tree. Then cut off the tree above the graft, and it immediately receives the whole energies of the tree and grows off with an astonishing rapidity.

Grafts taken off the prior winter will succeed equally well as the young growth. This I ascertained from the fact of having from yourself obtained some pear grafts, which I had not time to graft in the spring—I kept them alive until summer, and fixed them upon quince stalks in the manner above stated.

This has been an abundant fruit year with us of the mountains; and your city will shortly be glutted with the finest apples. My own I will retain for the spring market. I intend sending you a specimen of some of my best varieties. Respectfully, your ob't serv't,

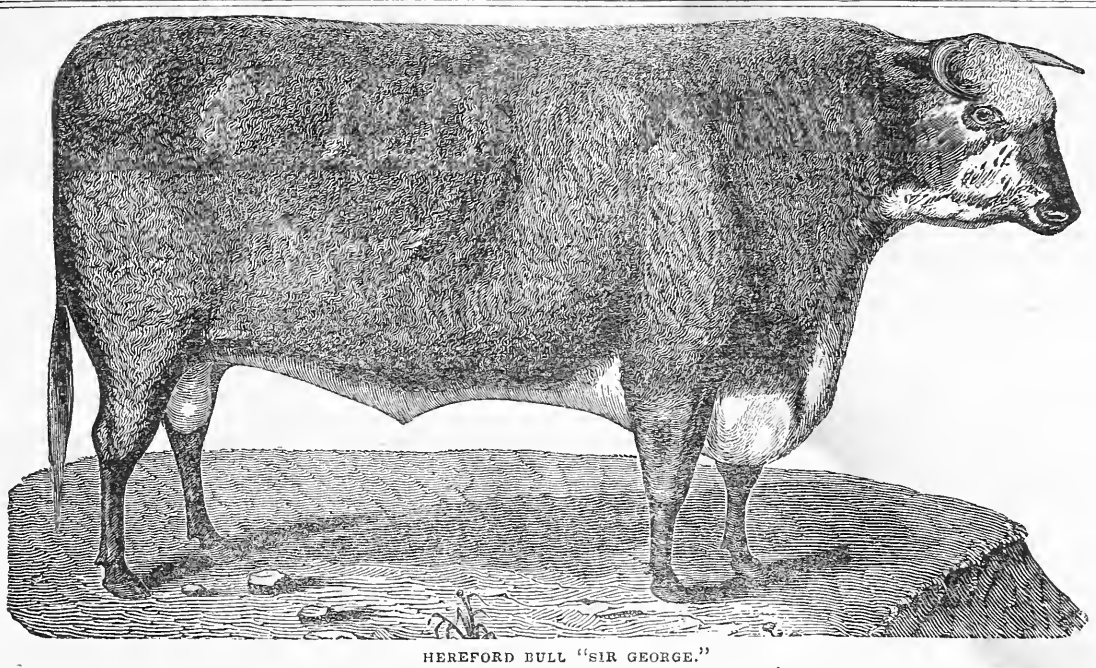
Silas McDowell.

Franklin, Macon co., Oct., 1846.

Apple Butter.

Mr. Camak:—In your October number of the Cultivator, you have told us about apple butter, a luxury I was acquainted with when young in Massachusetts. In some States it is called apple sauce, stewed apple butter, &c. I had a sample of apple given me the other day from Cobb county, which I think very fine for making apple butter. You now must tell your subscribers they must not boil the cider, nor stew the fruit, in neither copper nor iron. I tried both in Georgia, and I could not use the butter, from the taste of iron and copper. It must be boiled and stewed in bell metal, or brass. They make it in large brass kettles at the North. The sweeter the apples for the cider and stew, the better. The cider must be put to boiling right from the press. Very respectfully, yours, &c.

Blountsville, Oct., 1846. Francis Tufts.



HEREFORD BULL "SIR GEORGE."

HEREFORD CATTLE--No. 1.

In presenting the readers of the Southern Cultivator with a series of cuts of Domestic Animals, we begin with the Hereford's, because from some experience and observation we are prepared to say much in their favor. The Hereford cattle are fine handlers, take on flesh readily, are hardy and have better constitutions than any breed we have seen imported so far. The cows are good milkers—not remarkable for quantity, but giving a rich quality of milk, and it has been claimed for them, that they will yield to the cow as much per week as any other stock known in the world. These cattle, pure and when crossed, constitute a breed of the best working cattle known, and being easily kept must eventually become great favorites with the lumbermen of this country. The only color known to the breeders of pure Herefords is red with uniform white faces, chines, backs and legs. Several importations were made into the United States by Mr. Clay, Mr. Rives, of Va., and one into Massachusetts—but these were either badly managed or allowed to cross the pure strain of blood out, and the sole honor of the introduction of this breed in America must be, as far as perpetuating it is concerned, given to Messrs. Sotham & Corning, of Albany, N. Y., who have presented the most unique and best bred herd of cattle ever offered by one breeding establishment to the American public. We know that the Short Horn men will turn up their noses at *this fact*, but it has proved itself annually against competition of the most unconquerable pertinacity. Ambrose Stevens, who, next to Mr. Sotham, is the best judge of cattle, we know, says of this herd "that it embraces more superior animals than any he knows," and "that it is the best in America, and has individuals that have no superior in any other country." When such language is wrung from an Englishman, whose nationality is so hard to conquer, the reader can readily believe that these cattle are worthy of high eulogium. Mr. Sotham is a scientific breeder, and in introducing this breed has placed the country under vast obligations to him, for it has opened to agricultural action a new and pure breed, which presents to the farmer the true standards of excellence. Their purity is proven by their uniformity in everything, which is remarkable, inasmuch as Mr. Sotham selected these cattle from various sources. The cut which we give above would answer for every well bred Hereford Bull, so much are they alike. So, with the cows, and even the calves. This uniformity, when sustained by that excellence which is accorded to them by the critical eye of the breeder, is one of the first essentials to be sought for in any breed of cattle. Col. Hampton, of Millwood, near Columbia, S. C., has for years been striving to impart to his fine bred Durhams, the beautiful red coats of the Devons. This idea has been most successfully achieved, but we fear in doing it, he has not advanced their milking qualities in a like ratio. He has undoubtedly added good handling qualities to them, and they are the most beautiful herd of Durhams we have ever seen. He has recently secured a bull from the celebrated *milking* herd of Mr. Geo. Vail, of Troy, N. Y., of a pure red color, and if he carries out his favorite principle we may look in a few generations for the same unique appearance in his herd which is so remarkably characteristic of the Herefords.

The strain of Hereford blood carried to Kentucky found its way to the vicinity of Natchez, Miss., though much adulterated. Mr. Affleck says that several large stocks of cattle may be seen near that town with many of the characteristics of the Herefords. They are highly esteemed, and he goes so far as to say that he is convinced "they are the *true cattle for the South*." This is saying a great deal, but it comes from a gentleman bred familiar to all the wants and requirements of a good breed of cattle, having been brought up in a stock rearing State, and who is withal, one amongst the best agricultural writers and observers in the Southwest.

My own experience in South Carolina with a pair of them for two years past, is highly satisfactory, for I have had no trouble to keep them in presentable order after their recovery from the effects of a long and perilous voyage. They are easier kept than Durhams or even the native cattle, and the crosses are the thriftiest calves I have seen this season. This pair was easily acclimated and did not suffer in the same degree that Durhams have done for me when attacked with acclimating fever. They possess what I regard of the first importance, hardy constitutions. With this we can make any breed what we want, by food and attention to breeding.

The Herefords of Corning & Sotham have always received the highest premiums in their classes, and during the present year Mr. Corning has taken several high premiums with them. They are still bred purely by Mr. Corning, who continues the farm formerly occupied by himself and Mr. Sotham near Albany, N. Y.

I propose to continue the subject next month by giving two fine cuts of a cow and calf, and a fuller detail of this justly celebrated breed of cattle.

A. G. Summer.

Ravenscroft, S. C., Oct., 1846.

Statistics of Georgia.

Mr. Camak—The undersigned respectfully informs the citizens of Georgia, that he is engaged in collecting the materials for the publication of a work, to be entitled, "*Statistics of the State of Georgia.*"

The want of such a work, all will acknowledge. No country in the world offers greater advantages than Georgia. Favored with a fruitful soil, a climate as healthy as any part of the United States, a population generous and intelligent, and whose interest in a system of internal improvement has been attested by the construction already of a chain of works, which, while they challenge admiration for their present condition, insure the completion hereafter of a most extended and magnificent system, no one can doubt that Georgia will rapidly increase in wealth and political power. To show the resources of the State, to give a more particular prominence to our local objects and institutions, are results which the undersigned flatters himself that he will be able to accomplish, provided he has the co-operation of his fellow-citizens. He therefore takes this method of requesting gentlemen in different parts of the State, to transmit to him at Savannah, as early as may suit their convenience, sketches of the histories of Counties, Cities and Villages; Meeorological Observations, Geological and Mineralogical Notices, and any thing connected with the Natural History of the State; Indian Names of Rivers, Hills, Districts, Islands and Bays, together with an account of Mounds, or other Antiquities in their neighborhood; Reports of Rail Roads, Canals, Banks and Insurance Offices; Notices of the rise and progress of Agriculture and Manufactures, the origin and history of Churches and Benevolent Institutions, instances of Longevity, Roads, Bridges and Ferries, value of Land, price of Grain, of Labor, expense of Living, number of Poor, public and private Schools, Waste Land, Cattle and Sheep, good and bad Seasons, Customs, Amusements and Biographical Notices of remarkable persons, and of those distinguished in the history of the State, with any other information which they may deem useful. Very Respectfully,

George White.

Savannah, Ga., September 22.

Corn Shellers.

Mr. Camak:—I saw in your last number of the Cultivator a piece written by P. E. Duncan of Greenville, South Carolina, on the sub-

ject of corn shellers; and more especially respecting one which he says he has had in use for some time, which has excited considerable curiosity with me and many others in this section of country, to find out the particulars of said machine.

Mr. Duncan represents the principle as not entirely new; but as for cheapness, durability of character and for fast shelling, he thinks it cannot be excelled. Besides, there are several other traits attending the machine which should command the attention of every farmer, as for instance its simple structure, so as to be made by any rough workman, and its needing no patching and mending, as stated by Mr. Duncan.

The object of this communication is to request Mr. Duncan through the columns of your valuable paper, to give us a full, precise and definite description of said machine in every particular, and the materials composing it. In short, if it is out of his power to give us a cut, he will favor this community by giving such information as will enable us to construct the machine and try the experiment. Yours, with great respect, ROBERT CALDWELL.

Jones county, Ga., Sept., 1846.

Farm Management.

Mr. EDITOR:—I have owned the plantation on which I now live about five years. When I first took possession of it I found it in a very dilapidated condition—not a house fit to live in, the fences rotten and in a bad condition, the fields badly arranged and much injured by the bad management and bad cultivation of a careless overseer, and some parts in gullies before the roots are fairly got out of the ground.

My first object was to arrange the plantation in a systematical and convenient order, to straighten out fences, enlarge the fields, to make suitable and convenient divisions, to build houses of every convenient description, gates, bars, &c., to put the farm under a good system of hill side ditching and horizontal plowing, and of drilling all my cultivated crops of every description.

In order to arrange the farm with convenience I have a centre pasture. Mine is of woodland, containing constant running water. From this pasture I have bars or gates leading into every division of the farm. This pasture contains all my stock, except my cattle are turned in the range a few months in the spring and are then taken in again. My sheep I never suffer to go out—my stock hogs I keep constantly in the range. I take into the pasture every winter a sufficient number of hogs of one year's growth to make bacon the year after; they are to run one year on my grass pasture, and at the age of two years old they make fine large hogs, and an equal number of one year's growth are taken from the range and put in the pasture for the next year.

In arranging the divisions of my farm, I have allotted off two fields of about ninety acres each of my poorest land, which is entirely devoted to corn and pasturage; changing them every year, one in corn and one for pasture. This affords sufficient grass for all my stock. I have also arranged four small lots of twenty acres each, convenient to my centre pasture, which I devote to other crops; say, one in potatoes and pindars, one in corn and peas, for early use; one in rye or barley for winter and spring grazing, which will be off by May, and may be plowed up and drilled in peas for a fall pasture, and one I sow in rye, oats and barley for seed. It then makes a good fall pasture for mules and horses.

These crops I alternate every year, say first in potatoes, second early corn and peas, third rye and barley for grazing, fourth, seed rye, oats and barley.

The other parts of my farm are in larger divisions and are devoted exclusively to corn and cotton. Three fields I design enlarging in order to rest the weakest parts every other year, this will very much aid in keeping them in good heart and ensure better crops.

As much of my time, for the last few years, has been devoted to the arrangements and improvements above mentioned, I have devoted but little attention or time to saving and applying manures to my land. But as the first object is now nearly completed, I shall turn my attention more particularly to manuring and improving the quality of my land.

I think every farmer ought to attach great importance to the beauty, order, convenience and systematical arrangement and management of all business of the farm. When these matters are attended to as they should be, the farmer's home is made much more agreeable. His business is a source of pleasure. It invites notice and admiration, not only by the owner, but by visiters. He is pleased with the beauty, order and convenience of all his business. It stimulates him to complete the objects of his pursuits.

When industry and economy are attached to a well regulated system we may expect an abundant supply of such means of subsistence as a farm can afford for man or beast, and a valuable source of pecuniary income, and contentment and happiness, they have a right to claim and expect, so far as this life is concerned.

On the other hand, when a farmer makes his arrangements only for one year at the time, he has neither order, beauty, or convenience attached to his business. He looks only to the profits of his farm, which can only be realized once a year. His mind is kept long in suspense, and he cannot feel that interest in his profession that one does who endeavors to add all the other advantages, and instead of recommending that profession to others, by exhibiting a well regulated, pleasant and profitable business, their example is well calculated to deter others and check a spirit of improvement. I may write again soon. Very respectfully R. W.

Tallahassee, Sept. 1846.

Turpentine.

Mr. CAMAK—An Alabama correspondent of the SOUTHERN CULTIVATOR inquired for information about the Turpentine business. No one has yet answered him. My own inquiries have been directed to the same interest, by a desire to make use of my pine lands in Decatur and Baker, and I had before then been kindly furnished by Mr. MCMILLAN, of North Carolina, with the information contained in this letter. The facts may be of great use to the pine counties. Mr. McM.'s letter is, therefore, at the service of the CULTIVATOR. Yours, &c.

DEAR SIR—I received by the hands of the postmaster at this place, your letter of the 8th inst., wishing information on the subject of getting Turpentine. I take pleasure in communicating the same in answer to your interrogations. I must only give the usual rates and amounts, &c.

A good hand will cut from 60 to 80 boxes per day; will tend from six to ten thousand, which will yield from 175 to 225 barrels per season or year. The barrels usually hold about thirty-three gallons, or weigh, gross, about three hundred and twenty pounds. The barrels usually cost, with us, from 25 to 33 cents each. Our turpentine getters make it from ten to fifteen miles from navigation, which is about as far as it will bear hauling. The same boxes will stand tending or chipping from eight to ten years, which labor is performed by males, both white and slaves—women and children not being very serviceable. The hands who tend turpentine have no time for any other business.

The usual custom with us is to cut the boxes from the 1st of November until the 1st of March, or from the going down of the sap until it rises again. The time of tending is from the 1st of April until the 1st of October, during which time the boxes are filled from three to five times and dipped out.

If, from the foregoing, you think the pines in Georgia will yield Turpentine, and you have any idea of going into the business, you had better employ a young man from North Carolina to superintend for you the first year; at least one accustomed to the business, who can put your hands in the way of making, coopering, &c.

Any further information you may want, or any services I can render you, will, on inquiry, be cheerfully given. Respectfully, yours,

DUGALL MCMILLAN.

Wilmington, April 14, 1846.

WILMINGTON, March 16, 1846.

The stranger who enters North Carolina, either from the North or the South, will be struck with the wilderness appearance it almost everywhere presents. Its sandy, sterile soil offers little to tempt the adventurer or emigrant to settle down, and where there are few people, there is little to interest the sentimental or inquiring traveller.

Passing from the easy, affluent, aristocratic city of Charleston, whose very atmosphere is fragrant of refinement, we come next, in a steamboat journey of one night, to Wilmington, the commercial capital of North Carolina. For this we pay six dollars to the captain, and one dollar for dinner and tea, the distance being about ninety miles. The voyage for the most part is made along shore, with the wild Atlantic dashing upon us.

Wilmington consists of about four streets, at right angles, and about 7000 whites and 3000 colored. It has been peculiarly unfortunate, having had several fires. In many places the black ruins of once stately blocks, are to be seen. The timber used in their buildings, being all charged with turpentine, pitch and rosin, there is no saving a house when once it catches fire. The more water that is thrown upon the burning pile, the more and the higher it blazes away.

The city is built quite down to the water, on the river Cape Fear, which is navigable from the sea to this point (13 miles) for the largest ships. The river stretches its arms away back through the State for three or four hundred miles, until it becomes lost in rivulets in the Tennessee mountains. The river is navigable in some parts of the year for steamboats, as far as Fayetteville, about one hundred and twenty miles back in the interior.

On walking along the banks of the river, one can see scattered down and up many steam saw mills, receiving immense logs from the raftsmen, on one side, and on the other rattling them out in boards, to ships bound to the West Indies, and to the eastern markets. There are to be seen here, some twenty turpentine distilleries, most of them lately set up, and all doing a very profitable business.

This turpentine business has become, within the last two years, a very lucrative one. The boundless forests of fir which cover North Carolina, offer material to the enterprising for a couple of centuries to come. These forests can be purchased for a dollar an acre. Some farms have been sold for ten cents an acre! and the highest I have heard of did not exceed two dollars. The soil yields little or nothing for the food of man or beast, except in the immediate neighborhood of rivers. One may travel an entire day in the stage, without meeting more than one or two farm houses. This remark applies to the region of country from Wilmington to Raleigh, a large breadth of about 200 miles.

Many speculators have lately entered into this turpentine manufacture. One negro man will collect 200 barrels in a season, which will sell for about $800; about $100 will feed and clothe the negro; thus there is a pretty full margin of profit for the capital embarked in the land and negroes. It is better, by far, than cotton raising—many cotton planters are going into it, and the expansion of manufactures and arts, at home and abroad, keeps pace with the increased number of those who are entering into this profitable business.

For the benefit of those who have never been

in a turpentine country, I may describe the process of gathering and distilling this subtle spirit. The trees are cupped in the spring; about eighteen inches square of the bark is peeled off; the cupping is made by one or two cuts of an axe, of a peculiar shape, near the root. In the summer and fall, the turpentine oozes out through this vent. The negro comes round from tree to tree and gathers this oozed matter into his bucket. The trees are continually exuding during the season. The ensuing year they are cut a little higher than before, when a new crop is obtained. The process may be repeated for five or six years, cutting higher up the trunk each year; after which the trees are cut down and chopped into short logs, and are piled together in peculiar heaps, called "kilns," when a slow fire is put under the heap, and thus pitch and tar are obtained from the heated pile.

The fatty matter, or raw turpentine, is packed into barrels, brought to the distilleries, boiled and evaporated in the common way in which spirit is extracted in the alcohol distilleries, the steam, passing through a large worm or refrigerator, which is set in an immense vat of cold water. The surface of the water being hottest, passes off, while the attendant keeps pumping cold water through a pipe that forces it to the bottom, causing the hot water, created on the surface, to pass off. The steam comes out in spirits of turpentine below, and is barreled tightly and sent to all the markets of the world, and the residue is rosin.

North Carolina sends out an immense quantity of Indian corn, staves, turpentine, pitch, tar and rosin, besides which she is beginning to manufacture cotton and woollens, of which I shall further inform you in my next.

A TRAVELLER.

Sumach.

MR. CAMAK:—Recently I have seen in the "SOUTHERN CULTIVATOR," and other papers, Sumach mentioned as an agricultural production that would well pay for cultivating it. This portion of the world seems to be particularly well adapted to its growth, and if it can be made profitably anywhere it ought to be here.

Being entirely ignorant of the manner of cultivation, and its preparation for market, I address the following inquiries to you on the subject:

1st. What is its use?

2d. What kind of soil is best suited to its production, for quantity and quality?

3d. What is the best mode of preparing the land?

4th. At what time should it be planted?

5th. What distance?

6th. Are the seeds or roots used for planting; if both, which is the best?

7th. What is the best variety? Please describe, as well as name it?

8th. What is the process of cultivation?

9th. What is the best time for harvesting?

10th. What the best preparative for market?

11th. Where is a good market for it?

12th. What is it generally worth?

13th. What is considered an average crop to the acre? How much can a hand cultivate and save?

Answers to the above inquiries, and any other information necessary on the subject, will be gladly received by one who wishes well for your paper, and a SUBSCRIBER.

Yalabusha county, Miss., Sept. 10.

Mastodon Cotton.

Mr. CAMAK:—I take the liberty of enclosing you herein a letter from Messrs. Geo. Green & Son of Liverpool to myself, received a short time since, answering some inquiries of mine relative to the character and value of Mastodon cotton in Europe. I consider this letter a matter of great agricultural importance, and have no doubt you will give it a place in your valuable paper.

The small bale of Mr. W. H. Mercer's which the letter speaks of, is one of two bales raised by Dr. Mercer of Adams Co., one of the largest planters in Mississippi, from seed purchased of me. The other bale I saw in New-York last July, and was in quality somewhat inferior I should think to the sample which I enclose herein. All the cotton the letter speaks of was of course ginned on the common saw gins.

It may now, I suppose, be considered as certain, that Mastodon cotton, handled and ginned well, is worth in Liverpool, with our present market, from 16 to 22 cents. The market now here being higher than it was in England at the date of the letter. If there be a remaining question then in regard to the propriety of cultivating the Mastodon cotton, it is this: "Can it be raised?" It has been cultivated the present year in small parcels in Georgia and South Carolina, and I should think, Mr. Editor, that a reply to the above question, from yourself, would be highly acceptable to your readers.

If cotton worth 16 to 20 cents a pound can be raised in any part of the cotton region, with the same expense and labor which now produces an article worth half that sum, it is a matter, I take it, of no little importance; and that such is the fact, I, for my own part, have long since been thoroughly convinced. Yours, very truly, &c.

R. ABBEY.

Boston Plantation, Oct., 1846.

LIVERPOOL, 3d Sept. 1846.

R. Abbey, Esq., Yazoo City, Mi---Sir: We regret that in reply to your favor of Aug. 5th, we can give little satisfactory information as to the uses of Mastodon cotton in our manufactories. Even had a sufficient quantity gone into consumption, which there has not, the manufacturers would carefully conceal the uses to which they put it and its value *to them.*

Of the quality and value of the cotton in our market, we can give a strong and decided opinion. We think its length and strength and silkiness of staple place it next below Sea Island cotton, from which it presents no marked point of difference, when not injured by ginning.—This is a most important point, because saw ginned Sea Island does not rank high in this market, owing to the staple being cut.

The writer believes that he has seen every parcel of Mastodon cotton in the Liverpool market. For some 10d. is asked. We sold two bales, dull in color, at 8d. and a rather large sale was made early in the season at 8½ or 9d. Had we 100 bales of similar quality to the small bale of Mr. W. H. Mercer, we should ask 10d, and we have no doubt a sale might be made readily at 9d. But you must bear in mind that parcels of a bale or two are difficult to place, the buyer making rather a favor of taking them.

The principal points to attend to are, first, fineness, length and comparative strength of staple, which must not be injured by over-ginning or working the gin too fast, which converts valuable cotton into a broken mass of fibres expensive to separate and involving the loss of half the cotton. Next to this a fine pink bloom is desirable, not too much of the cream color, and a degree of oiliness in the quality of the cotton, making the sample silky. These points attained the *cotton would only be inferior to the higher qualities of Sea Islands.* We remain your ob't serv'ts, GEO. GREEN & SON.

Staggers in Hogs.

Mr. CAMAK:—My neighbor, Mr. L. W. Lundy had what we call the "blind staggers" among his fatting hogs last fall. The first that had it was so far gone before he knew it was sick, that it died before he could do anything for it. He kept a sharp lookout on the balance of them, and in a short time found another sick in the same way—prostrate on the ground with its feet stretched out and attempting occasionally to rise, but in the attempt would stagger and fall again, apparently blind. He immediately set about applying a remedy he had heard, which was simply to split the skin two inches on the forehead, and loosen up the skin around the incision and fill it up with fine salt; at least that is the remedy he had heard of, but had forgotten what to fill up with, and applied spirits of turpentine. Three were cured in this way. Salt is the most convenient to apply, and is the thing used by a writer in the Albany Cultivator of 1841, with success.

The case above mentioned is the only one in which I have known this remedy used, and the turpentine gave immediate relief. The salt may do the same. The remedy is always at hand and worth trying at least.

Some of my shoats had the "thumps" last spring. I gave them tar on their corn, and cut off their tails, and some part of their ears to bleed them, and they were soon well. They eat the tarred corn, rather mincing it at first; but give them nothing else to eat, and they will finally eat enough. JARED L. TURNER.

Crackersneck, Ga., Sept. 1846.

An Outline of American System of Vineyards.

MR CAMAK:—

On the same principle as correct planting of fruit trees, Scuppernong vines put, say 20 feet at least apart, and other kinds 10. Trim in summer and fall with an eye to one or two main stems at each intersection, eventually spreading over scaffolding for arbors, unchecked as to length; and all underneath the arbors to be kept clear of weeds, grass or straggling branches, especially in fall ground, so scarified before and after leaves falling that none blow off, but they and trimmings and other litter be incorporated with the soil in lieu of directly manuring the vineyard. Posts with forks or cleets nailed each side of the tops to hold the rails that support, say thin scantling sustaining the branches, are to be inserted 10 feet each way, thus leaving room for passage of team, &c. underneath the canopies.

WINE MAKING.—Grapes mashed, say with a set of rollers such as Mr. W. Herbemont invented, and the juice run through folds of woollen blankets on a frame over a vessel at the side of the press. Then spirits or sugar or both added, and all put into a clean cask fumigated with a sulphur match: a fourth of good spirits, or say at least 2 lbs. of sugar per gallon. Near a fourth of spirits and 1 lb. of sugar per gallon make a safe keeping and very pleasant wine. Scuppernong should never be fermented with the skins, &c. But for red wine it is well to ferment other kinds of grapes a few hours, say 20 or less in hot weather, and then add the keeping ingredients and shake well the cask and contents. S. W.

Agricultural Meetings.

Monroe and Conecuh Agricultural Society.

MR. CAMAK—Herein enclosed, I send you some resolutions passed by the Monroe and Conecuh County Agricultural Society, which, it is the request of the Society, you should have published in the SOUTHERN CULTIVATOR.

JOHN GREEN, Corresp'g Sec.

Burnt Corn, Alabama, Oct. 10, 1846.

Whereas, it has pleased Divine Providence to remove from amongst us COL. ALEX. MCDONALD, of Barbour county, the able advocate of practical and scientific Agriculture, and who caused the barren piney woods to blossom as the rose, and yield abundantly to his skillful culture: And whereas, this Society deem such men as Col. MCDONALD public benefactors, whose services and example should be commemorated; therefore,

Resolved, That this Society sympathize with his bereaved family for their irreparable loss: and, be it further

Resolved, That in the opinion of this Society, the cause of Agriculture has received a severe blow by the demise of so able a writer and successful cultivator.

Resolved, That the Secretary send a copy of these resolves to the Agricultural Society of

Barbour County, of which he was a member, and cause the same to be published in the SOUTHERN CULTIVATOR.

J. WATKINS, President.

J. GREEN, Corresponding Secretary.

Agricultural Meeting in Harris County.

Pursuant to notice, the Farmers' of Harris county, some few excepted, met in Hamilton, on the first Tuesday inst., for the purpose of forming an Agricultural Society.

M. J. Crawford, Esq., was called to the chair, and G. A. B. Slozier to act as Secretary. After an announcement, from the chair, of the object of the meeting, accompanied by a very handsome address which did honor to his intelligent head and patriotic heart, which first moved, we believe, in this worthy object. James N. Ramsay, Esq, sustained his well deserved reputation as a speaker, ready-minded on all occasions, in a forcible speech on the subject of the meeting; followed by Mr. Baker in a chaste and beautiful speech, who was also followed by Dr. Bedell and others, and indeed it was a revival time. Old Harris is sometimes hard to move, but when she does come forth her strides are those of a giant. She has heard of what others are doing, and, peculiarly sensitive in reference to her own importance, has determined to "take the field."

A committee, consisting of Branch Ligon, Robert Simpson, Benjamin Henry, John McGehee and Seaborn Whatley, were appointed to report suitable persons for President and six Vice-Presidents, who retiring, returned for

President, Charlei Kenon.

For Vice-Presidents, M.J Crawford, Toliver Jones, George H. Bryant, F. M. Trammel, Thomas A. Williams, John White.

For Secretaries, G. A. B. Slozier, James N. Ramsay,

Which report the meeting accepted, subject, however, to the next meetings disposal, and to the provisions of a Constitution, for the drafting of which, on motion, the chair appointed a committee of seven, to wit: James N. Ramsay, James R. Henderson, John McGehee, Henry H. Lowe, Henry E. Moss, Branch Ligon and John Brooks.

Resolved, That the proceedings be published in the Columbus papers and Southern Cultivator.

Adjourned to the first Tuesday in November.

M. J. CRAWFORD, President.

G. A. B. SLOZIER, Secretary.

Harris County, October 6, 1846.

Agricultural Meeting in Gwinnett.

LAWRENCEVILLE, Ga., Oct. 6th, 1846.

Pursuant to previous notice a very respectable portion of the citizens of Gwinnett County, met at the court house for the purpose of forming an Agricultural and Horticultural Society. On motion, Dr. Thomas W. Alexander, was called to the Chair, and Z. Norton requested to act as Secretary:

James P. Simmons, Esq., being so requested, explained the object of the meeting in a few appropriate remarks. Whereupon, on motion of J. R. Alexander, Esq., a Committee was appointed to prepare and report to the meeting a Constitution for the Government of such society. That Committee was appointed by the chair, who retired a short time, and on their return reported a Constitution which was taken up by the meeting, read by sections and with some amendments unanimously adopted.

The Constitution was then subscribed by a large portion of those present.

The Society then proceeded to elect its officers for the first year. Whereupon, Dr. T. W. Alexander was elected President, John A. Born, first, and Madison R. Mitchel, second Vice President, James P. Simmons Secretary, and William Knox Treasurer.

The President then, on motion, appointed a Committee, consisting of J. R. Alexander, J. P. Simmons, Vivian Holmes, D. W. Spencer, Burton Cloud, Esqs., with instructions to determine upon what premiums shall be offered at the first annual Fair, and report the same to a meeting of the society to be held at this place on the first Tuesday in November next.

The Society by resolution then requested that the proceedings of this meeting be published in the SOUTHERN CULTIVATOR.

THOS. W. ALEXANDER, *Chairman.*

Z. NORTON, *Secretary.*

The Southern Banner and Southern Whig are requested to copy.

From the Farmers' Cabinet.

Manures for Grape Vines and Fruit Trees.

MR. EDITOR:—A few words if you please on this subject. I am very much disposed to be economical in the use of whatever means I employ for the advancement of wealth and comfort. I dislike, particularly, to see our farmers and horticulturists purchase high-priced and scarce fertilizers, when by using materials which are lying about them, and sometimes going to waste, they might save the cost of their manures, while their crops might not be diminished. This fault, as I consider it, is particularly chargeable upon what are called "book farmers," or those who read agricultural publications. Many of them commence farming with abundant resources, and by throwing away their money for costly fertilizers, and neglecting the means they have on hand, which would cost them comparatively nothing, they waste their capital, get into debt, and finally are obliged to give up farming with injury to themselves and disgrace to scientific agriculture. This should not be. Many farmers have mines of wealth upon their plantations which they never take pains to develope, and, indeed, which they often consider a nuisance.

But to our subject. Grape vines and fruit trees do not need stable manure, nor any other manure prepared by animals. The best manures for them are such as have no more nitrogen than is contained in common vegetable matter. Therefore nothing is better for them than plain rotten wood, hay, sawdust, leaves, chips, shavings, straw, or swamp muck. These, together with lime and ashes—even leached ashes, and anthracite and bituminous coal ashes—will make vines and fruit trees grow large, healthy and highly productive. These manures cost little, can be had almost anywhere, and may be applied at any time.

Those living in the neighborhood of a sawmill, have a fine opportunity of getting a cheap and highly useful article. The sawdust of hard woods, particularly oak and hickory, is the very best manure for grape vines and fruit trees that can be obtained. Scattered over the surface of the ground under the vine or tree, with a due proportion of alkaline substances, it has a most charming effect upon the productiveness of it.

A swamp hole upon a farm might be made almost as valuable as a gold mine. The mud taken out in the fall, and compost made of it with lime, ashes, finely powdered charcoal and plaster, and let lie till spring, with an occasional turning over during the winter, will make a manure cheaper and better than nitrate of potash and many other costly fertilizers. Dug or plowed in among the roots of vines and fruit trees, or even scattered over the surface and under the plants, it would have a very beneficial effect upon the prospects of the fruit raiser. When these cannot be obtained, rotten straw, hay, chips, shavings or leaves, are better than more costly substances.

Therefore when farmers or horticulturists have a swamp, whence they may procure swamp muck, or live near a sawmill where they can obtain the sawdust, and neglect to use these articles, but instead of this, send hundreds of miles for guano, nitrate of potash, silicate of potash, and other costly materials, we should not at all be astonished at numerous failures among them, and the poverty which annoys and hampers them at every turn. If they alone were the losers, I should not so much complain, for I should consider their suffering and loss as a punishment for their folly; but they retard the course of scientific agriculture, and by that means check the progress of mankind in knowledge and happiness.

Excuse this complaining, Mr. Editor, as it is designed for good, and for that only.

CHEMICO.

From the Ohio Cultivator.

Agricultural College at Mount Airy.

We informed our readers, some time since, of the announcement in the Philadelphia and other papers, that Mr. Gowen, of Mount Airy, near Philadelphia had purchased the Mount Airy College property adjoining his fine estate, with the view to the establishment of an institution for the instruction of youth, in theoretical and practical agriculture, including horticulture, upon the most approved principles of enlightened experience and rational science. The deep interest we feel in the advancement of these great and interesting pursuits led us to make inquiry of Mr. Gowen respecting the prospect there was of such a noble enterprise being commenced, and we are happy to inform our readers that there is a fair prospect of the institution being opened next spring, should proper encouragement be afforded, and the health of Mr. Gowen, which for some time past has been delicate, permit him to bestow such personal supervision as would be required from his position as patron of the institution.

We cannot but regard one of the contingencies on which the opening of the college depends, as not very serious, namely, the assurance of sufficient patronage; for what farmer of the West, or planter of the South, is there who would not rejoice at an opportunity of having a son educated at a college where, in addition to a scholastic education befitting a gentleman, he would be qualified for conducting, in the most efficient and economical plan, every species of agricultural husbandry? The state of Mr. Gowen's health, we think, is more to be feared as interfering with his noble design than the want of patronage; but we are happy to learn that a marked improvement in his health has taken place within a short time, and that there is a fair prospect of its complete restoration.

In relation to the plan of this Agricultural College, Mr. Gowen informs us that all the details have not yet been determined on; but his design is to employ the ablest talent in the country as professors, and to make the course of academic instructions as liberal as that of any colleges in our land, for those who choose to avail themselves of a thorough classical education; while the students will be thoroughly grounded in practical mathematics, mechanics, natural philosophy, &c., and withal imbued with a love of Rural Life, and habituated in mind and body to its delightful pursuits.

The graduate of this college will not be the sickly and attenuated Book Worm merely, but the vigorous and intelligent Country Gentleman. Who is there that has given the least attention to the subject, is not convinced of the imperative necessity that exists for a radical reform in our systems of college education? And who is there that wishes well of his race and his country, that does not say God speed to this praiseworthy effort at the commencement of such a reform? We shall hail the opening of the Mount Airy College as an auspicious era in the history of our country, and the harbinger of great good, especially to the cause of agriculture.

We could say much more in favor of this glorious opening for the rising generation, and especially of the admirable fitness of the man and the place for the proposed institution; but we forbear for the present. In the meantime, we submit the matter for the consideration of parents who value the health, happiness and prosperity of their sons; and, also, to young men of spirit and enterprise, who wish to become thoroughly fitted for a position among the real nobility of our land. We should be grati-

fied to learn that Ohio, our great and growing agricultural State, would furnish her proportion of students, should the college go into operation; and this, we feel confident, will be the case, for two or three have already been reported to us as ready to enter as soon as it is opened.

We would suggest that those desiring to send their sons, or to obtain further information on the subject, would do well to write directly to Mr. Gowen. His address is JAMES GOWEN, (Mt. Airy,) Philadelphia, Pa.

☞***Agricultural editors, and others, friendly to the cause, can aid Mr. Gowen in his laudable enterprise, by making his intentions known to their readers.

From the Cyclopædia of Domestic Economy.

Ventilation.

Good ventilation is nowhere more important, although nowhere more neglected than in our bed-chambers. The bad effect of sleeping in small and close rooms has been often mentioned; to which we may likewise add, that of having thick curtains drawn close round the bed, which confine the air that has been exhaled, surrounding us with an impure atmosphere. Provision should be made for a continual change of air in the apartment during the night, by the escape of the heated and foul air and the introduction of cool and fresh air. The first may be effected by some aperture at the top of the room; perhaps keeping the top sash open for about an inch may be sufficient: of course care must be taken that the fresh air brought in at the top of the room, shall not act as a draught striking upon the bed, but that it enters by small apertures, and diffuses itself as quickly as possible, and likewise that there may be the means of regulating the quantity according to circumstances. If the temperature of the fresh air can be regulated it will be better.

A little apparatus for ventilating a bed chamber in the night, invented by Marquis de Chabannes, though not very effectual for a large room, is perhaps worth mentioning for a small one. It consists of a little box, or enclosure of tin or other metal, having an opening in front, in which may be placed a small lamp. The upper part or flue is to be inserted in the wall on the chimney breast and is to go quite into the flue of the chimney. The air which the lamp requires for combustion will thus pass into the flue occasioning fresh air to rush into the room to supply its place. This machine is in fact a little chimney, in which the lamp is the fire. It should be placed near the top of the room.

It is highly deserving of attention, that although we never use fires without flues, yet we very absurdly have long continued to burn lamps of considerable size, which are in fact, so many fires, in the middle of our apartments, even when small, without the least attempt to carry off the burnt air which they are constantly generating. No wonder then, that the air, in such places, is often felt to be oppressive: it is, indeed, extremely unwholesome.

From the Albany Cultivator.

Importance of Well Directed Labor.

"What great effect from little causes spring,
What wealth does labor well directed bring."

A single stroke of an axe is of little consequence; yet by the continual application of that small power, properly directed, what amazing effects are produced! The sturdy oak and lofty pine do not simply own its power, but whole forests fall before it, and the wilderness becomes a garden.

Industry well directed, will give a man a competency in a few years. The greatest industry misapplied is useless.

As an example, there is my neighbor, Seth Steady, the Blacksmith, is not only an industrious man, but his industry applied to one object. His hammer is heard at dawn of day, and the fire blazes in his shop during the evenings, from the 20th of September to the 20th of March. Go to his shop at any time of the day for any kind of work, you are sure to be waited upon. The consequence is, his purse is filled with dollars, and his cellars well filled with provisions, and that's what I call quite comfortable. Although suitably liberal, and enjoying the good things of life as he goes on, ten years of health will enable him to purchase a good farm.

As a contrast, there is my friend Nat. Notional, the busiest and most industrious mortal in existence; as the old saying is, "he has too many irons in the fire," and with all his industry he goes behind-hand.

He has a fine farm, but instead of pursuing the cultivation of it, he flies and seizes on every new project that occurs.

A few years ago he concluded to give up the dairy business, in consequence of the low price of butter and cheese; sold his cows at a low figure, and purchased sheep at a high rate, for wool then commanded a high price. By the time he got fairly into the raising of wool, down went the price of wool, and up went the price of butter and cheese. He then sold his sheep and purchased cows again, for cheese was up, and wool was down. Last year, after sowing a number of acres of grain, he resolved to rent his farm, sell the grain on the ground, buy a team and go to hauling; for, by a nice calculation, he had proved that money might be made by it. A team was procured; but after one or two trips, he concluded to sell his team, build a saw-mill, and go largely into lumbering. The dam was completed, the irons procured, and three-fourths of the expense incurred, when by a nice calculation, (for no one makes *nicer* calculations,) he found that an oil-mill would afford the best profit; and to work he went with great industry, building an oil mill.

I happened to go there a few weeks afterwards, and the whole organization of the mill was undergoing an alteration, to fit it up for a cotton and woollen manufactory.

A quizzical friend intends to propose to him to abandon that project and enter largely into the manufacture of flour, and I have no doubt that he will readily accede to the proposal.

So with all his industry and expense, he is neither benefiting himself nor the public.

THE DEW.—The theory of the dew is interesting to all the admirers of nature, and illustrates in a striking manner the beautiful economy of the operations of her system. Professor Johnson, in his agricultural chemistry, remarks, that:—The dew is celebrated at all times and in every tongue for its sweet influence; it presents the most beautiful and striking illustration of the economy of nature and exhibits one of the wise and bountiful adaptations, by which the whole system of things, animate and inanimate, is fitted and bound together. All bodies on the surface of the earth radiate or throw out rays of heat, in straight lines —every warmer body to every colder—and the entire surface itself is continually sending rays upward through the clear air into free space. Thus on the earth's surface all bodies strive, as it were, after an equal temperature, (an equilibrium of heat,) while the surface as a whole tends generally towards a cooler state. But while the sun shines this cooling will not take place, for the earth then receives in general more heat than it gives off; and if the clear sky be shut out by a canopy of clouds, these will arrest and again prevent it from being speedily dissipated. At night, then, when the sun is absent, the earth will cool the most; on clear nights, also, more than when cloudy, and when clouds only partially obscure the sky, those parts will become the coolest which look towards the clearest portions of the heavens.

Now when the surface cools, the air in contact must cool also, and like the warm currents on the mountain side, must forsake a portion of the watery vapor it has hitherto retained. This water, like that floating mist on the hills, descends in particles almost infinitely minute. These particles collect upon every leaflet, and suspend themselves from every blade of grass in drops of "pearly dew." And mark here a beautiful adaptation. Different substances are endowed with the property of radiating their own heat, and thus becoming cool with different degrees of rapidity; and these substances, which, in the air, become cool at first, also attract first, and most abundantly, the particles of falling dew.—*Ex. Paper.*

PROPER SOIL FOR THE ROSE.—The proper soil for the Rose is strong rich loam, and well decomposed vegetable mould, or cow-dung or horse dung; but as we are too often already provided with the kind of soil we are obliged to use, and the garden and situations for our Roses are generally ready made, all we must do is to modify and supply the deficiency, if any, as well as we can. If the soil be light, holes must be dug, and loam and dung forked in at the bottom of the hole, as well as the hole be filled up with the same mixture; for troublesome as this may be, it is the only way to secure a good growth and bloom, and it is next to useless to plant roses in poor light soil without this precaution. Kitchen gardens well kept up will always grow the Rose well, and unless the soil be very poor and very light a good spadeful of rotten dung mixed with the soil where the Rose is planted, will answer all the purpose. Among the evils of poor soil for the Rose, it is not the least, that it frequently makes the flower that would otherwise be double come single or semi-double, so as to destroy all the identity of the variety by its bloom; and although many thousands of roses not worth a penny have been sent out, many others which did not deserve it have been condemned, because the party who was growing them knew nothing about their cultivation, and starved them into a false character. As however it is difficult to give the Rose too rich a soil, it may be as well even if you think it good enough, to work in a moderate load of dung with it; for it will do no harm, even if the state of the ground be ever so good. We have no doubt that the Rose would flourish in rotten turfs, and when they are to be grown in pots it is practicable to give them this invaluable stuff to grow in; but unless it be a recently turned-up pasture, there is nothing approximating to it out of doors, and even this is far less supplied with the rotted grass, than when turfs are cut thin to rot for use. As a general principle, then, it may be laid down that the Rose requires rich soil, and that if you have it not you must change the nature of what you have by means of dung, or loam, or both.—*Farmer and Mechanic.*

WEEDS.—A very common instance of neglect in the fall of the year, and through the middle and latter part of summer, is the omission of the continued destruction of weeds. Corn, potatoes, ruta bagas, carrots, and other hoed crops, usually receive one or two good dressings with the hoe and cultivator early in the season, and are afterwards neglected. How many fields of corn, exhibit in autumn, when the crop is cut up and cleared off, a smooth, clean surface, like a newly plowed field, as they ought to? instead of which, we far more frequently see half a ton of luxuriant weeds to the acre.

The old saying is, "one year's seeding will make five years' weeding." But there is another reason why weeds should never be suffered to go to seed. The exhaustion caused by growing vegetables, which are destroyed on the surface and not buried in the soil, every one knows; but the exhaustion produced by the *formation* and *ripening of seed*, is not so well appreciated. It has been justly remarked, that it requires more strength of soil to form the half ounce of seed on a single plant of the turnip, than to grow the large succulent bulb in the ground, though weighing fifteen pounds. Hence the great importance of never allowing a crop of weeds to draw the life from the soil in ripening a crop of seed.

The importance of cutting up and destroying weeds when only an inch high, before they have shaded and stunted the young crop, and when

the work can be done with one-tenth of the labor subsequently required, needs no reasoning to show its policy. The advantage of keeping the soil *entirely free* from the seeds of weeds, so that the necessary stirring of the surface may be entirely performed by the plow and cultivator, instead of by hand, is equally obvious.—*Albany Cultivator.*

PROSPECTUS

OF THE FIFTH VOLUME OF THE

SOUTHERN CULTIVATOR,

A MONTHLY JOURNAL,

Devoted to the Improvement of Southern Agriculture.

Edited by JAMES CAMAK, of Athens.

FRIENDS OF AGRICULTURE! We submit to you the Prospectus of the FIFTH VOLUME of the SOUTHERN CULTIVATOR, relying upon the interest each and every one of you feel in its behalf for that aid necessary to its support. We therefore appeal to every man interested in the success of Southern Agriculture, (and who is not?) to use some exertion with their friends and neighbors to extend its circulation. In short, subscribe yourselves, and persuade as many of your friends as you can to do likewise.

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Augusta, November, 1846.

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JULY.

Days Mo.	Barometer. Sun-rise.	Barometer. 3 o'lk p.m.	Thermometer. Sun rise	Thermometer. 3'ok p.m	Clearness of sky. Sun rise.	Clearness of sky. 3o'k p.m	Course of wind. Sun rise	Course of wind. 3o'k p.m	Rain in inches.
1	29·18	29·18	70	85	6	6	w. 3	w 5	
2	·19	·21	73	86	6	5	w. 1	w 5	
3	·24	·30	73	87	9	9	w. 1	w 5	
4	·31	·35	74	83	7	2	sw2	sw5	
5	·34	·30	76	77	0	0	s. 1	se 3	3·85
6	·26	·27	74	81	10	6	ne,3	w 2	·75
7	·27	·33	73	84	8	5	w. 2	sw2	·01
8	·32	·33	73	88	9	8	n. 1	0	
9	·31	·36	75	88	8	7	0	n. 2	
10	·37	·43	72	88	10	8	n. 1	w. 1	
11	·45	·44	73	88	10	6	n. 1	sw1	
12	·42	·39	73	87	10	6	n. 1	sw1	
13	·39	·38	76	85	9	2	0	sw2	
14	·39	·38	75	88	7	4	0	w. 3	
15	·40	·46	75	76	0	1	ne.4	ne.3	
16	·43	·43	68	78	1	2	ne.1	se.3	·21
17	·44	·49	63	70	0	1	ne.4	e. 4	
18	·53	·50	62	65	0	0	ne.3	n. 3	·11
19	·44	·38	67	75	0	5	0	w. 2	
20	·36	·36	64	71	0	4	e. 2	sw2	
21	·36	·38	62	80	5	2	e. 2	0	
22	·40	·43	64	85	4	5	0	w. 2	
23	·39	·39	70	87	9	6	sw1	sw3	
24	·38	·29	73	89	9	5	sw1	sw4	
25	·39	·39	72	90	10	5	0	ne.1	
26	·43	·44	74	87	5	5	ne.1	w. 2	
27	·43	·43	74	78	0	3	se 1	w. 2	·32
28	·48	·43	71	83	8	4	0	ne.1	
29	·43	·41	75	84	3	5	w. 1	sw2	·31
30	·41	·40	75	85	6	5	0	sw2	·02
31	·38	·35	72	77	8	0	w. 1	sw3	·12
	29·37	29·37	71	82	average,		Tot'l	rain	5·70

AUGUST.

Days Mo.	Barometer. Sun-rise.	Barometer. 3 o'lk p.m.	Thermometer. Sun rise	Thermometer. 3'ok p.m	Clearness of sky. Sun rise.	Clearness of sky. 3o'k p.m	Course of wind. Sun rise	Course of wind. 3o'k p.m	Rain in inches.
1	29·37	29·36	72	86	0	2	0	ne.2	·02
2	·37	·38	71	82	0	4	se·2	ne.3	·07
3	·39	·50	71	76	0	0	ne.4	ne,2	
4	·50	·49	72	82	0	5	ne.2	w·1	·11
5	·48	·44	70	84	6	5	ne.1	w·2	·02
6	·43	·44	74	81	0	0	ne.3	se·2	·06
7	·44	·46	74	85	3	1	0	se·1	·04
8	·47	·46	74	86	0	5	0	se·2	
9	·45	·42	72	88	10	6	sw1	sw2	
10	·43	·35	75	78	7	0	sw1	sw3	·57
11	·34	·36	72	84	0	5	e. 1	sw2	
12	·35	·43	68	85	9	4	ne.1	ne 2	
13	·43	·43	68	88	7	2	0	sw2	
14	·43	·42	71	88	10	5	0	sw1	
15	·43	·42	73	87	7	5	0	s· 2	
16	·42	·37	69	80	4	0	n· 1	sw2	
17	·37	·37	73	84	0	4	sw2	sw3	·25
18	·36	·37	76	87	0	5	0	sw4	
19	·38	·43	78	86	1	0	sw1	e· 2	
20	·43	·45	73	86	7	3	n· 1	se 2	
21	·44	·42	72	89	7	7	0	sw2	
22	·43	·41	74	89	8	8	s· 1	s· 2	
23	·41	·37	76	84	6	3	sw2	n· 3	·92
24	·35	·35	74	79	0	0	0	e· 1	1·02
25	·35	·36	72	77	0	0	e· 1	n· 1	·03
26	·38	·44	72	82	0	5	0	w·1	
27	·43	·47	71	83	8	5	se·1	0	
28	·47	·48	71	84	0	1	se·1	sw2	·01
29	·46	·44	61	83	7	4	0	0	
30	·45	·44	70	83	2	4	n· 1	se 1	
31	·45	·44	71	84	0	5	0	e· 1	
	29·42	29·42	72	84	average.		Tot'l	rain	3·12

SEPTEMBER.

Days Mo.	Barometer. Sun-rise.	Barometer. 3 o'lk p.m.	Thermometer. Sun rise	Thermometer. 3o'k p.m	Clearness of sky. Sun rise.	Clearness of sky. 3o'k p.m	Course of wind. Sun rise	Course of wind. 3o'k p.m	Rain in inches.
1	29·45	29·45	70	84	2	1	0	0	
2	·45	·44	72	84	8	5	ne 2	0	
3	·44	·44	76	84	0	3	e· 1	sw1	
4	·38	·39	74	84	0	4	se·1	s· 2	
5	·42	·45	74	86	0	5	ne 1	ne 4	
6	·49	·49	74	84	0	1	e· 2	e· 2	·31
7	·49	·46	73	84	0	5	e· 1	e· 2	
8	·43	·43	70	86	9	4	0	se·1	
9	·39	·38	73	87	6	8	ne 1	ne 3	·19
10	·43	·48	76	75	0	0	e· 1	e· 4	·26
11	·55	·53	68	80	0	5	e· 1	w 1	·20
12	·49	·45	71	85	10	5	0	sw1	
13	·45	·45	71	87	10	7	n· 1	0	
14	·45	·44	68	84	10	10	n· 1	s· 1	
15	·44	·39	68	87	10	10	ne 2	0	
16	·39	·39	74	76	10	0	e· 1	ne 4	
17	·40	·39	67	79	0	5	ne 2	w 2	
18	·32	·31	72	78	9	9	s· 2	sw2	
19	·33	·33	61	78	7	6	n· 1	sw2	
20	·48	·48	67	77	2	5	ne 3	w 1	
21	·49	·49	61	81	10	10	n· 1	0	
22	·46	·47	63	84	10	5	n· 1	ne 1	
23	·48	·48	61	84	7	5	n· 1	s· 2	
24	·48	·47	61	83	6	4	n· 1	e· 2	
25	·45	·43	63	83	9	5	n· 1	0	
26	·32	·32	61	83	8	4	ne 1	e· 2	
27	·33	·33	68	73	0	3	ne 4	ne 4	·05
28	·41	·45	49	72	8	9	n· 2	ne 2	
29	·51	·50	48	74	9	9	n· 3	ne 2	
30	·46	·45	55	76	6	8	0	w 1	
	29·43	29·42	67	81	average.		Tot'l	rain	1·01

RAIN TABLE

With reference to the changes of the Moon.

	Day of change.	1st day after ch'ge.	2d day after ch'ge.	3d day after ch'ge.	4th day after ch'ge.	5th day after ch'ge.	6th day after ch'ge.	7th day after ch'ge.	Total.
Am't of rain for each day of the age of the moon in 1845 and 1846......	4·95	8·23	10·55	12·18	14·76	6·49	5·47	1·66	64·29
Amt omitting light and short sh'wrs.	4·65	7·95	10·47	12·01	14·69	6·35	5·10	1·35	62·57
No. of days on which there was rain	16	26	20	26	27	23	19	13	170
Number omitting showers..........	9	17	18	20	23	18	11	5	121
No. of days on which the rain began	13	21	17	20	23	14	16	11	135
Number omitting showers..........	6	12	15	14	19	9	8	3	86

COMPARATIVE TABLE.

	1846.	1845.
Amount of rain in July..............inches,	5·70	3·60
" " August..................	3·12	·74
" " September..............	1·01	·58
" " nine months............	——36·92	——12·85
Average temperature in July.......deg.	77	82
" " August.........	79	78
" " September.....	74	74
" " nine months ...	——65	——66
Average Barometer in July.......inches.	29·37	29·33
" " August...........	29·42	29·36
" " September.......	29·44	29·36
" " nine months......	——29·33	——29·38

The Southern Cultivator

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SOUTHERN CULTIVATOR.

VOL. IV. AUGUSTA, GA., DECEMBER, 1846. No. 12.

Monthly Calendar.

Altered from the American Agriculturist's Almanac for 1841, and arranged to suit the Southern States.

CALENDAR FOR DECEMBER.

[The following brief hints to the farmer, planter and gardener, will be found to apply not only to the month under which they are arranged, but, owing to diversity of seasons, climate and soils, they may frequently answer for other months This precaution the considerate agriculturist will not fail to notice and apply in all cases where his judgment and experience may dictate.]

Settle all your accounts, collect what is due you, and pay what you owe. "Short settlements make long friends." Examine your farm statistics and see what have been the results of your experiments with the different kinds of manures, seeds, modes of tillage, &c. &c., and note them well for future use. No farmer ought to be without such a book, in which all experiments should be carefully recorded at the time, and the results carried into a separate book for his own use hereafter; and if new and valuable discoveries are obtained, communicate them to some agricultural periodical for the benefit of the world. Recollect, you have the experience of thousands to guide your operations, and, by contributing to the general stock whatever may be useful, you are but returning to mankind a part of the benefits you have derived from them. But avoid twaddle and humbuggery, and oft published statements, and prolix or tedious narration, and give all the circumstances material to the subjects, in the briefest, plainest, simplest language possible. Above all things send in your subscription to one or more valuable agricultural papers, and get as many of your neighbors to subscribe as possible, and consider in so doing, you are benefitting yourself by it ten times as much as you are the publishers. Summer is peculiarly the time for making observations and experiments and winter the time for communicating them. *Remember the poor*, not only in this month but every month through the year, and especially during the inclemency of winter. You need not give so much to them outright, but endeavor to put them in a way of making themselves comfortable, by affording them employment, by which, you may be benefitted, while doing them good. You thus confer on them a triple benefit, by furnishing them the means of comfortable subsistence, teaching them to help themselves, and avoiding the habit of receiving *charity*, which insensibly weakens their sense of self-dependence.

Stock now require increased attention. They must be well housed, or at least protected against wind, with a shelter to which they can resort in storms, well supplied with salt, and abundance of water if possible in the yard, where they can get it when they want, and without wearying themselves in looking for it, and wasting their manure by dropping it in the road, or by a running stream or pond where it will all be lost. Their feed should be regular, and given to them as near stated times as possible. They look for their food then at certain hours, and are not uneasy and fretful till the customary period arrives, and rest quietly, digesting their food till it is time to look for another supply. If brought up in regular habits brutes are much better than many are disposed to consider them, who have not observed closely their intelligence. Now is a good time to break steers and colts, while the roads are smooth and hard. They ought to be early accustomed to handling and the halter, and be gently treated, by which they are more disposed to yield to the wishes of their master. If they have been always used to good treatment, they will acquire a confidence in their keepers, and the more readily submit to their guidance. 'Tis always better to train them with strong, well broken animals. Sympathy has more to do with the brute creation than they have credit for generally, and the good habits and orderly behavior of the older animals, they have been accustomed to treat with deference, will not be without its wholesome effect on them.

This is the best month for spreading out hemp for dew-rotting, in the latitudes below 40°, as it gets a whiter and better rot than if spread earlier.

Kitchen Garden.—Every fine day uncover the frames in which are lettuce and cauliflower plants, otherwise they will become spindling from want of air. Hot beds can now be made for forcing asparagus for the table in January. If the ground is open continue trenching for spring crops. When the ground is frozen cart manure, repair fences, clean seeds, prepare tools for spring. Provide pea sticks, bean poles, &c., and finish all that will be required in the spring, and which can be done when the ground is frozen.

Fruit Garden and Orchard.— Finish those things which may have been omitted the previous month. If the weather continues open digging and plowing may be done advantageously. Perform any work that may tend to forward your business in the spring.

Flower Garden and Pleasure Grounds.—Continue to protect your beds of bulbs and also flower beds and shrubs as directed in last month. Should the weather continue open in the early part of this month, bulbs may still be planted. They should not be left as late as this, but if such has been the case they had better be planted now than left until spring. Now carefully protect seedling bulbs. The more tender kinds of trees can have their roots protected from frost by laying manure or long litter about them.

Plantation.—The closing month of the year is one in which every agriculturist should take an interest, and for many useful hints we will refer the reader to the Calendar for the previous months

Cotton picking will probably occupy this month until Christmas, when this business will have been completed, if the culture has been well managed and the season favorable. It would be well to start your plows and break up ground for corn; let nothing but cotton prevent — not even cleaning; for plowing is only one job; yet, if done soon it is generally advantageous, and if bad weather should set in, when it must be done, time will be lost and a drawback ensue, whereas by plowing in time cleaning can be done later.

In weather not employed about other labor more important, manure and trim all kinds of vines and fruit trees except the orange tribe. Transplant evergreens and other trees, sweet briers, honey-suckles, jasmines, &c.; sow late peas and beans, and set out onions for seed; set all hands at work in cleaning up for other crops, picking up limbs, grubbing, cleaning up hollows, sides of bayous, cutting down corn stalks with hoes, gathering materials for making manure, &c. &c.

If you do not live in the immediate vicinity, say five or six miles, from a sugar plantation, by all means keep bees. This can be rendered one of the most productive branches of business of the day. Procure a few swarms at first and they will soon multiply to any extent required. Use sections of hollow logs four or five feet long for hives, if you have no other more convenient materials to make them of, and allow the bees to work over the honey a second time, that you may avoid the injurious effects of eating honey which may have been gathered from poisonous flowers. If the above named class of hives be used, there will be no necessity for killing the bees; for when the hives are filled with honey they can be removed without harm from the end opposite to that in which the bees are at work, and they will immediately go to work and fill the vacancy. In most parts of the Southern States bees may be kept at work during the winter. If there are no flowers for them they can be made to work over the bad honey collected the season before.

This is also a busy month for the sugar-planter. He will be active in cutting and carting his cane with all possible dispatch, and he should employ one or more practical and intelligent men to conduct the operations of the mill. In the manufacture of sugar, we know of no better method than that given by Professor Mayes in a letter to Hon. H. L. Ellsworth, from which we make the following extract:

1st. To cut the cane as ripe as possible, but before any acetic acid is formed; litmus paper, touched to the fresh cut cane will turn red if acid.

2nd. Express the juice without loss of time, as every moment after cutting will deteriorate its quality.

3d. A small quantity of clear lime-water, say one quart to a hundred gallons of juice, should be added the moment it is expressed, unless the juice shows acidity with litmus paper; in that case, no lime should be used, but a solution of sal soda or soda ash should be added until it is precisely neutral.

4th. When the juice is neutral, free from excess of acid or alkali, it should be evaporated in such an apparatus as would finish its charge in 30 minutes; if the boiling power is too small good crystalization cannot possibly be obtained.

The whole time occupied from the cutting of the cane to finishing its boiling should not exceed one hour.

5th. To know when the boiling is finished place a thermometer in the kettle, and continue to evaporate until it stands at 239° Fahrenheit. If, when placed to run off after cooling it should be found too freely boiled, the next time boil to 240° or, if too light to run off, to 238° and so on.

6th. The kettle or boiler should be so arranged that the moment it is done its charge should be thrown into a cooler capable of holding a number of charges. The first charge should be left in the cooler without stirring, until the second charge is thrown in, then with an oar scrape the crystals found on the side and bottom of the cooler loose, and gently stir the whole mass together: the less stirred the better; so continue at the letting in of each charge to stir gently; and when all is in the cooler let the whole stand until it cools down to 175°, then fill out into su-

gar moulds of a capacity not less than 14 gallons. When cooled in the mould sufficiently, say fourteen hours, pull the plug out of the bottom of the mould and insert a sharp point nearly as large as the hole, some six inches; withdraw the point and stand the mould on a pot to drip.

7th. If the sugar is intended to be brown, leaving it standing on the pot for a sufficient length of time in a temperature of 80°, will run off its molasses and leave it in a merchantable shape; it will probably require twenty days. It can then be thrown out of the moulds and will be fit for use. When moulds cannot be obtained conical vessels of wood or metal, with a hole at the apex, will answer equally well.

Conclusion.—At the close of the year many persons employ themselves in reviewing the events of the past—their acquirements—their well or ill-spent days, or their hours of idleness or inattention. Good resolutions for the future guidance naturally follow, and to such, kind reader, we most heartily join our warmest wishes for permanent success, trusting that each of you who thus have resolved, may go on, adding "flower to flower and knowledge to knowledge," until you blossom in the garden where no good resolutions are blasted, and where no flowers either wither or fade. So until January, 1847, we bid the planter and farmer FAREWELL.

From the Journal of Commerce.

Wool.

The annexed article, by Hamilton Gay, Esq., on the growth, preparation, packing, &c., of American Wool for the English market, contains information which will be valuable both to the farmer and merchant. It was elicited by the following note, dated

NEW YORK, May 16, 1846.

Dear Sir:—You have been engaged for the year past in exporting American wools to various markets in Great Britain, and must have acquired much valuable information respecting the manner in which our wools should be prepared for those markets. Such information is much wanted by our farmers and wool dealers; for it is evident that wool is to be henceforth an important article of exportation from the United States. Allow us, then, to inquire, whether you will not do us the favor to write out your impressions for the Journal of Commerce.

We are, sir, your ob't servants,

HALE & HALLOCK.

Hamilton Gay, Esq, 53 South-st.

NEW YORK, May 16, 1846.

MESSRS. HALE & HALLOCK:—*Dear Sirs*—I have your favor of this day's date. Such information as I can give on the subject of your inquiry, is at your service for the benefit of those interested.

More than one-half of all the American fleece wool exported from the United States, of the last year's clip, was owned and shipped by myself and by others having a joint interest with me. The purchases were all made at the lowest point of the season, beginning on the 1st day of September, and closing on the 25th day of October last. The result has been a nett loss of $5,993, and 188 bales of wool yet unsold; equal only to the fraction of a penny sterling on each pound. Not a fleece of the wool was sold to meet the payment of drafts drawn against it, nor was any portion of it unduly pressed upon the market—and this loss arose from causes unnecessary, easily avoided, and entirely within the control of parties in this country.

The prices of United States fleece wool are affected very injuriously in foreign markets by its unclean condition. It contains too much oil, and yolk, and dirt. The sheep are generally washed with too little care, and run too long after washing before shearing. A large portion of the wool, from this cause, must pass through the hands of those who sort it and scour it in soap and water, before it is sold to the manufacturers.

The wool itself is of superior staple, and while upon the sheep is inferior to no other in the world, of equal grade; and it may be safely stated, that every pound of oil, or other worthless substance, will, in the English markets, deduct from the value of the wool containing it, the price at least of two pounds of wool. English manufacturers and samplers, before purchasing, open a portion of the fleeces, and examine carefully, not only the fineness, but also the strength of the staple, and its condition throughout.

The first important operation in preparing our fleece wool for export, is to properly cleanse it before shearing. The sheep should be washed in clear running water—the water must run freely through every part of the fleece, and the wool and every part of it should be pressed and worked with the hand while under water, until the dirt and oil are removed, and *the water runs off clear*. The shearing should then take place as soon as the sheep become dry after washing.*

Then comes the tying up of the fleeces.

All the loose locks, clippings and tags, and everything unclean, or of an inferior quality, and the coarse wool from the thighs, if there be any, should be *wholly rejected*, and the fleeces tied up firmly, so as to keep their shape, and show, as is customary, the best part of the fleece on the outside.

This terminates the wool-grower's part; but I will here remark, that sheep should be kept as nearly as possible in uniformly good health and flesh, because every portion of the staple or fibre of the wool which grows while the sheep are very poor from disease or want of food, has so little strength as to break in working; and if this weak growth takes place in the fall of the year, it destroys the fleece for many purposes.

The next step is to properly sort and sack the fleeces, and direct them to the best market. This is the merchant's part, and more than a shipper's profit depends upon its being performed understandingly.

In England each manufacturer devotes his attention to one particular description of goods for which his machinery has been constructed, and he makes no other. The makers of each kind of goods have established themselves mostly together in some one part of the kingdom, where they have a wool market of their own, in which they seek for the qualities and descriptions suitable for their purpose, and will buy no other. The broadcloth makers in the west of England, the Worsted Combers of Yorkshire, the flannel manufacturers of Rochedale, and those who make hosiery in Nottingham, purchase in their several markets a supply suitable only for their own machinery. So nice does this discrimination run, that the fleeces of fine wool, taken from sheep one year old which were never before shorn, are mostly sent to one part of the country, and there sold to be used for one purpose, and the fleeces taken from the same sheep the next year, are sent to another part of the country and there wrought into a very different kind of goods. Thus it is of great importance that *fleece* wool for shipment, before it goes on board, should be sorted and sacked according to the grades of foreign manufacturers, and suitable for their purposes, in order that it may be sold *directly* to them—otherwise, even if clean and in good order, it must pass first through other hands, that re-sort it, re-sack it, and distribute it to various parts of the kingdom at considerable expense.

The size of the bales is the next thing to be kept in view. I have paid on large shipments as high as one dollar *per bale* for "Dock Dues," without reference to the size of the bales; while at some ports the charge is less than one-tenth part of this sum.

Custom in England gives the purchaser an allowance on each bale called "the draft;" but the amount thus given varies at the different markets. I have other accounts of sales in which only one pound weight per bale is deducted for "the draft." I have other accounts of sales made in different places, in which 2 lbs., and 3 lbs., and 4 lbs., and even 8 lbs. per bale is deducted for "the draft," without reference to the size of the bale. This may seem unreasonable, but it is established by the ancient usage of the different markets, and must be complied with. The bales should therefore be of a size suited to their destination, but not too large, else they will not be lifted, but rolled over the docks and streets. Each sack should be firmly packed by a man inside, but never pressed by machinery, and every fleece of weak staple carefully rejected, and those fleeces packed by themselves.

The shipment then requires some attention.

The wool should be placed on board dry, with the sacking whole and clean, and should always be sent as light freight in the upper part of the vessel. Our wool contains too much oil and gummy matter to be placed low in the ship, with heavy weights pressing upon it, without being in some degree injured by matting together.

This closes the part of the American merchant.

In illustration, I will remark that I have had two invoices of wool sold in England at the same price, in the same place, and within three days of each other, whose value in this country differed ten cents per pound on the day of their purchase, or any other day since. The one kind answered the market, the other did not, but was greatly superior in fineness of fibre.

My own clip of wool, grown upon my own lands, and cut last June, and which I know all about, I shipped to England in one vessel, and consigned it in two equal quantities, of equal quality, to two different markets, about 200 miles distant from each other, and they were sold near the same time, by direction of the same house, and after full and fair exposure in both markets, at a difference of more than 7 cents per pound in price. Its quality and condition were very superior, and just suited to the one market and not to the other.

Within the past year I have sent more or less wool to every part of England, and to Wales, and to Scotland, comprising the various qualities grown in Illinois, Michigan, Ohio, Pennsylvania, New York and Vermont. Nearly every invoice was accompanied with an intimation that "it was not sent so much with a view to profit as to try their market, and hoping to receive in return suitable directions or suggestions for a better method of preparing and shipping such wools to England." The result has been a voluminous correspondence, giving ample details, and all the particulars required. It is from this correspondence and the results of those actual sales, as well as from personal observation and information, that I venture the opinions already expressed. I trust that the past errors may be avoided in the future; and I now have done with the preparation and shipment.

The production of wool in the United States, until recently, has not equalled the consumption, but the low price of grains and provisions since 1840, has caused a rapid increase in the number of sheep, which, under very favorable circumstances, may double each three years; and they now surpass, and are likely still further to surpass, all previous estimates. The quantity of wool became so unwieldy last year that the value fell full twenty per cent., notwithstanding the foreign shipments, the abundance of money, the high tariff, and the prosperous condition of the manufacturing interest. We now have the promise of considerably increased quantities in this year's clip, especially from some of the new States, with money more in demand, the protective policy in more danger, and lower prices of cloths. If the home markets are solely relied upon, wool, like all other articles, when produced in excess, would long rule low in price. An abundant supply will hereafter enable manufacturers to purchase at

* Morrell, in his American Shepherd, directs that shearing should not take place until the lapse of such an interval after washing, as will allow the oil to appear, and confer softness and brilliancy on the wool. A week or ten days is sufficient for the purpose if the weather has been sunny.

their leisure, and to choose their qualities; and henceforth prices must be regulated, like those of cotton, in the open markets of the world. The growing of wool in this country is receiving from year to year more and more attention. Men's minds have been turned in that direction. Hundreds of thousands of sheep, instead of being slaughtered as formerly, are now annually driven from older and cultivated lands as fast as their increase exceeds their pasturage, to newer grounds, where they are distributed to emigrants from the older States accustomed to take care of them, and there they form the germs of other flocks growing up in millions. An impetus has thus been given which must long continue, because consistent with the interests of those concerned. The room and the inducements are sufficient. In the North-west, between the Alleghany and Rocky Mountains, we have a vast region stretching over the extent of empires, where the soil is composed mostly of vegetable mould, the accumulating deposit of various herbage from year to year since the creation. The earth contains nothing approaching it in vastness and fertility. This deposit is a mine of material which may be turned into wheat, only by planting wheat upon it, or into wool only by pasturing sheep upon it. It lies open to every hand that will partake of it. Its position is secure from the desolation of wars. Its extent and quantity are such that it must pass to other generations of men before exhausted. But like all great tracts of interior territory, the transportation of its products to the ocean, and the markets of other climates, is laborious, costly, slow, hazardous and uncertain. Wool forms the only exception. Wool, which is worth ten times as much as iron of equal weight, may be sent forward from the place of its growth thirty times cheaper than wheat of equal value. The necessities of densely peopled countries insures its steady consumption. Of all the articles of commerce, wool is the most stable in its nature, and has always been the most generally used by civilized man, from times the most remote of every nation, tongue and race. Of all the staple articles of the world, wool requires the least labor to produce it, the least care and cost in its preservation and transportation, and is the most suitable, profitable and reliable production for the great interior of this country, where labor is scarce and dear, and fertile lands cheap and plenty. Hence its growth will long continue to be a cherished interest, and the export demand, at the prices of other countries, will last forever. I remain yours, truly,

HAMILTON GAY.

Cultivation of Bear Grass.

WASHINGTON, Sept. 21, 1846.

SIR—I have had the pleasure of receiving a number of the Tallahassee Floridian, where I notice you have conferred on me the honor to notice my letter, forwarded by the Hon. D. S. Yulee, by calling the attention of Gen. R. K. Call to the questions propounded in that communication, in relation to the cultivation and preparation of the Bear Grass plant, which appears to be indigenous to your State; and, as I believe susceptible of being applied to so many valuable manufacturing purposes. As an apology for my intrusion on this occasion, I am compelled to refer you to my former communication, and must leave the matter to subsequent events to demonstrate.

At present, you will allow me to offer an incipient effort, in the form of an impertect essay upon the cultiva ion of this plant, having no other data to govern me but what information I can gather of the character of the plant, from Gen. R. K. Call's able communication. And, in this feeble effort, I shall flatter myself that the information set forth may not prove abortive.

The mode best to be adopted for the cultivation and preservation of this valuable plant, is as follows:

The plant should be propagated in that season of the year when vegetation becomes the most thrifty, and taken from the seed. The land should be rich to produce a rapid growth, and it should be planted a reasonable distance apart, allowing sufficient room for the leaves to have free course to spread, with a free circulation of the atmosphere, and well cultivated. In planting from the seed, it will be found that the plants are more vigorous, and will contain, when prepared into hemp, more elasticity, and with the assistance of the free course of the atmosphere, produces a greater tenacity of fibre, than that which is produced from the old roots. The time of gathering is as follows: If my opinion is correct, this plant bears a flower, as all vegetable plants consist more or less of what is termed essential oil. And as early as the pollen of the flower makes its appearance and begins to fall, the plant should be gathered for hemp, to avoid the essential oil from passing into the seed, which extracts it from the fibre and leaves it harsh and brittle, and injures it for manufacturing purposes. But by preserving the essential oil in the fibre, it retains its natural tenacity and elasticity. This is the most essential point in the promotion of this most important object. In effecting this point, we arrive at once at its utility, which no doubt can be carried to the greatest perfection, in the manufacture of the finest fabrics, being an imitation of silk, as also fabrics for bagging purposes, &c.

The leaves, after being gathered, should be carefully exposed to the sun for a day or so, for the purpose of adhering the essential oil in the fibre and creating a toughness when this is completed. They then should be gathered from the field, and placed under a shelter for ready immersion, or rotting, as it is technically termed—which process is to relieve the plant or fibre of the glutinous or mucous, which composes the formation of the leaf.

I now come to a point, wherein I am sorry to be compelled to differ with Gen. R. K. Call's course of treatment—in relieving the glutinous portion from the fibre, by boiling the plant. This process produces evil effects. The heated water must affect the strength of the fibre, and produces a harshness and brittleness, and when manufactured, becomes useless.

I have arrived at the conclusion that the plant should be immersed in water, at a temperature of from 45 to 60 degrees, or at such temperature as will be produced by the effect of the state of the atmosphere. Standing water in ponds will answer. The mode of immersing it is as follows: Place the plant in regular form in the water, and lay plank on the surface of it, and weight it down, or otherwise, build plank vats, and have the water introduced into them, allow the vats to be exposed to the heat of the sun when filled. The vats should not be more than two feet deep, the dimensions otherwise are not particular. When the plant is immersed for a certain time, say two or three days, or more, which will depend entirely upon the state of the atmosphere, there will be discovered in the surface of the plant a glutinous matter. If this appears to be general, the conclusion is, that it has undergone its solution, or decomposition, of the vegetable matter which adheres to the fibre, and which will leave the fibre free for preparing it into hemp. The plants should immediately be taken out of the water, and hung or stood up to dry, ready for the preparation of transferring it into hemp. I am of the opinion, operating on it in a wet state injures the fibre. One thing is certain, converting it into loose fibres in a wet state, and allowing the atmosphere to act suddenly upon it, produces a harshness, which is a great evil.

There will be objections, no doubt, to the process of cold water, from the circumstance of its slowness of action, and may produce a little more labor. But to a calculating mind, the objections will be overcome, from the fact of its superiority and valuableness of the article, beyond that produced by heated water.

The mode or machine necessary to produce the hemp, after passing through the former process, is simple. To those who have not the conveniences: A block of wood, and maul which can be conveniently used in one hand. Holding the leaf on the block, and applying the maul with the other hand produce the fibre; or, to those that have the conveniences, the speediest way is to have two horizontal fluted rollers, operating in each other similar to an ordinary sugar mill, as Gen. R. K. Call describes.

I have taken the liberty of advancing these views and ideas upon the subject, with the motive of calling the attention of the planter to experimenting. If they prove to be correct, I shall be happy. If the contrary, I may hope that salutary effects may be produced from the experiments to the development of other courses of treatment, to the attainment of the object in view. I should have remarked before, that the seed for planting should have been taken from the most thrifty plants, and which should be cultivated apart from that which is planted out for hemp, as seed plants.

The great importance of this object at this present stage, may be set down by some as nugatory, not worthy of their attention. But in my opinion I view the character as such as to elicit the interest of every citizen of your State, as also the attention of your legislative body. The consumption of this article, when it becomes a staple, and its qualities become known generally, must extend to a great extent in this country, as also in foreign countries, to thousands of tons. And with the enterprise and ingenuity of our citizens—these combined being so fruitful, there can be no question but what it will be applied for manufacturing purposes, which at this time the mind is not capable of comprehending. The experience I have had in matters of this kind brings me to this conclusion.

It is calculated to diffuse wealth with a liberal hand to our industrious and enterprising citizens, and raise your infant State equal to others, and unsurpassed in agricultural wealth, when we consider, as Gen. R. K. Call states, that one acre of Bear Grass will produce five to six tons of hemp. With this enormous yield, we can safely rely to a certainty, that an acre will nett a clear gain of $300. With this fact before us, the inference must be, that in time the agricultural interest of your State will augment beyond all present calculations. Therefore, the interest stands prominent before the planters and citizens of your State, to take hold of this subject in earnest, as early as possible, prosecute it with energy and diligence, and the reward will follow in getting the advance of other States south, who no doubt will embark in its cultivation, when its qualities and treatment becomes fully developed. And wherever the article is procured the cheapest, there is where the capital will concentrate for manufacturing purposes.

I will conclude my remarks by expressing the pleasure I should derive in being one of the feeble instruments in bringing this important matter to a prosperous issue, viewing it as one of the blessings of a bountiful Providence, who has been pleased to bestow it upon our blessed country, and which carries the mind to a full conviction of his great design.

In this way we may become independent of all foreign productions, sustaining ourselves under our own vine and fig tree, in competency and independence, with the privileges of a free instituted government.

In conclusion, allow me the honor to be, respectfully, your most obedient servant.

DAVID MYERLE.

To His Excellency WM. C. MOSELEY, Tallahassee, Fla.

GEORGIA YARNS TRIUMPHANT.—We take pleasure in chronicling the fact that a specimen of yarns from the Cartwright Manufactory near Greensboro, Geo., was awarded the medal at the late Fair of the American Institute in New York. What renders this triumph of this company more creditable to their establishment, is the fact, that the yarns exhibited were not made specially for the occasion, but were taken from a lot which the company had on sale at the time in New York.

From the Albany Cultivator

Cheese-Making.

At the present time it is an object of considerable consequence to the manufacturers of cheese in this country, to produce that which would be approved and meet with a ready sale in the English markets, whither a large quantity of that article is now being sent. One of the most esteemed varieties of English cheese is that made in Cheshire; and, having had frequent inquiries in regard to the process of manufacturing this kind, from those who are desirous of imitating it, we give from the Journal of the Royal Agricultural Society, a brief sketch of a prize essay, by Mr. White, on Cheese-Making in Cheshire.

The number of cows belonging to a cheese-dairy is stated to be seldom less than eight or ten, or more than seventy or eighty. From 18 cows a cheese from 36 to 54 lbs. weight, is made daily for four or five months in the summer. The annual produce, however, varies with the cows and mode of keeping, and it is observed that *great loss is known to have been sustained by not feeding the animals well in winter.*

The evening's milk is seldom made into cheese till the following morning, and in small dairies, sometimes not till the second morning. A cool milk-house is necessary, and hence it is commonly placed on the side of the house (or other building) least exposed to the sun. Most milk-rooms have lattice or wire-windows for the circulation of air, and an inclination is given to the floors for the free escape of the cold water which is daily applied to them in summer. Precautions of this kind are necessary to prevent the milk from becoming sour. A temperature of fifty degrees Fahrenheit is thought the best throughout the year.

The dairy is generally near the milk-house, and fitted with two boilers; one for scalding whey, and another of less size for heating water. The salting and drying house should adjoin the dairy. Here the cheeses are placed on stone or wooden benches, salted externally, and dried, before removal to the cheese room. Some dairy-maids dispense with external salting. Sometimes the cheese room is over the dairy, and at others it is over the kitchen or other apartment in which a fire is kept. Light and air are always excluded from it by curtains or shutters; and one reason assigned for the practice is its tendency to prevent the hurtful effects of the fly. Some of the larger cheese rooms are warmed by stoves or hot air, and in rare instances, from ordinary fire-places built in them.

Process of Cheese-Making.—The extraction of the whey, and salting, occupy from five to seven hours, and it is therefore convenient to commence working in the morning. In this case the evening's milk is kept over night, and in the morning the cream is skimmed off and a portion of the milk warmed. The warming is effected by means of a brass or tin pan, about twenty inches in diameter, and eight inches deep, in which the milk is floated in the boiler, the water in which has been heated for the purpose. In the early months of the season, so much as half the evening's milk may be heated to a temperature of 100 degrees, a heat seldom exceeded, except with a view of saving trouble in the after process. The cold milk is now poured into the cheese-tub, and the warm added to it. The temperature of the mixture may be about 75 degrees, but in warm weather 70 will be enough. It is, however, becoming the general practice, in summer, not to warm the evening's milk; and in very warm weather even the temperature of the morning's milk is sometimes reduced. The cream, diluted in about double its quantity of warm or new milk, is next put in. If a small portion of the cream is to be retained for butter, it is thought best to skim it off the whole surface of the cream before diluting, in order to remove froth and bubbles, which are considered prejudicial to the cheese. This leads to the conclusion, that fixed air in the curd is detrimental, and suggests the inquiry whether it might not be better to heat the whole of the evening's milk to the required temperature, than to raise the temperature of a part of it to 100 degrees. The next step is to add the new or morning's milk, which is done by passing it through a seive placed on the cheese-ladder over the cheese-tub. Bubbles seen floating on the surface are skimmed off, and passed through the seive to break them.

An important point now demanding attention is the proper temperature of the milk when the rennet is put in. Little is known among farmers and dairy-maids as to the precise heat which is best; and it is seldom that the temperature is tested otherwise than by hand. In some dairies in which observations have been made, the lowest heat was 77 degrees. Even where what is called cold-cheese, which has a tendency to green-mould, is made, it is not supposed that a temperature is adopted at any season of the year, much under 74 or 75 degrees. The evening's milk being about 75, and the morning's milk from 90 to 95 degrees, the temperature of the whole is found to be from 80 to 85 degrees. The exact heat at which milk ought to be coagulated is a matter of essential importance in cheese-making, and it cannot be ascertained but by a series of careful and judicious experiments made by scientific and practical parties.

The rennet or steep is now to be added.* To fix the quantity necessary for coagulating a given quantity of milk is difficult, as maw skins vary much in quality. In using them two skins are often cut at once. Three square inches taken from the bottom, or strongest part of the one, and one or two inches from the top or weakest part of the other, are generally sufficient for sixty gallons of milk. These pieces are put into a cup containing about half a pint of luke-warm water, with a teaspoonful of salt, the day before the infusion is required.—The water thus impregnated with the maw-skin is passed through a seive into the milk; but the skin itself is usually kept out; the rennet cup is well scalded before being used again. The coloring matter and rennet having been put in, the milk is well stirred and left to coagulate, and the tub is covered up. [It is remarked in a note, that the coloring matter used is Annatto, which gives the cheese an amber or cream-like appearance. It is said to be seldom used when the cheese is intended for the consumption of the Cheshire families, as it is known not only that it does not improve the flavor, but that if the quality of the drug, is inferior, or, if there is too much of it used, there is a hazard of the flavor being too much deteriorated. One pound of it to a ton of cheese, or half an ounce to seventy-five pounds, is considered a moderate proportion]—The coagulation is commonly effected in an hour or an hour and a half. The warmer the milk, or the stronger the rennet the sooner coagulation ensues, but the curd is tougher and less in quantity; on the contrary, the cooler the milk or weaker the rennet, the longer the curd is in forming; but it is both tender and there is more of it. Too much rennet tends to impart an unpleasant flavor or bitterness to the cheese.

It may generally be expected that the heat of the curd when formed, will be four or five degrees less than the milk was when the rennet was applied; and the difference, especially in cool weather, should not be greater. To determine when the curd is fit for breaking, requires some practical knowledge. It is usually done by gently pressing the surface of the milk with the back of the hand, or by lifting up the skimming dish, beneath which the curd and whey will distinctly appear, if the coagulation is complete. Another criterion is the color of the whey, which should be a pale green.

The breaking and gathering of the curd next engage attention. These operations are performed by the hand and skimming dish, or more commonly the curd-breaker. This implement is made of wirework, in an oval form that has a rim of tin around it about an inch and an half broad. It cuts the curd by being passed through it perpendicularly, and at first, very gently, in different directions, so that the whole mass is separated into very small portions. For a 60 lb. cheese, this operation takes twenty or twenty-five minutes. The curd is then left for a quarter of an hour to separate from the whey, and if the weather is cool, a cover is put over the tub to retain the heat. After the separation of the curd, which falls to the bottom, a portion of the whey at the top is taken out by the portable brass or tin pan being pressed into it, and emptied into the set pan; the curd is then gently broken, by being raised with the hands to the surface, or by the renewed use of the curd-breaker. When the curd is brought to the top, it is easily raised and separated into small portions for the release of the whey. This part of the process takes about half an hour. After about another half hour, or as soon as the curd is sufficiently settled, more whey is taken out, and the curd, so far as its contexture will admit, drawn into one-half of the bottom of the tub; a semicircular board is then placed on the curd, loaded with a weight of about 30 lbs. The board is perforated with holes about half an inch in diameter, for the escape of the whey.—The tub is now set three or four inches atilt, to facilitate the discharge of the whey from the curd, and the skimming dish is used to lade it out. On its way to the set-pan, the whey passes through a sieve in which any curd contained in it is collected. This curd is called slip-curd, and by some dairy-maids is not returned to the tub. The weight and board are shortly removed, and such part of the curd as has been squeezed from under them is again collected on one side, and a heavier weight of 50 or 60 lbs. applied as before. As the whey is expelled from the curd it is removed. In a quarter of an hour the board is taken off again, the curd cut by intersections, six or eight inches apart, and then the board replaced, doubly loaded. Sometimes the slip-curd is now added, the weight is again increased, if necessary; care being taken to augment the pressure gradually, and to regulate it by the degree of compactness of the curd; for if caution is not used in this respect, both now and afterwards, a considerable portion of butyraceous matter will be forced out to the detriment of the cheese.

The curd is again cut into square pieces, taken out of the cheese tub, and broken a little by the hands as it is passed into the thrusting tub.—Sometimes a large sized cheese-vat, and at others a willow basket is substituted for the thrusting tub. In this the further extraction of the whey is continued by the application of the screw, of which there are different kinds, but the principle is the same in all. Preference, however, is due to the lever press, which possesses the advantage of sinking by its own weight, and of allowing the application gradually of any degree of pressure, with less attention on the part of the dairy-maid.

The proportion of salt is not regulated by any definite rule. One farmer, distinguished for improvements in agriculture, uses one pound to forty-two pounds of curd. In another instance more salt is used in summer than at other times, the average being one pound for forty pounds of dried cheese, or about forty gallons of milk. In autumn there is always more curd in the milk than at other seasons; and in wet weather there is sometimes an increase of milk without a corresponding augmentation of curd. Before applying the salt, the curd is cut into three or four equal parts, and these are broken into smaller pieces by the hand or by the curd-mill. The salt is then strewed over it, and the breaking continued till the salt is well intermixed, and the curd completely crumbled.

* The following is given as a good recipe for curing maw skins. Procure fresh skins the year before they are wanted; free them from chyle and every impurity; turn them inside out and salt them; lay them one upon another, with salt between, in a deep earthenware vessel; cover the whole with salt, and lay a lid on the top. About a month before using them, take them out and drain the brine from them; then spread them on a table, and powder them on each side with fine salt. In this state they are to be rolled with a paste roller, distended with splints of wood, and hung up to dry.

The presses employed for the two first days at least, and if possible during the whole process, should be within the influence of moderate heat; otherwise the discharge of the whey will be retarded, and greater hazard incurred of the flavor of the cheese being injured by acidity, to which the whey is prone. On the second day after the cheese is put in the press, it is turned two or three times, and a clean cloth used each time of turning. On the third day the cheese is again turned once or twice. The heaviest press is now resorted to; and for a cheese of 60 or 70 lbs. weight, a pressure of 30 cwt. will be enough. On the fourth day it is usual to discontinue the pressure; but it is sometimes continued a day or two longer.

From Boussingault's Rural Economy.

Butter.

To understand the preparation of butter thoroughly, it is absolutely necessary to know the physical constitution of the milk from which it is obtained. Now the microscope shows us that milk holds in suspension an infinity of globules of different dimensions, which by reason of their less specific gravity, tend to rise to the surface of the liquid in which they float, where they collect, and by and by form a film or layer of a different character from the fluid beneath; the superficial layer is the cream, and this removed, the subjacent liquid constitutes the *skim milk*. This separation appears to take place most completely in a cool temperature from 54 deg. to 64 deg. Fahrenheit.

Allowed to stand for a time, which varies with the temperature, milk becomes sour, and by and by separates into the strata or parts; cream, whey, and curd, or coagulated caseum. By suffering the milk to become acid before removing the cream, it has been thought that a larger quantity of this, the most valuable constituent of milk, was obtained; and the fact is probably so; but in districts where the subject of the dairy has been most carefully studied, it has been found that it is better to cream before any signs of acidity have appeared. When a knife can be pushed through the cream, and withdrawn without any milk appearing, the cream ought to be removed.

Butter is obtained from cream by churning, as all the world knows; by the agitation the fatty particles cohere, and separate from the watery portion, at first in smaller and then larger masses. The remaining fluid is butter-milk, a fluid slightly acid, and of a very agreeable flavor, containing the larger portion of the caseous element of the cream coagulated, and also a certain portion of the fatty principle which has not been separated.

The globules of milk appear from the microscopical observations, to be formed essentially of fatty matter, surrounded with a delicate, elastic, transparent pellicle. In the course of the agitation or trituration of churning, these delicate pellicles give way, and then the globules of oil or fatty matter are left free to cohere, which they were prevented from doing previously, by the interposition of the delicate film or covering of the several globules. Were the butter simply suspended in the state of emulsion in the milk, we should certainly expect that it would separate on the application of heat; but this it does not; cream or milk may be brought to the boiling point, and even boiled for some time without a particle of oil appearing. Could M. Romanet show any of these pellicles, apart from the oily globules they enclose, it would be very satisfactory, and would certainly enable us to explain the effect of churning.

Churning is a longer or shorter process according to a variety of circumstances; it succeeds best between 55 and 60 deg. F. So that in summer, a cool place, and in winter a warm place, is chosen for the operation. There is no absorption of oxygen during the process of churning, as was once supposed; the operation succeeds performed in vacuo, and with the churn filled with carbonic acid or hydrogen gas.

On being taken out of the churn, the butter is kneaded, and pressed, and even washed under fair water, to free it as much as possible from the buttermilk and curd which it always contains, and to the presence of which must be ascribed the speedy alteration which butter undergoes in warm weather. To preserve fresh butter it is absolutely necessary to melt it, in order to get rid of all moisture, and at the same time to separate the caseous portion. This is the process employed to keep fresh butter in all the warmer countries of the world. In some districts of the continent, it is also had recourse to with the same view. The butter is thrown into a clean cast-iron pot, and fire is applied. By and by the melted mass enters into violent ebullition, which is owing to the disengagement of watery vapor; it is stirred continually to favor the escape of the steam, and the fire is moderated. When ebullition has ceased, the fire is withdrawn and the melted butter is run upon a strainer, by which all the curd is retained. M. Clonet has proposed to clarify butter by melting it at a temperature between 150 deg. and 140 deg. F., and keeping it so long melted as to dissipate the water and to secure the deposition of the cheesy matter, after which the clear melted butter could be decanted. I doubt whether by this means the water could be sufficiently got rid of, a very important condition in connection with the keeping of butter, though certainly all the caseum would be deposited.

The moisture and curd contained in fresh butter may amount to about 18 per cent.; at least we find that we loose about eighteen lbs. upon every hundred lbs. weight of butter which we melt at Bechelbroon.

The information which we have on the produce in butter and cheese from different samples of milk, is very discordant, so that I prefer giving the results of a single experiment made under my own eye. From 100 lbs. weight of milk we obtained:

Cream	15.60 lbs.
White curd Cheese	8.93
Whey	75.47
	100.00

The 15.60 lbs. of cream yielded by churning:

3.41 lbs. butter, or 21.2 per cent., and
12.27 " buttermilk.

The reckoning with reference to 100 lbs. of milk consequently stands thus:

Cheese	8.93
Butter	3.33
Buttermilk	12.27
Whey	75.47
	100.00

Taking the whole of the milk obtained and treated at different seasons of the year, I find that 36,000 lbs. of milk yielded 1080 lbs. of fresh butter, which is at the rate of 3 per cent. From the statement of M. Baude, it appears that near Geneva a proportion of butter so high as 3 per cent. is never obtained, probably because there a larger proportion of fatty matter is left in the cheese. In the dairy of Cartigny, 2200 gallons of milk gave—

Butter	363 lbs,	or about 1.6 per ct.
Gruyere Cheese	1515 "	" 6.9 "
Clot from the whey obtained by boiling	1140 "	" 5.2 "

In the same neighborhood, another dairy, that of Lulin, gave from same quantity of milk:

Butter	418 lbs.	or 1.9 per cent.
Cheese	1485 "	6.75 "
Clot from whey	968 "	4.4 "

From the Maine Farmer.

Manure and its Application.

Messrs. Editors:—In your paper of last week, I read the communication on top dressing with great pleasure. It has been my opinion that much manure is lost by plowing it in. I have tried several ways, and at several seasons of the year; and I have come to the conclusion that the best time to plow green sward is in July and August, as soon as the crop of grass is gathered.

The best method of manuring is to spread on a good coat of manure after the ground is plowed, and harrow it in well. If desired, scatter in some turnep seed, and a good crop can be obtained with less injury to the land than at any other time, and they will not come amiss for cattle in the winter and spring.

The next winter the same ground should be plowed again and another dressing of manure put on as before, and harrowed in well; and then the seed may be put in with or without manuring in the hill, and a good crop will be obtained.

It should be observed in all cases, that deep plowing is absolutely requisite to prevent drought in high or clayey land, and to drain off water in low land. By mixing the manure with the soil, as above described, plants have their food all prepared, both for early and late crops.

In an orchard I have tried plowing in manure, and spreading it on as a top dressing, but in no case has it done so well as plowing first and harrowing in a good coat after. I should think that twice as much benefit is obtained from the manure as by depositing it under the furrow.

In every plowing, some of the subsoil should be turned up. By pursuing the above method, a farmer, in a short time, would have his whole farm in a good high state for cultivation, and never regret that he had given to his plants the best food, and in the best possible manner.

While speaking of manure, I would say that no farmer should be without a cellar to his barn, and he should house his cattle every night so as to save all the manure, both liquid and solid.—If this was done, and all the bushes, weeds and sods, were put into this cellar, and a few hogs, if kept there, would mix it, and when a load of mud should be added, it would help it very much.

In the fall rake up and put in all the leaves that can be obtained, and they will pay three fold for the labor expended. I make my barn cellar a general deposit for all kinds of rubbish that I wish to get out of sight, and in the spring it comes out good manure paying me well for my trouble. S. A. Shurtleff.

Spring Grove, Sept. 17 1846.

Urine of Animals,

From the New England Farmer.

Do our farmers, as a general thing, pay sufficient attention to the preservation of this valuable means of fertility? In how many instances do we find any efforts made to economize it, or render its great wealth available for the sustenance and support of crops. According to an English Agricultural author, the quantity of liquid manure produced in one year by a single cow, is equal to fertilizing one and one-fourth acres of ground, producing effects as permanent as do the solid excrements. A cord of soil, saturated with urine, is equal to a cord of the best rotted dung. If the liquor and the solid evacuations, including the litter, are kept separate, and soaking up the urine by loam, it has been found they will manure land, in proportion, by bulk, of seven liquid to six solid, while their actual value is as two to one. One hundred pounds of cows' urine, says our author, produce thirty-five pounds of the most powerful salts which have ever been used by farmers.

Can any one question the fact that by permitting the waste of this important article we greatly diminish our own available resources for agrestic enrichment. If the urine produced annually, by our domestic animals, can be safely estimated at one half the value of the solid excrements—and if there be any reliance whatever to be placed on the results of chemical science, this is a very low apprisal—is it not worth saving? Most assuredly. w.

Preparing Seeds of Fruit Trees.—If seeds of fruit trees be not sown in the fall, they should be prepared in the fall, or early in the winter, (the middle of the winter may be in time,) for sowing the next spring, else they will not grow. Apple and pear seeds sowed dry in the spring, will not generally come up till the next spring.

From the Philadelphia Saturday Courier.

The Analysis of Soils.

The samples of soils being taken in the manner described in the last number. Science proceeded to show Practice the modes of analyzing them—that is, of dividing their different substances from each other, and showing the quantities of each, so that a correct judgment may be formed from these proportions of the fertility of the soil.

To make a rough and very simple analysis, which may be done at any time, and which will enable you hastily to form a tolerably good opinion of a soil, you may adopt the following simple process:

Take a handful or two of the soil to be judged of, and dry it before the fire until it is about as dry as soil is upon the surface of the ground in summer, where exposed to the sun—that is, until it feels quite dry to the touch; immediately after it is thus far dried remove it from the fire. Rub it through the fingers to pulverize it. Weigh 4 ounces of this soil and put it on a plate in an oven or over a gentle fire—having dropped among it some shavings or bits of paper, keep stirring it till the paper or shavings just begin to turn brown—it may take from half an hour to an hour. You must not allow it to burn at all, your object being merely to expel all water or moisture without burning it. When thus perfectly dry weigh it, and what is lost will be the moisture which the soil is capable of retaining after it appears perfectly dry to the touch. A very good soil will retain an eighth of its weight, and would consequently lose half an ounce of the above four ounces—poor, sandy soils will not lose more than two or three per cent.

The first process tests the absorbent powers of the soil, which is one considerable indication of fertility in all cases, except in very stiff, clay lands—a stiff clay is frequently as retentive of moisture as a fine loamy mould, and must be judged of; in every other case it may be taken as a rule that the greater the absorbent powers of a soil the better is its quality for agricultural purposes.

The remaining soil you throw on an iron plate or shovel which heat red hot, and let the soil burn on it for fifteen or twenty minutes. The object is to burn out the organic matter, either decayed and mixed with the soil, or undecayed in the form of wooden fibre, roots, &c. After the soil is well burnt weigh it. It will have lost considerable weight: nearly all the loss is organic matter. In a fine soil this loss will amount to from the quarter to the half of an ounce in the four ounces. In poor soils the loss will sometimes not be more than one or two parts in an hundred.

Although this process gives you the amount of matter destructible by heat, which is nearly all vegetable matter, yet care must be taken in examining the soil with the eye to see that it is not a peaty soil, or very full of rooty fibre; as in these cases the vegetable matter is not in a state useful to fertility, being undecomposed—and will require time, expense and culture to bring such vegetable matter into *humus*. Except in the case of very rooty or peaty soils, burning in this way will give the operator a fair estimate of the amount of organic matter. Now, if we knew the proportions of sand and clay in what is left, we should get pretty near the facts of the soil under analysis.

The easiest way to do this is to throw the remainder of the four ounces under experiment, into some rain water, and stir it well with a spoon or pestle, after letting it stand a while to soften. The fine clay will settle at the bottom. Pour off the muddy water, taking care to pour off no sand. Throw in some more water on the sand, stir it well up, and pour off the muddy water again. If necessary, give the sand another water; our object being to get rid of the clay and leave nothing but the sand. We wish, however, to preserve all the sand. Throw the sand on the iron plate and bake off all the moisture. When perfectly dry weigh the sand. Your four ounces will have dwindled down to about one or two oz.; part of the loss you dried off, and the deficiency may be set down as the clay or the soil which you have washed away.

This simple, very simple method will give you an excellent idea of soils. True, it is very rough, and the experienced chemist would not adopt it—but it gives you three principal items in a soil, viz: the clay, the sand, and the organic matter; it is true it does not enable him to find the lime, but that you can easily supply by attention to the next method of analysis. It gives you the absorbent powers of the soil, by which you may form an idea of the condition of the vegetable matter in it. Thus, if a loamy soil loses an eighth of its weight in the process of becoming really, after it is apparently dry, you must conclude that its vegetable matter is mostly converted into humus, which is highly absorbent and retentive of moisture. If, on the other hand, a loamy soil which will show a great loss by burning, shows only slight absorbent qualities, it proves, the vegetable matter is not decomposed, and therefore not so valuable.

Suppose we take a couple of handfuls of the soil in your clover field. Here it is. It is not stiff and clayey, nor yet is it loose and sandy. It may be considered a stiff loam. There are no fibres in it, except a few trifling grass roots, which are nothing. We dry it, and weigh 4 ounces. Set that over the fire, or the oven top, and throw two or three scraps of white paper amongst it; stir it about until those bits of paper begin to brown; weigh it now; it weighs 3½ ounces. We write down, "water of absorption, ½ ounce." Throw the 3½ ounces on the shovel and make it red hot: we therefore write, "vegetable matter apparently decomposed ½ ounce"—(we say "apparently decomposed," because we cannot see any appearance of undecomposed fibre in the soil except a grass root or so.) Take the 3 ounces and throw into the mortar with some soft water. Gently rub it with the pestle and let it stand awhile to steep. Rub it up and gently pour off the muddy water. Wash the sand again and again. There, now throw the sand remaining upon the shovel. Burn it over the fire to get rid of the moisture. Weigh it—it weighs one ounce. There is, therefore, two ounces for clay and loss.

We therefore write out our report. Four ounces of the "clover field" soil, by rough analysis, gave, water of absorption, ½ or 12½ per cent., or ½ ounce; vegetable matter, principally decomposed, ½ or 12½ per cent., or ½ ounce; sand and silicious particles, ½ or 25 per ct., or 1 ounce; clay and loss, ½ or 50 per cent., or 2 ounces—4 ounces.

From such an analysis every person who is accustomed to make or even to read analyses of soils, will at once get the principal features of his soil, most of the essential particulars, except the lime, which may be sought for by the following experiment, if thought necessary:

Take a couple of ounces of the same soil, dry it thoroughly, rub it to a fine powder in the mortar, grinding it as fine as dust; over this dry powder pour diluted muriatic acid, say half acid and half rain water; if it contains lime there will be a considerable effervescence. Stir it at intervals, and add more diluted acid until there is no effervescence produced; let it stand until the next day, when, if calcareous or limy matter is present it will have been dissolved; add more diluted acid and stir it well up; let it stand till the liquor is quite clear, and then pour it off; add more pure water; stir, allow to clear, and likewise pour off; by this process the lime will be got rid of. You then drain the earth through a piece of blotting paper, and dry on a hot shovel or iron plate. When thoroughly dry weigh it, and the loss will show the amount of lime in the soil, which ranges from the smallest possible per centage up to 35 or 40 per cent. of the entire soil, according as the soil is calcareous or not.

If, on applying the diluted muriatic acid to the soil, no effervescence takes place, you need not pursue the remainder of the experiment, as it is evident there is no lime.

If the two ounces should lose ½ of an ounce of lime, which would amount to 13½ per cent. of the whole, you may deduct 12½ per cent. from the "clay and loss" of the former experiment, and add the lime to the catalogue.

The best way to practice this method is, in your leisure to fill a few bottles with various kinds of soil that you know—say a very good soil, a middling soil, and a bad soil—a clay, a loam, and a sand; analyze them each once or twice over and keep the results by you. When you want to analyze a soil that you don't know, you can judge its results by these that you are intimate with. Besides, the experiments will give you practice and proficiency.

The mode is so extremely simple that any person may adopt it, even if his apparatus is of the most scanty and imperfect kind. It requires nothing but common patience, ordinary attention, and a desire to learn. It is, moreover, extremely useful for practical purposes.

From the Horticulturist.

The Best Five Winter Pears.

MR. DOWNING:—You ask me for the results of my experience as to what I consider "*the best five varieties of winter Pears.*" I comply at the spur of the moment. I regret that at the present time my engagements will only permit of devoting the passing hour to the subject, and will necessarily compel me to pass more hastily over it than I could wish, for one of its importance. The list, however, is made up from many years' experience with the varieties named; of which I can confidently recommend as worthy of extensive cultivation. For more particular descriptions than will be found in the following remarks, reference may be had to the various Pomological works of the day. I commence with that "Prince of Pears," the

1. BEURRE D'AREMBERG.—This variety has, for the last ten years, never failed to yield me an abundant crop of its delicious fruit. It has often been exhibited at the rooms of the Massachusetts Horticultural Society, always receiving the unqualified approbation of our most experienced amateurs and cultivators. Possessing all the characteristics of a first-rate table pear, it retains at maturity, its flavor and champagne sprightliness, with all the freshness of a specimen just plucked from the tree. The foliage and fruit adhere with a remarkable tenacity, resisting the frosts and gales of autumn better than those of most other varieties. As a constant, prolific, hardy sort, the d'Aremberg is unsurpassed, and whether on the pear or quince stock, proves admirably adapted to this climate. It keeps as well as a Russet apple, and requires no further care than to gather in a dry day, and pack at once from the air, in close boxes or barrels—with no other precaution, it has been found in a state of perfect preservation in the month of January. Season, December to February. The Beurre d'Aremberg is a fruit easily excited to maturity, and may be brought into eating in November, or retarded until March.

2. WINTER NELIS.—This is classed second in my list, not from any inferiority to the first named variety, for, in fact, as a sweet, melting wine pear, it has no equal. Connoisseurs generally prefer the brisk, vinous juice of the d'Aremberg, but some of our good judges esteem the Nelis above all others of the season.

The growth of the tree is not strong, but more so on the quince, to which it seems well adapted; it is hardy and thrifty in rich soils, otherwise the shoots are more stinted and feeble than is usual with most other sorts. To obtain specimens above medium size, requires high cultivation and some thinning of the fruit. Keeps and ripens well, and bears good crops. Season, November to January.

3. COLUMBIA.—This excellent native variety has proved with me a fruit more uniformly smooth, perfect in shape, and free from the depredations of insects, than almost any other sort. The tree is thrifty and hardy, not prolific when young, but a greater bearer on mature

subjects, the fruit being regularly distributed over the branches, and of very uniform size. I was so much pleased with this variety when it first came to my notice, that I despatched a special messenger from the city of New York, to the owner of the original tree in Westchester county, for half a bushel of the pears; and I did not regret the expense of twelve and a half dollars, when I consider the acquisition of such a fine American variety. My Beurre Diels were then in eating, and I judged the Columbia of equal quality; since which, however, I have seldom seen it so good. Ripens about the first of January; of a clear lemon yellow, very handsome, and may be kept two or three weeks in this state. Its beauty will give it a ready sale, and its quality and its merits, on the whole, it not as high as our first impression, will prove perfectly satisfactory.

4. Glout Morceau.—This pear, under the name of Beurre d'Aremberg, is more universally cultivated in France, as a winter fruit, than any other variety. It is truly an excellent, rich, sugary pear, and is not unworthy of the appellation given it. The tree is hardy, a great and constant bearer; but it requires, like most pears, good cultivation. Few varieties succeed so well on the quince as the Glout Morceau; a tree of which, in my own ground, annually produces a barrel of large perfect fruit; this is clear waxy yellow, and very handsome at maturity; keeps into the winter months, with ordinary care; commands as good a price in the market, and is esteemed by many equal to the Beurre d'Aremburg. It varies much in form. In growth, it is more luxuriant on the quince; the large specimens frequently having a very thick, short stem, set angularly on the fruit, with the peculiar knobby appearance of the d'Aremberg. On the *pear stock*, and under medium cultivation, the stem is smooth and straight, as figured by Thompson in the Gardener's Chronicle, and Downing in the Fruits and Fruit Trees of America. From this circumstance, the present subject has been confounded with the Beurre d'Aremberg. Season, December and January.

5 Passe Colmar.—As a hardy, vigorous, excellent pear, the Passe Colmar has few superiors. It is prolific to a fault, and requires judicious management. To insure fruit corresponding to its character in the Catalogue of the London Horticultural Society, "first size, and first quality," it is necessary to commence the trimming process as early in the season as the best specimens can be distinguished, or the pruning out of half the fruit-bearing spurs in the month of March, as recommended by the late Mr. Manning, will contribute to relieve the tree of its overbearing propensity. The French make two varieties of this pear, viz: *Passe Colmar gris*, and *Passe Colmar dore*. I have never discovered any difference in the fruit of these trees, that only which is exposed to the sun, having the golden color alluded to, the beauty of which is sometimes with us further enhanced by a red cheek.

This tree makes long weeping branches, and frequently sets a second crop of fruit, which should always be removed.

Ripens gradually from November to February, but may be kept later, large and beautiful specimens having been received by me from New Bedford, as the *Colmar d'Hiver*, on the 18th day of March.

Without the adoption of the system of culture here recommended, this variety will generally prove unsatisfactory.

An inquiry will no doubt arise in the minds of some of our readers, why the Easter Beurre has not found a place in the above list. My answer is, that although we obtain some specimens of first-rate excellence, yet this variety has generally proved so variable and uncertain that it cannot from our experience at present, be recommended for general dissemination. It however succeeds better on the quince.

Respectfully yours,
Marshall P. Wilder.

Boston, June 1, 1846.

From the Maine Farmer.

Importance of Knowledge to the Farmer.

There is no branch of business within our knowledge which requires, for its most successful prosecution, so great an amount of scientific information as farming. The practical farmer has something to do in all the grand departments of nature—in the vegetable, animal and mineral kingdoms—with organic and inorganic matter. It has been remarked, with strict truth perhaps, that all the energy of the Hero, and all the science of the Philosopher, may find scope in the cultivation of one farm! And it would indeed require all this energy and science to bring the majority of the farms about us from their present condition to the highest state of excellence of which they are susceptible.

The farmer goes forth among the works of God, and into the garden of the Creator to dress it and to keep it. With all natural objects and changes about him he should endeavor to become familiar. Almost every science, as geology, meteorology and entomology, may afford him assistance in his labors. The highly successful farmer cannot be ignorant. He must be a man of science, industry and good judgment. There is no danger of his knowing too much for his business; and he can scarcely enlarge the circle of his knowledge in any direction without thereby gathering something which is calculated to render him more successful in his occupation. In order to be eminently successful, it is necessary for him thoroughly to understand the nature of his own soil, and its capabilities. He should know in what ingredients it is deficient, and what it has in excess—how to render it fertile, and how to maintain its fertility. He should also know what crops are best adapted to the peculiarities of his soil and situation—the best method of cultivating them, and the cheapest and most suitable dressing for them. He should have such a knowledge of the diseases to which the different kinds of plants he cultivates are subject as will enable him to take that course which is best calculated to avoid them. He should also be able as much as possible to preserve his crops from the ravages of destructive insects, and this he cannot do without some knowledge of their habits and peculiarities. Of none of these subjects can the farmer well afford to be ignorant, for oftentimes upon his knowledge of these things depends the fruits of his labors; and it may require years of careful study and observation to obtain this knowledge which is so important in the business of agriculture.

In every department of his business he has need of thorough information and the careful deductions of experience. For instance, in the selection of a farm, if he has occasion to purchase one, perhaps a thousand things are to be taken into consideration besides soil and situation; and an ignorant person is not qualified to select the best lot on every account from a dozen. If he has taken wild land, clearings are to be made; and how can this work be done at the least expense and so as not to impoverish the soil? Much fertilizing matter, for which many farms are now suffering, has been wasted for want of knowledge in this particular on the part of those who first settled upon them. If he takes a farm which has been badly managed and in consequence has become unproductive, he has need of knowledge to direct him in the right way of reclaiming it and restoring it to productiveness. The work of reclaiming a 'worn out' farm is at best a difficult one, and to the ignorant farmer it is generally hopeless. With such it is emphatically an up-hill business, and in many instances it has brought on a fever which has carried the farmer far away from the home of his youth.

His farm is to be stocked. What proportion of each of the different kinds should he keep? What breeds are best adapted to his purposes? How are his animals to be bred and managed so as not to deteriorate? How may they be improved? To succeed in this branch of business, he must not be ignorant of their nature and habits, or of the diseases to which they are liable, and their remedies.

He must plow and cultivate. In choosing suitable tools, and in using them properly, a knowledge of the general principles of mechanics would not come amiss.

He needs a team; this must be reared and trained, and kept in working condition. And what animals are best fitted for the business of his farm? How should they be managed?

His land must be manured. What ingredients are needed? How can they be most readily obtained, and how most profitably applied?

What crops are most profitable, taking into consideration the cost of cultivating and marketing, his situation, and the nature of his soil?

The knowledge of the good farmer must be extensive and accurate; and if he has an inquiring, observing mind, he will be a learner for life. The acme of agricultural improvement has not yet been attained. The farm cannot be found which may not be improved by industry and knowledge. And the wisest men among us probably have not knowledge enough to cultivate even one small farm in the best manner possible—to draw out all its resources, and to bring it to the highest state of productiveness. The farmer should strive to make progress in his business—in the management of his farm he should always be going on "from good to better."

From the Georgia Journal,

Use of Lime.

Mr. Editor—Believing that the following may be of service to Farmers, I feel it my duty to let them know it. The question is frequently asked me, why it is that the worm never injures my cotton, whilst that of my neighbors is ruined? And why it is that I raise more wheat to the acre, and that no disease or insect ever affects it? I can only say that it is from the free use of Lime. For several years past, I have used Lime as a manure on my wheat and cotton—on my wheat by sowing it broad cast, and on my cotton by putting it in the drill. I used from two to three barrels of Lime to the acre. I find that the abundance it produced by the use of Lime, over and above what it otherwise would produce, more than paid me for the money advanced for the Lime the first year, not saying any thing about the advantage to be derived from the same lime for years afterwards, as a manure, as it becomes impregnated in the land, and takes years for it to become wasted; and also the fact of its being a preventive of insects and diseases of all kinds. Why it is that it prevents the worm and insects, is for others to answer, who know the properties of lime better than I do. This year my neighbor L———'s cotton field adjoined mine, nothing but a fence between; his crop was partially destroyed with the worm, whilst mine was not injured. The worm attacked my cotton at the same time, but soon disappeared without doing any injury. This has been the case for several years, ever since I have used lime, whilst my neighbor L——— used none. I have had the same demonstrations in my wheat, which has forced me to believe that it was from the use of lime. There is no doubt but that the lime goes farther, and answers the same purpose, by using it with muck, peat, or compost, but I have been so well paid by using the raw lime that I have never tried it any other way. My lime has cost me one dollar and fifty cents per barrel, I believe that it could and ought to be furnished for less, but Farmers can well afford to pay one dollar and fifty cents for lime as a manure, at least this is my experience. Yours, respectfully,
David L. P. McLane.

Fayetteville, Ga., Oct. 4, 1846.

The vintages throughout the whole of Europe (England not excepted,) have this season yielded a supply of grapes which, for quantity as well as quality, has perhaps never been equalled, or at all events excelled, in the present generation.

The Southern Cultivator.

AUGUSTA, GA.

VOL. IV., NO. 12..DECEMBER, 1846.

To Our Patrons.

As the present number concludes the Fourth Volume of the "SOUTHERN CULTIVATOR," the publishers deem it a fit occasion, kind patrons, to hold a little converse with you. It is not our purpose to flatter you with soft and honied phrase, or laud our own efforts in the cause of Southern Agricultural improvement. Rather let us deal in the language of frankness and candor. We prefer this, as well from our convictions of its propriety as from our inclinations, believing it the only sure and safe means of continuing an acquaintance, which, we trust, has been most agreeably formed, and will continue to dispense mutual benefits to you and ourselves. With this number, then, we have performed our part of the contract entered into between the patrons of the CULTIVATOR and ourselves! How it has been performed, you, of course, must judge. If your decision be favorable, we hope you will renew the relations of Patrons and Publishers, which cease with this number, by subscribing for the next volume, the first number of which will be issued in January. It is not only our desire that each of you should again become subscribers, but we indulge the hope that you will make an effort to induce your neighbors and friends also to subscribe. This policy will be doing your *whole duty* to yourselves and to society, and by it we shall be rewarded for our efforts in attempting to sustain a work exclusively devoted to Southern Agriculture.

Having said thus much of what we desire you should, and we think those of you who value the work, *ought* to do, let us now say what we have done and are doing to make the work worthy of the support of yourselves, your friends and neighbors. We have already ordered new type, and the January number will appear in an entire new dress, and we hope greatly improved in appearance. We have made andare making arrangements for its embellishment with elegant engravings, in all the departments of husbandry. To do all these things requires a large expenditure of money, which we have made, relying upon the liberality and justice of the Planters of the Southern States to sustain us. How fully our confidence in their liberality and justice will be justified, remains for them to make known.

This, then, is the appropriate time for action on your part—and if the effort be made with that zeal and energy which you are wont to bestow on any enterprise in which you feel an interest, your success will be as certain as it will be triumphant.

In conclusion, permit us to repeat our desire that every subscriber to the present volume will immediately forward his subscription for the next volume, and use some exertion to induce his friends and neighbors to unite with him.

Those 20,000 Subscribers!!!

The Publishers have taken the responsibility of publishing the subjoined extract from a letter of JOHN A. CALHOUN, of Eufaula, Ala., to the Editor, which they commend to every reader of the CULTIVATOR as worthy of their imitation. A few such friends as Mr. C., and the Publishers would never be subjected to the humiliating position of making appeals in almost every number for support. How many such friends can the SOUTHERN CULTIVATOR boast of in Georgia and Alabama? But to the letter:

Eufala, Nov. 13th, 1846.

MR. EDITOR: * * * Since my last to you announcing my intention to become the substitute of Col. MCDONALD in carrying out his proposal, I have been constantly confined to my home with a sick family; and hence have been able to do but little towards redeeming my pledge. I hope however, as my family's health is improving, that I shall be able yet to do something from this to the first of January next. I brought forward the claims of the CULTIVATOR before the last meeting of our Society; and it was resolved by the members present, that we would furnish ONE HUNDRED SUBSCRIBERS from this county, embracing those who are now subscribers. This I think we will do, and hope that the other sections of this State may do the same. We will try, however, and make up two hundred from this county. Our Society will meet again in the course of three weeks, after which you may expect again to hear from me. Yours, respectfully, JOHN A. CALHOUN.

We subjoin the list of those who have enlisted under the banner of the lamented MCDONALD:

Col. A. MCDONALD, Eufaula, Ala.
E. MCCROAN, Louisville, Ga.
T. W. RUCKER, Elberton, Ga.
C. DOUGHERTY, Athens, Ga.
G. B. HAYGOOD, Watkinsville, Ga.
WM. T. DEWITT, Hopewell, Ala.
H. E. CHITTY, Henry Co. Ala.
WM. CUNNINGHAM, Monroe Co. Ala.
G. B. ZUBER, White Sulphur Springs, Ga.
JOHN C. HENDERSON, Macon Co. Ala.
JAS. J. BANKS, Enon, Ala.
Gen. A. W. GREER, Taliaferro Co., Ga.
SINGLETON HARRIS, " "
J. S. LASSETER, " "
JARED L TURNER, Greene Co
J. P. C. WHITEHEAD, Waynesboro, Ga.
E. F. HURT, Macon Co. Ala.
B. F. BORUM, " " "
WM. B. S. GILMER, Chambers Co. Ala.
JOHN A. CALHOUN, Eufaula, Ala.
JOEL HURT, Crawford, Russell Co. Ala.
GEORGE SEABORN, Pendleton Dist., S. C.
MARTIN MCNAIR, Richmond Co., Ga.
J. N. MCCLENDON, Fredonia, Ala.
J. R. STANFORD, Clarkesville, Ga.
J. C. HELVENSTON, Macon co. "
J. S. WARREN, Elbert " "
JOHN WEBB, Newton " "
P. MASTER, Mobley's Pond, "
LEWIS MCKEE, Jasper co. "
W. W. SIMPSON, Wilkes co. "
R. S. HARDWICK, Hancock co. "
J. W. MCCLENDON, Fredonia, Ala.
JAMES M. TOWNS, Yalobusha Co. Miss.
GUY SMITH, Morgan co, Ga.
A. B. TURNER, Florence, "
JOS. L. CHEATHAM, Jefferson co., Ga.
JOEL W. PERRY, Blakely, Early co., Ga.
GEO. STAPLETON, of Jefferson.
N. B. CLOUD, Cross Keys, Ala.
E. G. CABANISS, of Forsyth, Ga.
AUGUSTUS GREEN, Greene county, Ga.
CHARLES E. RUSHING, Marion, Lauderdale county, Miss.

☞ Send in your subscriptions early—by the 20th of this month, if possible.

Science and Agriculture.

Some how or other we have not been, during the last month, at all in the humor for writing. Hence the meagreness of our editorials in this number. Our readers need not regret it, when we, searching for something wherewithal to regale them, by good luck found such an article as the following:

[From the New York Journal of Commerce.]

Farming, like all other things, and perhaps more than other things, is in a revolution. We once knew as much about growing corn, potatoes and grass as our farming neighbors; but we have glanced at enough of the science in its modern improvements to feel that all we knew is of very little worth, and that, in attempting to write about farming now, we are more likely to get laughed at than admired. But no matter. Farming has become a science. If a farmer wishes to grow wheat on his land, he sends wheat to a chemist to be analyzed, that he may find of what it is composed, or rather looks into some modern work on chemistry, and reads it there. He then sends a sample of earth from his lot to the chemist, to ascertain of what ingredients the soil is composed; and whatever of the component parts suited for wheat is not found in it, he procures and spreads upon his land. A field may have in abundance all the ingredients for the production of wheat but one, and yet not be able to produce wheat. By science, the Grahams have discovered the appalling fact that butter and beef are in the grass and the fruits; that the cow is only the manufacturer; and that they, like the transmuting priest, abjure butter and beef, and yet eat butter and beef all the while. The farmer who has no science will, perhaps, at great cost, add those ingredients of which there are already enoug . But that will not cause a crop to grow. This accounts for the fact which is often so surprising, that manure which has produced great crops on one soil has no good effect at all on another. A scientific farmer knows little of *poor* land. All land is good to him, for it will produce well if only furnished with the proper ingredients. So land that would only produce a very poor crop has been made to produce a very large crop by spreading upon it one or two deficient ingredients. These ingredients are, some of them, to be found in almost all substances—lime of oyster shells, ashes even of anthracite coal, charcoal dust, fish bones, &c. Every thing is composed of ingredients which must be had for the reproduction of itself, and many other things. Fruit trees cease to bear often because they have exhausted the soil of one or two of the ingredients which compose their fruit. Give them but these, and they will at once return to production. A pear *tree* may grow in soil which has not all the qualities necessary to constitute pears, and it can no more make pears without the necessary ingredients than the Israelites could make bricks without straw. One crop exhausts one set of ingredients, and another to some extent a different set; and so farmers learn the fact, without knowing the cause, perhaps, that the same crop should not be grown for successive years on the same land. Yet there is no difficulty in growing the same crop interminably, if only the exhausted ingredients are supplied.

A great deal has been learned about the mode and time of cutting and curing hay and grain. Grass, which, while lying out to be thoroughly dried, perhaps may get repeatedly wet, makes much better hay if with much less drying it is preserved with a bushel of salt to a ton. Salt is often cheaper than hay, so that the farmer makes a profit by putting it in, while the labor of curing is much diminished, and the good qualities of the hay much increased. Wheat cut in the milk has been found to weigh six or eight pounds a bushel more than when left to ripen to the usual time, and oats were still more increased in weight. So farmers have, perhaps, been suffering great loss for ages by cutting their grain at too late a stage of its progress.

The application of science to agriculture has developed wonders in the capabilities of the ground, which have lain from the creation unobserved. Men are astonished when they see what boundless blessings the Creator has spread thick around, and how slow the race has been in ob-

serving them. They have spent century after century in shedding each other's blood, in creating and spreading poisonous superstitions, and in every possible way destroying all that was good. Despising the blessings of creation and Providence, they sought their happiness in the employment of fiends, and if the malice of men could but have had its way, the race would long since have been extinct, and the earth would have rolled on to the end of its course, its treasures unexplored and useless. Science shows us that the capacities of the earth have hardly begun to be developed, and the human family hardly begun to exist, either in numbers or individual enjoyment. Evidently no sort of conception has been formed in the minds of more than a very few of the swarming millions which this earth is capable of sustaining in luxurious plenty. Land and labor have been brought so ignorantly together that nothing almost has been the product. The meagre stinted crops which have so poorly repaid the labors of the farmer, have exhibited the measure of man's ignorance rather than of earth's barrenness. We are opening now upon an era when every field will be a scientific laboratory, most interesting in its operations to every noble feeling. The change will operate to compensate the farmers near the great markets for the competition they endure from the cheapness of Western land. In proportion as the quantity of crops is increased, the value of proximity to market is increased. If the crop of wheat was doubled per acre, the expense of transportation per acre would be doubled, and this would go to enhance the value of land near to market to the amount of the capital upon which this saving would pay the interest. But when we come to fruits and vegetables, which decay rapidly, or are injured by much travelling, or are of great bulk compared with their value, then we have another element of value for land near to markets.

We are indebted for most of these suggestions to Mr. Pell, whose fruits, vegetables and grains attracted much attention at the late Fair. We do not, however, mean to make Mr. Pell responsible for any blunders which we have committed in repeating from memory a little outline of the very interesting conversation of half an hour which we had with him. We do not suppose that these things are as new or interesting to every body as they were to us; but they will, perhaps, set some of our readers upon a track which will bring them to more thorough and exact information.

Southern Independence.

The *South Carolinian* furnishes us with the following evidence that the Southern States are beginning to avail themselves of the advantages of their position. The people of these States have it in their power to make all the rest of the Union tributary to them. Heretofore, it has been just the other way. Every body has had his hand in our pocket, and has thriven by either plundering or outwitting us. The cotton crop of Georgia this year is estimated to bring some seventeen millions of dollars. Large as this is, Massachusetts will contrive, in various ways, to make more than that out of it. And yet we will hold up our heads and think we are getting on finely in the world. But these things are not going to be so always:

[From the South Carolinian.]

CAROLINA FLOUR EXPORTED!!!—The disastrous season of 1845, has not been without its good to many of our farmers. Those of them, whose corn crops had been ruined by the drought, planted plentifully during the last fall of small grain; and the result has been highly fortunate. Good crops have been made; and not only have our farmers been enabled to supply themselves with their own flour, but also to sell largely of their superabundant supply. Not only is the town of Columbia now supplied with flour from our own State, but a large amount of it has been exported to Charleston and elsewhere. Scarcely a farmer visits our town who does not bring his few barrels of flour for sale. Nor has he failed to be rewarded for this new enterprise of his industry. During the whole season, he has met with ready and good sale for the article. Sincerely is it to be hoped, then, that the market for domestic flour, now so favorably commenced in Columbia, will continue to increase every year. To encourage it, and fully develope this new resource of the wealth of the State, our Rail Road Company has very properly reduced the amount of freight on flour from 50 cents per barrel to 25 cents.

In a very few years, we expect to see Charleston, instead of importing large quantities of Northern flour, exporting hundreds of thousands of barrels of the manufacture of our own mills We hope to see this, nor will our hope be disappointed, if our farmers will only consult their true interests.

Agricultural Education.

Gov. JONES, of Tennessee, in one of his messages to the Legislature, makes the following remark:

"It has been justly remarked that he who contributed to the agricultural improvement of his country, was a greater benefactor than a hero of a hundred battles. The Legislature that shall adopt a liberal system of encouragement to the agricultural interest of the State, will have effected more for the *honor and prosperity of the country, than the establishment of a thousand banks.*"

Upon which a writer in the *Maine Farmer* comments thus:

"We are happy to perceive that such men as Gov. Jones are waking up, and apparently alive to the importance of cherishing a more liberal spirit in reference to the 'one great art.' During the past year, we have noticed, through the entire length and breadth of our land, an awakening and absorbing interest in the promotion of our national Agriculture. The old societies—the honorable and honored pioneers in the noble cause, have happily kept the public awake, and the attention of farmers fixed to the principles of improved husbandry, while we have witnessed North and West the organization of new societies in numbers unexampled in this country, and whose members, fired with a noble and patriotic zeal, have presented their first and best fruits to the gaze of the admiring multitudes with a devotion and apparent unanimity of feeling that augurs well to the cause. Yet there are some who hold back, refusing to accord their influence in effecting what every candid man, who rightly appreciates the true elements of national happiness and genuine national prosperity, must ever contemplate as one of the most important movements of the age—THE ADVANCEMENT OF THE AGRICULTURAL ART.

"We have much to say on this subject, as it is one in which we feel a deep and engrossing interest, and in discussing which, we hope to be assisted, in future, by every farmer in the land. The agricultural class have thus far been the dupes of pettifoggers and partizan politicians, and have but too truly enacted the part of the cat's paw in the hands of the monkey. How much longer, brethren of the plow, are we to be hood-winked in this way? W.

Southern Crops.

It is estimated that the crop of cotton of Georgia will, this year, bring somewhere about SEVENTEEN MILLIONS of Dollars Quite a respectable income this will be to our people, for one years' labor, bestowed on cotton alone. We would like to be able to add to it the value of the rice, sugar and tobacco crop—the value of lumber exported, and gold dug. But here, we can do nothing, for the want of statistics to be depended on.

In South Carolina, too, they are looking at their income with satisfaction. The Charleston Evening News furnishes us with the following statement:

THE STAPLES OF CAROLINA, THE EXCHANGES, MONEY, &c.—The year 1847 will be remarkable in the commercial annals of South Carolina. A higher than an average crop of Cotton, at more than average prices, a large crop of Rice, at high prices, and an abundant Grain harvest, assure the materials of general prosperity. The aggregate value of our Upland Cotton and Rice crops will exceed by nearly 33 per cent., at least, that of ordinary years.

An average annual product of Upland Cotton in South Carolina yields a value of	$6,000,000
An average crop of Rice in South Carolina produces	1,500 000
	$7,500.000
The Upland crop of the present commercial year for South Carolina alone, is estimated at 275,000 bales and the aggregate value, at $30 per bale, will be	8,250.000
The Rice crop of the present year for South Carolina exclusively, we estimate, at 100 000 bbls., which at $3 per cwt, will produce	1,800,000
Upl'd & rice crop of the present year	$10,050,000
" " " of former years, average	7,500,000
	2,550,000

Being an excess of nearly 33 per cent. over previous years. The above estimates are only approximations, and confined to S. Carolina, as the income from her crops is spent mostly within her own limits.

Now, if these vast amounts, the proceeds of our industry, were kept at home, it would be a theme for glorification indeed. But how much remains, after our people are supplied with the necessaries and luxuries which they buy annually? Will you tell us that? Estimate the value of the horses, mules, pork and cotton bagging brought from the west—of the carriages and furniture; cloths and silks; saddles, bridles and harness; hoes and plows; shoes, boots and hats; tubs, pails and buckets; brooms and brushes; nails and iron; hops and axe handles; hay and apples; potatoes and onions, &c. &c. &c., that are brought from the east, and you will find a ready solution of the mystery involved in the fact, that while other States, that make no cotton, are rapidly increasing in wealth, those where cotton is made are either stationary or advancing backwards very fast.

Our Exchanges.

Papers with which we exchange in Alabama, Mississippi, Louisiana, Florida, North Carolina, South Carolina and Georgia, are respectfully requested to publish our Prospectus, and call attention to our Fifth Volume.

To CORRESPONDENTS.—The report of the Agricultural Fair in Warren was received too late for this number of the Cultivator.

ERRATA.—In the fifth paragraph of an article headed "Respect for Labor," in our September No., eighth line from bottom of the paragraph, the name of "Varro" is misspelt *Varno;* fourth line from bottom, same paragraph for "proven" read *proud,* and in the line next following, for "when" read *while.*

Some attempts made last spring to cultivate rice in the neighborhood of Rome have fully succeeded, and a company has consequently been formed for the purpose of growing rice in the whole of the plain between Ostia and Porto d'Anza, which is 40 leagues long, and can be flooded at will by the waters of the lakes Albano and Lemi.

Mr. Charles Cameron states, through the London Times, that any vegetable substance may be rendered explosive in the same manner as cotton. He has successfully tried munjeet, hemp, flax, old rags, old paper, &c.

Original Communications.

Respect for Labor.

"And some with whom compared, your insect tribes
Are but the beings of a summer's day,
Have held the scale of empire, rul'd the storm
Of mighty war, then with unwearied hand,
Disdaining little delicacies, *seized*
The plow, and greatly independent lived."
Thompson.

Human nature, Mr. Editor, is so incredulous that we will not believe in the existence of any sentiment or emotion in an individual unless it be expressed and exhibited not only by words, but by some visible act. However trifling the act itself may be, it significant of the feeling expressed, it will prove, in many cases, a valuable assistant in gaining the conviction of those whose belief we are soliciting. Hence its great use in oratory. The great orator, being asked three times what he considered most essential in his art, is said to have replied each time, *action*. In fact, there is so much of the sensual in our constitution, that direct appeals to the senses, and especially to the sense of sight, often produce more lasting effects upon the feelings and conduct of men than any abstract reasoning whatever. Action is the language of passion and nature; in fine, "*actions* speak louder than words." Even the etiquette, which every man observes in his intercourse with the world, will demand this consistency, and regarded in a social point of view, our unbelief in a person's professions is in a direct ratio to the inconsistency that exists between his words and actions. Hence, if we wish to elevate any profession or occupation of life, we will assuredly fail unless we verify our expressions of respect by corresponding actions, for if men observe the inconsistency alluded to, they will doubt *our own* belief in the respectability of the institution we are advocating.

Unfortunately for Agriculture, its loudest and most conspicuous admirers are constantly lavishing upon it expressions of respect, while, at the same time, they disdain the idea of proving their sincerity by any act whatever. They admire the profession but advise their sons to pursue another; they will verbally award even to manual labor, all the respect it merits, but cannot brook the thought of engaging in it themselves, though it be merely to encourage others in this most useful branch of honest industry.

Now, so long as this state of affairs continues, it will be utterly impossible for Agriculture to assume that grade among the professions of life, which she so justly deserves. Manual labor must be respected, and it should be an object of importance with Agricultural Societies to introduce it among the higher classes, and thus by *example* remove the odium that is so unjustly and ungratefully thrown upon it. Nor would this procedure be without a precedent in the history of nations. We are informed that the Emperor of China, to testify his respect for agriculture by a visible act, *plows* once a year in the presence of his subjects. As a consequence too of the respect with which manual labor is regarded in the Celestial Empire, we are told that the inhabitants (though considered by us barbarians,) have carried Agriculture and Horticulture to the highest degree of perfection. Should not our Societies take a hint even from barbarians, and adopt some similar policy for elevating manual labor? Your correspondent feels unable to suggest any plan by which the desired object might be fully compassed, but believes that it would conduce to that end, if preference were given to individual manual labor, whenever premiums are awarded for the greatest amount of products grown upon a given quantity of land. All the competitors would then be on an equality—the rich and the poor upon the same footing; and the former, in contending for a prize, would not have the advantage of bestowing upon one acre of land the time and labor that might be more profitably devoted to ten. Besides this, the legitimate object of agricultural emulation would be attained—not the largest amount of products from a given quantity of land, but the largest amount with the least expenditure of time, labor and capital. If some such system were adopted a great impulse would be given to the ambition of all classes *as individuals*, and manual labor, being no longer considered the exclusive occupation of the lower orders, would escape the odium originating from that cause.

The introduction of manual labor in schools was doubtless intended to obviate the evil in question, and to elevate Agriculture in respectability; but, from some cause, the system has, in many instances, failed to fulfil the expectations of its friends. Some other plan more practicable should now be adopted by the Societies of the country, for the necessities of the case are just as urgent and apparent now as they ever were.

Besides what agriculture would gain in respectability by adopting the policy here suggested, might be mentioned other incidental advantages not less important. We would certainly be better acquainted with the manual operations of farming, and would be better qualified to accommodate ourselves to any revolution that might occur in our institutions. If coming events cast their shadows before them, from present indications we have many reasons to believe that slavery, at no distant day, will migrate almost entirely to the West. When cotton shall be fairly introduced into Turkey, India and Texas, we will find the institution not only unprofitable, (as it now is,) but burdensome, and past experience teaches us, that fanaticism will not be loth to avail itself of any advantage which circumstances may throw in its way. A member of Congress recently stated in his speech that he voted for annexation under the hope that slavery would concentrate itself in Texas, and that being thus confined to one portion of the country, it would be more easily abolished. Whether this hope will ever be realized is uncertain, but still these things are "portentous unto the climate that they point upon," and prudence advises us to prepare for any change that may happen, so closely connected with the interest and welfare of the South. Very respectfully, yours,

CAROLINENSIS.

Fairfield District, S. C., Oct., 1846.

Mastodon Cotton.

MR. CAMAK:—Having seen but little in the agricultural works of the country, in regard to this species of the cotton plant, which I think must, in a few years, supplant most of the other kinds now in cultivation; I have thought a brief account of my experience in its cultivation might not be unacceptable to your readers.

In the fall of 1844 I procured a few bolls of this cotton and planted in my garden the few seed from these bolls the next spring. The succeeding summer being a very dry one, and the manure used being fresh from the stables, the product was not remarkably large. I succeeded, however, in obtaining from it seed enough, by using them very sparingly, to plant three acres this year. This crop, until the boll worm commenced its depredations, was as fine a prospect as I ever saw in this climate, notwithstanding it was injured by a lack of distance between the rows, having given it only four feet. The land was not very rich, yet it had been lightly manured. I am quite confident if it had not been attacked by the worm, that I should have gathered a bale of 450 to 500 pounds per acre. The planting and cultivation were such as farmers in this section of country usually practice. The weed of this species grows much larger and more luxuriantly than that of other kinds; and for that reason, if there were no others, it would seem to be preferable to other kinds for planting on old exhausted lands. The bolls are much larger than those of other kinds, nearly twice as large, and I think as numerous. My opinion, founded on my short experience in its cultivation, is, that this cotton, planted on land of any quality, will give a larger yield than the most approved kinds now in cultivation would if planted on the same land. The seed of the Mastodon do not appear to correspond with the size of the bolls, not being larger than those of other kinds, and the staple or lint is fully one quarter of an inch longer than that of the best Petty Gulf or Texian that I have seen, and its texture in softness and fineness of appearance, very far excels either of those species. I am convinced by an experiment which I have just made, that a given weight of this cotton in the seed will yield a much larger weight of lint than the other kinds. But I will give the experiment itself, and your readers can form conclusions for themselves on this point. I selected from the patch after it had been twice picked over, one hundred bolls which I did not consider the *very best*, for the second picking had taken off the very best, and weighed them before the seed were fully dry. The weight of the hundred bolls was 28 ounces, just one and three quarter pounds. I then had the seed carefully picked out, and the lint weighed 11½ ounces, which was a yield at the rate of 1 pound of lint from 2 pounds and 7 ounces (a little less than 2½ pounds,) of seed cotton. The experiment was made under circumstances not the most favorable to show a large yield. The lint had become dry, but the seed were damp. Had the seed been perfectly dry the weight of lint from a given weight of seed cotton would have been proportionally greater. I then selected from one of Col. John B. Walker's fields one hundred bolls, the best I could find, of the Petty Gulf kind. The weight of them in the seed was one pound and one ounce. The lint, after the seed were picked out, weighed five and one half ounces, which was a yield at the rate of one pound of lint from 3 pounds and 1½ ounces of seed cotton.

According to this experiment, which I think was fairly made, one hundred pounds of the Mastodon, in the seed, will yield forty-one lbs. of lint, while the same weight of the Petty Gulf, in the seed, will yield only thirty-two pounds and five ounces of lint, making a difference in favor of the Mastodon of eight pounds and eleven ounces of lint in one hundred pounds of seed cotton. This, at 9 cents per lb., the price of common cotton in Augusta, gives a difference of 78 cents in each 100 lbs. of seed cotton.

Again: taking the result of the above experiment for the basis of the calculation, 1,277 lbs. in the seed of the Petty Gulf, will make a bale of 400 lbs. Of the Mastodon, 975 lbs. will make a bale of the same weight, 400 lbs. Again, every 1,200 lbs. of Mastodon in the seed will yield lint enough over what the same weight of the Petty Gulf will yield, to sell for ten dollars lacking a very few cents. Now, here is again in favor of the Mastodon species over other kinds of very nearly ten dollars per bale of 400 lbs.

Now, the farmer who makes an hundred bales of this weight would save very nearly one thousand dollars by cultivating the Mastodon. And then if the price of this species should continue as good as it was last winter, (15 to 17 cents per lb.,) it certainly is worth a fair trial by our farmers, no matter what the cost and trouble of procuring the seed may be.

When I shall have gathered in the whole of my crop, I intend to weigh the whole in the seed and then weigh the ginned cotton by the same weights. This may give a more satisfactory experiment of the yield from a given weight in the seed, than that made with the hundred bolls; but I am of the opinion that the result will not differ very widely.

The bolls of this cotton open very wide, and the cotton, though tolerably easy to be picked out, is not disposed to fall out, and will remain without wasting a considerable time in the patch. I am decidedly of the opinion that a hand can pick out one-fourth more in a day, than he can of other kinds. It is but right to mention too, that this cotton is perhaps a little later than those kinds which have been longer cultivated in this climate. I say perhaps, because, having not known it to be planted so early as other kinds from a fear that a late spring frost might kill it, the lateness of its opening may be owing mainly to this cause. But however this may be, experienced farmers think that when it shall have become acclimated, it will not be later than the other kinds.

These then, according to my experience, are the advantages of the Mastodon over other species. The weed grows much larger and branches more. The bolls are much larger and as numerous or more so. The product in the seed, from the same kind of soil, will be larger, and the la-

bor of picking out less, a hand being able to pick more of it in a day. A given weight in the seed will yield a greater weight of lint, and the staple is softer, longer, finer and fairer than of other kinds; and as a matter of course, the price in market must be better—all of which seem to me to be important advantages. J. C. PAULETT.
Madison, Oct. 28, 1846.

Crops in Florida.

MR. CAMAK:—For months I have been promising myself to become a subscriber to your paper, the SOUTHERN CULTIVATOR; but procrastination, that thief of time, improvement and money, has prevented me from fulfilling that promise until the present moment. The Cultivator is making its way in this State, and I think in a short time you will number many subscribers in Florida. It is strange, "passing strange," why planters will sustain many political papers, and suffer a paper devoted solely to their interests, "to go a begging" for a mere support. It is the same way with Christians. They give abundant support to party papers and suffer religious periodicals to breathe upon a pittance. The editor hardly getting sufficient of this world's goods for his labor of love to keep soul and body together:—the one, laboring for the spiritual good, the eternal happiness of mankind; the other, for the temporal welfare, the benefit, the wealth, the aggrandizement of the agricultural community; and neither likely to receive their due, their reward in this "our day." I beg, I beseech the planters to come up handsomely, earnestly, to the help of the Cultivator, *our paper*, the Southern planter's paper. We have, in this State, much need for papers devoted to enlightened agriculture. I regard Florida (at least many portions of it,) not to be surpassed for planting purposes. We want help to bring out the many resources for wealth we have here. Our country is healthy—the land productive and kind—the climate genial; and we can grow the Sea Island Cotton, the Sugar Cane, Tobacco, and many other plants that cannot be grown successfully in the older States. Some experiments are also now being made in raising and preparing the Bear Grass for market, and should it prove successful, the South will be benefitted thereby. I think, from what I have seen, that Sea Island Cotton can be raised in this country very profitably. Last year from 2 up to 4 bags to the hand was gathered in this county, and it sold from 14 to 30 cents per pound. This year, like the balance of the planters over the United States, we are making nothing, and I cannot perceive, from the ravages of the worm, that Sea Island planters in this county have suffered more than the planters of the common cotton. We have all suffered greatly, and I do not believe that more than half crops can possibly be made. In writing for the Cultivator, Mr. Editor, I thought I would write you a few words about crops, &c. &c.

Yours, &c., MADISON.
Madison Co., Florida, Oct. 25, 1846.

Improvement of Land.

REPORT OF THE COMMITTEE OF THE FARMERS' CLUB OF MONROE COUNTY.

The Committee appointed to report on "the most practicable means of preventing the exhaustion of soil, and on the improvement and reclaiming of exhausted land," have had the subject referred to them under consideration, and submit the following

REPORT:

It may not be inappropriate to preface what they have to say with a few remarks, on the necessity of bestowing more attention on the improvement of land in this section of our State. That our lands have become exhausted by long cultivation is apparent from the diminution of their yearly products—that the rich, fresh soil which once so fully rewarded the labors of the husbandman, is no longer present to yield remunerating crops, the red hills and deep gullies to be seen every where through our county too fully attest. And the time too, has passed away when one could purchase fresh land, and after exhausting it by cultivation, remove to a "new purchase" where more fertile lands might be obtained. Georgia has no more territory to distribute by lottery. Her last purchase has been made, and the land acquired has passed into the hands of private holders, and is already beginning to show the effects of exhausting cultivation. He, who now wishes to procure fresh land, must seek it in the "Far West." He must cut loose from all the endearing associations which bind him to relatives, friends and neighbors—he must leave all the comforts and conveniences which for years he has been gathering around him, and bidding adieu to his native State or the State where he has long resided, and around which his best affections cluster, take his journey over a long and wearisome road, to find a home in the far distant west, and when he finds him a home he may, perhaps, also find an uncongenial clime, as productive of fevers, as his new land will be of plentiful crops. Or, if he shrinks from the privations incident to a new settlement, and determines to remain amongst kindred, and friends, and neighbors, and still cultivate old and worn out fields, he must begin the work of improvement, or unrewarded labor will be his doom. What system shall be recommended as the best means of improvement in the work we now have before us? The Committee truly regret their inability to do justice to the task imposed on them. They have no new mode of renovating soil to recommend. They pretend to no discovery of a system which will supercede the use of patient toil and unremitting labor.—Nor will they submit a plan clothed in the technical language of agricultural chemistry, which to a majority of readers is nothing but unintelligible jargon—nor will they propose a system of improving land by the use of lime, so costly in its nature as to be carried into effect only by the wealthy. All that the Committee aims at, is to present briefly and in as plain and simple language as possible, what they conceive to be, if not the best, at least the most general and practicable means of preventing the exhaustion of land and of restoring fertility to soil.

And to effect both or either of these objects, they deem in the first place, hill-side ditching to be indispensible. In vain may a man expect his fields to retain their original fertility, while the soil is liable to be washed away by the heavy rains so common to our climate; and in vain may he expect the application of manures and other means used to restore fertility to soil to be successful, while the same exposure to the desolating effects of washing rains which first carried away the soil, still continues. The third year after land has been in cultivation, and before any of the soil is carried off, is the proper time to commence ditching. Made thus early and at suitable distances to conduct the water off gently, soil may be made permanent.

We are aware that many object to hill-side ditches, because they do not always effectually carry off the water of heavy rains, and when the water breaks over them the land, it is said, is injured more than before they were made. But we are of the opinion that this more frequently happens from the imperfect construction of the ditches, than from any inherent defect in the system itself. If sufficient fall is given (and this must be graduated according to the declivity of the ground,) so that the water may pass off freely and without obstruction, and if they be made wide and deep enough to contain all the water which may flow into them, and not be extended too far before they are emptied, so as to prevent too great an accumulation of water, it is believed that ditches thus constructed, will effectually answer the purpose intended. But another objection to them is, the number of short and crooked rows which necessarily attend them. To this objection we would simply reply, that it is better to have short and crooked rows on productive land than long and straight ones over unproductive red hills and deep gullies.

To those then who have fresh land under cultivation, we would recommend in the first place, that it be properly ditched so as to prevent the soil from being washed away, and when this is effectually done, or at least as much so as the nature of the ground will admit, then a rotation of crops with rest every fourth year will as effectually prevent soil from deteriorating as any plan the Committee can recommend. To give an example in illustration of the views of the Committee, and if it be not at all times the best rotation, let such other be substituted as circumstances may justify:—

Let a field properly ditched be cultivated in cotton one year—in corn the next—a crop of small grain the third, and then suffered to lie fallow the fourth, and in the fall of that year let the crop of grass and weeds while green be well turned under without bringing up the subjacent clay. This rotation (and no other can be thought of in this cotton growing country,) will preserve land as nearly in its original state of fertility as any system of cultivation known to us in the South.

To reclaim exhausted land and restore fertility to it, the Committee would also, in the first place, recommend a thorough system of ditching, for as the soil has been carried off by washing rains, whatever is applied to replace the soil taken away, will be swept off in like manner unless means are used to prevent it. But where washing is effectually prevented, galled hill-sides and red worn out places may be restored by rest and the application of manures from the stable and compost heap, and by plowing in green vegetable matter. To collect and apply manure to all such places in a farm of much magnitude would be a tedious and laborious business. We would not discourage the use of manures, but, on the contrary, would recommend all to prepare and apply to their worn out lands as much manure as possible. But we fear that the permanent improvement of such land will not be very extensive, if it depends on manure alone; because the great quantity required to improve even a small extent of ground, and the tediousness in collecting and applying it, will deter from the use of manures to a very great extent. But there are other modes of improvement to be used, and no good farmer will confine himself to one alone, but will resort to all which experience has proven to be successful. Hill side ditching—manures—a judicious rotation of crops—rest and plowing in green vegetable matter—all these combined, or used separately, as a sound judgment may dictate, will assist greatly in restoring exhausted land. And they are means which can be used by all—by the poorest, as well as by the most wealthy—by the humble farmer whose own hands toil for his support, as well as by the wealthy planter, whose fields are cultivated by a hundred slaves.

We said that in discussing the subject submitted to us, we would not use the technical language of agricultural chemistry—we will adhere to that promise, but beg leave, while on this branch of the subject, to refer briefly to some of the elementary principles of that science.

A fertile soil consists of the mineral elements of which it is composed, together with decayed vegetable matter. We shall not state the ingredients contained in it, nor the proportions in which they are united. But a bare reference to the fact that a fertile soil is thus constituted, is sufficient for our purpose. Plants derive their support in part from the soil in which they grow and in part from the atmosphere. Each plant draws from the soil those elements peculiar to itself—one draws a greater proportion of lime than another—a second, a greater proportion of potash—and a third finds its chief support in some other one of the mineral constituents of soil; and it is upon this fact, well established by analysis, that a rotation of crops is recommended. All farmers acknowledge the necessity of a change of crops, for by cultivating one for many years in succession in the same field, the land becomes unproductive, and will scarcely yield enough to pay for the labor bestowed on it—and the reason is that the elements in the soil, which form the peculiar support of the crop grown, become exhausted, and the land will not again yield plentifully of that crop, until it has had rest and time to collect a new supply of food necessary for the growth of that particular kind of crop. Hence, by a change, the soil will be allowed time, by a process which is constantly going on, and of which we shall speak presently, to become re-charged with one of its mineral constituents, a too great proportion of which has been carried off in the crop taken from it, and the new crop planted will find other sources of nourishment in another mineral element, which forms its peculiar food, and which has not been drawn from the soil—and thus changing from one to the other alternately, the soil becomes charged with fresh nutriment for each crop in its rotation. And the use of fallows, that is, allowing land to lie at rest, is also based upon this principle; for it is a well established fact that there is a resuscitating power in soil itself—a

tendency or an effort to regain its lost strength. If suffered to lie at rest, it will, by the action of the rains which fall upon it and penetrate it, and by the influence of the atmosphere operating upon and dissolving the rocks interspersed through it, either in small or large particles, and combining the mineral substances thus liberated with decaying vegetable matter, acquire new vigor and a fresh supply of those elements of which cultivation has deprived it. It is in this way that during fallow the action of the air and moisture gives to soil a fresh supply of the elements of fertility, and prepares it for a new crop. This is the process spoken of above, and is the effort of nature to restore fertility to soil. Now the art of improvement consists in aiding that effort. As in the human system, a wise and beneficent Deity has implanted what physicians call "the healing power of nature"—that is, a power in the system, when it becomes disordered, to return to health, and the use of medicine is merely to assist that power; so—if the analogy may be allowed—he has also, in His boundless goodness, implanted in soil a resuscitating power, else would continued and exhausting cultivation make our world a vast and boundless desert; and (if we be not running the comparison too far) when soil has become deteriorated and is making an effort to recover its pristine vigor, we must bring all the means in our power to the aid of that effort—we must assist in supplying those fertilizing substances of which cultivation has deprived it—and when those substances are supplied we must prevent them from being washed away by the next rain which may fall—we must apply manures—we must plow in green crops, and withal we must give the soil time to resuscitate itself, and not make too frequent drafts upon it without affording it that rest, without which every thing that is in constant action will wear out.

We have now gone through briefly—perhaps too briefly—the subject referred to us, and we fear we have imparted but little information—certain we are, we have advanced nothing new—no ideas with which the members of the club are not already familiar. We have had no new theory to communicate. Our aim has been to condense, in as few words as possible, some of the plainest, cheapest and easiest means of improving land, and to offer some reasons to stimulate the members of the club to commence the work of improvement. If this should be done, our object will be attained.

E. G. Cabaniss,
J. Powell,
J. R. Turner. } Committee.

From the Massachusetts Ploughman.

Agricultural Reading.

Mr. Editor:—Many valuable hints to farmers are found in the Ploughman, as well as in other kindred prints. Studious, industrious farmers are always glad to avail themselves of these hints as helps in the pursuit of their vocation; hence, no good farmer, ambitious to excel in his calling, will be without some well conducted agricultural journal, as a prompter in the labors of the field.

Agricultural reading is becoming pretty general now-a-days among farmers. I rejoice to see it. It bespeaks a thrift, honorable in itself, and tending to much good. It cannot fail in the end, to raise the standard of the plow to its legitimate place among the other callings of the land.

But agricultural reading should mostly be practical, not merely theoretical. Facts and experiments should be detailed by the observer and experimenter himself, together with the results that follow.

These agricultural papers should be carefully preserved and kept on file, and, at the close of the volume, stitched; and thus, with the help of an index, they become a book of reference, at hand and convenient at all times. A neat and careful farmer will attend to this.

Farmers should respect themselves; should educate themselves, their sons and their daughters to become useful and happy at home on the farm; should make the farm and home the nursery of great thoughts and good actions. The great and beloved Washington was a farmer and delighted in farming. The seeds of his after greatness were sown while in his youth, on the farm. Though perhaps no one of us is destined to become a *great* Wshington, yet we can all become *little* Washingtons by the practice of virtue, the love of country, and a mind trained to noble patriotism. So mote it be.

I said agricultural reading has become pretty general at this day among farmers. Twenty-five years ago it was not so. Few agricultural papers were then published, and religious and political papers at that time introduced little or nothing on the subject of farming into their columns. But how is it now? Scores of papers in every part of our country have come to life devoted principally and ostensibly to the cause of farming; besides, all other papers contain more or less agricultural reading matter in them. This augurs a living and growing interest in the cause of the farmer. Let the farmer rejoice at the prospect before and all around him. Yea, I say let him look *up* and rejoice, and persevere, and hope for the consummation of all laudable good in his behalf.

A taste for reading is of inestimable value to farmers as well as to other classes of men. Now persons that have not a love for reading and mental improvement can estimate its value in the journey of life, especially as old age draws on. Addison, the great English moralist of the seventeenth century, has told us a taste for reading and the cultivation of the mind naturally render old age cheerful and happy. Think of this, reader, especially if you are young. Who would not be cheerful and happy when they grow old!

It has long been my anxious desire to see farmers every where more intelligent, more exalted and more worthy the station they occupy in this great and goodly republic. Well would it be for our wide extended realm, should a noble, virtuous, intelligent yeomanry arise and boldly stand forth to sway our country's destiny against demagoguism and the hand that would corrupt and lead astray from the good old paths of the founders of *republicanism* and the *rights of man.*

"Ill fares the land, to hastening ills a prey,
Where wealth accumulates, and men decay.
* * * * * *
A bold peasantry, their country's pride,
When once destroyed, can never be supplied."

Respectfully, B. F. Wilbur.

Piscataquis Co., Me., August 24, 1846.

From the Albany Cultivator.

Neatness in Farming.

We have somewhere heard the remark that with the good farmer every thing gives way to his business—that utility is all, and appearance nothing; hence you are not to expect neatness about his dwelling, his door-yard being cut up into mud by the farm wagon and the manure cart, contiguity of barn, pig pens, and kitchen, such as convenience, and no freedom from the peculiar odors of hog yard and rich manure heap, may dictate.

Now, to speak bluntly, this is all nonsense. It so happens that in farming, neatness and thrift almost invariably go together. The same love of order which prompts the farmer to clear his yard of broken barrels, old hoops, fragments of boards, and sticks of wood, and whatever else defaces and defiles his premises—also prompts him to have a place for every thing and every thing in its place, which is calculated to bear upon real and substantial profit.

Some of the very best farmers with whom we are acquainted—whose eminent success and heavy profits separate them in this respect in bold distinctness from the rest of their neighbors—are patterns of neatness; and the touch of their hand in the expulsion of every kind of nuisance is visible all over their farms. Their door yards show that the master is "at home;" the barn yard, which is not so near the house that all the butter and cheese manufactured is flavored with the effluvia, exhibits the same neatness, even where all the refuse of other places is collected for enriching in due time the rest of the farm. A farmer of our acquaintance, with 160 acres, in whose farm-yard we could scarcely ever discover a wisp of straw in the wrong place, remarked, "O, I don't attempt to make a great deal from my farm—I expend so much in improvements, that my clear profits are only about a thousand dollars a year. Another of those neat farmers in whose field cockle, docks and chess obtain no foothold, nor along whose fences a solitary elder-bush or nettle is ever seen, raised twenty-seven hundred dollars worth of farm produce at the prices of 1844, and both of these farmers live in Western New York, where prices are comparatively low, entirely away from the peculiar advantages of market which nearness to great cities gives.

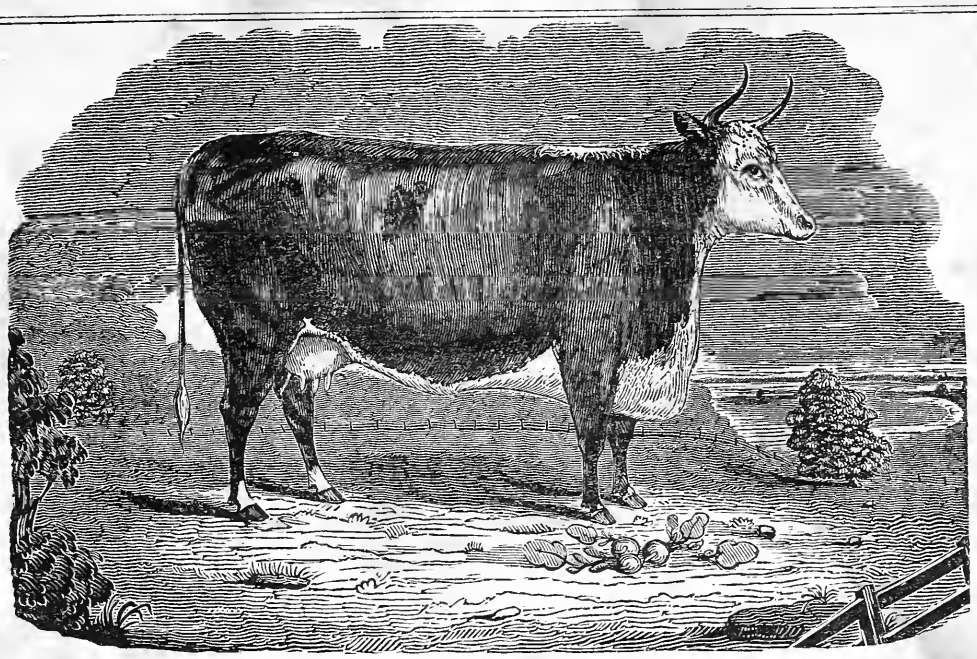
Now, let no one say that these remarks are made at the wrong season of the year, and that nothing can be done for neatness and order in the winter. The same general rule, in some shape or variation, has an almost infinite number of applications. The care of domestic animals in winter, needs pre-eminently the application of this rule. No animal can thrive well in the midst of dirt. Even a pig does not love dirt for dirt's sake—he only happens to be so much of a philosopher, or rather stoic, that he is willing to endure dirt for the sake of a soft and cool bed in summer; for it has been found that these animals thrive better and fatten much faster when kept clean and *well curried.*

Horses and cattle are often neglected in cleanliness. We have actually known some who did not clean the manure from horse stables for months, allowing it gradually to thicken under foot with the accumulating litter till a foot in thickness—and reasoning doubtless as the boy did who combed his hair once a month, and was astonished that such torture and trouble from the operation could be endured daily by other people. A farmer who does his own chores, can hardly afford to keep his horses so finely as the gentleman of wealth, who has a man for no other purpose; but every one should have his stable floor perfectly clean at least twice a day, once in the morning, and once at night, before littering, and oftener would be better. the oftener done the easier accomplished.

There are many other particulars where neatness may be attended to in winter. Gate hinges and gate fastenings often need repair, that they may shut like clock-work; boards become loose on old barns and board fences; tools become awkward for use and need remodelling or renewing; and many other small matters, in doors and out, require attention. We are aware that to many of our readers, who are already examples for others, such hints as the preceding are not applicable—to such we can say that they need not read them—like the man who chisseled on the stone at the fording place, "When the water comes to this stone it is unsafe to cross."

Fertile Soils.

The efforts of science have already succeeded in demonstrating in the most satisfactory manner, that in order to be fertile, a soil must contain all the mineral ingredients which enter into the plants intended to be grown upon it, and under such circumstances, and in such condition as to render them easily available by the roots of plants; and in sufficient quantity to ensure a supply, by some judicious and economical system of cultivation, during the growth of the crop, whatever it may be. It should also be so constituted as to render it easily permeable by the roots—consisting of a due admixture of impalpable matter, with a *quantum sufficit* of larger particles, so that it may possess the advantage of porosity, and admit the fructifying agents without obstruction to assist in the perfection and maturation of the crop. There should also be present in the soil a due proportion of matter capable of undergoing chemical changes, and intermixed therewith, a supply of organic particles, capable of decomposition through the agency of air and water.



HEREFORD COW, "MATCHLESS."—*Imported by W. H. Sotham, Esq., Albany, N. Y.*

HEREFORD CATTLE NO. II.

THE beautiful cut which we give of one one of the most symmetrical cows ever imported into America, is, as far as we are capable of judging with the naked eye, a most capital and faithful likeness of that animal. We saw her at *Hereford Hall*, near *Albany*, in 1844, on a day when her capacity as a milker was submitted to the piercing eye of no less a judge than Daniel Webster, who, amongst his various transcendant qualities, is well known to the farmers of the Northern States, as one of the very best judges of neat cattle. Mr. Webster pronounced Matchless "*The best cow for all purposes*" he had ever seen. His scrutiny extended to every part of this *model* cow, and as his ungloved hand pressed her silken coat, and tried her flowing udders at the pail, a glow of honest farmer like pleasure lighted up his swarthy face--the remembrance of the joys of boyhood seemed to have driven the vexed cares of the politician from his heart, and he stood among his brother farmers in the only capacity in which he has ever been true to the noble attributes of his genius—as "the farmer of Marshfield." Matchless, previous to this time, had carried off the highest prizes at the Smithfield Show in England, and had been equally successful before the prejudiced Short-horn judges with which the State Agricultural Society of New York had been burthened. She was imported by Mr. Sotham, at a high figure, but we believe he has never been repaid for his enterprise, and the determination with which he set out, viz: of "having the best cow in England." Matchless, like all highly prized animals, died in 1845, and left but few of her progeny—but those few are of a superb cast.

The illustration of the Hereford cow, bred by the Earl of Talbot, in Professor Low's Breeds of Domestic Animals, is before us as we write, and comparing the outline of that *picked* plate, with that of Matchless, we find it to be identical in every particular; remarking at the same time, that for symmetry and some of the boasted characteristics claimed specially for the Short horns, the latter excels the representation made as a model of this breed. We also take the liberty of testifying to the remarkable similarity of appearance displayed in this herd of Messrs. Sotham and Corning, which was so perfectly matched, that to a person unaccustomed to seeing the ring-streaked and speckled Jacob's cattle" of the country, it was difficult, even after an acquaintance of weeks, to designate one particular cow from another. They all look alike, and are consequently a pure breed.

The Hereford cattle have not had a fair chance, even in England, and in this country the illiberality of a *clique* of Short horn breeders did all it could to drive them from before the breeding public. The public, however, have the satisfaction of seeing this very *clique* themselves *driven out of sight in their own class, by the liberality and excellent skill* displayed by Mr. George Vail, of Troy, who has made it his pride, annually, to import one or more of the best Short horns from England, and who had the satisfaction, at the late Agricultural fair of New York, to have the six highest premiums awarded to animals bred and exhibited by himself. We intend, as soon as we get through with the Herefords, to give our attention to true Short horns, such as are bred by Mr. Vail. The Herefords have suffered much from want of advocates, who had access to the public through agricultural journals and works.

As cattle for the tenantry, they were wide spread throughout the South and interior of England, but the Messrs. Colling brought out *the fashion* of the Short horn breed, which took like wild-fire with the nobility and gentry of the country, and what was really the luckiest cross which ever happened in the world, fell into the hands of those who were able to spend thousands of pounds upon a single animal, and the result was the *establishment of that paragon of breeds*, "the true Short Horn," which will always be a favorite one with those who are able to bestow on them extraordinary care and extra food. It was different with the Herefords. They were in the hands of the small farmers and tenantry—who, like our own agriculturists of the present day, did not seem to understand the economical policy of giving an animal all it would consume, and turning its carcase into cash for re investment, at the earliest possible age. Yet with all these disadvantages, without a trumpeter save the butcher and butter-maker, the Herefords held an even race with their pampered rivals, and since they have been taken up by those persons who manifest an interest in improving them, they have carried off a flattering proportion of all the premiums, wherever exhibited. Mr. Tompkins, who died about thirty years since, was the first improver of this breed. His exertions were cotemporaneous with those of the celebrated Bakewell, whose improved *Leicester breeds* of cattle, sheep and swine astonished the world. After Mr. Tompkins, came Mr. Price; and latterly the Earl of Talbot, and the noble, generous and hearty-souled Earl of Warwick, have taken hold of them with a right good will. This last adoption of the breed will do much for it even in England, where ten to one of the Herefords still remain, in the hands of the petty, rent-paying, high taxed farmers, who can scarcely keep the thatch on the roof over them and straw in the manger. There have been no exhibitions of "Hereford Oxen," or "Immense Hereford Heifers," to bring them before the public, and to secure attention to them. Their history is crammed away in a page or page and a half by Cully, Bailey, the Rev. Henry Berry Loudon, and that modern authority Youatt, who palmed a most disgraceful production, as far as the history of British cattle is concerned, on the "Society for the Diffusion of Useful Knowledge." We regret that it has been so extensively circulated in America, and were rejoiced to see it announced that "Lewis F. Allen, in his celebrated history of Short horns has demolished Youatt's authority." Youatt was a pretender who compiled a book, the different accounts of breeds which it contained being written by interested breeders, and which is now banished from the countenance of the English breeders, throughout the kingdom, by reason of its many errors and false statements. The only valuable portion of Youatt's work is the Veterinary Department, which, however, is not so reliable as Clater's Cattle Doctor, with notes by John S. Skinner. But with all the disadvantages of poverty in ownership and titled opponents, against whom they have had to contend, the Herefords have worked themselves into high favor and notice in England. Though not so quick as the Devons —they bring more weight to the yoke, and their proverbial docility makes them the best oxen to be found in the world. They are prized as hardy, well constitutioned, thrifty and profitable animals for all the purposes of the agricultural breeder, and must, sooner or later, become a breed as popular in America as it is valuable elsewhere.

It is true, the Herefords will not live on the wind, or on sedge straw and sunny hill-sides in winter, and a burnt up pasture in summer, and it is equally true that as long as we expect to convert these *almost intangible agricultural aids* into flesh, bone and blood, we will never be able to keep Herefords or any other good breed of cattle. We want a breed of cattle which, by converting good food into flesh, butter and manure, will repay us for extra care bestowed on them. We honestly believe that the Herefords will do this as certainly as any breed which now obtains, and look forward to the day when they will at least stand on the same platform with their beautiful rivals the Short Horns, and then we can say "with a fair field and honest judges," we will ask no odds to ensure them triumphant competition. In our next, we shall abridge Professor Low's history and bring other claims of this breed to notice.

Ravenscroft, S. C., Nov. 1846. A. G. SUMMER.

Agricultural Meetings.

Monroe and Conecuh Agricultural Society.

Mr. Camak:—In accordance with a resolution of the Monroe and Conecuh County Agricultural Society, I send you a report of a Committee that was appointed at our last meeting to investigate the nature of our soils and the best means within our reach of ameliorating them, with a request that you have the report published in the Southern Cultivator.

Respectfully yours, &c.,
John Green, Corr'g Secretary.

Burnt Corn, Ala., Oct. 10, 1846.

The Committee to whom was referred the subject of "investigating the nature of our soils and the best means within our reach of ameliorating them," beg leave to submit the following

REPORT:

As a full knowledge of soils can be derived only from analytic chemistry, which requires not only the chemist but the laboratory, we do not suppose that any such thing was contemplated as a presentation to the Society of a report upon the various ingredients, as well as their relative proportions which enter into the composition of soils. Your Committee therefore will be content to present to you such general views pertaining to the nature of soils as they have been able to collect from limited experience and observation, aided by a partial knowledge of chemistry. In the infantile state of our Society we believe that some general and practical observations will be more likely to prove acceptable and useful than a minute scientific account, embracing, as it necessarily would, many of the technicalities of science, which might prove unmeaning terms to plain practical planters.

All soils possess three principal ingredients, namely: sand, clay and lime. These are not only required to be present, but they must be combined in certain proportions, and the more thorough the comminution and intermixture, the better. These three earths are generally found in nature in a state of binary compound, having had their several bases, silicum, aluminum and calcium, acted upon by oxygen, and constituting what are termed oxides. Many experiments have been instituted by different men for the purpose of ascertaining those proportions best suited to vegetation. According to Tillet, the most fertile mixture he could produce consisted of three-eighths clay, three-eighths finely pulverized limestone, and two-eighths sand.

In the analyses of natural soils which we have examined, made by men whose attainments in science entitle them to much credit, we do not often find so large a proportion of lime as three-eighths; and even the alluvial soil of the river Nile, which must be regarded as the *ne plus ultra* of fertility, does not contain so much, according to the analysis of Silliman. Your Committee think, however, as a standard, we should not err widely in taking the above proportions. From the best examination of the subject we have been able to make, we think the soils of Monroe and Conecuh counties abound too largely in silex or sand for the clay and lime they possess. This excess of sand gives to them too much porosity, which causes vegetation upon them to suffer much during dry weather, and detracts much too from their susceptibility of improvement, as the elements of manures put upon them rapidly descend and are in a great degree lost. On the other hand, if clay exist in excess (which is rarely the case in the opinion of your Committee, in these counties, as most of our clays are largely mixed with sand,) the soil is found to have too much tenacity, not sufficiently friable, is too retentive of moisture and consequently cold. Such soil is necessarily unproductive from the fact of two of the most powerful agents of vegetation being in a great degree excluded, namely, heat and atmospheric air. We are aware of the great repugnance existing among many planters to clay, and especially *red* clay, from the fact, we suppose, of associating with it the poverty of worn out and gullied hill sides, which are usually presented to us in a scarlet garment, but as an ingredient of good soil it must be regarded as indispensable. Much clay too contains, besides alumina, a considerable portion of lime and sometimes some of the fixed alkalies, or perhaps the volatile alkali, ammonia, supplied probably by rain water, all of which tends to render it fertile. When clay is exposed to the action of the atmospheric air it becomes friable and pulverable, and ceases to be of that cohesive, unwieldy nature which it is first found to be. The fact is evinced by examining the clay which has been brought to the surface by the roots of trees that have fallen.

Having stated the three principal earthy components of soils, and, as nearly as we are able to arrive at it, their relative proportions, we proceed to the second and most important part of our subject, namely, a consideration of the best means within our reach of amelioration. By agriculture we understand not only the preparing and cultivating the soil, but the application to it of such chemical agents as give to it the highest degree of fertility, and consequently enable us to reap the largest rewards for the labor bestowed. He who has learned only the first or mechanical part is but a novice, notwithstanding his head may have grown gray in the tillage of his fields.

The amelioration of soils by the application of manures, or "chemical agriculture," is accomplished by two different sets of agents; the first are those which increase productiveness by imparting an additional amount of nutritive matter; the second are those that develope and call into action such substances as are already existing in the soil, and which, having done all the good they are capable of effecting in their old combinations, require further decomposition, from which result re-combinations, and thus they again become operative. It is not unfrequently the case that the same article is found productive of both these effects. This is true of animal manures generally. Vegetable manures on the contrary appear to act almost exclusively as aliment, exerting but little influence as renovators of those substances which have been previously incorporated with the soil. To mineral manures belong the last named office; they operate by improving the texture of the soil, and by their solvent powers, bringing into use all the insoluble humus; and by favoring and accelerating decomposition they make those substances yield up their nutritive matter, which would either forever lie dormant or else be so slowly parted with as to be productive of little or no perceptible good. Most of the lands tilled in our counties have been subjected to a long course of wasteful cultivation, and so sterile have they become that some attention to their improvement is now imperiously demanded, or else they must be abandoned as no longer capable of giving us support. 'Tis true from their brokenness in many places locality discourages the effort to reclaim, but in many others position highly favors. The earthy components and their proportions, as well as the action of the three different classes of manures described, being known, every planter should inquire what it is his soil needs. If he find it in want of new alimentative matter, let him immediately proceed to raising stable and cow-pen manures, and with them make a compost heap. It is, indeed, surprising how these things are neglected by most planters. The large amount of forest lands accessible to most of us renders it quite an easy matter to raise compost manures, especially if we are convenient to a pine forest, as many of us are, as pine straw answers a better purpose than almost any other vegetable litter furnished by the forest. 'Tis true it contains much acid, and consequently is slow in undergoing decay by itself, and from this circumstance is actually productive of injury very often when used alone, but if thrown into our farm pens and trodden by animals, as well as mingled with their excrements, its acidity is corrected, its decomposition hastened, and it becomes an excellent ingredient in the compost heap, adding largely both to the quantity and quality of the bulk. In the same manner oak leaves, corn stalks, oat straw, wheat straw, and indeed everything bearing the name of vegetable may be converted into highly useful matter. Our counties favor much, as well as our climate, the raising of cows, which might be made very profitable by raising manures from them, to say nothing of their value in other respects. If, on the other hand, the planter should find upon examination a sufficient quantity of aliment already existing, but wanting a chemical agent to bring it out, or in common language, his land is rich but tired, let him go to work in hunting lime or marl, for such is the agent for his purposes; and your Committee feel confident, from the few examinations they have made, it will be quite an easy task to find it in many places in great quantities and of superior quality. The article found so abundantly on Burnt Corn and Limestone Creeks, of which no other use has as yet been made than to build chimneys, we think is one of the most valuable marls we have ever seen. Upon analysis it is found to contain a fraction over 81 per cent. of carbonate of lime mixed with sand, thus constituting what is called by writers sand-marl. Clay-marl, another variety, would be found to suit our sandy soils better if it could be found as rich in carbonate of lime. The lime, which is the principal agent sought after, would be the same in both instances, but the clay itself would make the clay-marl answer a better purpose, because it would impart a greater degree of consistency to such soils as are too loose. Again, if the soil is too close the sand-marl will be found best. We wish to call attention particularly to this chimney rock, believing it will be found upon trial to serve most valuable purposes. It will, we believe, be found very available, as we learn the rains and freezes of *one* winter, when pounded or broken into small lumps, will reduce it to a powder. We earnestly request and hope that no article existing in such quantities, and from its chemical composition promising so much, will be passed by another year without many practical tests of its value. Your Committee might say much on the subject of *applying* marls, but they do not think it fairly comes within their sphere of duty and they refrain. We cannot withhold an expression of the opinion that much benefit might result from *curtailing* the quantity of land cultivated, and making that which we do cultivate better. Much labor we believe might be saved, and a better yield to the hand. We have often heard it said that a man must plant *largely* to reap *largely*, but it is a saying fraught with error, if by planting largely is meant that a man must task himself, if his land be *poor*, with a large amount of surface, thereby hoping to make up in quantity what his land may lack in quality. Let us work less and make it richer.

Though the means of amelioration embraced by mechanical agriculture are neither few nor unimportant, we shall be content with a few remarks only on this head. This is a part of the subject to which planters have devoted themselves chiefly, and aware of the difficulty of removing them from the beaten paths of their grandfathers, to which many seem to cling with almost the tenacity of the dying man to life, it is with diffidence we approach the subject of mechanical amelioration. The system of cultivation adopted here we cannot regard in any other light than as highly defective. If our planters could but be taught the important fact that the treasures they are in search of lie a little *deeper* in the earth than they have been accustomed to regard them, and deeper too than they were in the days of their grandfathers, much improvement, we think, would accrue to our mode of cultivation. The superficial plowings and hoeings which we are in the habit of giving to our land, in many instances never

reach those treasures, or but barely skim their surfaces. How many thousands have ruptured all those endearing ties and fondly cherished remembrances which bind every man to the land that gave him birth, and the home of his fathers, and, after many sacrifices of the earnings they have been years accumulating, taken up the line of march to a distant and new country, encountering all the privations and hardships necessarily incident to a long travel and a life in the wilderness, in search after virgin soil, when, by *lengthening* their plow points a few inches, perhaps they might have found it in their old, and, as they supposed, worn out fields. The plow is of more importance than any other, and we might say, than almost all others together, of agricultural implements. Of so much importance is it, that by the manner in which it is employed may be very fairly determined the character of the planter and his success. In *preparing* our lands for a crop it is of almost paramount importance to plow deeply. The advantages arising are very great. It enables the roots of plants to penetrate a greater depth, and, by encouraging ramification, they are made to occupy more space, consequently their chance both for moisture and sustenance is proportionately augmented. By *aeration* of the soil too, chemical changes take place that otherwise would not or could not, which not only generate an increased amount of food for plants, but also an additional quantity of caloric or heat, which is highly promotive of vegetable growth. For instance, a quantity of undecomposed vegetable matter lies so deeply imbedded that it is not reached by the surface plow; as soon as the subsoil plow reaches it the oxygen of the atmosphere combines with the carbon of the vegetable, thus generating *carbonic acid gas*, one of the chief supporters of vegetable life. In this process, as all know, is generated a large quantity of heat. The benefit of subsoil plowing will be clearly seen during dry weather in securing moisture by capillary attraction from *below*, when we cannot get it from *above*, and thus continuing the growth and preserving the green color of the plant, when otherwise it would be checked in its growth and turn yellow. If a shower should chance to fall too, under such circumstances, its benefits would be much more lasting. We think we cannot recommend too highly the *subsoil* plow as a meliorating agent. One constructed by a good smith would answer all the purposes of the cast iron one, and would cost but a dollar or two instead of from $7 to $9, which is the cost of the latter in Mobile. A bar of iron properly curved and flattened at the point after the fashion of the coulter will answer all purposes.

WM. CUNNINGHAM,
JOHN GAILLARD,
MARK McMILLAN,
MURDOCK McCORVY, } Committee.

Talbot County Agricultural Society.

The Talbot County Agricultural Society met according to adjournment, it being the Anniversary of the Society; the President, Jesse Carter, being in the Chair.

On motion, the Committees on the various subjects, previously assigned, were called upon to report, and those not prepared with written reports were instructed to make verbal ones.

The Committee on Grains made a short verbal report. The Committee on Roots and Garden Vegetables reported, and their report was received. The Committee on Soils failed to report. The Committee on Stock reported in part, and the subject was referred back with the addition to the Committe of James Z. Dismukes. The Committee on Domestic Manufactures reported, and their report was received.

On motion,

Resolved, That a copy of the report upon Roots and Vegetables, and also that upon Domestic Manufactures, be forwarded for publication in the Southern Cultivator.

The Committee to obtain an orator reported that Gen. Hamilton, of Alabama, had been requested to address the Society, but that in his reply he stated that important business arrangements would not permit him to be present at our Anniversary—that he would, however, take pleasure in addressing the Society upon some future occasion.

B. Hill, Esq., being called upon, responded in an able, practical address.

The Society was then in recess for an hour and a half. The Committee to examine the reports, stock, and articles exhibited, and to award the premiums, then had a meeting and made the following report:

To Alexander Leonard, for the best acre of cotton, 2,025 lbs., now gathered.....$3 00
To J. G. Smith, for best acre of second low ground corn, 46 bushels.....2 00
To T. F. Montgomery, for the best acre of upland corn, a fraction over 45 bushels.....2 00
Wm. V. Collier, for 2d best do., 45 bushels.....honors.
Henry Collier, for the best brood mare.....$2 00
Z. B. Trice, " 2d " " " 1 00
Z. B. Trice, best horse colt between 1 and 2 yrs old.3 00
Henry Collier, " " 1 year old and under..2 00
E. Culpepper, 2d " " " " ..1 00
Z. B. Trice, for best mule colt, 2 yrs old and under.3 00
J. Z. Dismukes, " " " 1 " " .2 00
Wm. V. Collier, for best Hog 2 yrs old and under..2 00
E. H. Warthen, " Pig 3 months old.....2 00
Mrs. James Dismukes, for the best counterpane...1 00
Mrs. " " best article of woollen jeans.1 00
Mrs. T. F. Montgomery, for the best bed-quilt.....1 00
" " " " " fly-brush..... 50
" " " best embroidered gaiter shoes. 50
" " " for best article domestic Wine, (Muscadine,)..... 50
Mrs. T. F. Montgomery, best domestic silk gloves, 25
Mrs. Henry Collier, best article of sugar cane, honors.

The Committee stated, as a part of their report, that such was the beauty and excellence of the articles offered by the ladies, nothing but the want of funds (it being but the infancy of our existence as a Society,) prevented them from awarding handsome premiums, and entertain the hope that at the next anniversary we may be able to bestow such premiums as the merit of the articles may demand.

Their report was adopted.

The ladies to whom premiums had been awarded through Mr. Montgomery, requested that, as their object in offering articles of their own manufacture was to encourage the Society, their premiums might be returned. After which, the thanks of the Society were returned to the ladies who had contributed to the exhibition, and also to those who had encouraged the enterprize by their presence at its first anniversary.

The Society then proceeded to the election of officers for the ensuing year.

Jesse Carter was elected President, and John Neal, James Dismukes, Z. B. Trice, B. Hill, and Wm. B. Marshall, Vice-Presidents, and T. F. Montgomery, Secretary and Treasurer—the two offices having been by action of the Society blended together.

A Committee consisting of T. F. Montgomery, Henry Collier, Z. B. Trice, Samuel Hart, and Wm. V. Collier, was appointed to report at our March meeting, the articles for which premiums shall be awarded at our next anniversary.

The Society having increasing confidence in the ability with which the Southern Cultivator is conducted, and of its indispensable necessity to the promotion of Southern Agriculture, appointed E. H. Warthen, B. Hill, J. C. Leonard, Jesse Carter, Z. B. Trice, Jefferson Riley and Persons Walker, a Committee to obtain subscribers to the Southern Cultivator.

The Society instructed each one of its members to use his utmost exertions to obtain at least one new member to the Society before our March meeting.

The Secretary was instructed to make an abstract of the proceedings and forward it for publication in the Southern Cultivator.

JESSE CARTER, Pres't.
THOMAS A. BROWN, Secretary.
Talbotton, Nov. 15th, 1846.

Fair of the Farmers' Club of Monroe Co.

The Farmers' Club of Monroe County held their first Annual Fair at Forsyth, on Friday, 23d of October. The Club met at 10 o'clock, A. M., according to adjournment—Rev. D. Smith, Vice-President, in the Chair. The President appointed the following Committees to award premiums:

On Stock.—Messrs. John Pinckard, Wm. C. Jones and Allen Cochran.

On Domestic Fabrics.—Messrs. Daniel Sanford, Stephen H. Martin and Cyrus Sharp.

The Club took a recess until 2 o'clock, P. M., to give time to the Committees to award the premiums.

The Club re-assembled at 2 o'clock, P. M. E. G. Cabaniss from the Committee on the Improvement of Land, and Dr. S. W. Burney from the Committee on Seeds, read their respective reports, which were ordered to be published. On motion of W. S. Norman, Esq.,

Resolved, That Committees which are not now prepared to report on the various subjects assigned them, be allowed until the first Tuesday in February next, to submit their reports.

James S. Pinckard, Esq., according to previous appointment, then delivered the Annual Address on the importance of Agricultural Improvement. On motion of W. S. Norman, Esq.,

Resolved, That a Committee of three be appointed to request of Mr. Pinckard a copy of his address for publication.

Messrs. W. S. Norman, R. P. Trippe and W. H. Bankston, were appointed that Committee.

PREMIUMS.

The following premiums were then awarded:

Orren S. Woodward, for the best brood mare....$5 00
Reuben Wright, 2d " " " 2 00
W. H. Bankston, 3d " " " 1st honor
Edmund Jackson, 4th " " " 2d "
Wm. Rutherford, for best colt from 1 to 3 yrs. old.$3 00
Edmund Jackson, 2d " " " " 1 50
John J. Pass, 3d " " " 1st honor
Edmund Jackson, for best colt under 1 yr old....$2 00
Wm. Jameson, 2d, 1 year's subscription to the Southern Cultivator.
John J. Pass, 3d best.....1st honor
Rev. D. Smith, for the best Bull, (full Durham, 12 months old.....$5 00
Dr. S. W. Burney, 2d do., ¾ Devon, 4 yrs old..... 2 00
Orren S. Woodward, best Mule colt..... 2 00
Mrs. Mary V. Hardy, best piece of jean goods, 8 yds 2 00
Mrs. Frances Banks, 2d " " " 7½ " 1 00
Mrs. Mary V. Hardy, 3d " " 8 yards, 1st honor
Mrs. Olley M. Buncklev, 4th " 2d honor
Mrs. Caroline Chambers, for 1 elegant quilt.....$2 00
Miss Ann Chambers, " " " 2 00
Mrs. Sarah West, two handsome counterpanes... 2 00
Mrs. Elizabeth D. Smith, for 10 pounds of excellent Butter..... 1 00

The Club then adjourned until the 1st Tuesday in November next.

H. PHINAZEE, President.
E. G. CABANISS, Sec'y.

Influence of Agricultural Fairs.

The following remarks are by the able editor of the New York Tribune, who was present at the Auburn Fair. We commend his sentiments to the especial consideration of those farmers of Ohio who think there is little or no benefit to be derived from Agricultural Exhibitions:—*Ohio Cultivator.*

AUBURN, Sept. 16, 1846.

This is the great day of the Fair, and a brighter, pleasanter was never enjoyed by mortals. The cloudless sky and the fresh green earth harmonize in producing rare external beauty and cheerfulness; the showers of night before last have cooled the atmosphere just sufficiently; the people of central and western N. York have assembled by tens of thousands, and still every train, every thoroughfare teems with hundreds more pouring in. Never did Nature and Man more cordially concur in giving zest to a popular holiday.

I have been over the grounds, of course, seeing much to interest, and but for the enormous multitude gathered, which seems to me unparalleled at any former Fair, I should have seen much more. I could say something of the animals here exhibited, but, believing Col. Skinner can speak of them to better purpose, I leave them to him. For the present, I will proffer a few suggestions on the influences and uses of these annual fairs, or rather a few thoughts which this one has elicited.

Mental indolence is the chief danger of the farmer's condition. It is possible to exist in his vocation with very little thought. Plowing this year and next the fields that were plowed, perhaps by his father, thirty or forty years ago, and harvesting therefrom, substantially, the same grains and vegetables, the farmer is in

danger of falling into the habit of doing just as his father did, and for the reason that his father did it. The old round of crops, the old modes of culture, the old implements, even the old smoky and fuel-wasting fire-place, are too often clung to, because the farmer is hardly aware that newer and better means to the same ends have been devised and adopted. It seems easier to do the old things in the old way than to incur the expense and trouble of changing for the better, even if aware of its existence.

The moral of the Fair is *improvement*. Fifty thousand farmers and farmers' sons, with ten thousand farmers' wives and daughters, assemble once a year to witness an exhibition of the choicest products of their calling in our State. He who has the counterpart of Pharaoh's lean kine finds at the Fair the noblest display of r eat cattle ever seen; so of horses, sheep, swine, &c. Of fruits and grains there is like abundance of the best. Is it possible that he who has drudged on contented with ten to twenty bushels of grain to the acre, perhaps with two or three varieties of ordinary fruit, perhaps with little or none, should be content to go on in that way? When he sees, as he may here, squashes weighing 146 pounds each—five that grew on one vine weighing over 500 pounds—can he go home satisfied to grow those of a tea-kettle size only? When he sees that other farmers have a profusion of pears, peaches grapes, quinces, &c., from a few acres of land, will he jog on with his orchard of middling apple trees only? It seems hardly possible that one farmer, who ever thinks at all, can go away from the State Fair without resolving to be a better farmer thereafter, without feeling a truer pride in his calling, and a firmer resolution to improve and excel in it

But this is not all. The farmer is here brought in contact with all that has recently been done in the other useful arts in aid of his own calling. Here is an endless variety of agricultural implements—fanning mills, cradles, scythes, forks, hoes, &c. &c.; as also household utensils, stoves, ovens, kitchen-ware, &c. (There are not less than a dozen newly patented stoves alone, some of them valuable improvements on those exhibited last year. Everything invites to comparison, to reflection, and thence to improvement. In the plow alone the improvements of the last few years have secured the plowing of four acres with the labor and power formerly required for three. And the end, doubtless, is not yet. One such Fair as this is worth more to the people of a State than a dozen 'glorious victories' in the field of human slaughter.

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PROSPECTUS

OF THE FIFTH VOLUME OF THE

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A MONTHLY JOURNAL,

Devoted to the Improvement of Southern Agriculture.

Edited by JAMES CAMAK, of Athens.

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