

Given by Dr. J. H. Barnhart

1915

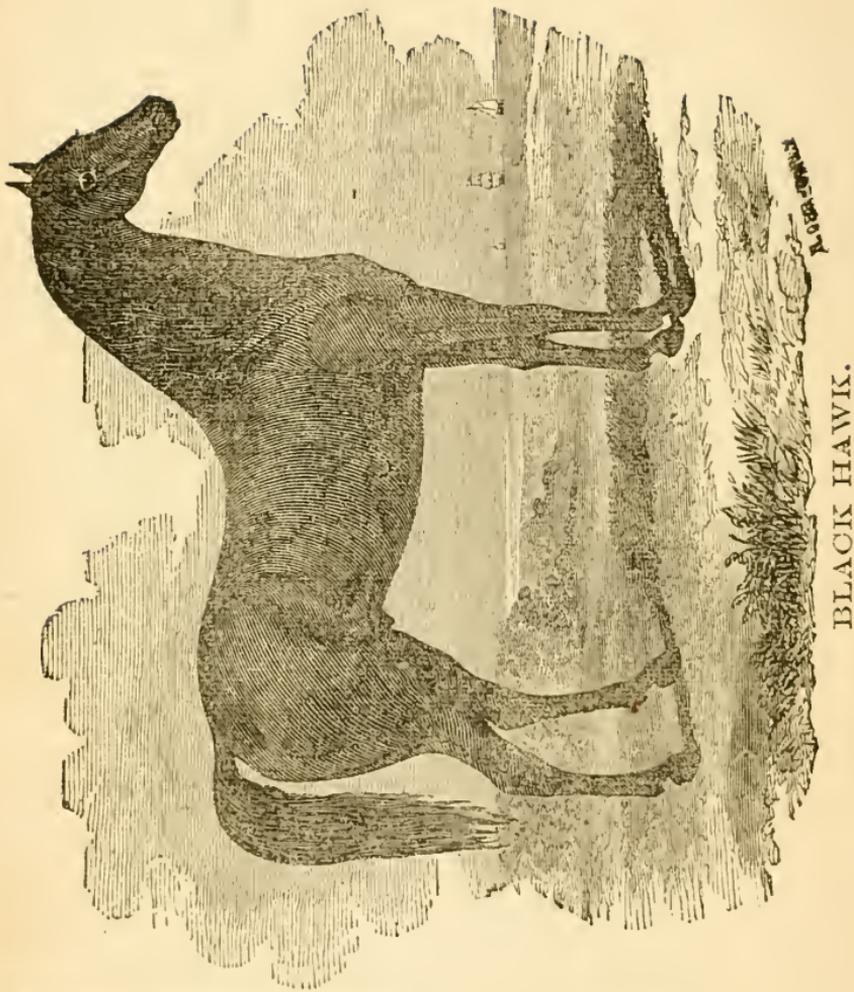
Septemb 1899

R. W. Gibson. Inv.









BLACK HAWK was foaled in 1833, the property of Wingate Twombly, of Greenland, (formerly of Durham.) Sired by Sherman Morgan, g. sire, Justin Morgan. His dam was raised in New Brunswick, and is described as a half-blood English mare, a very fine animal, black, and a fast trotter. When four years old, Black Hawk was purchased by Benj. Thurston, of Lowell, Mass., for a family horse, and kept for that purpose until 1844, when he was purchased by David Hill, Esq., of Bridport, Vermont, by whom he was owned at the date of his death, in December, 1856.

TRANSACTIONS

OF THE

NEW HAMPSHIRE

STATE AGRICULTURAL SOCIETY,

FOR THE YEAR

1856. LIBRARY

WITH A REPORT OF THE SECRETARY, AND CONDENSED REPORTS
FROM THE COUNTY SOCIETIES.

EDITED BY JAMES O. ADAMS, ESQ., SECRETARY OF STATE SOCIETY.

CONCORD:
AMOS HADLEY, STATE PRINTER.
1857.

R 3625

1856

LIBRARY
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UNIVERSITY

SECRETARY'S NOTICE.

The Secretary presents to the public another volume of the Society's Transactions, in the hope that it may prove both interesting and profitable to the farmers of the State. The practice of awarding premiums for Essays on various subjects having been discontinued, a prominent feature of the early volumes issued by the Society has been omitted for want of the requisite material. This deficiency has, in part, been supplied by the contributions of intelligent men who have furnished short articles, in compliance with the request of the Secretary. These communications will be found practical and useful.

A valuable feature in the Fourth Volume, consisted of reports from about fifty towns, on topics of unusual interest to the farmer. The Secretary, the present season, sent circulars to gentlemen in the towns unreported, with the request that similar reports be furnished; but returns were received from so small a number, that no particular use has been made of them in this volume.

The reports of awarding committees are more meagre than in any former volume, though especial efforts have been made to induce Judges to furnish them.

But notwithstanding these deficiencies, the volume contains much valuable matter, practical in its character, which will be of permanent interest to the farmer, and creditable to the Society.

JAMES O. ADAMS, *Secretary.*

MANCHESTER, DEC., 1856.

LIFE MEMBERSHIPS.

The payment of \$25 constitutes a Life Membership, and exempts the donor from the annual one dollar assessment. The following have paid the requisite sum, or have been constituted Life Members by vote of the Board of Supervisors:

N. B. Baker, Concord, by vote of the Board;

Ezra J. Glidden, of Unity, by donation;

Ichabod Goodwin, of Portsmouth, by donation;

George W. Nesmith, of Franklin, by vote and donation;

Superintendent of Asylum for Insane, Concord, by donation from the Asylum;

Isaac Hubbard, of Claremont, by vote of the Board;

H. W. Weeks, of Warren, by donation made by James M. Whiton, Esq.;

James M. Whiton, of Holderness, by donation;

Peter P. Woodbury, of Bedford, by vote of the Board.

DONATIONS.

The following Donations and part payments for Life Memberships have been received by the Treasurer:

Abraham Bean, Concord,	\$5 00
Baruch Biddle, Concord,	6 00
Stephen Brown, Concord,	3 00
J. A. Burleigh, Great Falls,	5 00
Dixie Crosby, Hanover,	15 00
Abel Chase, Milford,	10 00
David Gillis, Manchester,	13 00
Franklin Pierce, Concord,	10 00
J. Hamilton Shapley, Exeter,	5 00
Waterman Smith, Manchester,	8 00
James M. Whiton, Holderness,	20 00

OFFICERS OF THE SOCIETY,
FROM
ITS ORGANIZATION TO THE PRESENT TIME.

PRESIDENTS.

George W. Nesmith, Franklin, from	1849 to 1852
Peter P. Woodbury, Bedford, “	1852 “ 1854
Nathaniel B. Baker, Concord, “	1854 “ 1856
Ezra J. Glidden, Unity,	1856

VICE PRESIDENTS.

Peter P. Woodbury, Hillsboro' Co., from	1849 to 1851
John H. Steele, “ “ “	1851 “ 1853
Hiram A. Daniels, “ “ “	1853 “ 1856
C. E. Potter, “ “ “	1856
William Choate, Rockingham County, “	1849 to 1851
Henry F. French, “ “ “	1851 “ 1852
Joseph Cilley, “ “ “	1852 “ 1853
Joseph L. Cilley, “ “ “	1853 “ 1854
Josiah C. Eastman, “ “ “	1854
Salma Hale, Cheshire County, from	1849 to 1850
Benaiah Cooke, “ “ “	1850 “ 1851
David Buffum, “ “ “	1851 “ 1853
Milan Harris, “ “ “	1853
Ezra J. Glidden, Sullivan County, from	1849 to 1850
Robert Elwell, “ “ “	1850 “ 1851
Ruel Durkee, “ “ “	1851 “ 1852
Austin Corbin, “ “ “	1852 “ 1853
Wm. R. Kimball, “ “ “	1853 “ 1854

John S. Walker, Sullivan County, from	1854 to 1856
S. S. Wilcox, " " "	1856
Asa P. Cate, Merrimack County, from	1849 to 1850
Levi Bartlett, " " "	1850 " 1853
Thomas Little, " " "	1853 " 1854
Richard Bradley " " "	1854
Noah Martin, Strafford County, from	1849 to 1851
Wm. F. Estes, " " "	1851 " 1852
William Haile, " " "	1852 " 1853
Jeremiah Roberts, " " "	1853 " 1856
Augustus Rollins, " " "	1856
Samuel Webster, Belknap County, from	1849 to 1850
Thomas Cogswell, " " "	1850 " 1851
Samuel Tilton, " " "	1851 " 1852
Samuel Bean, " " "	1852 " 1853
Dana Woodman, " " "	1853 " 1854
Rufus G. Lewis, " " "	1854 " 1856
John T. Coffin, " " "	1856
Benning M. Bean, Carroll County, from	1849 to 1850
Joseph Wentworth, " " "	1850 " 1851
Oliver Hill; " " "	1851 " 1852
Samuel Bean, " " "	1852 " 1853
Joel Eastman, " " "	1853 " 1854
Cyrus K. Drake, " " "	1854 " 1856
Z. Batchelder, " " "	1856
Nathaniel Hurlburt, Grafton County, from	1849 to 1851
Joseph Sawyer, " " "	1851 " 1852
Asa B. Closson, " " "	1852 " 1853
Thomas Merrill, " " "	1853 " 1854
Levi Parker, " " "	1854 " 1856
Joseph Sawyer, " " "	1856
John H. White, Coos County, from	1849 to 1850
James M. Rix, " " "	1850 " 1851
Simeon Warner, " " "	1851 " 1852
John P. Pitman, " " "	1852 " 1853
John H. White, " " "	1854

EXECUTIVE COMMITTEES.

A. O. Brewster, Hanover,	1849 to 1851
Josiah Stevens, Concord,	1849 " 1850
Adam Chandler, Bedford,	1849 " 1850
Joseph Sawyer, Piermont,	1849 " 1850
Israel Hunt, Nashua,	1849 " 1851
Asa P. Cate, Northfield,	1850 " 1852
Wm. W. Rollins, Rollinsford,	1850 " 1851
Moses Fellows, Manchester,	1850 " 1851
William Haile, Barrington,	1851 " 1852
Benaiah Cooke, Keene,	1851 " 1852
John C. Wadleigh, Meredith,	1851 " 1852
Enoch Marsh, Pelham,	1851 " 1852
Henry F. French, Exeter,	1852 " 1854
John Wadleigh, Meredith,	1852 " 1853
Thomas H. Leverett, Keene,	1852 " 1853
Nathaniel B. Baker, Concord,	1852 " 1853
William Tenney, Hanover,	1852 " 1854
Ezra J. Glidden, Unity,	1853 " 1856
Brooks Shattuck, Manchester,	1853
Joseph Robinson, Concord,	1853 " 1854
George O. Hilton, South New-Market,	1854 " 1856
David Buffum, Walpole,	1854
Wm. S. Curtice, Danbury,	1854
George W. Blodgett, Claremont,	1856
Wm. F. Estes, Dover,	1856

SECRETARIES.

John S. Walker, Claremont,	1849 to 1853
James O. Adams, Manchester,	1853

TREASURERS.

Nathaniel B. Baker, Concord,	1849 to 1851
Frederick Smyth, Manchester,	1851

ORATORS.

John P. Beckman, New York,	1850
Marshall P. Wilder, Massachusetts,	1851
Daniel Webster, “	1851
Wm. S. King, Rhode Island,	1852
B. P. Johnson, New York,	1853
Edward Everett, Massachusetts,	1853
Simon Brown, “	1854
Charles B. Haddock, New Hampshire,	1855
John M. Botts, Virginia,	1855
George P. Marsh, Vermont,	1856

CONSTITUTION.

THE style of this Society shall be "The New Hampshire State Agricultural Society." Its object shall be to improve the condition of agriculture, horticulture, mechanics, domestic arts and manufactures.

SECTION 1. Any citizen of the State may become a member on subscribing to the constitution, and by the payment of not less than one dollar, and annually thereafter, one dollar.

The presidents of county agricultural societies, or a delegate from each, shall, *ex-officio*, be members of this Society.

The payment of twenty-five dollars or more shall constitute a member for life, and shall exempt the donor from annual contributions.

SECTION. 2 The officers of this Society shall consist of a President and ten Vice Presidents—one located in each county; a Secretary, a Treasurer, and an Executive Committee, to consist of five members, who shall be chosen at the regular annual meeting of the Society, who, together with the President and Secretary, shall constitute a board of supervisors, to manage the general interests of the Society.

SECTION 3. The Secretary shall keep the minutes of the Society, shall conduct the correspondence with other societies, with individuals, and with the Executive Committee, in behalf of the Society.

The Treasurer shall keep the funds of the Society, and disburse them on the order of the President or a Vice President, countersigned by the Secretary, and shall make a report of the receipts and expenditures, at the regular annual meeting, and shall give a bond for the faithful performance of his duty, if required by the Executive Committee.

The Executive Committee shall take charge of and distribute or preserve all seeds, plants, books, models &c., which may be transmitted to the Society, and shall also have charge of all communications designed for publication, and, so far as they shall judge expedient, shall arrange and publish the same in such manner and form as they shall deem best calculated to promote the object of the Society.

The Vice Presidents are charged with the interests of the Society in the counties where they shall respectively reside, and will be

a medium of communication between distant members of the Society and the Secretary or Treasurer.

SECTION 4. There shall be an annual meeting of the Society, at such time and place, during the holding of the Annual Fair, as the Executive Committee shall direct, when all the officers shall be elected by a plurality of votes and by ballot. Extra meetings may be convened by the Executive Committee—three of whom shall be a quorum for the transaction of business.

SECTION 5. The Society shall hold an Annual Fair and Cattle Show, at such time and place as shall be designated by the Executive Committee.

SECTION. 6. This constitution may be amended by a vote of two-thirds of the members attending any annual meeting.

TRANSACTIONS.



EXECUTIVE MEETINGS.



The Executive Board for 1856 held but four sessions. The time of these meetings was occupied mainly in closing up the business pertaining to the Fair of 1855, and in arranging for that of 1856. Among the votes passed, only the following seem to be of sufficient importance to occupy a place in the Society's Transactions.

Voted, That the ex-Presidents of the Society be constituted life members, in consideration of donations and time and money expended in promoting the prosperity of the Society.

Voted, That the Superintendent of the Asylum for the Insane be constituted a life member by virtue of a donation made by that Institution.

Voted, That James M. Whiton, Esq., of Holderness, be constituted a life member, in consideration of valuable donations to the funds of the Society, and that he have the privilege of naming a friend who shall also be a life member, by donation made by Mr. Whiton.

[Mr. Whiton subsequently named H. W. Weeks, Esq., of Warren, who was accordingly voted a life membership.]

Voted, That Hon. Isaac Hubbard, of Claremont, now near 90 years old, in consideration of his age and the interest he has manifested in the Society, be constituted a life member.

Voted, That the Agricultural Society approve and commend the efforts of Prof. Maury, in making meteorological observations with reference to Agriculture.

Voted, To apply to the Legislature for an act of incorporation.

Voted, That a set of the Transactions be distributed to each member of the several Boards of Judges serving at the Fair; and that a set be given to each town or city library, and to the library of every literary and scientific institution in the State, on application to the Secretary.

Voted, That a mileage be paid on all valuable neat stock which may be presented at the Fair:—For one or two animals driven over 10 miles, 5 cents each per mile one way; for more than two animals, 3 cents each.

Voted, To hold the Fair on the 8th, 9th and 10th days of October, in the city of Concord, provided the citizens make suitable provisions for the show.

THE SEVENTH ANNUAL FAIR.

It was determined to hold the Fair in the city of Concord, and accordingly on the 8th day of October commenced the best agricultural exhibition ever held in the Granite State. It was anticipated that the political excitement and the frequent public gatherings might have a tendency to abate the interest in agriculture, and interfere with the success of the show, both as to numbers attending and the products and stock presented for exhibition. But competitors were present from all parts of the State, bringing substantial evidence of the zeal they cherished in the cause. The weather was favorable, and the multitudes in attendance beyond precedent. The ground was adapted to the wants of the exhibition, very much to the credit of the committee having the management of this detail. There was a well made trotting course, but was too oval, and the ends too acute to permit keeping up anything like uniformity of speed without danger of capsizing. A stand was erected on one side of the course capable of seating as many persons as were disposed to witness the trials of speed. Mr. James Martin, of Boston, had his great tent there, and various other ones of smaller di-

mensions. The former was devoted to the reception of ladies' work, mechanical inventions, and manufactured and fancy articles, agricultural and horticultural produce, &c.

Hon. Josiah C. Eastman, of Hampstead, first Vice President, officiated as presiding officer, in the absence of the President, Hon. N. B. Baker, who had removed from the State. Nathaniel White, Esq. had the management and superintendence of the Fair, and Hon. Josiah Stevens acted as chief marshal, aided by a competent board of assistants. The Concord Brass Band were employed to entertain the people and do escort during the show.

No formal meetings of the Society were held on the exhibition grounds, the business having been chiefly transacted through the agency of committees.

The principal part of Wednesday was occupied in making entries and arranging the articles on the grounds. A portion of the committees on awards were called, vacancies filled, and an examination commenced.

A meeting was held in the Representatives' Hall in the evening, to fill vacancies in the Boards of Judges, and to discuss the question—"What have been the nature and extent of the disadvantages under which the farmer has labored in this State during the past season?" The time employed in filling the committees, rendered it too late before opportunity arose to consider the question, and the meeting adjourned about 9 o'clock.

Thursday was occupied by the examining committees, exercises on the track, and trials of horses and oxen, interspersed by music by the band and chime bells, until the hour assigned for the oration. The orator did not arrive in season, and members of the Society, assembled about the platform, manifested great impatience. The presiding officer announced the circumstances under which the managers were placed, and that Mr. Marsh would be present and deliver his address the next day. He suggested that gentlemen pres-

ent might improve the time by making such speeches and suggestions as might in their minds be beneficial.

Hon. George W. Nesmith, of Franklin, made one of his characteristic humorous and able speeches. His remarks were useful in showing what were the peculiar agricultural resources of the State, and what were the peculiar duties of the husbandman in bringing them into profitable requisition.

His Excellency Gov. Metcalf, was next introduced to the meeting, and was received with three cheers. He, in a brief speech, commended the endeavor to make the State supply itself with the breadstuffs it required for its use. This independence was of the most laudable character, and one which the advantages of the soil, now latent in a great degree, could most easily be made to encompass. The Governor was cheered as he took his seat.

Col. Chandler E. Potter, of Manchester, was called out and responded as a minute-man, in the absence of the regular orator. His remarks were laudatory of the scene before him, where the true strength and riches of the State were scattered in such gratifying profusion. The display would compare well with any made in the sister States, and testified that the Granite State could produce something else besides men and women.

Gen. Low, of Concord, followed, and made a brief but an acceptable address.

He was followed, in very appropriate addresses, by John S. Walker, Esq., of Claremont, and Wm. J. Buckminster, of the Massachusetts *Ploughman*.

ANNUAL MEETING.

The annual meeting of the Society was held on Thursday, in the Representatives' Hall, according to notice, Dr. Eastman presiding.

On motion, the following committee of twenty—two from

each county—were chosen by nomination to report a list of officers for the ensuing year :

Rockingham.—George O. Hilton and Peter J. Horne,

Strafford.—Wm. F. Estes and C. M. Warren.

Carroll.—J. G. Cate and Charles Simmons.

Belknap.—Charles Mooney and S. C. Baldwin.

Merrimack.—Samuel Coffin and William Kent.

Hillsborough.—Moody Hobbs and C. E. Potter.

Cheshire.—John Towns and George Harvey.

Sullivan.—S. S. Wilcox and George W. Blodgett.

Grafton.—A. B. Closson and Peter Kimball,

Coos.—John H. White and Wm. Spaulding.

TREASURER'S REPORT.

While the committee on nominations were in deliberation, the Treasurer presented the following report, an abstract of which was read and accepted :

TREASURER'S

*New Hampshire State Agricultural Society in account with
Frederick Smyth, Treasurer, from September 1, 1855,
to October 1, 1856:*

		Dr.
To cash paid premiums, awarded 1850, [A]		\$4 00
" " " " " 1852, [B]		12 00
" " " " " 1853, [C]		12 00
" " " " " 1854, [D]		78 00
" " " " " 1855, [E]		1014 00
" " " for silver ware premiums as per vouchers Nos. 1 to 6, [F]		223 02
" " " for music and tents as per vouch- ers Nos. 7 to 9, [G]		397 00
" " " for labor as per vouchers Nos. 10 to 64, [H]		346 75
" " " for materials and lumber, as per vouchers Nos. 65 to 77, [I]		684 19
" " " for postage and express as per vouchers Nos. 78 to 84, [J]		90 68
" " " for horses and carriages as per vouchers Nos. 85 to 94, [K]		115 50
" " " for forage and water as per vouchers Nos. 95 to 118, [L]		607 77
" " " for printing and stationery, as per vouchers Nos. 119 to 131 [M]		394 30
" " " for expenses Ex. Com. as per vouchers Nos. 132 to 138, [N]		119 68
" " " for miscellaneous expenses, as per vouchers Nos. 139 to 151, [O]		1179 85
" " on hand October 1, 1856,		2567 91
		\$7,846 65

REPORT.

New Hampshire State Agricultural Society in account with Frederick Smyth, Treasurer, from September 1, 1855, to October 1, 1856:

	Cr.
By cash on hand, September 1, 1855,	\$2013 61
By cash received for badges of membership, tickets of admission, and entrance fee for carriages,	4854 23
By cash for rent of grounds for tents, seats, &c.,	213 00
“ “ from citizens of Manchester on subscription,	642 00
“ “ for articles sold at auction by H. Leeds,	2 27
“ “ for Transactions sold,	2 50
“ “ of J. M. Whiton towards life membership,	20 00
“ “ of Waterman Smith, “ “ “	8 00
“ “ of Abel Chase, “ “ “	9 00
“ “ of D. Gillis, “ “ “	3 00
“ “ George Porter, for articles sold at auction from forage department,	79 04
	\$7,846 65

[A]

Cash Premiums Awarded in 1850, paid as per Receipt Book:

Almon Harris, on Woolens,	\$4 00
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[B]

Cash Premiums awarded in 1852, paid as per Receipt Book:

Henry Shaw, on pigs,	\$4 00
C. P. Pike, " "	2 00
John Endicott, fat steer,	6 00
	<hr/>
	\$12 00

[C]

Cash Premiums awarded in 1853, paid as per Receipt Book:

William R. Kimball, on corn,	5 00
" " on wheat,	7 00
	<hr/>
	\$12 00

[D]

Cash Premiums awarded in 1854, paid as per Receipt Book:

D. M. Taggart, on stallion,	\$10 00
Solomon Dodge, on farm,	20 00
Danford Rice, on beans,	2 00
R. C. Sanborn, on corn,	10 00
J. K. Smith, on barley,	5 00
Charles Reed, on carrots,	5 00
Daniel Fiske, on wheat,	10 00
L. A. and D. P. Adams, on wheat,	3 00
N. P. Greene, book binding,	3 00
W. Prescott, on essay,	10 00
	<hr/>
	\$78 00

[E]

Cash Premiums awarded in 1855, paid as per Receipt Book:

William H. Gage, on bull,	15 00
Cogswell Dudley, " "	10 00
J. E. Bailey, " "	5 00
J. M. Whiton, " "	8 00
Jenness & Cilley, " "	5 00
T. M. Caswell, " "	3 00
J. M. Whiton, " "	3 00
J. M. Whiton, " "	2 00
E. S. Colley, " "	5 00
William Parker, " "	3 00
G. F. Farley, " "	8 00
J. K. Robinson, " "	5 00
I. N. Lakeman, " "	3 00
S. M. Harville, " "	8 00
W. Campbell, " "	3 00
B. Farnum, " "	3 00
A. M. Brainard, " "	2 00
S. M. Worthley, " "	3 00
J. C. Ray, " "	5 00
G. W. Stuart, " "	3 00
Nathaniel Baker, on cow,	8 00
F. F. Hoyt, " "	5 00
W. A. Putnam, " "	5 00
J. M. Rowell, " "	3 00
N. P. Fogg, on fat oxen,	12 00
William Shepherd, on fat cow,	5 00
B. Farnum, on herd of ten,	15 00
J. M. Whiton, on " " "	10 00
J. M. Whiton, on heifer,	6 00
Jenness & Cilley, on heifer,	4 00
Cogswell Dudley, on heifer,	2 00
B. Farnum, " "	4 00
Jenness & Cilley, " "	2 00
F. F. Hoyt, " "	3 00
J. M. Whiton, " "	2 00
B. Farnum, " "	6 00
Cogswell Dudley, " "	6 00
Jenness & Cilley, " "	4 00
B. Farnum, " "	2 00

William Parker, on heifer,	6 00
N. P. Fogg & B. Farnum, on working oxen,	15 00
N. P. Fogg, " " "	12 00
B. Farnum, " " "	8 00
T. M. Harville, " " "	4 00
O. Bailey, jr., " " "	8 00
B. Farnum, on steers,	6 00
" " " "	5 00
" " " "	4 00
" " " "	2 00
D. A. Barr, " "	4 00
Cogswell Dudley, on steers,	3 00
" " " "	2 00
Joseph Caverly, on stallion,	20 00
P. M. Rossiter, " "	15 00
L. H. Chase, " "	10 00
Sanford Holmes, " "	15 00
I. N. Sawyer, " "	10 00
J. N. & D. Carr, " "	9 00
J. S. Walker, " "	20 00
D. M. Taggart, " "	15 00
Daniel Cate, " "	10 00
Laton Martin, " "	15 00
J. B. Campbell, " "	10 00
S. H. Edgerly, " "	12 00
Abel Chase, " "	9 00
D. D. Perkins, " "	6 00
J. F. White, " "	6 00
John Kimball, " "	4 00
R. H. French, " "	2 00
D. C. Robinson & Co., on pair horses,	15 00
O. S. Jewell, " " "	10 00
J. F. Andrews, " " "	5 00
G. W. Stuart, " " "	10 00
F. Kimball, " " "	7 00
Hiram Brown, on single team,	5 00
H. R. French, on mare and foal,	10 00
John Robie, " " " "	7 00
Wm. Goss, " " " "	3 00
G. Mathewson, on gelding,	8 00
George Clough, " "	5 00
Charles E. Clark, on gelding,	8 00
B. Hall, " "	5 00
Edward Barr, " "	3 00

William Parker, on gelding,	6 00
G. O. Smith, " "	4 00
Sanford Holmes, on "	2 00
I. N. Sawyer on, sheep,	8 00
" " " " "	8 00
" " " " lambs,	5 00
J. A. Stearns, on swine,	6 00
" " " " "	4 00
" " " " "	2 00
" " " " "	6 00
William Shepherd, on swine,	4 00
William Parker, " "	2 00
A. Brown, on fowls,	2 00
N. Blanchard, on fowls,	2 00
Charles Offutt, " "	2 00
Edward Barr, " "	2 00
Nathl. Baker, " "	2 00
N. Blanchard, " "	2 00
Jas. Morrill, " "	2 00
H. Hayward, " "	2 00
E. E. Goodale, plowing,	8 00
W. R. Kimball, on wheat,	5 00
Elijah Blake, on wheat,	3 00
W. R. Kimball, on oats,	2 00
Elijah Blake, " "	1 00
" " " barley,	2 00
Nathan Cutler, on beans,	2 00
C. S. Fisher, on vegetables,	3 00
Solomon Toby, on beets,	1 00
" " " pie plants,	1 00
C. T. Lane on carrots,	1 00
" " " " beets,	1 00
" " " " turnips,	1 00
" " " " onions,	1 00
S. G. Worthley, on cabbages,	1 00
" " " on tomatoes,	1 00
" " " on squashes,	1 00
B. F. Wallace, on pumpkins,	1 00
Gilman Reed, on potatoes,	1 00
S. S. Chamberlain, on sweet corn,	1 00
T. H. Leverett, on apples,	4 00
W. Tenney, on apples,	3 00
J. H. Diman, on peaches,	2 00

J. H. Diman, on plums	2 00
D. Clement, on grapes,	1 00
Richard Hall, on cranberries,	3 00
J. H. Diman, on flowers, ¹	3 00
F. A. Richardson, on flowers,	2 00
J. G. Coult, on floral design,	2 00
Mrs. J. Pressey, on ointment,	2 00
“ C. S. Fisher, on butter,	6 00
“ “ “ “ “ cheese,	6 00
“ C. B. Long, “ “	4 00
“ Robert Fulton, on wheat bread,	3 00
“ C. S. Fisher, “ “ “	2 00
“ “ “ “ “ brown bread,	3 00
Mrs. N. L. Baker, on brown bread,	2 00
A. Gilmore, on maple sugar,	3 00
D. W. Bill, “ “ “	2 00
A. Gilmore, on maple syrup,	2 00
N. Blanchard, on honey,	3 00
George Kenney, on wagon,	7 00
“ “ “ sleigh,	6 00
Dudley & Parker, on tin work,	3 00
C. M. Hubbard & Co., on cooking ranges,	5 00
Alpheus Branch, on trunks,	3 00
“ “ “ chaise,	4 00
L. E. Philbrick, on gloves and mittens,	3 00
J. Clark & Co., on boots,	3 00
McFarland & Jenks, on printing,	3 00
N. P. Greene, on book-binding,	3 00
W. B. Durgin, on silver ware,	5 00
Cutlery Works, Claremont, on table cutlery,	5 00
Manchester Print Works, on cassimere,	4 00
“ “ “ “ de laines,	4 00
Amoskeag Mills, on cotton sheets,	3 00
Faulkner & Colony, on flannels,	3 00
Mrs. J. A. Prescott, on mat,	1 00
“ J. D. Otterson, on rugs,	1 00
“ D. W. Bill, on hose,	2 00
S. A. Graham, on hose,	2 00
Miss H. D. Gay, on needle-work,	5 00
Mrs. C. A. Huckins, on patch-work,	2 00
Sarah M. Gale, on embroidery,	3 00
H. M. Hurlbut, on darning,	4 00
Mrs. B. Hutchinson, on darning,	2 00

H. M. Hurlbut, on patching,	4 00
N. L. Baker, " "	2 00
Mrs. W. S. Curtice, on toweling,	2 00
J. M. Bean, on bonnet,	6 00
A. B. Page, " "	4 00
Mrs. A. Robertson, on bonnet,	3 00
Julia A. Bunker, on patching and mending,	2 00
Edward Custer, on oil painting,	5 00
E. J. Glidden, on farm,	40 00
Ebenezer Pike, " "	30 00
Page Twiss, on garden,	8 00
S. S. Chamberlin, on garden,	6 00
C. S. Fisher, " "	4 00
J. H. Wentworth, on orchard,	6 00
David Clement, on nurseries,	4 00
" " " bog meadows,	4 00
Stephen French, on acre herdsgrass and clover,	5 00
Cyrus T. Lane, on one-eighth acre onions,	5 00
W. R. Parker, on acre hops,	5 00
Zuar Eldredge, " " potatoes,	5 00
James Walker, " " parsnips,	3 00
F. B. Eaton, on essays,	20 00
C. E. Potter, " "	10 00
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	\$1-014 00

[F]

Silver Ware Premiums.

No. 1	H. H. Ladd,	\$90 00
" 2	H. H. Ladd,	9 50
" 3	B. F. Edmunds,	12 00
" 4	A. B. Page,	8 67
" 5	John Mooar,	4 30
" 6	F. Smyth,	98 55
		<hr/>
		\$223 02

[G]

Music and Tents.

No. 7	R. M. Yale,	\$185 00
" 8	P. S. Brown, Treas. Manchester Band,	50 00
" 9	P. S. Brown, " " "	162 00
		<hr/>
		\$39 700

[H]

Labor.

No. 10	C. Duxbury,	\$6 00
" 11	J. S. York,	17 00
" 12	George A. Eaton,	3 00
" 13	William Craig,	9 05
" 14	E. Colby,	9 00
" 15	Josiah Perry,	9 00
" 16	E. M. Topliff,	6 00
" 17	C. M. Stanley,	4 00
" 18	James J. Billings,	6 00
" 19	Thomas Emerson,	1 50
" 20	W. B. Webster,	6 00
" 21	William Bursiel,	2 50
" 22	D. M. Adams,	11 45
" 23	Samuel Upton,	6 00
" 24	H. W. Savory,	1 00
" 25	Joseph B. Clark,	8 00
" 26	John C. Young,	9 00
" 27	John L. Kelley,	6 00
" 28	George W. Wilson,	13 50
" 29	C. A. Robertson,	4 00
" 30	F. B. Eaton,	13 00
" 31	H. C. Adams,	10 00
" 32	G. W. Riddle,	4 00
" 33	A. C. Smith,	1 00
" 34	J. B. Clark,	4 00
" 35	H. G. Lowell,	10 50
" 36	Harry Leeds,	37 75
" 37	F. B. Eaton,	7 00
" 38	D. M. Lamprey,	5 00
" 39	A. Kimball,	15 00
" 40	T. C. Fernald,	3 00
" 41	T. E. Newcomb,	6 00
" 42	George H. Gillis,	6 00
" 43	D. M. Robertson,	15 00
" 44	John Rowe,	4 00
" 45	J. H. Haynes,	7 00
" 46	E. Knowlton,	6 00
" 47	M. N. Perry,	1 25
" 48	Josiah Clark,	5 25
" 49	H. W. Moore,	2 00

No. 50	Gilman Smith,	1 50
" 51	J. G. Coult,	3 00
" 52	W. Robinson,	1 50
" 53	Stephen Manahan,	5 25
" 54	D. & D. J. Clark,	1 00
" 55	J. S. Dole,	2 50
" 56	E. D. Cilley,	3 75
" 57	N. B. Hall,	4 00
" 58	W. Richardson,	6 00
" 59	E. Shepherd,	6 00
" 60	R. H. Young,	1 25
" 61	W. French,	2 25
" 62	J. O. Wiggin,	4 00
" 63	George Porter,	2 50
" 64	Joseph B. Clark,	1 50
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		\$346 75

[I]

Lumber and Materials.

No. 65	Marshall, Brown & Aiken,	\$594 70
" 66	N. S. Berry & Co.,	11 45
" 67	J. B. Hoitt,	70
" 68	Barton & Co.,	23 96
" 69	City Laundry,	3 11
" 70	C. M. Hubbard,	26 20
" 71	Dennis & Varick,	67
" 72	J. H. Currier,	4 12
" 73	John Doland,	3 00
" 74	Harry Leeds,	3 65
" 75	W. White & Co.,	1 89
" 76	W. A. Putney & Co.,	5 39
" 77	J. S. York,	5 35
		<hr/>
		\$684 19

[J]

Postage and Express.

No. 78	Post Office,	\$16 25
" 79	" "	6 27
" 80	" "	5 62
" 81	" "	5 90

No. 82	Post Office,	9 69
" 83	Cheney, Hill & Co.,	44 38
" 84	Concord Railroad,	2 57
		<hr/>
		\$90 68

[K]

Horses and Carriages.

No. 85	A. J. Stevens,	\$10 00
" 86	Fling & Spofford,	15 75
" 87	Hill & Cheney,	19 75
" 88	T. G. Banks,	13 00
" 89	F. Smyth,	12 00
" 90	T. P. Webber,	12 00
" 91	E. G. Guilford,	9 00
" 92	H. T. Mowatt,	10 00
" 93	E. N. Fisk,	2 00
" 94	G. Webster,	12 00
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		\$115 50

[L]

Forage and Water.

No. 95	Gilman Smith,	\$7 50
" 96	R. P. Clark,	137 79
" 97	David Dickey,	11 25
" 98	David Dickey,	7 68
" 99	Baldwin & Co.,	8 30
" 100	G. A. Searle,	12 37
" 101	Kidder & Duncklee,	4 45
" 102	J. Abbott & Co.,	83 37
" 103	Kimball & Co.,	1 37
" 104	Dennis & Varick,	4 64
" 105	Daniels, Forsaith & Co.,	27 33
" 106	J. T. Ayer,	8 25
" 107	H. C. Dickey,	9 00
" 108	B. Follansbee,	4 50
" 109	John Porter, Jr.,	9 00
" 110	E. A. Searle,	12 00
" 111	M. N. Perry,	6 75
" 112	Stephen Smith,	8 25
" 113	George Porter,	77 88

No.114	D. T. Norris,	46 00
" 115	M. Ingham,	27 50
" 116	D. W. Fling,	17 00
" 117	M. Martin,	30 59
" 118	J. A. Jordon,	45 00
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		\$607 77

[M]

Printing and Stationery.

No.119	Adams, Hildreth & Co.,	\$159 08
" 120	N. H. Patriot,	4 00
" 121	Abbott, Jenks & Co.,	22 75
" 122	J. Tenney,	2 00
" 123	J. B. Clarke,	45 00
" 124	J. B. Clarke,	41 00
" 125	Hersey & Tilton.	24 38
" 126	J. M. Campbell,	1 50
" 127	Eastman & Chase,	40 00
" 128	W. H. Fisk,	9 31
" 129	R. Andrews,	38 28
" 130	W. H. Fisk,	6 00
" 131	D. McColley,	1 00
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		\$394 30

[N]

Expenses Executive Committee.

No.132	D. Buffum,	\$16 70
" 133	E. J. Glidden,	8 00
" 134	N. B. Baker,	9 00
" 135	W. S. Curtice,	38 43
" 136	N. B. Baker,	16 93
" 137	F. Smyth,	25 62
" 138	B. Shattuck,	5 00
		<hr/>
		\$119 68

[O]

Miscellaneous Expenses.

No.139	J. O. Adams,	\$125 00
" 140	" "	28 00
" 141	" "	125 00

No. 142	A. E. Farley,	125 00
" 143	M. Quimby,	10 00
" 144	W. L. Lane,	9 35
" 145	Bela Harris,	5 00
" 146	W. Shepherd,	193 50
" 147	J. S. Walker,	393 00
" 148	Samuel Hall,	50 00
" 149	J. C. Morse,	50 00
" 150	Adams & Thompson,	16 00
" 151	C. B. Haddock,	50 00
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		\$1.179 85

FREDERICK SMYTH, *Treasurer.*

MANCHESTER, *Oct. 7, 1856.*

I have, this day, examined the foregoing accounts of Frederick Smyth, Treasurer of the N. H. Agricultural Society, for the thirteen months commencing September 1st, 1855, and ending October 1st, 1856, and find the same correctly cast and properly vouched.

WILLIAM C. CLARKE, *Auditor.*

ELECTION OF OFFICERS.

The nominating committee reported the following list of candidates, which, on ballot, were all elected :

President,

EZRA J. GLIDDEN, of Unity.

Vice Presidents,

J. C. EASTMAN, of Rockingham County ;
 AUGUSTUS ROLLINS, of Strafford County ;
 JOHN T. COFFIN, of Belknap County ;
 ZACHARIAH BATCHELDER, of Carroll County ;
 RICHARD BRADLEY, of Merrimack County ;
 C. E. POTTER, of Hillsborough County ;
 MILAN HARRIS, of Cheshire County ;
 S. S. WILCOX, of Sullivan County ;
 JOSEPH SAWYER, of Grafton County ;
 J. H. WHITE, of Coos County.

Executive Committee.

GEO. W. BLODGETT, of Claremont ;
 WM. F. ESTES, of Dover ;
 DAVID BUFFUM, of Walpole ;
 WM. S. CURTICE, of Danbury ;
 BROOKS SHATTUCK, of Manchester.

Secretary,

JAMES O. ADAMS, of Manchester.

Treasurer,

FREDERICK SMYTH, of Manchester.

DISCUSSION.

The question as to the nature and extent of the disadvantages under which the farmers had labored, was taken up, when Mr. Walker, of Claremont, moved to substitute the

question of the policy or impolicy of having the Society's annual show permanently located. The motion was adopted, and Mr. Walker made a statement, showing that the Society would be largely benefited by a permanent location, as they could, by saving the annual expense of erecting fences and buildings, and giving larger premiums to competitors, and more liberal inducements to parties at a distance to bring forward their stock, more materially advance the interests of improvement than they could do under their existing arrangements. His sentiments seemed to make a very favorable impression on the Society, as they were well calculated to do.

Mr. Dickerson, of Grafton county, in the view, that, when the fair has been held out of Concord or Manchester, the expenses had always exceeded the receipts, favored the proposition; but he thought it best to leave the matter with the Executive Committee.

Gen. Glidden, of Unity, admitted the financial argument, but he wished to remind the Society that both at the Keene and Meredith shows, the cattle exhibited were much better than those shown at Concord or Manchester, the first years of the exhibition there. He commended the presentation of a resolution which would elicit the opinion of the large meeting now assembled, and was of the belief that the pecuniary interests of the Society would be best served by holding in Concord, Manchester or Nashua, where the most money could be made. He moved the adoption of a resolution instructing the Executive Committee to permanently locate the exhibitions of the Society in some central place in the State.

Mr. Paul R. George, of Hopkinton, in a very able argument, gave his support to the resolution, and suggested Concord as the most eligible and central place; and without consultation with any of its citizens, he would vouch for them that they would meet the proposition, if carried in their favor, in the most liberal spirit.

The debate on the permanent location of the Fair was

continued by Hon. G. W. Nesmith, President elect Glidden, Geo. H. Dodge, Esq., of Hampton Falls, Gen. Hunt, of Nashua, Mr. Clarke, of the Manchester Mirror, &c.

Mr. Walker, of Claremont, moved to amend by simply instructing the Executive Committee to receive offers of facilities from the several central towns; and a motion to lay the whole matter on the table was voted down by a large majority.

Mr. Glidden moved to amend his resolution by confining the power of the committee to three years. Ultimately the whole subject, on motion of Gen. Low, of Concord, was submitted to the Executive Committee.

Judge Stevens, of Concord, offered a resolution authorizing the Executive Committee to devote such sums from the funds of the Society as they might deem just and proper, to meet the expenses of Mr. Perkins Gale, who had his leg broken while on duty as one of the marshals of the Fair. The resolution was unanimously adopted.

The President elect was introduced to the chair, and after a warm reception, made a brief speech of acceptance, and thanked the members for their preference. The meeting then adjourned.

ADDRESS OF MR. MARSH.

At 8 o'clock on Friday morning, the plowing took place near the show grounds, and created a lively interest.

At 10 o'clock, the officers of the Society, preceded by the Concord Band, and accompanied by the Orator, Hon. GEORGE P. MARSH, of Vermont, arrived at the stand whence the oration was to be delivered. The audience was large, and composed of men, who, by occupation, have the deepest interest in good agricultural advice. President Glidden called the meeting to order, and Mr. MARSH pronounced his

ORATION.

THE aphorism "all flesh is grass," besides its moral significance, involves or rather expresses a great physiologi-

cal fact. The substantive *grass* is allied to the verb *to grow*, which, in its radical and primitive form, is restricted to *vegetable* increase and development. Etymologically, therefore, whatever vegetates, whether the microscopic mould, which gathers upon the surface, penetrates the pores and lines the cavities of larger vegetable products, the moss which tapestries the rock or festoons the wood, the herb which enamels the pastures and the woods, the cereal grain, the edible bulb, the fruit-bearing shrub or tree, and the gigantic stem of the forest vegetation, all alike is grass. Grass, or the vegetable kingdom, is directly or indirectly the sole source of animal nutrition, the only medium whereby inorganic substances are made subservient to the cravings of purely animal nature. Every movement of a limb, every breath, every pulsation, every action of every organ, every sensation, emotion or volition, every vital manifestation in short, detaches some atoms of the animal frame from their organic combinations, emancipates them from the mysterious influences of life, and brings them under the direct laws of naked chemical affinity. Each of these acts, therefore, is accompanied with an actual loss of matter to the animal which does or suffers it, and there is a constant waste of substance, which must be supplied from external sources. Inorganic nature furnishes no such supply, and vegetable processes must separate her elements, re-combine them, assimilate them, and convert them into the materials of which the animal tissues are formed, or in other words, vivify them, before they can be made to contribute to human or brute nutrition. All animals, from the invisible infusorials to the bulkiest inhabitants of air, earth, or sea, feed alike on plants, or on other animated creatures, which have drawn their stock mediately or immediately from the "green herb," which in the beginning was "given them for meat," so that every creature, that lives and breathes, and "moveth upon the earth," depends at last for its sustenance and increase on that lower form of or-

ganized existence, which lives indeed, but has neither breath nor the power of locomotion. All physical life in fact originates in vegetation. Vegetation alone is capable of conferring the vital principle and superinducing it upon the other properties of dead matter, and we derive exclusively from plants the element that makes our flesh to differ from the "dust," whereof our first progenitor, unlike his descendants, was directly formed, and from the ashes into which that flesh is at last to be resolved.

Nor is it true, that the *life* thus given ceases with the power of assimilation, growth, and development, with the higher functions of sensation and organic movement, or with the immaterial gifts of earthly consciousness and volition. So long as the organic forces bind matter together in combinations which war with and successfully resist the laws of chemical affinity, so long that matter is instinct with life, so long it may nourish, build up and become con-natural with new and successive organisms. Vitality survives sensation and consciousness and irritability, and is not extinct until chemical decomposition has resolved its products into those rudimental elements, whereof not that which lives alone, but the solid rock, the fluid waters, and the all-encompassing atmosphere also, are composed. The cloths that form the cerements of the Pharaohs, the wooden coffins that enshrine them, the papyrus that records their history, nay, the fleshly tenements of the monarchs themselves, which the art of the embalmer has made to defy the crumbling touch of time, the horned Apis they worshipped, the mammoth and the rhinoceros which arctic ice-cliffs have preserved through whole geological periods to feed the polar bear of our own era, all these "still live," and may yet pass into and continue to live in and with a thousand successive animated forms, before the mysterious power that grouped their substance into organic combinations shall be exhausted.

Hence AGRICULTURE, which directs and stimulates the

growth that not only constitutes the great ultimate storehouse of all nutriment, but is the source of all organic existence, the cause and condition of all physical life, is the most important of material occupations, the most indispensable of human arts.

The estimation in which agriculture is held is a good test of the advancement of a people in civilization and the liberal arts. When Rome was at her utmost height of power and glory, her most gifted sons did not disdain to study the theory of rural husbandry, and even to give practical rules for the conduct of its minutest details. When Rome relapsed into that state of semi-barbarism, which is so apt to follow an age of great military exploit, agriculture was despised as a plebeian occupation, the laws of nature on which its successful practice rests were forgotten, and it became as unintelligent and unproductive a calling, as it was thought vulgar and humble.

In our own time, it has advanced in all civilized countries, in proportion to the intelligence of the people; and now that able philosophers have undertaken the investigation of its principles, it has again assumed almost the dignity of a proper science.

I cannot claim the merit of having added anything to the general stock of knowledge on this branch of universal industry, or even of having familiarized myself with the results arrived at by more systematic inquirers, and I can only present you with such scattered gleanings, as mere general, unscientific observation has enabled me to gather in a field somewhat wider than has fallen under the personal notice of most of you.

The remarks I have to offer you will assume the shape rather of a rambling discourse than of a formal dissertation. Their topic, so far as any special subject is adhered to, will be the general physical aspect of the most highly cultivated and densely populated parts of central and southern Europe, their agriculture and rural economy, with

suggestions of improvements worth adopting, or at least testing, by us.

England will not occupy a conspicuous place in my sketches, because from the general similarity of her soil, climate, natural productions, political, civil, and religious institutions to those of the Free States of the American Union, and our community of origin and character, there is a corresponding similarity in our agriculture, domestic architecture and rural economy. Both the objects and the processes of agricultural labor are substantially the same, Indian corn being almost the only important crop not common to English husbandry and our own.

The agriculture of the two countries is differenced in *degree*, not in *kind*. There, the farms are larger, the fields broader and better drained, the tillage more thorough, the crops cleaner and more abundant, the habitations and adjacent grounds neater, the roads better graded and more smoothly kept, the horses and cattle in finer condition and more highly bred, all showing the presence of larger capital, and a constitutional, or at least habitual, tendency in the land-holder to look more to ultimate results, and less towards immediate returns, than with us.

Doubtless in all this we may find much to imitate, but since, as I have already said, not only the objects but the processes of agriculture are substantially the same as in our northern and middle States, our curiosity is less powerfully stimulated than in countries where the climate, the soil, the crops, the modes of tillage, and all the habits of rural life, are more diverse from our own, and we are less likely to be impressed with advantages resulting merely from increased care and fidelity in familiar operations, than with those which flow from novel methods, and the pursuit of new branches of husbandry.

On the European continent, on the contrary, we enter at once on a climate, a soil, a class of industrial pursuits quite different from those with which American experience

has made us conversant. We encounter a people whose tastes, habits, wants, character and institutions are strange to us; whose standard of prosperity and physical and social enjoyment is other than our own, and who consequently employ quite a different set of means for attaining the great objects of material life. On all sides we are struck by the force of contrast. The eye everywhere encounters new vegetables, and new methods of growing, securing and employing familiar plants; finds increased value ascribed to products with us deemed unimportant or found unprofitable; novel, and for the most part greatly inferior agricultural implements; habitations suited to different atmospheric conditions, and planned with a view to secure enjoyments, or to guard against inconveniences and dangers, unknown or disregarded by us.

Whatever there is of good or bad in all this novelty, whatever seems deserving of imitation or worthy to be shunned, impresses you much more powerfully, and you are more likely to derive instruction from such observation, than from viewing the nicer agricultural processes of England, which, though in general, really better suited to our condition and wants, and therefore more worthy of imitation, are, nevertheless, too little contrasted with our own to excite an interest powerful enough to rouse us to a faithful study of their advantages, and which seem, besides, to demand too great a length of time, or too large an amount of perseverance and of capital, to be reconciled with the hasty, impatient, and unstable habits, and slender pecuniary means of American agriculturists.

It is a maxim, old as the time of the Roman agricultural writers, that "good farming does not pay." If by "good farming," is meant that system of husbandry which, at whatever cost, brings land into the best possible condition, and keeps it there, aims to grow the largest crops, and to raise the most highly bred stock, the maxim is true with respect to the economical results to the farmer himself, in

all countries where a very dense population has not reduced labor to its minimum, and carried produce to its maximum limit of price. But it is by no means certain that such a system is, under other circumstances, equally disadvantageous to the economy of the State. In all governments where the people, the laborer included, is recognized as having rights to exercise, and interests to foster and protect, in the administration of public affairs, the power and riches of the State must be acknowledged to consist in the prosperity and wealth of its individual members, and therefore its welfare is best promoted by that public and private policy which tends to distribute and equalize, rather than to accumulate pecuniary capital. A million of dollars divided among five hundred citizens, is far more available for all legitimate governmental uses than if it were hoarded by an individual; and what is of much more importance, these five hundred independent freemen are very much more efficient and reliable supporters and defenders of the government of their choice, than if they were reduced to the condition of hirelings by the absorption of their united wealth into the coffers of a single capitalist. The riches of a free State and the riches of its people are convertible terms, and a wide, permanent national domain, or a great accumulation of public treasure, or even of invested capital, are at once usually unproductive, and at the same time repugnant to the genius of popular institutions. These can only flourish where all public interests constitute, literally, a *common wealth*, or stock in which every citizen has both a proprietary right, and a beneficial enjoyment of control and usufruct. Now, the tendency of a system of agriculture which, like that of England, pushes its improvement beyond the point of greatest profit to the capitalist, is to the diffusion of property rather than to its accumulation, because the same quantity of land requires the labor of more hands, and thus brings a larger number to share its returns. Although,

therefore, England has not the inducements to stimulate the highest amount of production, which countries, like China, Holland and Belgium, find in an exceeding density of population, yet the necessity of diffusing and disseminating her overgrown wealth, furnishes a reason almost as powerful for carrying the refinements of agriculture to a pitch where it ceases to be very highly remunerative to the land owner. We are not yet arrived at this condition. Sound economy, public or private, does not require or indeed permit us to raise the largest possible crops, or breed the highest blooded stock; and, therefore, in seeking agricultural instruction in foreign lands it is, ordinarily, the general principles, not the most highly perfected methods, that we shall find worthy of adoption.

But I proceed to my sketches. In travelling on the European continent, the first point which will strike an eye trained to geographical as well as agricultural observation, will probably be the exceeding smoothness of surface of the cultivated land. Not that the fields are flat or the inclinations regularly graded; on the contrary, the view is diversified with rocky ledge, and plain, and valley, and swelling knoll and slanting hill-side; but a long course of cultivation has obliterated the minor irregularities and inequalities of the natural surface, reduced the sharpness of the angles, removed the smaller rocks, filled the dried up water courses, and thus given the whole landscape a rolling outline, whose graceful curves, moreover, are seldom broken by hedge, or fence, or other artificial enclosure.

The next novel feature which will attract the notice of a traveller over the great and most frequented roads of Europe will be the absence of any thing which corresponds with an American's idea of a forest. In England, and in many countries on the continent, any considerable extent of unimproved and unenclosed ground, though bare of trees or even arborescent shrubs, is called a forest, the name having been retained after the proper original characteristic

of the locality had disappeared. European geographical descriptions, therefore, by the different use of the term forest, often convey to American readers a very mistaken idea of the countries to which they relate. Extensive woods, partly of artificial plantation, do indeed exist on the plains of south-western France, in northern Tuscany, where endemic pestilence has wrested the soil from the dominion of man, upon the mountain ranges of both Italy and France, and in many parts of the German States; but these regions are not often visited by tourists, nor indeed do they present much of special novelty or interest, in connection with the rural economy of other countries.

Upon the principal highways of central and southern Europe, forests, in our sense of the word, are nowhere seen; and the want of them is but imperfectly supplied by the long closely planted rows of trees which fringe the road-side, and stretch along the paths and water-courses. These trees are annually or biennially, according to the luxuriance of their growth, trimmed of their lateral branches, and sometimes lopped at the top, and the chief supply of fuel, scanty at best, is derived from these poor clippings, which reduce the tallest trees to the similitude of a hop-pole, and deprive them of all family likeness to the umbrageous oaks and elms and beeches that form so fine a feature in English as well as in our American landscape scenery.

These characteristics of smoothness of surface and absence of woods are common to the most frequently visited provinces of all the countries I propose to notice, but in other particulars they are very widely diversified, whether as respects their physical geography, or the modes, habits, and objects of rural industry. To illustrate these differences I must enter into somewhat of local detail.

As France is the continental country usually first seen by American tourists, I will suppose you to land on the shores of that empire, and then to visit the Italian States,

and afterwards the territories of the German Powers and of Switzerland, and I will endeavor to give you some general notion of the husbandry of each country, with an occasional illustration from other lands, and a hint or two even from distant Turkey.

After the conspicuous features I have already mentioned, the traveller in France will probably first be struck with the great minuteness of the division of the soil, and the particolored appearance thereby given to the general surface. On every side are strips of arable land, often not more than ten or twenty yards in width, and of considerable length, breaking the monotony of the plains and chequering the sunny flanks of the hills that border them. These small parcels, which exhibit every variety of agricultural product, here a miniature wheat-field or a dwarf meadow, there a bed of onions, and a plat of barley or flax, or a patch of potatoes or cabbage, the farm and the garden intermingled, belong to different proprietors or at least occupants, living often miles from their petty fields, and of course cultivating them at no trifling disadvantage. The modern law of descent in France which excludes primogeniture from sole inheritance of the soil and divides the estate among all the heirs, combined with the tenacious attachment of the French peasant to his country and his paternal acres, has occasioned this exceeding minuteness of partition, which has been found productive of important political advantages, and at the same time of serious economical evils, both of which are curiously contrasted with the opposite benefits and inconveniences resulting from the monopolizing of lands in England by the operation of the British laws of inheritance and entail.

The farmer whose estate embraces but an acre cannot keep a flock of sheep, or a yoke of oxen, or scarcely a pig; he cannot build barns or sheds for storing his crops; he cannot afford a comfortable dwelling, or possess a cart, a wagon, plows, harrows or even a full set of the smaller

agricultural implements. He cannot spare ground for the growth of fuel, underdrain his land, or secure it by a permanent and substantial fence, and he has too small an interest in internal improvements to make him an able or a willing contributor to roads and other facilities of travel and transport. He must live, therefore, in such hovel as his slender means enable him to own or rent, at so great a distance perhaps from his narrow territory, that half his day must be spent in going and returning between his dwelling and his place of labor; his ground must be painfully tilled with spade and mattock; the extra aid he may require at critical seasons must depend on the uncertain chances of an exchange of labor; the necessities of his household or the urgency of the tax-gatherer may compel him to sacrifice his own harvest, while earning a hard penny in securing that of his wealthier neighbor; and whatever he gathers at last must be sold on the spot at an inadequate price, or transported to market or to his garner upon his own shoulders or those of his wife and children.

In such districts, therefore, you see no flocks of sheep or herds of cattle, but here and there, nibbling by the road-side or along the *lands*, two or three or perhaps a dozen ewes kept from straying by dog and shepherd, or a single cow with a rope about her horns held by a woman who divides her time between tending an infant or knitting a stocking, and checking the obstinate propensity of her beast to yield to the temptations of cabbage and clover and trespass upon that which is her neighbor's.

At distant intervals you pass hamlets or clusters of little huts with thatched and moss-grown roofs, thickly planted on narrow and crooked streets, with a picturesque old gothic church, and a few venerable trees, the benefits of whose shade have saved their spreading boughs from the process of lopping, to which their fellows are elsewhere subjected. The rural population was originally collected

in these villages for security during the troublous times of that fearful period of spiritual and temporal tyranny, the middle ages. They gathered in huts nestling under the shadow of some rocky hill crowned with a monastery or a feudal castle now generally destroyed, or existing only in the mouldering fragments of its donjon-keep, which was too solidly built to yield even to the violence of the French Revolution. In spite of the inconvenience of so distant a separation between landholder and land, these villages continue to exist, partly from habit, partly from the national passion for social enjoyments, and partly from the inability of the villagers to provide for themselves new and more commodiously situated habitations. Occasionally, indeed, you pass a new chateau or an old castle modernized, surrounded with shady groves and flowery gardens, orchards of stiff pear trees or ungraceful prunes, with flocks and herds, teams of horses and oxen, and all the larger and more costly implements of tillage. But these are rare, and it is but seldom that even they are accompanied with neat and comfortable rural homes for steward and laborers or other dependents.

The average quantity of ground belonging to the landed proprietors of France is not above five acres to each, and as very many estates greatly exceed this average, very many must fall much below it. Although, as I have already shown, with such small proprietorships the best modes of farming cannot be adopted, yet from the variety of crops, contemporaneous or successive, that may be obtained from lands cultivated in the fashion of the garden rather than of the farm, and with the spade more frequently than with the plow, from the care taken to make every inch available, and above all from the fact that the eye and the arm of the owner of the soil are both employed in bringing out its utmost resources, the actual quantity of produce applicable to human sustenance is great, even as compared with that of the best farmed lands in Europe.

In this, as in many other instances, we are in danger of being misled by statistical tables, which generally notice only marketable products, whereas these small French fields are made to yield a variety of plants abundantly useful in domestic economy, but either not employed by the citizens of large towns, or, in each individual case, reared in too small quantities to find their way to market, or to attract the notice of the political economist.

The most valuable results of this system, however, are not economical, but moral and political. It is a matter of immense consequence to the State, that they, who in the first instance extract from the bosom of the soil that which supplies the life-blood of the nation, and who in the last resort are the defenders of that soil, should feel that they are something more than tenants at sufferance upon it, and that they have a substantial proprietary interest in the earth which nourishes them, and through their labors those classes of their fellow citizens who "toil not, neither do they spin."

Since the Revolution which broke up the great feudal estates, and divided them amongst the peasants, who before had been but serfs upon them, there has been an immense change in the character and condition of the French husbandman. Formerly Paris ruled, and emphatically *was* France. The rural laborers, in spite of the liberal and philanthropic views of Henry IV, whose dearest wish it was that every peasant might be able to have a fowl for his Sunday's dinner, were degraded far lower than they ever were in freer England. "We see," said La Bruyere two hundred years ago, "dispersed over the country certain savage animals, male and female, with dark and livid skins, naked, scorched by the sun, bound to the soil which they dig and stir with obstinate perseverance. They have a sort of articulate voice, and when they raise themselves on their feet they show a human face; and in fact they are men. At night they retire to dens, where they

“subsist on black bread and roots. They save other men the labor of ploughing and sowing and harvesting, and therefore are entitled to some share of the bread they have sown.” A later writer, (Courier) remarks that in this extract La Bruyere was speaking of the more fortunate class of peasants, those merely who were blessed with bread though black, and the opportunity to earn it, and these, he adds, were the fewest.

Such, making some allowance for rhetorical exaggeration, were the farmers of France, at the period when your enlightened ancestors were laying the first foundations of our mighty empire on the Atlantic coast of New England. Now, however, the tillers of French soil, as in the northern United States, know that they constitute the weightiest element in the State, and they are hourly making themselves more and more felt in the political action of their government. This consciousness of the importance and the responsibilities of their position, and their consequent identification with the power and glory of France, is one of the main reasons why so few Frenchmen emigrate to the New World, and it serves to explain how in the late destructive war, there was comparatively little difficulty in recruiting the French army with men whose rural life had given them the best physical training, and the proper moral qualities to form a spirited and efficient soldiery.

In Great Britain, on the contrary, the accumulation of the real estate of the island in the hands of a comparatively small number of proprietors, has produced effects quite opposite to those which I have just described as existing in France. The causes of this accumulation I cannot here discuss in detail, but I may mention in general that they may be found, as respects northern Scotland, in the abolition of the patriarchal system of the Highlands, by which the chief was considered as holding his lands in trust for the clan; and elsewhere in the operation of the law of primogeniture and entail, the great increase of capital from

trade and manufactures, which has sought investments in lands, and the extension of pastoral husbandry, sheep breeding, especially, which has converted millions of acres of well peopled arable soil into broad pastures, inhabited only by the shepherd and his flock.

The estates of the great proprietors are doubtless more scientifically cultivated than when they were divided into smaller portions, and the liberal application of capital and intelligence has carried English agriculture to a pitch of perfection perhaps never on a great scale realized elsewhere. The marketable products, and probably the total material which contributes to human sustenance, have been largely increased, but yet, while the entire population has doubled in fifty years, the rural districts have in many instances lost almost all their inhabitants. Hundreds of thousands of the classes whom it was most important to retain, have emigrated to America, Africa, Australia and New Zealand, because they could find no rest for the sole of their feet on the soil that bore them. Others are absorbed by the demands of the manufacturing system; others in the construction and working of railroads and their accessories; others in the increase of the commercial marine, and others, again, enter into that vast accretion, for it cannot be called organic growth, by which the great cities of England have swollen to such unnatural and disproportionate bulk.

Thus the class of small proprietors and tenants upon long leases, who cultivated their own lands, and who were justly regarded as the best reliance of the State in every critical emergency, has now quite disappeared, or been greatly reduced in numbers, in moral force and in physical power. With the smaller agriculturists have vanished also the small tradesmen and mechanics. Not only are homespun clothing and all household manufactures obsolete, but every rural implement, every article of clothing, from felt to sole-leather, is brought ready-made from some

great town, and the village blacksmith and tailor exist no longer. The inconveniences of this state of things had not been distinctly felt and appreciated in England until the fruitless efforts to raise men for military service in the East showed that the English, in ceasing to be a rural, had ceased also to be a martial nation, and that a manufacturing and a civic people have neither the moral nor the physical qualities which made the British armies so formidable in their wars with Napoleon.

Whether these evils are compensated by the advantages resulting from division of labor, augmented mechanical power, and other means of increasing the total industrial product of the empire, it is perhaps too early to pronounce. But it must be remembered that in all history, the growth of cities at the expense of the rural districts, which is becoming noticeable even in our young republic, has proved a token and a near precursor of national decrepitude and decay. The city-bred youth, with an enfeebled physical frame, has a precocious development, a one-sided and premature culture, a quickness of intellect, a promptness of movement, and an unnaturally stimulated sensibility, or rather sensitiveness, which give him an apparent superiority over his calmer, slower, more impassive brother of the country. But their superiority is at best a superficial and unreal advantage. Man's true strength of mind and body, his physical, moral and intellectual nature, are most completely, equally, and harmoniously evolved, trained and perfected in modes of life akin to that which God prescribed to our first parents when he made them tillers of the ground.

But I return from this digression. Advancing towards central and southern France, you enter the region devoted to the growth of the grape; here you find no spreading vine, climbing with twining tendril and swinging in gay festoon from tree to tree, or limb to limb, o'erarching cool arbors with luxuriant foliage, or trained on painted trellis; but

scarred and gnarled stumps, a foot or two at most in height, sending forth a couple of annual shoots, which are tied with bark to a short stake, and growing generally on meagre and forbidding soils. It is not here, then, that you are to look for the poetry of the vineyard.

Such is the aspect in which the northern and western portions of the empire present themselves to an American agricultural observer. Let us now turn southwards. Here, approaching Burgundy, the native soil of the most generous of French wines, we meet the mulberry in all its varieties; the fig, a low, scraggy tree, which, with its short, thick, angularly disposed branches would, but for its large, deeply lobate leaf, much resemble the American sumach; then groups of the picturesquely beautiful stone pine, famed for the edible, nut-like seed which lies beneath the scales of its large cone, and often called, from the shape and shade of its broad spreading top, the umbrella pine. Somewhat further south, occurs the olive, a moderately sized tree, very frequently with a hollow trunk, with slender boughs and twirling evergreen foliage, dead green on the upper surface and ash color beneath, much resembling that of some of our willows. The olive resembles the willow, too, in being one of the few apparent exceptions to the rule, that all the forms of organic life have their natural limit of growth and dimension, upon attaining which, they begin to decline and die, death itself being often the legitimate and necessary final result of the very processes by which life is invigorated and sustained. In most trees, the leading top-shoot and the lateral branches continue, under favorable circumstances, to lengthen, until they attain a distance from the root to which the organic and inorganic forces that propel the sap can no longer convey that fluid in due quantity and condition. Then the remotest twigs wither and perish for lack of sustenance, the cells and vessels become clogged with the nutriment elaborated for more distant members, disease in various forms

attacks the tree, and after a longer or shorter struggle it yields to the common law, and at last falls a prey to the chemical action of the elements that war upon it. But like those reptiles which have no fixed limit of bulk or period of life, the willow and the olive continue to grow indefinitely, even after the heart is decayed, annually renewing their bark and sap-wood, and putting forth fresh shoots as long as there is stem enough to sustain the weight of the branches; and when, at last, the trunk falls, sending up new sprouts and forming new trees upon the roots of the old. There are olive trees in the south of France and in Italy known to have continued some hundreds of years in full bearing; and the monks of Palestine declare that the olives now standing in what, with more probability than belongs to most monkish legends, they identify as the garden of Gethsemane, are the self-same trees that witnessed the agony of our Lord. Extravagant as this may seem, it is not wholly devoid of credibility. Historical documents prove that these particular trees were in bearing ten centuries since, and it is not difficult to believe that they are, if not the identical trunks which stood in the garden at the commencement of our era, at least shoots from roots as old.

On reaching the shores of the Mediterranean, the orange, the fairest of Pomona's gifts, is seen thriving luxuriantly in the open air, and the fragrant flower, the small green globe, and the full golden fruit, are found at once in the same garden, and not unfrequently on the same stem. The oranges of France are much inferior in both quality and quantity to those of more southern climes, and to see the tree in its full beauty and enjoy the highest perfection of its fruit, you must visit the extreme southern insular or peninsular points of Europe, on the eastern shores of the Mediterranean. The variety of fruits of this family, which the Italians comprise under the general name of *agrumi*, including the orange, the lemon, the lime, the shaddock,

and others, varying from the size of a large walnut to that of a child's head, is very great, and I have seen more than forty species, or well marked varieties in a single garden.

But to return to Southern France. Here abounds the *ilex*, and the oak whose outer bark forms the cork of commerce, both evergreens, and the latter a source of great profit to the proprietor; and as you proceed eastward, across the mountain spurs, are thin forests of pines and of chestnuts, whose fruit forms an important article of diet for the poverty-stricken peasants, while the rocky hills are covered with the *arbutus*, or strawberry tree, a shrub whose fruit much resembles the ground strawberry of our own meadow in form and color, and is largely employed for distillation.

From Nice, which lies near the boundary between the Sardinian States and the French Empire, the road through the duchy of Genoa skirts the sea, now running along the water's edge, now climbing, by tortuous windings the ridges of the maritime Alps, sometimes making a wide detour to pass around a deep ravine, and sometimes plunging into the bed of a bridgeless torrent, which, though dry in summer, is often swelled to a sea by the autumnal rains or the melting of the Alpine snows. On the high grounds, if not too rocky, grow the hardier trees already mentioned; while lower down, the practicable slopes are terraced, the banks being supported by walls dry, or laid in mortar, whose height is sometimes not less than the width of the shelf of soil above them. The amount of labor and of money expended in constructing and maintaining these terraces is truly incredible, and the general poverty of the people unhappily shows that all this cost and toil have been but ill repaid. On the terraces, which are often carried, in successive ranges, many hundred feet up the side of the mountain, are planted the olive, the mulberry, the fig, and the vine, the latter, here no longer reduced to a mere stump, but trained upon trees, whose tops are lopped, and the lateral branches and twigs interwoven with the vine-shoots into the form of a basket, or

huge bird's nest, with, usually, a crop of some annual root or grain half buried in the shade of the larger perennial plants; and, in the sunny nooks, through a half-shut gate, or other chance opening in the leafy walls with which the jealous temper of the Italians environs their gardens and pleasure grounds, you catch glimpses of orange groves, parterres gay with flowers, and decorated with vases and statuary, fountains and shady alleys, and perhaps a carefully sheltered date-palm, barren indeed of fruit, but reared as an ornamental exotic, or for the religious uses and significance of its leaf-branches. The prickly pear cactus now appears, hiding the crevices of the rock in which it is rooted, and occasionally a row of the American aloe, with its thick, succulent leaf and its tall flower stem, is made to serve the purpose of a quick-set hedge. Thus you find, even in the heart of winter, a softness of climate, an ever-green luxuriance, and a type of vegetable growth that seems to give the lie to Peter Parley, who told you, in your school-boy days, that the duchy of Genoa lay in the same latitude as New Hampshire and Vermont.

Passing out of the Sardinian territory and keeping on the west of the Apennines, you enter some of the smaller Ducal states, and here, separated by ridges composed of the marbles of Carrara and Serravezza, you cross extensive plains teeming with fertility, and yielding the same agricultural products already described, with the addition of Indian corn, and some other less important crops. The growing of wheat, for the sake of employing its straw in the fabrics so famous as the Tuscan hats, which formerly produced in the duchy of Tuscany not less than a million of dollars annually, has considerably fallen off, from the changes of fashion, and especially from the high duties now levied on these braids in France and England; but the straw manufacture is still continued on a respectable scale.

The fields in this part of Italy are irrigated by canals

derived from streams whose beds not unfrequently lie above the level of the plains they traverse, and which are kept from overflowing the champaign and converting it into pestilential marshes only by high and costly embankments. You are now struck with the general characteristic of the physical geography of Western Italy, which distinguishes it so remarkably from most other mountainous countries. The surface is not composed of hills and dales with level plateaus on the ridges and narrow threads of what in America we call *intervale* bordering the water-courses at the bottom of the valleys between, but it consists of wide spread plains and abrupt mountain elevations, with no intervening gradual rise to break the suddenness of the transition. The plains are generally at but a small elevation above the sea, and though in some instances probably of submarine formation, yet in many others they appear to owe their origin to the action of the torrents, which, after the Apennines were bared of their forests, gradually washed down the vegetable soil and disintegrated or decomposed rock, first into their own estuaries, and then, when these were filled to the water level, deposited it on a broader surface, until a wide and continuous belt of champaign country was interposed between the mountains and the sea.

Eastern Tuscany, being more distant from the sea and more elevated, is less strongly marked by the features I have described; but the tendency to form extensive levels and sudden ascents still characterizes its geography as it does that of the Pontifical states west of the Apennines. The climate of the territory of the Church is somewhat milder than that of Tuscany, and the funeral cypress, the myrtle and the laurel, all evergreens, now become frequent and conspicuous ornaments of the pleasure grounds and gardens. Some miles before reaching Rome, you enter the famous Campagna di Roma, the fertile but pestilential plain, now almost destitute of trees and rural habitations,

in which the Eternal City is embosomed. The Campagna is, to a considerable extent, of igneous origin, but to the south and west it gives place to the Pontine marshes, which are composed of marine or alluvial deposits. The whole of these extensive regions, the former of which has a certain resemblance to the rolling, the latter to the flat and more swampy prairies of the West, would admit of unlimited agricultural improvement, and again sustain, as they once did, a dense population, were it not for the fevers which render them almost uninhabitable, and are threatening to depopulate the city of Rome itself. For this evil, science has failed to find a remedy, as it has been unable to detect its cause; and though considerable winter crops are grown upon the Campagna, yet the greater portion of it is occupied for the pasturage of herds of half-wild oxen, sheep, and horses, which are driven to the mountains for pasturage in summer, and brought back on the approach of winter. The buffalo alone passes the hot as well as the cold season in the Campagna, and, with the exception of the mountaineers who venture down to gather the crops in harvest, at the imminent risk of their lives, and a few pallid wretches, who remain to watch the property of their employers through the summer and autumn, or to attend at the government post-stations, the whole of this vast tract is quite uninhabitable during the half of the entire year.

Leaving the Campagna and the Pontine marshes, you traverse a more diversified region and soon enter upon the fertile plains of Neapolitan Campania or the Terra di Lavoro, which are almost wholly composed of ejections from the volcanic group whose only present active crater is that of Vesuvius. The soil of this province is exuberantly productive, and its climate is more salubrious than that of the Roman Campagna. The vine, which, in more northern Italy, had, as we have seen, already begun to to assume more freedom and luxuriance of growth, is here

allowed to climb tall trees planted in rows for that purpose, and the shoots from neighboring trees are interlaced so as to form a net-work or vast arbor high over head. The ground is cultivated with a variety of plants, and such is the fertility of the soil and the power of the sun, that good crops of grain are raised in the vineyards under a depth of shade, which, in less favored climates, would admit the growth of no vegetation but spontaneous under-wood.

The immediate environs of Vesuvius, where the soil is of unmixed and recent eruptive origin, possess the usual fertility of volcanic earth, and the lavas and scoriæ of this mountain seem in general to yield to atmospheric influences and to become sufficiently disintegrated to admit of cultivation sooner than those of Etna. The Etnæan lava of 1669, as well as the beds of volcanic sand and ashes deposited near the outlet from which that terrible current issued forth, seem almost as bare and as black as on the day of the eruption, while ejections from Vesuvius, of a much later date if we can trust the report of the inhabitants, are already covered with vegetation. The soil upon the flanks of these mountains presents a character to which we have, at least on this side of the Rocky Mountains, nothing analogous, as all our igneous rocks and the earths formed by this decomposition are of an earlier origin and a different constitution.

The configuration of the surface in that portion of central Italy which lies east of the Apennines presents more points of analogy with our own geography. There is less of widely extended plain than upon the western shores of the peninsula, the mountains rise more gradually from the sea, and the landscape is chequered with hill and knoll and winding rivulet and narrow intervale, but the objects and processes of rural industry are much the same as on the opposite slope of the mountains.

Proceeding northwards we enter the vast alluvial plains

of Romagna and Lombardy, which are watered by the Po and the Brenta, with other rivers and their tributaries, and extend hundreds of miles in both directions. Neither the soil nor the climate of this region is so well adapted to the grape as those of central and southern Italy, but the vine still flourishes on the flanks of the mountains that border the great plain, and the few detached elevations that break the general uniformity of its surface. The orange disappears altogether. The mulberry becomes more and more important. The pasture grounds and the meadows are of unsurpassed productiveness. Indian corn is very largely grown, and preserved through the winter by being *tressed up* on the ear, as seed corn is with us, and hung out in the open air under the projecting roofs of the dwellings and out-houses. Mush or hasty pudding, under the name of *polenta*, here plays a very conspicuous part in the nutrition of the laboring population. Rice, too is produced in abundance wherever the soil can be flooded at pleasure, and this grain thrives even as high as 45°, but its cultivation is so prejudicial to the health of the country, that government has found it necessary to forbid its extension. The beds of many of the principal streams are considerably elevated above the plains through which they flow, and thus furnish a convenient supply of water for irrigation, for navigable canals, and for mechanical purposes. The complicated net work of canals, by which the ground is drained in wet seasons and the crops irrigated in the dry, is believed to date earlier than the Roman conquest, and practicable hydraulics, or the art of directing and controlling the flow of running water is nowhere better understood than by the engineers of Lombardy. The plains of Lombardy and Romagna appear to have been formed almost wholly by the deposits of the Po and other rivers whose affluents rise in the Alps and the Apennines, and they are now in a course of very rapid extension from the operation of the same cause. The encroachments of

the land upon the Adriatic are obvious to the most careless observer, and it may be cited as an instance of the rapidity of this process, that the town of Adria, which was a seaport 200 years after the time of Christ, is now fifteen miles from the water.

The most important branches of industry in Lombardy, considered in a commercial point of view, are silk and the products of the dairy. The silk culture presents no very striking points of difference from that of other countries, but the variety of lacteal products, some of which are peculiar to Lombardy, is very great, and many of the processes of the Lombard dairies, as well as of those of Switzerland and other European countries, might, very probably, be introduced with advantage into our husbandry.

Let us now pass over to the Slavo-German and German provinces of the Austrian empire. The olive is still cultivated in the neighborhood of Trieste in the province of the Littoral, but as soon as you climb the plateau at the head of the Adriatic, all traces of the southern flora vanish. The plateau in question, called the Harst, is one of the most singular regions in Europe. It is a lime-stone plain embracing a considerable part of Carinthia, Carniola, Istria and other districts in the territory of Illyria north and east of the Adriatic. Its most striking peculiarity is the fact, that it is almost wholly undermined by natural caves, which are so numerous that above a thousand are counted in Carniola alone. The natural drainage of the Harst is generally subterranean. The surface is thickly sprinkled with conical depressions of various dimensions, but usually from thirty to three hundred feet in diameter, and from ten to thirty or forty feet deep. They are so plentifully strown in some places that the roads are obliged to pursue a very crooked course, and sometimes to make considerable circuits, to avoid them. They have been formed by the partial sinking in of the roof of the caverns below, and though there is seldom a visible aperture, but on the

contrary usually a small level plat of earth at the bottom, on which garden vegetables are grown, yet they communicate so directly with the caves, that the rains and melted snows leach immediately through, and out of hundreds that I observed on two different occasions after a long continuance of very rainy weather, I found but two in which any water was standing. Upon such a surface, of course, there can be but few springs or running brooks, the plains yield little but a meagre pasturage, and you find in the heart of Europe an extensive district, which, in dry seasons, is almost as parched and unfruitful as the Arabian desert.

The agricultural plants of Illyria and Styria are the same as with us; but the grape is still cultivated to a considerable extent in favored localities, and millet, of which there are two or three varieties, is raised in large quantities. As a second crop, buckwheat is very extensively grown, and forms one of the principal articles of diet among the laboring classes. The peasantry live in rude and comfortless dwellings in the Slavic, in far better houses in the German districts; and as their homes are scattered over the face of the country, each living on the soil he cultivates, the general aspect of these provinces is much more cheerful than that of many parts of France and northern Germany where almost the only human habitations are those grouped in miserable villages. The peasantry present a very unfavorable contrast with persons of the same class in many other parts of Europe. The "Carinthian boor" is still as "rude" and as inhospitable as he was in the days of Goldsmith. He is dull, clownish, ignorant, suspicious of strangers, and exhibits nothing of the life, intelligence, and ready and helpful kindness so characteristic of the poorer class of Italians.

In many parts of the Austrian empire, as well as in the other Germanic states, much attention is paid to surface-draining, the proprietors not being usually wealthy enough

to incur the expense of under-drainage. For this purpose, the surface of the arable land, when not very steep, is formed into permanent ridges varying much in breadth, according to the slope, the natural moisture, or dryness of the soil or local climate and the hereditary habits of the district, straight or curved as the maintenance of the grade may require, and from six or eight to sixty or eighty feet in width. The prejudice in favor of this practice is so universal, that land is often laboriously ridged where the natural inclination is evidently rapid enough to carry off the water freely, and in many instances the advantages must be more than compensated by the expense, the loss of ground in the furrows, and other inconveniences. It must not, however, be forgotten that the ridges were probably originally formed in many cases at a remote period, soon after the forests were cleared, and that though now useless they were once indispensable. The natural drying of newly cleared land is a much slower process than we usually imagine, and American experience has shown that it goes on for generations, if not for centuries.

The frequency of summer and early autumnal rains, the abundance of snow and the danger of frost, in the Swiss and Germanic districts between the spurs and along the flanks of the Alps, have given rise to curious practices, some of which might perhaps deserve a limited adoption in our Northern States. Thus in Styria and elsewhere, fresh-cut grain is often secured under long, narrow thatched sheds, open at the sides and provided with a horizontal rack-work resembling a rail-fence, into which the straw is interwoven with the head downwards, and the grain is dried under partial cover. In upland meadows in Switzerland, and more particularly in the Tyrol, the hay is of a very mixed character, flowering plants of various sorts being largely intermingled with the proper grasses. These plants have thicker stems and more succulent foliage than the grasses, and, for this reason and the moisture of the

climate, are made into hay with difficulty. To dry the hay, it is common to set up in the meadows, at convenient distances, stakes about six feet in height and with two or three cross-pins, a foot and a half or two feet in length, passing through near the top. The freshly mown grass is twisted around the top of the stakes and between the pins in bunches a couple of feet in diameter, and being thus secured from the dampness of the ground, and at the same time exposed to a free circulation of air, it dries well in almost any weather not absolutely rainy. In some Alpine valleys, the melting of the snow on ground intended for cultivation is hastened by strewing over it black earth, which absorbs the rays of the sun, and thus the warmth, which a white and glittering surface would reflect back into space, is retained, and employed in carrying off the snow. In similar localities, frosts are prevented by kindling large fires of wet leaves, straw, and other rubbish. The cloud of smoke raised by the combustion fills the narrow space between the mountain ridges and long hovers over the fields, thereby hindering the radiation of heat from the earth and from plants, which is the immediate cause of frost.

In Switzerland, the alternate beauty, grandeur, and overwhelming sublimity of the natural scenery is such, that the traveller is little inclined to bestow upon the material interests of man an attention which is almost wholly absorbed by the works of his Maker. Still, he cannot but be agreeably impressed with the domestic comfort, the neatness of the dwellings and the farming, and the general appearance of thrift which especially distinguish the Protestant cantons. He will observe with interest, the great attention paid to the cultivation of tree-fruit, the winter pear particularly, which is largely exported, and of the vine in localities suited to its growth; the quaint architecture of the houses, with barn almost always under the same roof, and hay peeping from the garret windows even

over the principal apartments; and he will wonder how under such circumstances the houses can have escaped destruction by fire for a century, as the date affixed to the pious inscriptions upon the front, commemorating the erection of the dwelling, testifies that many of them have done. The particular point in Swiss agriculture most deserving notice is, perhaps, the practice of applying liquid manures as a top-dressing for grass immediately after the hay is removed; not twenty-four hours being usually suffered to elapse before the application. In fact the crop of hay is, in most parts of Switzerland and the Tyrol, second in importance to no other agricultural product, because, from the mountainous nature of the country, rural husbandry is mainly pastoral, and the length and severity of the cold season requires an ample supply of winter food for cattle. Butter and cheese are the most conspicuous articles in the returns of the mountain districts, and so characteristic are they of Swiss rural industry that *Schweizerei* has become a common German word for *dairy*.

But I am dwelling too long on these descriptive sketches, and must omit any account of the physical features of the more northern German States, confining myself to the single observation that their agriculture is substantially the same as that of the Germanic provinces already described, modified of course more or less by local differences of soil, established habit, and of climate as affected by latitude, elevation and other causes. I must add, however, that in all the countries north of the Alps, sheep-breeding, which is of comparatively little importance in the Italian peninsula, occupies a very conspicuous place in the labors and returns of rural industry; and I cannot forbear to notice the immense commercial and industrial importance which the fondness of the Germans for beer gives to the crops of barley and hops. Beer and ale in their different forms have been, from remote ages the favorite national beverage of the Teutonic and Scandinavian races,

and they are still brewed by the tribes of the Caucasus now inhabiting the localities from which the Goths are believed to have emigrated. Tacitus, in his remarkable little treatise on the manners and customs of the Germans, written about a century after the commencement of our era, says "their drink is a liquor extracted from barley or other grain and corrupted into a certain resemblance to wine." The consumption of this stupefying drink is quite incredible, and it influences in various ways the industry of the whole Germanic race, to an extent hardly inferior to the results of the cultivation of the cereal grains in our own great West. It is a significant fact that one third of the revenue of Bavaria is derived from a tax on beer.

As the character and objects of agricultural labor are always much affected by meteorological influences, a word on the relative climates of the Old World and the New will not be out of place here. The most general statement of the law of climate, next after the influence of latitude and elevation, is that the western coast of all continents enjoys a milder winter and a less scorching summer than the eastern. Thus the climate of the Atlantic States finds its parallel in the corresponding latitudes of China and Japan, while Oregon and the interior of California very nearly resemble, in this particular, the maritime and inland countries of western Europe. Between eastern, America and the west coast of the European continent the difference is very great. The grape grows in Germany in the same latitude as the almost eternally frozen shores of James's Bay in the New World and Kamtchatka in the Old; and the most highly prized wines of Europe, the Hochheimer or Hoch, are produced as far north as the fiftieth degree. Rice is grown with advantage near the coast of the Adriatic in latitude forty-five; and the farmer of Lombardy is ploughing his fields when, under the same parallel, the earth is frozen three feet deep on our northern frontier. Farther east the climate becomes again

severe, and in European Russia the winters are not much milder than under the corresponding latitudes of our own hemisphere. The grape is indeed grown and much wine produced, at Astrakhan on the confines of Europe and Asia in about the forty-fifth degree, but the vine is there planted in deep trenches and covered in winter, a practice which is followed in the Valteline also, and other districts on the borders of the lower Alps.

A very striking and important general difference between the agriculture of most of these countries and that of the United States is, that while all our crops of any commercial value with the exception of the grasses, are the product of annual vegetables, a very large proportion of the profits of European continental agriculture is derived from perennial plants. Thus the vine is common to some of the districts of all the countries I have mentioned; the mulberry and the olive to most of them. In France the annual yield of wine and brandy is estimated to be worth more than sixty millions of dollars, and that of manufactured silk something above forty millions, while that of the cereal grains does not much exceed two hundred millions. If to the products of the vine and the mulberry we add those of the olive and the cork-oak, we shall find that these perennials, all of which well might be, but none of which yet are, cultivated in the United States to such an extent as to be of any national importance, yield in France returns much more than half as great as those of the grain harvest of that empire, and of considerably greater value than the entire unelaborated cotton crop of the American Union.

It is obvious that this difference in the objects of rural husbandry must make an essential difference in the character of agricultural labor and the occupations of the people. Not only are the toils of those employed in cultivating perennial plants lighter in themselves than those of the husbandman whose seed time as well as his gather-

ing is annual, but the mildness of climate, which renders the cultivation of perennials practicable, facilitates the labor of agriculture, by allowing them to be continued through the year, instead of being crowded, as they are with us, into the compass of little more than a season, and at the same time, it increases the rewards of industry by admitting a succession of crops which makes the whole year a perpetual harvest. In the same countries the absence or rarity of frost both exempts the people from the expensive and laborious necessity of providing a large supply of fuel, and permits the growth of pasture-grasses through the winter, whereby the cost and toil of securing and feeding out a stock of hay or other winter fodder is in a great measure avoided. Other circumstances which tend to lessen both the labors and the anxieties of rural life in rude climates are the slowness of vegetation, and the general dryness of summer and harvest time. Where the changes in the condition of the crops are very gradual and the weather almost certainly fine, agriculture has few critical periods, and those occasions so common with us, where an unavoidable delay of a day or two involves or hazards the sacrifice of a crop, are of rare occurrence in southern Europe.

In provinces devoted especially to the growth of the mulberry and the rearing of the silk-worm, there is an exception to this remark founded however not so much on the uncertainty of the weather, as on the necessities and the habits of the animal. Through the feeding season which lasts from about the middle of April to the end of June, the whole rural population, old and young, is absorbed in this single occupation, which requires little outlay of physical strength, but makes very large demands on the intelligence and watchfulness of the laborers. "During this period," says a French writer, "all other labors cease. We neither buy nor sell. Legal proceedings are suspended. Everything is adjourned which can possibly be

“postponed. Merchants, notaries, lawyers, doctors and apothecaries, all take their holiday. The peasants have not even the time to be sick.”

The vintage, too, is a season of great activity, but its toils are light, and it is always regarded more as a joyous and festive occasion than as a period of unusual care and labor.

Farm lands are very seldom enclosed, both cattle and sheep being always watched and prevented from straying and trespassing by herdsmen and shepherds, usually aided by dogs, and when the flocks pasture far from the dwelling of the proprietor, accommodated with small lodging-houses, which are moved to and fro like a barrow or a hand-cart on a pair of wheels. Thus the capital and labor which we expend in building walls and fences are almost wholly saved.

Besides all this, the great permanent improvements, the clearing of the forests, the drainage of the soil, the smoothing of the ruggedness of its natural surface, the building of terraces, the planting of the perennial vegetables, the construction of houses and churches and roads and bridges, all these have been substantially accomplished by former generations, and the agriculturist has none but the easy labors which the changes of the seasons impose. Remove the curse of temporal and spiritual tyranny and misgovernment from climes like these, and the poet might indeed well exclaim,

“Ah, happy husbandman, didst thou but know
“The blessings of thy lot!”

Some of the most important branches of rural industry in southern Europe, as well as in other regions, are threatened with serious damage from sources altogether new, or which, if known in former ages, have passed away without leaving a record behind them. The grape disease, like that of the potato, long baffled all attempts to check its progress, and though much mitigated in some provinces, it

still menaces the entire destruction of the vineyards in many of the best wine growing districts in the world, and, consequently, great changes in the habitual occupations of millions. Originating in an English hot-house about the year 1845, it has spread over the whole of southern Europe, including the Ionian islands and Greece, where it has almost wholly destroyed the crop of the small seedless grape known in commerce and confectionery as the Zante currant, and it is now advancing eastwards and northwards, producing the ruin and too often the utter destitution and starvation of thousands who have no resource but the vineyard. Independently of this new disease, there had been before a suspicion that the grape, as well as many other domestic plants, was degenerating and destined to final and not distant extinction. It has been said that the clusters are smaller and less abundant than in earlier times, and that vines planted within the present century have not grown with the ancient luxuriance. There does not appear to be any sufficient evidence in support of this belief, but it would certainly be difficult to find vines of such dimensions as are known to have formerly existed. The cathedral at Ravenna had a great door composed of planks of vine wood, thirteen feet long and fifteen inches wide, as the skeptical may be easily convinced by examining the remains of them still preserved in that building. They are said to have been brought from Constantinople many centuries since, and to have been taken from wild stocks growing on the banks of the Rion, the Phasis of the ancients, which flows into the eastern end of the Euxine. The vine still grows on the same river with greater luxuriance than in any other known locality, but hardly attains the enormous dimensions required to furnish such planks as I have described.

The olive and the orange, too, are suffering from epidemics somewhat resembling in their effects the grape-disease; but whether, like the latter, these maladies result

from the growth of a microscopic parasitic vegetable, or whether they are produced by an insect, as in our Florida orange, is matter of dispute, and it is not improbable that both causes are at work in different localities. The silk-worm has always been liable to many disorders, but a new disease has made its appearance in France, and excited a good deal of alarm among the silk-growers. It has no very distinct symptoms or characteristics, and appears to consist rather in a general degeneracy of the species arising, as some conjecture, from the want of crossing, or breeding *in and in*, as it is technically termed. It is, however, too recent to have been yet thoroughly investigated.

From the prevalence of these evils we may draw the important lesson, that sound policy requires a considerable range in the objects of rural industry, in order that the failure, temporary or continued, of any one branch of husbandry, may not produce the ruinous effects, which have resulted in many European countries from a too exclusive devotion to a single agricultural pursuit, and the consequent dependence of a whole population on the contingencies of one method of earning its bread.

Having thus viewed the general surface and most striking physical characteristics of several of the principal continental countries, let us look at some points of their rural economy a little more in detail, and see what is most worthy of imitation in their public improvements and their private husbandry. I cannot of course on this occasion go into minute particulars, or notice all the specialities, which one having time and adequate motive to devote himself to individual fields of agricultural and industrial inquiry would bring out, and I must content myself with selecting a few obvious points of comparison, and which seem to me interesting as evidences of our superior progress in some particulars, or on the other hand suggestive of improvement in our rural life.

A striking point of difference in the industry of Europe

and the northern United States is the greater efficiency of the laboring man in the latter. This arises partly from physical causes. Among the former are the superior intelligence and ingenuity of the American laborer, and his consciousness that he is performing a voluntary contract for an adequate consideration fixed by his own agreement, and not by the pleasure of an arbitrary feudal lord, or by external circumstances which allow him no option but half-remunerated labor or starvation; among the latter, are the more nutritious diet of our farmers, and the great superiority of the tools and mechanical appliances employed in American agriculture. Thus, in many countries of Europe, the hoe has a handle but three feet in length, with a blade of half the width and thrice the weight of our own, while the axe is scarcely half as heavy as that which our wood-choppers wield with such powerful effect; the rake and the pitch-fork are of the clumsiest fashion, and the latter wholly of wood; the scythe blade is but two feet and a half in length, broad and heavy, forged of soft iron, and sharpened, not by grinding or whetting, but by hammering the edge on a stone, another stone often serving as the hammer; the snath is straight and with a single handle, the left hand grasping the end of the snath; and so ignorant are the peasants of mechanical powers, particularly in southern Austria, that I have seen four men exert for a long time their utmost strength in trying to shove a stone over the rail of a wagon body on a pair of skids, when one man, by raising the lower end of one skid with each hand, would have tilted the stone into the wagon with entire facility.

Although public works of internal improvement do not strictly belong to the subject I have proposed to myself, yet they are intimately connected with the progress of agriculture; and the development which they alone can give to the physical resources of any extended territory, essentially effects every branch of rural economy. They may,

therefore, appropriately be considered in connection with our more special topic, and it will not be amiss to contribute something to the correction of a widely diffused popular error. In our indiscriminate national self-esteem, we are apt to imagine that the excellence of our political institutions has extended itself to all our national undertakings, and that the builders of our canals, railroads and highways are as superior to European engineers in constructive skill as the framers of our federal constitution, to the deputies of the convention in the French revolution, in political wisdom; but this is an assumption by no means yet warranted by proof. What our engineers might do with a larger command of time and means, remains yet to be seen; but the utmost they have yet accomplished in the way of internal improvements, with the almost solitary exception of our wooden bridges, not only falls short of what has been effected upon every important railway, but finds its parallel upon almost every great common road in Europe.

The European public works are generally superior to ours, both in boldness of plan and in thoroughness and fidelity of execution. The canals, whether for navigation or for irrigation, exhibit an intimate familiarity with the laws of hydraulics; and the masonry and all the appurtenances are usually of the most finished, solid and permanent character. The railroads exhibit even a more marked superiority over our own. The line is usually admirably planned; difficult grades and long circuits are avoided by tunneling, which is carried so far that it is not uncommon to pass through eight or ten miles of tunnel in a single day's journey; the track is always double; all embankments and the scarp of all earth cuttings are either sodded or paved, thus avoiding the annoyance of dust and the danger of slips and slides; the bridges are usually of stone, and the masonry of these as well as of the viaducts, some of which, as at Venice, are more than two miles long, is of

the best possible workmanship; the cars are most commodious, and the number of guards, brakemen, conductors, engineers and signal-men, is such as to give every security against disorder or danger.

But I am inclined to think that there is no single fruit of high civilization and long continued social order, which more frequently excites the admiration and surprise of an observing and intelligent American in Europe, than the condition to which the common roads have been brought, and in which they are maintained, by a great and persevering expenditure of money and of skill. Many of these were laid out by the Romans, and still, to a considerable extent, follow the lines engineered by those masters of the world, though in general the routes have been more or less altered, the more widely diffused use of wheel carriages requiring a considerable reduction of grade. The rise is seldom allowed to exceed three degrees, or one foot in nineteen, and to obtain this, long circuits, a continued series of zig-zags, or tunnels, sometimes of great length, are resorted to. The traveler sometimes travels a mile to gain a furlong; but as the roads are always wide enough to admit of passing without hindrance or delay, securely walled or fenced with masonry, well macadamized, so as to be hard and dry at all seasons, and of such moderate grades that horses can always trot rapidly down with safety, and go at a good pace up, the actual distance accomplished is as great as it would be over a straighter road with steeper grades, and with infinitely less fatigue to man and beast, less wear and tear of harness and vehicle, and greater security of life and limb. In many instances the roads are cut with great cost and labor, in the face of a cliff, and I suppose that more than half the famous road called the Cornich, between Nice and Genoa, a distance of 140 miles, is so built.

For the construction of such expensive works, European governments, beyond reasons of general convenience, have

had a motive hardly operative here. I mean the expediency, not to say the necessity, of providing employment for the poor, and thus sustaining them at the expense of the rich, by a method less obnoxious than a pauper tax, and at the same time promoting the public service, and what is equally important, attaching the laboring classes to the power that gives them bread.

We have been too much absorbed in the grander and more obvious improvements by railroads, to attend to the equally important subject of bettering the condition of our common highways. Doubtless it is an advantage to be able to send your surplus from the depot to the market in one day, instead of three or four; but you who live twenty miles from the station would gain almost as much by so improving your common roads that the team which conveys your produce to the railroad, instead of spending two days in going and returning between your farm and the depot, could go and back, with double or treble the load, in one.

Sound economy dictates the policy of extended internal improvement in our Eastern States, both as a means of making our lands more profitable to ourselves, and of rendering them more valuable and desirable in the eyes of others. The attractions of the seductive West are draining us of our pecuniary savings, and of that far more valuable capital which consists in the moral, intellectual and physical energies of our ambitious and enterprising youth. To check this mischievous drain of money and of men, which not only locally impoverishes us, but weakens the nation, by diffusing its population and its capital over a wider space than they are able to occupy to the best advantage, is an object well worthy the thoughtful consideration of every patriotic New Englander, and we could well afford to make great sacrifices to accomplish it.

The superiority of European public works to our own, whether as respects the plan, the execution, or the manage-

ment, is so great that one can hardly travel over them without being led seriously to doubt whether our system of leaving the construction and control of lines of internal communication to private enterprise is not an erroneous one, and whether they ought not in all cases to be undertaken and managed by the general and state governments, rather than entrusted to the hands of irresponsible and, as experience has shown, for the most part unprincipled, speculating corporations.

The effects of corporate action in these matters have been much the same in England as here; while on the continent of Europe they have been chiefly avoided, by holding all internal improvements in the hands, or at least under the complete control, of the authorities of the State.

On the other hand, it must be admitted that the execution of public works by the general or State Governments in America would be liable to one result mischievous here, but which is rather a benefit in Europe, or at least is neutralized by advantages important enough to counteract, or rather compensate, its evils. I refer to the great increase of governmental patronage, and consequently of political corruption, which belongs to their system. The management of our State works is perhaps as much infected with political depravity as any branch of our national government; but it deserves to be well considered whether even this is not a less evil than the wide-spread demoralization and the vast amount of private ruin and misery, which are necessary consequences of the predominance of corporate action and the trade of stock-jobbing. At any rate the evils of government patronage might be lessened by lengthening the term of office, and making it more independent of party favor; and if you were surrounded by a greater number of partizans ready to beguile you of your vote, you would probably find fewer whom practice had taught dexterity in the act of lawfully picking your pocket.

In continental Europe the amount of government patron-

age has been greatly increased, by the extension of internal improvement and of the post routes; but though the governments have thereby secured a great number of active and intelligent agents, apparently interested in their support and devoted to their maintenance, yet it must not be forgotten that these agents come from the body of the people, and are greatly influenced by the sentiments, and alive to the interests of the class from which they spring. The governments are thus brought more directly into contact with the people. The petty officers connected with the railroad and the post office form a sort of plebeian aristocracy, which serves as a link between the highest and the lowest, the governors and the governed, influencing and influenced by both ends of the chain alike; and though they are doubtless, to a considerable extent, a means of intimidating and politically corrupting the people, they on the other hand serve to instruct the rulers in the true condition and wants of the lower classes, to mitigate the asperity of feeling, with which the humble are regarded by the proud, and thus somewhat to soften the relations between arbitrary rulers and a down-trodden people.

But I am indulging in too widely discursive a strain, and will return to my more immediate subject, and proceed to notice some practices connected with rural economy in Europe, which, with such modifications as circumstances may require, seem to me perhaps worthy of imitation.

Much attention is paid in Europe, both by governments and by individual proprietors, to the renewal and preservation of the forests. Hundreds of acres are annually planted with oaks, pines, larches, and other timber trees, and Europe will be better supplied with wood in the next century than it is in this or even was in the last. In most private forests, small portions are cut regularly, at intervals of from fifteen to twenty-five years; and in situations where the clearing of the land would lead to injurious consequences, such as the washing or sliding of earth, or the fall of avalanches, it is often forbidden altogether.

I am aware that this subject has recently been much discussed in the United States, but its importance is not yet generally appreciated nor can it be, but by the careful study of the matter in countries where time has been allowed for the full effects of the destruction of the native forests to develop themselves. We are already beginning to suffer from the washing away of the vegetable soil from our steeper fields, from the drying up of the abundant springs which once watered our hill pastures, and from the increased violence of our spring and autumnal freshets, to say nothing of the less obvious meteorological effects of too extensive and injudicious clearing; but it is only in countries that have been laid bare of their natural clothing for generations, that the extent of the devastation thus produced can be comprehended.

There is no doubt that nearly the whole of the Apennines, as well as the lower slopes of the Alps and the Pyrenees, the mountains of interior Spain, of the Mediterranean islands, of Greece, of Asia Minor and of Syria, were at one period covered with timber. They were chiefly stripped of their forests in remote ages by human improvidence, and the consequences have been in a high degree disastrous. The most obvious of these has been the increased rapidity with which the rain water and melted snows are carried off, the consequently augmented violence of the torrents in the rainy season, and extensive degradation of the soil and denudation of the rock at the higher elevations. The arable land of whole provinces has thus been laid waste, and though wide and fertile plains have been formed by the deposits left by the subsiding currents, yet extensive regions have by the same cause been converted into pestilential swamps, and become entirely uninhabitable. Where the rock has been once laid bare, or the remaining earth deeply furrowed, it appears to be no longer possible to cure the evil and check future ravages; but the preservation of the forests on mountain slopes where they now grow appears to be a secure safe-guard against the extension of the mischief. But although in some localities these

devastations can no longer be prevented, the ingenuity of Italian engineers has found a means of turning them to good account, and of compelling even the mountain torrent, the very symbol of uncontrollable fury, to repair or at least compensate its own ravages.

The enterprises to which I allude are among the most remarkable triumphs of humanity over physical nature, and they possess special interest as exhibiting almost the only instance where a soil, which man has once used, abused, exhausted, and at last abandoned, has been restored to his dominion, re-occupied and again made subservient to the purposes of social and industrial life. I refer to the success of the Tuscan engineers in reclaiming a very large extent of marsh in the Val di Chiana, in Tuscany, by processes which have been since employed in other parts of that duchy, and the application of which elsewhere might save vast territories from disease, sterility and desolation. The streams which flowed through the Val di Chiana had, in consequence of the gradual elevation of their channels and the filling up of the bed of the valley with gravel and earth, overflowed their banks and transformed many square leagues of ground into a barren and unhealthy marsh. Fossonibroni undertook to reclaim these swamps, and succeeded in restoring them to fertility and salubrity, by erecting dams, embankments, and sluices in some places, and cutting water-courses in others, so as to obtain the complete control of the waters of the valley, and thus compel them to deposit, at pleasure, the mud with which they were charged in the inundations of winter. By this means, the low grounds were first filled up, and then, by elevating the embankments and dams, deposits were formed at still higher points, and thus not only was the general level of the valley considerably raised, but its inclination was so changed, that the course of the streams which water it was reversed, and the Arno now receives affluents which, from time immemorial, had discharged themselves into the Tiber.

The quantity of land already reclaimed by these operations was estimated, in 1835, at an extent not less than ten American townships, and this has been considerably increased in succeeding years.

A point to which my attention has been forcibly drawn in Italy, is the construction of ordinary dwelling-houses in such manner as to be nearly, if not altogether fire proof. I certainly would not recommend for your adoption the common Italian farm house, which is a large stone building, with stalls and stables, hen house and piggery in the lower story, and on the same floor, on the kitchen, with sleeping rooms above, often unprovided with fire places or a glass window. But a better class of Italian dwellings might be copied here with little increase of expense or sacrifice of comfort, and with very great advantage on the score of durability and security from fire.

The mode of building is this: The material is always stone or brick. In place of furring out and lathing, an inner wall of single brick is built on the same foundation, leaving a space of three or four inches, and connected with it by very few ties, so that there are really two walls instead of a single wall with *flues*, as injudiciously recommended by Downing. The partition walls are of brick or stone, and the staircases of the same material. The floors are sometimes supported by arched masonry, but more usually by large beams instead of slender joists, and they are always covered with tiles or cement, over which is laid a matting, and, in winter, a woollen carpet in addition.

It is not very common to plaster the ceiling, but when the joist beams are left exposed, they are frequently supported by handsomely carved brackets, and otherwise finished in an ornamental and tasteful style. The roof is covered with tile or slate, and the cornice is always of stone or moulded brick. In our climate, the flooring I have described would be thought objectionable; but if the partitions and staircases are of brick or stone, so that

there is no combustible connection between the stories, the risk of fire would not be very materially increased by a wooden flooring.

In Lombardy and Romagna, where both building timber and stone are scarce, moulded brick are almost universally used, not only for plain, but for very highly ornamented, entablatures in all styles of architecture, for the architraves of doors and windows, for the shafts and capitals of columns, and in short for every species of external architectural decoration capable of being executed in either wood or stone. The brick-makers mould clay with all the facility of plaster of Paris, and this delicate work bears exposure to the weather even better than most kinds of stone. Milan, Bologna, and other towns in northern Italy, and especially the famous Carthusian monastery at Pavia, present most remarkable examples of the successful employment of this art in the form of large and small twisted, fluted and reeded columns, complicated and deeply cut Gothic and Grecian mouldings, Ionic and Corinthian capitals, flowers, wreaths, and every species of ornamental device, many of which, after three centuries of exposure, are still as fresh and sharp as when they issued from the kiln. There is no reason to doubt that moulded brick, which is free from many of the objections justly urged against iron as a building material, may be employed by us with great economy and advantage, in place of more costly or combustible, as well as less durable, carved or cast architectural decorations. Indeed, if the new, or as some say, very ancient but now revived art of silicifying soft stones, plaster and baked clays, shall fulfill its present promise, brick thus hardened will combine more advantages than any other known building material.

A humbler subject to which I have paid a good deal of attention abroad is that of the different methods of harnessing oxen for draught. The modes of employing the ox are very various, and the existence of this great diversity,

in countries bordering on each other, shows that there is room for much difference of opinion on this question, among intelligent farmers. It would be impracticable, in the course of this address, to describe the different kinds of gear employed on the continent of Europe, (for in England the ox is not much used for farm labor,) and difficult to make the descriptions intelligible without drawings. I may state, however, that the ox is always driven with the rein, which is sometimes a rope simply tied around the roots of the horns, sometimes provided with a head stall like a common halter, and sometimes made to act on the septum of the nose by a forceps-like apparatus, and the animal obeys the rein almost as readily as the horse, and thus much time is saved in turning corners and the general guiding of the team, to say nothing of sparing the lungs of the driver. He is harnessed singly or in pairs; with horses, cows, mules or asses; with yokes resembling our own, or sometimes simply a straight bar, and free, or more or less closely attached to the horns, with collars and hames, or single yokes and bows instead, and finally so as to draw by the forehead, which method, I am inclined to believe, preferable to all others. In this case, the instrument of draught is a flattish bow, twenty inches or two feet in length, slightly curved, and about five inches wide at the centre, and three at the ends. The concave side of the bow is well padded and applied to the forehead at the base of the horns, to which it is secured by straps; to each extremity of the bow is attached a rope trace, and if a single ox is used, he works in thills, if two, the wagon pole is supported by light chains passing from the end of it to near the middle of the bow. There is usually no breeching except when the collar and hames are employed, but reliance is placed on locking chains or shoes, or more usually on friction brakes worked by a crank and screw for checking the wagon in going down hill. In New England, breeching would, of course, be required in winter.

Oxen, geared in this way, walk, I am confident, one third, if not one half, faster than when yoked in the American fashion, and the loads they draw are heavier in about the same proportion. They seem, too, much more lively, and so to speak, cheerful, than our ox, bowed down as he is by a heavy yoke and a heavier cart tongue. In descending hills, a matter of no small consequence in rough countries, where the heaviest loads are those brought *down* from the uplands, as wood, stone, and the like, the advantages of this method are obvious and great, and I cannot but think that, in spite of the smaller cost of the cart, and the convenience of *dumping*, the wagon and head-bow would be found preferable. I do not remember to have seen an ox-cart in any part of Europe, except in Sicily, horses being elsewhere always used for that vehicle, and then working in thills, so the hinder end of the cart is suspended, by a link, a stout stick nearly long enough to reach the ground, to support that end in case of need, while the body is prevented from tipping forward, and throwing too much weight on the horse on descending ground, by a small third wheel carried by a stanchion in front.

In connection with this branch of the subject, I may mention a practice very common in, but, so far as I know, confined to, the Italian peninsula. It is that of employing oxen to relieve horses in climbing long ascents. At the foot of every considerable hill on the great roads, are kept oxen to supply or assist horses in ascending, and they are employed as well for the coaches of travellers as for common teams. The horses, whether detached or remaining in harness, are completely relieved from the fatigue of dragging up the load, and ready to start from the summit with renewed vigor, while, as the oxen, from habit and training, climb the hill quite as rapidly as horses would do, there is no loss of time by the exchange.

Cows are employed for this as well as for all other labors of the yoke. I have often conversed with intelli-

gent farmers in both Italy and Germany on this latter point, and been constantly assured by them, that moderate yoke-labor was not found to be in any way injurious to the cow.

From what you know of the rude condition of rural economy in the East, you will not expect much instruction in any branch of it from the Orientals; but you are aware that the horse has always been highly prized by the Arabs and the Turks, and that they pay great attention to the breeding and training of this noble animal. It is, therefore, possible that we may derive some useful lessons from their experience. In Arabia and in all parts of the Turkish empire, the horse is familiarized to the presence and the handling of his groom and his master from the hour he is foaled; he is an inmate of the household, a play-fellow of the children, and he thus becomes thoroughly domesticated while yet very young, but at the same time, as he is always treated with gentleness, his temper is seldom spoiled or his spirit broken. He is usually fed altogether on cut or rather broken straw and chaff, for green grass and hay are almost equally unknown; grain is rarely given, and he is commonly watered but once a day. In riding he is heavily bitted, and the curb is always used. He is guided to the right or left, not by shortening one rein, but by a lateral motion of the bridle-hand, and the bare pressure of the rein on one side of the neck is sufficient to turn the animal in the opposite direction. His shoes are slim oval plates of iron, without corks, perforated in the centre with a hole an inch and a quarter in diameter, and the large-headed nails, with which the shoe is fastened, answer the purpose of corks. He is generally tethered in the open air, without shelter, at least in the summer, and, if stabled, the stalls have no flooring but the ground. The stable is scarcely at all darkened, and often so open as to admit the full light of day. I attach importance to this point, because I am persuaded that the timidity of our horses,

which are notoriously as easily frightened as the hare, is in some degree owing to the partial destruction of their sight by the practice of keeping them in the dark, to spare them the annoyance of flies. Any animal thus kept, and then often brought suddenly into the glare of the sun, must inevitably become purblind; and I can only account for the fact that our horses will shy on meeting a wheelbarrow which they have seen a thousand times, by the supposition that the unnatural darkness in which they are kept has so dimmed their sight, that they do not distinctly discern the objects around them.

Let me here enter a protest against a single European abuse out of the many which might be specified; and then, after a few general remarks on the benefits which agriculture may be expected to derive from physical science and the extension of geographical knowledge, and upon the spontaneous vegetation of Europe, I will release you.

The abuse I referred to is the almost universal employment of women in field work on the continent of Europe. I have rarely seen them act as teamsters, or mow or hold the plow, but there is scarcely any other species of agricultural labor, which is not in the largest proportion performed by women. I have often seen them even carrying stone, gravel, and earth, for repairing the roads, in baskets on their heads, and in one instance, I observed the building of a very heavy railroad embankment almost exclusively by this method; about five hundred women and boys being occupied in transporting the earth for the filling, a distance of about five hundred yards up a steep ascent. Field labor is not only prejudicial to the health of women, but it tends irresistibly to deprive them of the softness and grace of their sex, to assimilate them to the coarseness of the men with whom they work, to disqualify them for the duties appropriated to them by nature, and in short to debase and brutify their whole character. It is well known that women are nowhere treated with so much consider-

ation, deference, and respect as in the United States, and I believe their exemption from field labor, and their consequent disconnection from all the grosser and more repulsive cares and toils of husbandry, has much to do in fixing the social position they so well merit, and happily for the true interests of our own sex, so fully enjoy, throughout the United States.

Let me now indicate one or two points in which our rural economy may be profited by availing ourselves of the advancement of natural science.

The efforts of agriculturists have been hitherto mainly directed to the attaining of the greatest quantity of produce, without sufficiently inquiring whether the very means employed to stimulate extraordinary fertility did not deteriorate the quality, in nearly as great a proportion as they augmented the yield. There are some facts connected with this question which are familiar to every one. Our native samples which are gathered for medicinal purposes are much more efficient and beneficial in their action, when growing untilled on the barren soils where nature usually sows them, than in the rank and vigorous form they assume when transplanted to the too luxuriant soil of our gardens. So the pasturage and the hay-crop are so much more highly flavored in dry, than in moist and fruitful, seasons, that their superior nutritiousness seems sometimes quite to compensate for their diminished quantity. In both these cases, the facts are easily tested by simple experiment; but this becomes more difficult, when we attempt a comparison between different kinds or qualities of any of the grains employed as food for man. The problem is here too complicated to be solved by ordinary observation, because, in countries where any enlightened interest is felt in such questions, men are seldom confined to any one article, or any specific and minutely ascertained quantity, of diet. For determining the nutritive properties of our aliments then, we must have recourse to chemical analysis, com-

bined with well devised experiment. By means of analysis we learn at once that the nutritive ingredients in different specimens of the same article of food, and, of course, the actual value of the article, vary very widely. The chemical constitution of the cereal grains, wheat for example, is by no means constant, and the amount of nutrition yielded by a given quantity of this grain is modified by the meteorological character of the season, the qualities of the soil and of the fertilizers applied to it, the mode of cultivation and the time of harvesting, as well as by many obscurer causes. Thus, wheat generally contains sixteen or seventeen per cent. of gluten, which is easily separated by washing; but there are varieties, or occasional crops of wheat from which no gluten can be obtained, and there are others where some of the berries from the same seed yield the usual proportion of gluten, the rest are apparently without it. If the flour is used for bread, this difference in the character of wheats is not readily noticeable, or if observed it is usually referred to other causes than a difference in chemical character; but in countries where macaroni, which can only be made from wheat abounding in gluten, is largely manufactured, the proportion of this ingredient becomes at once a matter of familiar observation, and of very serious importance. Hitherto no tests of the true value of different samples of grain, at once certain in their indications and easy of application, have been discovered, and wheat and other cereals are at present judged of in the market only by their external characteristics. It seems not improbable that, with the advance of organic chemistry, some ready means will be devised of determining the proportion of nutritive ingredients in different qualities of grain and other edible vegetables.—Then the price will be determined by the amount of nutritive matter, and both buyer and seller will come to have a common interest in the cultivation of such crops, and the adoption of such methods of husbandry, as will yield

the greatest amount of actual aliment, in proportion to the capital, the time, and the labor employed in production.

But the most interesting promise of improvement from a better knowledge of the earth we inhabit, lies in another and more obvious direction. It is remarkable that, while the Roman conquerors of Western Asia, the Mohammedan invaders of Christendom, and, at a still later date, monks and crusaders brought from the fertile East, and naturalized in Europe, numerous most valuable products of the vegetable and the animal kingdom, little has been accomplished in recent times in the introduction of plants or animals unknown, the husbandry of Europe and America. It seems to have been too hastily taken for granted, that these two continents already possessed all the forms of organic life which could be profitably grown or reared in them; and while unbounded labor and expense were incurred in the amelioration of familiar products, men had ceased to look elsewhere than at home for the best methods and most valuable objects of agricultural industry. The last half century, which has reduced to comparative insignificance the manufactures of Asia, has, at the same time, better instructed us with regard to the value of the natural productions of those remote and mysterious regions; and we have good ground to believe that our fields are destined to be enriched and enlivened by plants and animals, until now quite strange to us, or but imperfectly made known by descriptive works and scientific collections. France introduced and naturalized the shawl goat of Cashmere and Thibet, more than thirty years since; and several specimens of the yak or mountain ox of central Asia have very lately been brought to that country, in the hope of finding appropriate localities for breeding them in the Pyrenees or other elevated regions of the empire. Madder, which is now cultivated in large quantities with great profit and success in the south of France, was brought from Asia Minor some time in the last century by a Georgian nobleman,

who became domiciliated in France. There is an important society, liberally patronized by the French government, which devotes itself to experimenting upon the acclimation of exotics, and its labors are thought to promise very interesting results.

In this country the Thibet goat is said to have succeeded well. The buffalo of the Levant has been brought to South Carolina, where it is supposed he may supply the place of the ox, which does not labor to great advantage in that climate; and our government is now experimenting on a large scale with the dromedary and burden camel. But independently of these and other similar experiments, when we remember that almost every plant which we grow as food for men, except Indian corn and the potato, and all the animals which we rear in the domestic state, besides many tribes of the smaller animated creatures, and of noxious weeds, have been introduced into this continent in the space of three centuries, we cannot but consider it as highly probable that our soil and climate are capable of furnishing localities adapted to a much greater range of vegetable and animal life than we now possess. Some vegetable physiologists have denied the possibility of effecting any such change in the character of plants as to fit them for growth and reproduction in climates liable to greater extremes of heat and cold than those in which the species originated. But our own American experience with maize and the potato, and with numerous plants of tropical and sub-tropical origin, which now grow through a great part of the temperate zone, seems to furnish a satisfactory practical refutation of this doctrine. Indeed, the tomato, which is now thoroughly acclimated, and even spontaneously propagates itself, very often failed to ripen in our Northern states thirty years since, and all the cultivated plants of warmer regions seem to be making some progress to the North.

In attempting the introduction of new objects into our

fields and barn-yards, we are apt to be discouraged by the difficulty of reconciling foreign organic forms to the new physical conditions which every considerable geographical change implies, and to conclude that because the first crop or the first pair appear to suffer from climatic causes, the species is unsuited to our soil and sky; but though the transplanted plant or animal is seldom so healthy and vigorous as in his native locality, yet in most cases where the contrast is not too violent or too sudden, nature, in the course of a generation or two, accommodates herself to the change of circumstances, and then the progeny very often surpasses the parent stock. The reports of our Patent Office are full of valuable suggestions on this important head; and as government has not at present the facilities for extensive experimentation, it is earnestly to be hoped that it may become a subject of special attention from agricultural societies and enlightened and public spirited individuals.

I proposed to add a remark on the spontaneous productions of the European continent. It is a fact, well known to the naturalist, though not obvious to the common observer, that the natural vegetation and animal life of the Old World are seldom or never identical with those of the New, however great the apparent resemblance between them. Misled partly by general similarity of form, and partly by the similarity of names which our forefathers applied to the plants and animals of America, for want of knowing the native appellations, or because they did not notice the specific differences, we are apt to overlook distinctions which to the scientific eye establish a diversity of origin. In corresponding climates, nature produces not identical, but representative species. In the colder regions of Europe, you see the elm, the oak, the beech, the birch, the pine and the fir, all bearing so homelike an aspect that you are ready to recognize them as old and familiar acquaintances; but these trees are all, in fact, specifically different

from our own. The same law prevails in animated nature, and it may be laid down as a rule subject to few, and those for the most part doubtful, exceptions, that no tree or shrub, or herb, or flower, or grass, or fish, or fowl, or four-footed beast, or creeping thing, is common to both continents, with the exception of such as man, in his wide migrations, has transported with him. This points to a radical difference in soil or climate, or both, which doubtless requires a difference in the processes, if not the objects of rural industry. Providence here, as in all our other conditions, makes large demands on the powers of reason and observation implanted in every human breast; and the exercise of these in every relation is peculiarly incumbent upon the American citizen, not merely by reason of his peculiar privileges and the duties thence resulting, but on account of the physical necessities of his position.

The general result, then, of the careful study of European life in all its relations to material things, is that the character of our soil and climate, earth and sky alike, require us to devise for ourselves such adaptations of all industrial pursuits as will bring them best in unison with our peculiar circumstances, and thus to accommodate our rural life to the conditions in which nature has placed us. In the religious, political, civil, and industrial institutions of Europe, God has given us, his last organized great nation, much for attentive study, nothing for blind imitation. All must be more or less modified to harmonize with American nature, and in our general social life, as in each man's private history, we must be emphatically the architects of our own fortunes.

STOCK AND ARTICLES EXHIBITED.

The Stock Department was highly satisfactory; taken as a whole it has seldom been surpassed at any previous State Exhibition. The working cattle in numbers and general excellence were much superior to any show except that of 1854, at Keene. They included county, town and single teams. Cheshire county took the lead, having ten yokes of the best oxen on the ground, all of a color and nearly of the same age. Merrimack county ranked second, having an equal number of noble animals, while the town teams were very numerous, and excellent. Single teams surpassed, in numbers and in perfection of form, and in size and symmetry, the most sanguine expectations of the managers of the Fair.

Of dairy stock, the Devon prevailed, though there were some animals of the Durham, Ayrshire and mixed breeds. The pure animals were very fine, and it has been frequently noticed, the young stock showed most prominently meritorious points. Among the stock of this class worthy of notice were the Devon and native cattle of Mr. Cogswell Dudley, of Pembroke. Every one almost in New Hampshire and Massachusetts who has attended recent fairs, has seen the monster cow exhibited by Mr. Shepherd of the Manchester House, Manchester. She was bred by Mr. Dudley, and some of the same stock including one of her progeny, were exhibited by him. This latter, a heifer, bids fair to excel her mother in size and obesity. Mr. Dudley's lots of young Devon and native cattle were the largest, and the best on the field. The pens of native cows looked

as well as the best sleeked and carefully treated of their imported neighbors; and if rumor can be believed, show as good a record in the farmer's account.

There was a better show of pigs than any ever before seen in the State. The Suffolk breed predominated. The Asylum for the Insane, in Concord, furnished some fine specimens of porcinity, and J. A. Stearns, Esq., of Manchester had a splendid show. The pigs were a primary feature of interest to thousands who crowded around to view them.

The horses, which were chiefly young ones, were generally Morgans or claiming Morgan blood. Everything equine upon four legs is now called a Morgan, even in the face of an entire inability to establish the slightest consanguinity with this noted pedigree. Such conduct does no good to the pretender, and helps often to prejudice him in the minds of men who know what characteristics pertain to different bloods.

There was a good display of stallions, from various parts of the State and from abroad. The blood mares made rather a poor display on the whole, but the paucity of number is the worst that can be said of this department—some details of which are meritorious in great degree. There were quite a number of rakish looking nags around, whose condition and make up indicated 2.40 as plain as printing, and, when opportunity was given, these made a fine show of speed.

The family horses, geldings and mares, reached a high number, as did also the young horses generally.

The sheep did not furnish such a fine display as has been seen at New Hampshire fairs. The few pens of crossed Leicesters and of Merinos, and also a new description from Canada, contained some fine animals—particularly the former.

Poultry was not abundant, though some good specimens were produced.

The Horticultural department was well filled, and attracted much attention. Some of the productions seemed remarkable. Nathan White of Newport, showed 10 potatoes, of what was labelled the "Buckeyes" variety, the yield of one half tuber, which made half a peck, and weighed 15 pounds. Also the produce of four potatoes, which represented seven pounds, over four and a half bushels—allowing 60 pounds to the bushel—or 277 pounds. A bushel and a half of the Jenny Lind variety of potatoes, were also exhibited by H. C. Adams, of East Concord, being the produce of a pound and a half of seed. Some large and fine looking seedling potatoes were shown by Moody A. Pillsbury.

The managers of the Asylum for the Insane, exhibited a very large and fine variety of garden and field products, including some monster drumhead cabbages, turnips, pumpkins, squashes, beans and maize. A similarly fine exhibition was made by Mr. Samuel Clark, of Concord. Other contributors combined in making up one of the best exhibitions that could be presented anywhere.

There was but a meagre display of fruit, but what was on the tables, was good. The principal contributor was Mr. David Clement of Hudson, who had twenty-three varieties of apples, and sundry varieties of other fruits. A gentleman from Illinois showed some specimens of the pomological products of that State. They were of very fine quality and furnished an excellent opportunity to contrast the productions of the East and West. The same contributor showed some native plums of large size, and looking good, but "touch not" told that they were to be judged alone by their looks.

Quite a large number of specimens of native wine were on the tables. By the way this wine manufacture has become a very common feature of domestic economy. One gentleman remarked that he had manufactured over fifty gallons from grapes, and eighteen from currants, and in his neighborhood, which is the southeastern part of the State, numbers had made quantities less or more. At the late Horticultural Ex-

hibition of the Massachusetts Society, it was said that the quantity of native wine had increased during the present year almost beyond belief. Increased premiums had been talked about by all Societies, and there can be little doubt that, within a few years the States of Massachusetts, New Hampshire, Connecticut, and Rhode Island, will rival Ohio in the quality, and amount of its vintage produce.

One of the most substantial features of the Fair, was the quantity of cheese sent in for competition. If external appearances are to be relied upon in any degree, the qualities must have been very superior.

The same observation will apply to the butter, and to its very proper accompaniment—bread. A very hungry person runs great risk of infringing on the sixth section of the decalogue, when inspecting these tea-table affinities. A cute judgment must be exerted, in order to decide on the superiority in each instance. In connection with the bread we may mention the Granite State flour, in barrel and sample, which is an excellent article.

Among the home products, we noticed a box of saffron—rather a novelty as it appeared to us. The article was the contribution of a young lady, and was well preserved.

There was no display of flowers, and but a meagre array of house plants.

The department of the show within the tents was substantial and useful, and possessed less of frippery and ornament than has usually been presented at similar exhibitions. The ladies' work was more happily associated with utility than heretofore. There were no original paintings or very fancy needlework exhibited.

In the department of agricultural mechanics there was the usual show list, and a few items of novelty. One of these was the Granite State Corn Sheller, by E. Morrison, of Franklin, a very happy adaptation of the well known principle of mechanics applied to this purpose.

J. L. Robinson & Co., of Concord, exhibited an adaptation

of the Michigan improvement to their celebrated plows, which combine ease of draught and efficiency of labor. They also showed some very stout specimens of implements of their own manufacture—among them an improved cultivator—none of them sleeked up for the market, but all in their field jackets and plain and good-looking.

The Manchester Machine Company exhibited some very ingeniously constructed weighing machines, of assorted sizes; many of them were carefully tested.

Messrs. Liscom & Dearborn offered for exhibition some home made pianos of very superior manufacture and tone. They are one of the only two piano manufacturing firms in the State. Melodeons and seraphines were shown by sundry other parties, all of them, of course, the best that ingenuity and science could unitedly construct.

Some much admired cooking and furnace heating apparatus was exhibited by A. D. Shaw, of Concord.

Pumps of many descriptions, and some of them possessing the great desiderata of cheapness and efficiency were on show. Preferences seemed to be so equally divided between them, that it would be injustice to all the others to particularize any one of them.

Salmon's Patent Grain and Seed Separator, a most compact and efficient implement, was examined with great interest by many hundreds. It has received the chief prizes at several State Fairs, and is worthy of examination by the farmer.

Clarke's Union Bee-Hive and its tempting companion specimens, filled with white and most delicious honey, attracted a good deal of attention from the apiarists present.

Merriam & Merrill, of Concord, exhibited some fine specimens of blank books, pocket almanacs, and diaries, of their own manufacture.

Many other articles on exhibition were deserving of special notice, if it were practicable to make reference to them in this report.

PREMIUMS AWARDED AND REPORTS OF COMMITTEES.

The Committee on Bulls, after a careful examination of the stock entered, recommend that premiums be awarded as follows, to wit:

DEVON BULLS.

To J. & S. Brown, of Kensington, for best Devon bull, over three years old,	\$8 00
To Joseph P. Dearborn, Sanbornton Bridge, for second best Devon bull, over three years old,	5 00
To J. B. Sanborn, of Concord, for third best Devon bull, over three years old,	3 00
To William Dennett, Canterbury, for best Devon bull, two years old,	5 00
To Eben Eastman, Gilmanton, for second best Devon bull, two years old,	3 00
To Joseph A. Gilmore, Concord, for best yearling Devon bull,	3 00

DURHAM BULLS.

To J. L. Leavitt, Wolfborough, for best yearling Durham bull,	\$3 00
To Paul R. George, Contoocookville, for second best yearling Durham bull,	2 00

AYRSHIRE BULLS.

To H. K. White, Bow, for second best Ayrshire bull over three years old,	5 00
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BULLS.—(BREED DISREGARDED.)

To Abraham Cilley, Northwood, for best bull over three years old, one-quarter Ayrshire, and three quarters Devon,	\$8 00
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To Benjamin Farnum, of Concord, for second best bull, over three years old, mixed, Devon and Ayrshire,	\$5 00
To P. C. Ingalls of Derry, for third best bull, over three years old, one-half native and one half Devon,	3 00
To George P. Morgan, Pembroke, for best two years old, mixed,	5 00
To Cyrus Dustin, Hopkinton, for second best two years old bull, Devon,	3 00
To John C. Ray, Dunbarton, for best yearling bull, mixed Ayrshire and Durham,	6 00
To Isaac Clement, Concord, for second best yearling bull, native,	4 00
To A. M. Brainard, Alexandria, for third best yearling bull,	2 00

CALVES.

To J. C. Ray, Dunbarton, for best calf,	\$5 00
To Moses Perley, Hopkinton, for second best calf,	3 00
To S. A. Kimball of Concord, for third best calf,	Trans.

J. B. WALKER, *for the Committee.*

COWS.

Elliott Chickering, Concord, for best cow, without regard to breed,	\$8 00
H. T. Chickering, Concord, for second best native,	5 00
J. E. Tyler, Concord, Asylum farm,	3 00
Isaac Clement, Concord,	Diploma.
Benj. Farnum, Concord, for best cross of bloods,	8 00
Robert Jeffers, Derry,	5 00
Rev. A. P. Tenney, Concord,	3 00

S. A. Kimball, Concord,	Diploma.
Joseph P. Dearborn, Sanbornton, for best Devon,	\$8 00
Alvin Beck, Canterbury,	5 00
J. E. Tyler Concord, for best Ayrshire,	8 00
B. F. Duncklee, Concord,	5 00

In view of the meagre display of cows at this Fair, compared with that of oxen and other kinds of stock, both as to numbers, and also in regard to the qualities necessary to render them highly profitable, as well as beautiful, your committee feel called upon to make a few remarks, by way of suggestion, upon this very important branch of stock improvement, as connected with agricultural interests.

And first, we would remark, there is not that interest *felt* and *manifested*, in the improvement of *cows*, that there is in other kinds of neat stock. We feel there is a great lack of effort, to combine, in the same animal the necessary qualifications to render them good milkers and good breeders. On this point we are happy to be able to recommend to the favorable notice of this society the plan adopted by such men of ability and experience, as Mr. Cogswell Dudley, of Pembroke, and Mr. Benjamin Farnum, of Concord, who have exhibited their stock. Their method we believe has been, to take their native cows, and so cross with other breeds as to secure symmetry, and beauty of form, the most desirable color, and that almost uniformly, and at the same time secure the necessary qualities for good milkers. Now, such men as these, do not need the patronage of this society to induce them to go on improving their stock.

But to encourage those who have the same feelings and interest upon this subject struggling in their bosom, but have not the means to gratify them, and put them into practical operation, we would suggest the propriety of so increasing the premiums on cows as to induce those of

smaller means, to make an increased effort to improve their stock, and especially their cows. For while Mr. Dudley *can*, and *has*, paid \$125 for a bull to cross with his previous breeds, his poor neighbors, (and no doubt some who are not so poor) feel as if they could not afford to pay him one dollar for the use of the same animal. And another end to be secured by the increase of premiums, is to lead men having good cows, more remote from the Fair, to bring them here for exhibition, and that they might be remunerated for the loss of milk while here, and the diminished quantity sure to follow the present system of feeding them here.

With one suggestion more we close these remarks, and that is this: Whether it would not be well for this society to so award their premiums as to encourage such crosses of blood, as upon investigation and actual experiment, shall be found to secure the combination of those qualities that constitute valuable cows, and with especial reference to the breeding qualities, taking into account their shape and color, both of which should be uniform as far as possible, so that to have beautiful and matched cattle, might become the *general rule* and *not* the *exception*, as at present.

Many pages might be written upon this subject, but if these few remarks shall have the effect to increase in any degree an interest in this very important branch of husbandry, your committee will be amply rewarded.

A. M. BRAINARD, }
 D. ROLLINS, } *Committee.*
 N. P. FOGG, }

HEIFERS.

J. M. Hadley, Littleton, for best Ayrshire heifer (with calf) two years old,	\$6 00
I. N. Sawyer, Salisbury, for best Devon heifer two years old, with calf,	6 00

A. Beck, Canterbury, one Devon calf five month sold,	\$3 00
Cogswell Dudley, Pembroke, first, second and third premiums on mixed bloods, one and two years old,	Transactions and 18 00

EZRA BARKER, }
E. D. DREW, } *Committee.*

WORKING OXEN.

George Harvey, Marlborough, for best county team, from Cheshire county,	\$40 00
J. T. Hoyt, mountain farm East Concord, for county team for Merrimack county,	30 00
A. S. Blake, Keene, for best town team,	15 00
J. C. Gage, Boscawen,	10 00
N. P. Fogg, Concord,	5 00
William Lake, Chichester,	five copies Transactions.
George Harvey, Marlborough, for best pair working oxen,	12 00
S. G. Berry, Barnstead,	8 00
Joseph P. Dearborn, Sanbornton,	4 00
F. H. Peaslee, North Weare,	Transactions.
Charles H. Carpenter, Chichester, for best four year old oxen,	8 00
Charles Graham, Concord,	5 00
James Blake, Concord,	3 00
George Haynes, Wolfborough.	Transactions.

S. S. WILCOX, }
S. P. BLAKE, } *Committee.*
MARK BARKER, }

STEERS.

Cogswell Dudley, Pembroke, for best three year old steers,	\$6 00
Andrew Noyes, Bow	4 00

J. C Ray, Dunbarton,	\$2 00
Benjamin Farnum, Concord, for best trained three yokes of steers,	12 00
C. D. Jenness, Pittsfield, for best two years old steers,	6 00
Philip Fife, Pembroke,	4 00
J. C. Reed, Chichester, for best trained native steers,	6 00
James M. Whiton, Holderness, for best yoke of calves six months old,	3 00

JOSEPH LOW,
GEO. LEIGHTON, } *Committee.*
C. M. WARREN,

HERDS AND BEEVES.

Cogswell Dudley, Pembroke, for best herd of seven and over,	\$20 00
Benjamin Farnum, Concord,	10 00
Clark & Elliott, Canaan, for best fat oxen,	12 00
N. P. Fogg, Concord, for best fat ox,	8 00

STALLIONS.

Walter H. Webster, Bridgewater, for best seven years old and upwards for road and farm,	\$15 00
F. H. Goldthwaite, Newport,	10 00
E. W. Plumer, Milton,	5 00
Charles Barker, Hillsborough, for best four to seven years old,	10 00
George Fox, New Ipswich,	7 00
Bachelor & Durgin, Wolfborough,	4 00

George Loughton, Farmington, for best seven years old and over for speed,	\$15 00
Richmond Smith & Co., Concord,	10 00
J. S. Durgin, Fisherville,	5 00
John Roby, Weare, for best three years old,	8 00
D. B. Jones, Newport,	6 00
Bachelor & Durgin, Wolfborough,	4 00
Z. Bachelor, Wolfborough, for best two years old,	4 00
C. S. Tappan, Bradford,	2 00

C. E. POTTER, *for the Committee.*

MATCHED AND DRAFT HORSES.

Hiram Bell, Henniker, for best pair matched horses,	\$10 00
J. B. Mooney, Alton,	7 00
W. C. Walker, Manchester,	4 00
A. Smart, Concord, for best draft horses,	10 00
A. Smart, Concord, second best,	7 00
James Weeks, Concord,	3 00

GEO. W. BLODGETT, *for the Committee.*

FAMILY HORSES.

S. S. Wilcox, Newport, for best	\$8 00
J. D. Cooper, Concord,	5 00
John Roby, Weare,	Transactions.

D. E. COLBY, *for the Committee.*

MARES AND FOALS.

N. Hurlburt, Hanover, for best,	\$10 00
Z. Bachelor, Wolfborough,	7 00
J. L. Tallant, Concord,	3 00
Dr. C. P. Gage, Concord,	Transactions.

JOHN O. WIGGIN, *for the Committee.*

COLTS.

H. Webber, Boscawen, for best three years old,	\$8 00
C. P. Gage, Concord,	5 00
W. Stinson, Dunbarton,	3 00
F. S. Parker, Wilmot,	Transactions.
J. L. Collins, Franklin, for best two years old,	6 00
M. F. Grant, Epsom,	4 00
C. E. Putney, Boscawen,	2 00

ENOCH LITTLE, *for the Committee.*

 SHEEP.

N. Sawyer, Salisbury, for best merino buck,	\$8 00
I. N. Sawyer, Salisbury,	6 00
M. B. Presby, Bradford,	4 00
I. N. Sawyer,	Transactions.
I. N. Sawyer, for five best merino ewes,	8 00
I. N. Sawyer, second best,	6 00
F. B. Sawyer, Salisbury, for lot mixed merinos,	4 00
Joseph B. Carr, Wilmot, for best long woolled buck,	6 00
Geo. Fox, New Ipswich, for Cotswold and Leicester buck,	6 00
Geo. Fox, for five ewes,	6 00
Peter Kimball, Grafton, fat sheep,	6 00
I. N. Sawyer, Salisbury, best lot lambs,	5 00
F. B. Sawyer, Salisbury,	3 00
M. B. Presby, Bradford,	2 00

JAMES HILL, *for the Committee.*

 SWINE.

J. A. Stearns, Manchester, for best Suffolk boar,	\$6 00
Seth Emery, Suncook,	4 00

J. A. Stearns,	Transactions.
J. A. Stearns, for best Suffolk sow,	6 00
J. E. Tyler Concord,	4 00
J. A. Stearns,	2 00
J. A. Stearns,	Transactions.
J. A. Stearns, for best pigs,	5 00
J. A. Stearns,	4 00
J. E. Tyler,	2 00
J. A. Stearns,	Transactions.

WM. M. WHIPPLE, *for the Committee.*

POULTRY.

Nahum Blanchard, Canterbury, for best silver span- gled Poland fowls,	\$2 00
E. G. Carter, Concord, for Seabright bantams,	2 00
Josephine and Sarah Dunklee, Concord, for white bantams,	Transactions.
R. N. Rines, Concord, and C. A. Hunt, Laconia, for white bantams,	Diplomas.
Nahum Blanchard, Canterbury, for Bremen geese,	2 00
Henry Hayward, Manchester, for pigeons,	2 00
E. G. Carter, Concord, for a superior lot of crossed pigeons,	Transactions.

FARMS, ORCHARDS, KITCHEN GARDENS, &c.

The Committee, appointed by the Executive Committee of the Society to make examinations of Farms, Orchards, Gardens, &c., and to award premiums offered for such objects, originally consisted of Moody Hobbs of Pelham, Joseph Sawyer, Esq., of Piermont, and James Hill, Esq., of Greenland.

Before proceeding further with this report, the undersigned asks leave to submit to the Executive Board the following facts :

Isaac Kimball, Esq., of Temple, was the only person who entered a farm for premium. Nathaniel Baker of Manchester, was the only person who entered a kitchen garden for the same purpose; and, that neither of the above entries were, strictly, within the rules prescribed as to time of entry; and, that no other entries were made for any of the premiums offered by the society, dependent on the awards of the above named committee. Consequently, in view of the above facts, the Secretary of the Society, J. O. Adams, Esq., did not deem it expedient to call out the whole committee to make a personal examination of the farm and garden entered; but suggested that the chairman of the same, (the subscriber,) should make such examination, and make such inquiries, and submit such reports, in relation to the matters in consideration, as he thought proper.

In conformity with these suggestions, I proposed a series of interrogatories to Mr. Kimball in relation to his farm. The substance of those interrogatories may be inferred from his statement, in reply, which is as follows:—

“TEMPLE, *January*, 6, 1857.

“MOODY HOBBS, ESQ.—*Dear Sir*: Your letter was duly received, and I regret that, in consequence of absence from home, and other hindrances, there has been so much delay in answering it. I also regret the failure of your committee to make me a visit. I shall proceed, however, to answer the questions you propose as well as I am able.

It is twenty-six years since I became the owner of the farm on which I now reside. It contained, (as appeared by a survey after the purchase,) two hundred and three acres and seventy rods, from sixty to seventy acres of which is mowing and tillage, thirty acres woodland, and the remainder in pastures. I have also forty acres of pasturing, four

miles distant. The soil of the farm is variously constituted; most of the cultivated fields are clayey loam; a small part a sandy loam. The farm, at the time I came in possession, had been under a lease during the seven previous years, and (as might be expected,) all that was done upon it was done with a view to present profit. Fences neglected, bushes and briars permitted to grow by the walls and where else they would, and the same fields cultivated for years in succession, thereby diminishing the hay crop, both in quantity and quality.

My first object and effort was to increase the hay crop, which was done by seeding to grass the fields then plowed, plowing and seeding the other fields long in grass and yielding little, eradicating the bushes on the mow lands and beside the fences, ditching and top-dressing low lands, making them much more productive, and the hay of better quality.

In order to make the quantity of manure needed, from my own resources, I have found it necessary to use a large per cent. of *muck*; and have opened ditches for this purpose, of various dimensions, some of which were four feet wide by from two to six feet deep; these have been filled with stone to near the surface, then covered with turf and mud or other matters, and sown with grass seed. In one instance a ditch was dug ten feet wide, and some ten rods in length, for a cart-way and filled with stone. The stone were brought from the fields adjacent, some were blasted, others dug from the fields. Old walls removed, and unsightly heaps, long a nuisance, all thus congregated, probably to be seen no more.

Some fields have been cleaned of stone, by removing them to the base of a hill-side and erecting a heavy upright front wall, removing the soil from the rear and filling with stone; then-replacing the soil, making a level surface for cultivation. A large amount of stone has been removed to low, wet ground in an adjoining pasture, the stone covered slightly with soil and gravel, and sown down to grass. The removal of stone

by blasting, and otherwise, has been among the most expensive items of improvement. The stock, kept the first year I occupied the farm, I think, was sixteen head of cattle, two horses and about twenty sheep. The number was increased from year to year, and after four or five years I was able to winter from twenty-five to thirty-five head of cattle, two horses and forty or fifty sheep. The number has varied but little since.

Hay has been my principal crop for market, and the amount sold for several years I find to vary from two to three hundred dollars a year.

In 1853, a portion of the homestead was sold to my eldest son, at which time we commenced enlarging, remodeling and fitting the house for two families. The barns have also been enlarged and repaired, with cellars under all. We have 160 feet in length of barn cellar, most of which is 40 feet wide and 90 feet under the house.

The crops raised on the farm the past season, as far as we have means of determining are as follows: Wheat, 63 bushels; barley, 45 bushels; oats, 15 bushels; potatoes, 275 bushels; carrots, 375 bushels; ruta bagas and other turnips, some 60 or 70 bushels, with a good supply of beets, cabbage, &c., for home use and some to spare. Fruit, a meagre supply for our own use. My mode of cultivation, in some respects, differs from that formerly practiced. I then planted with rows only one way, nearly four feet apart, and the hills in the row eighteen or twenty inches apart; but I think by having rows both ways, say about three feet distant, and running the cultivator in each direction, before hoeing, there is quite a saving of labor, and I have adopted this method.

I usually plant upon the sod, the manure being turned under it; the next year seed to grass, with some grain crop. I spread a larger portion of my manure than formerly; using only a small quantity in the hill and prefer for corn a compost of hen and hog manure and night soil.

Our corn crop was considerably injured the last season by worms and by being broken down by the wind.

Previous to my removal to this place my principal occupation had been the manufacture of edge tools. This was continued to some extent in connection with my farming operations for ten or twenty years, since which time I have done little, being unable to compete with the manufacturer by water power.

In answer to your request regarding the profits of farming I will only say that a man with a good farm, a good constitution, good health, a good *wife*, and a will to work, may find a small balance on the credit side at the end of the year; but the gentleman farmer, the mere looker-on, who hires his labor at the exorbitant price now demanded, will find it difficult (in my view) to make the ends meet.

With much respect, yours, &c.,

ISAAC KIMBALL.

Knowing Mr. Kimball to be a gentleman of unimpeachable veracity, sound judgment, of calm, cool, clear-headed calculation, and an evident love for agricultural improvements, I think his opinions of great value to the farmers of our State; and that, for his well cultivated farm, he is richly deserving of the first premium offered by the Society, and would recommend that he receive the same, by vote of the Executive Board.

KITCHEN GARDENS.

The garden of Mr. Baker, the only one offered for premium, is situated about a mile south of the City Hall, in Manchester. That it is emphatically a garden which is made to produce much for the kitchen but for the parlor, too, may be inferred from the following communication:

MANCHESTER, *Sept. 6, 1856.*

MOODY HOBBS, ESQ:—About three years ago, in the midst of woods and bushes, we built a house, with a small kitchen. Then we must have a kitchen garden. So we have done a little in that way for our own convenience. Our stock is one cow all the time, a horse a part of the time. With the ma-

nure made from them, and a little labor, we have met with pretty good success. Our garden contains about three fourths of an acre. One half is devoted to Indian corn and the other half to other articles, as follows, in part:—Early and sweet corn, beans, peas, potatoes, onions, tomatoes, turnips, cucumbers, squashes, pumpkins, melons, calabash, peppers, cabbages, carrots, parsnips, beets, radishes, millet, grapes, dock, hoarhound, mint, camomile, sage, saffron, wormwood, tansy, horse radish, and a few flowers to make it pleasant. Our currant bushes, that were sprouts three years ago, have this year borne fruit sufficient for eight gallons of wine, and thirty pounds of nice preserves. Our table has been bountifully supplied with vegetables since the first of July, and we have sold about \$30 worth to our neighbors. Now if you will please to give us a call with the judges on gardens for the Hillsborough County Society, you will confer on us a favor. Yours, &c.,

NATHANIEL & NANCY BAKER,

Baker's Grove, Manchester.

Appended to this communication was the following postscript:—"Let us encourage agriculture, or we never can pay such premiums for a Horse Show." "A well founded suggestion," I thought.

"I will visit Mr. and Mrs. Baker, and their garden, as requested, if no untoward event prevents it," said I, to my family, upon reading the above note.

Subsequently, I was informed by Mr. Adams that Mr. Baker had entered his garden for premium, and that at some time during the Hillsborough County Fair, at Manchester, he would accompany me on a visit to it—an offer which I gladly accepted. So in the company of Mr. Secretary Adams, and Messrs. Stewart, of Amherst, and Clement, of Hudson, the Committee of the Hillsborough County Society, on Gardens, &c., on the second of October, I visited the premises of our good friends, Mr. and Mrs. Baker.

Some rods from the road, and back of a few original forest

trees, wisely and tastefully left standing, as we thought, we found their sylvan abode. In front of the house, winding walks, tastefully bordered with flowers, amongst the trees, led us to their pleasant domicile. This was that portion of their garden most devoted to flowers. In the rear, or west side of the house, was the kitchen garden. The soil is a rich sandy loam, slightly inclining in slope to the west, and terminates in what appeared once to have been a pond or morass. Although at that time of the year it could not be supposed to present so attractive an appearance as it would have done before the autumnal frosts had withered its verdure, yet enough remained to prove, to our minds, that Mr. Baker's representations concerning it had been correct. Every part of the garden seemed to have been laid out with skill, judgment, and good taste. Here was millet, a small patch, 6 feet high; there was a small bed of sage and camomile not much larger than a common table from which Mrs. Baker said she had sold \$3,50 worth during the season. A plat of currant bushes from 1 to 3 years old, standing on 1 1-2 square rods, had produced 3 bushels of fruit; and so with other productions in like proportions. We had ample evidence that the statement by them made to us, in their communication in regard to their garden, was literally true.

Mr. Baker has about 8 acres of land, 2 under cultivation, including his garden, and 6 of woodland. He keeps one cow, stabled all the time; a horse, occasionally; also a large number of domestic fowls, of the choicest breeds. From these sources and a *muck bed* he obtains all the manure he uses on his little farm and garden. Every thing in-doors or out displayed neatness, judgment, skill, good taste and indomitable energy and industry on the part of the whole-souled proprietors of this lovely retreat.

We have since received a statement from Mr. Baker as to the full income of his garden, the past season, to wit:—Vegetables sold, \$50; carrots, 1 ton; parsnips, 10 bushels; turnips, 5 do.; beets, 2 do.; 6 doz. cabbages; 20 lbs. millet

seed; 100 lbs. marrow squashes; 1 1-2 bushel onions; and all the vegetables for a family of three during the season; and all this from a little more than a quarter of an acre of land, which, three years since, was a wilderness. Such a result of taste, skill, energy and industry, deserves our commendation, the imitation of all who possess a rood of land, and, in our opinion, the *first premium* of the Society for Kitchen Gardens.

Respectfully submitted.

MOODY HOBBS, *for the Committee.*

PLOWING.

A. S. Blake, Keene,	\$8 00
John Towns, Jr., Marlborough,	6 00
A. W. Eastman, Keene,	4 00
A. S. Burbank, Boscawen,	2 00
Alfred Lawrence, Keene,	Transactions.
George Harvey, Marlborough, for best work with Double Michigan Premium Plow,	10 00
A. S. Blake, Keene, for best plowman,	3 00
John Towns, Jr., Marlborough,	2 00

EXECUTIVE COMMITTEE, *Judges.*

GRAINS.

Charles Graham, Concord, for best specimens of winter wheat,	\$5 00
Cyrus Dustin, Hopkinton,	3 00
[This second specimen was not left for the Society, according to rule, and therefore the premium cannot be paid.— <i>Sec'y.</i>]	

N. H. Asylum, Concord, for traces of corn,	Transactions.
Sewell Hoit, " " " "	"
D. Chaplain, Canterbury,	"
Isaac Emery, Concord,	"
Paul R. George, Contoocook,	"
Geo. W. Brown, Concord,	"
B. A. Noyes, Bow, for bale hops,	"
Asylum for Insane, for beans	2 00

SAMUEL COFFIN, *for the Committee.*

FRUIT.

The Judges report that the past season has been very unfavorable for fruit, and consequently but few specimens were exhibited, and those generally inferior to former years. Of apples there were some very good and fair, from the nursery of Mr. David Clement, of Hudson, also from Mr. Samuel Moore, of Loudon, Stephen Carlton, of Concord, and a variety of very choice apples from Illinois, not exhibited for premium, very fair and of good size. Among the varieties is the White Winter Pearmain, and an apple known by the name of Rambo, both of which kinds, your Committee are of opinion, would be valuable additions to our list of apples, they being natives of the West. The apples from this State were presented by Mr. E. Ordway, of Freeport, Ill., who will furnish scions to any order that may be sent him. There were but very few pears exhibited; the best specimens were from the nursery of Mr. Clement, being more in variety than any others. G. B. Chandler, Esq., and Hon. Asa Fowler, exhibited a few very handsome specimens of the Louise Bonne de Jersey. Of peaches there were but few, and those ordinary, it being late in the season.

There were some very fine specimens of grapes. Of many

varieties of native grapes and hardy, those from Solomon Manning, J. W. Manning, and David Clement, were very excellent and deserving of general cultivation. There were some very fine specimens of Hamburgh and Sweet Water grapes, from the grounds of Gen. Low, G. B. Chandler, Esq., and Abial Chandler, of Concord.

The Committee, in view of the whole, have agreed upon the following premiums:—

For the best six varieties of apples, to David Clement, of Hudson,	\$4 00
Second best, to Samuel Moore, Loudon,	3 00
Third “ Stephen Carlton, Concord,	Transactions.
Best specimen of grapes, to Solomon Manning, Bedford,	1 00
Second best, J. W. Manning, Bedford,	Diploma.
Best half peck cranberries, to George Fox, New Ipswich,	3 00
A. Blanchard, Concord, for quinces,	Transactions.

WM. W. WHIPPLE, *for the Committee.*

VEGETABLES.

S. S. Chamberlain, Chester, for best and largest variety,	\$5 00
J. E. Tyler, Concord,	3 00
Wm. B. Peters, “	Transactions.
C. C. Clark, “ for best lot sweet potatoes,	Transactions.
Moody A. Pillsbury, Boscawen, best peck table potatoes,	Transactions.
Jacob Noyes, Concord, best 20 turnips,	“
Hiram Simpson, “ best four pumpkins,	“

C. A. Hunt, Laconia, best three squashes,	Transactions.
J. E. Tyler, Concord, best 12 ears sweet corn,	"
John Calef, Manchester, best six heads cabbages,	"
Cyrus T. Lane, Candia, best 20 onions,	"
Sewell Hoyt, Concord, best 10 ruta bagas,	"

H. P. WINGATE, *for the Committee.*

BUTTER, CHEESE AND BREAD.

Mrs. Samuel Coffin, Concord, best lot of butter,	\$6 00
Isaac Morse, Haverhill,	4 00
John Sanborn, Boscawen,	2 00
C. M. Bartlett, Campton, best lot of old cheese,	4 00
Isaac Morse, Haverhill,	3 00
N. Hurlburt, Hanover,	1 00
W. Sargent, Claremont, best lot new cheese,	4 00
John Sanborn, Boscawen,	3 00
Lewis Bartar, Concord,	1 00
Mrs. A. G. Edgell, Concord, for best wheat bread,	2 00
J. W. Worthen, Concord,	1 00
Mrs. Geo. Hutchins, Concord,	Transactions.
Isaac Morse, Haverhill, best brown bread,	2 00
J. A. Potter, Concord,	1 00
Mrs. Benjamin Hutchinson, Manchester,	Diploma.

SETH EASTMAN, }
 JOHN W. SWETT, } *Committee.*
 AARON YOUNG, }

SUGAR, HONEY, WINES, &c.

George H. Clarke, of East Washington, for the best lot of honey,	\$3 00
Nahum Blanchard, of Canterbury,	2 00

W. S. Curtice, of Danbury,	Transactions.
N. Hurlburt, of Hanover, for maple syrup,	Diploma.
Nancy L. Baker, of Manchester, for best currant wine,	Medal.
S. S. Chamberlain, of Chester, for samples of native wines,	Diploma and Transactions.
Charles Hutchins, of Concord, for currant wine,	Diploma.
Sewell Hoit, of Concord, specimens of currant wine, six and eleven years old,	Diploma.
Mrs. Nancy L. Baker, of Manchester, for strawberry and peach preserves,	Diploma.
Mrs. J. A. Potter, of Concord, for pickled toma- toes,	Diploma.
George H. Clarke, of East Washington, for speci- mens of bees wax,	Transactions.

F. A. BROWN, *for the Committee.*

DOMESTIC MANUFACTURES.

George T. Sanborn, Boscawen, woolen blankets	\$4 00
Mrs. J. Brown, Pittsfield,	Diploma.
Joseph Pillsbury, Boscawen, best ten yds. flannel,	4 00
Leah Wilkinson, Gilford,	Diploma.
W. R. Webster, Bridgewater, for rug,	1 00
Mrs. E. Dow, Concord,	Diploma.
Mrs. L. Robinson, Exeter, for quilts,	2 00
Mrs. A. Clough, Loudon,	1 00
Mrs. Paulina Spencer, of Hanover, best piece of plain linen,	Diploma.
“ “ “ ten yds. kersey,	4 00
Miss Clara E. Palmer, best fancy work,	2 00
Miss Anna Hoyt, Concord, one tidy,	Diploma.
Nahum Blanchard, Canterbury, woolen knit stock- ings,	2 00

Hannah Sanborn, West Boscawen,	Diploma.
B. S. Warren, Concord,	Diploma.
Mrs. Hannah Sanborn, of West Boscawen, woolen knit mittens, one pair only exhibited,	2 00
Leah Wilkinson, Gilford, woolen yarn,	2 00
Caroline E. Berry, Henniker, best braided mat,	Diploma.
Mrs. Joseph Brown, Pittsfield, worsted hose,	2 00
Mrs. S. D. Slade, Hanover, best table linen,	1 00
Miss A. H. Randall, one case of shirts,	Diploma.

E. HILL, *for the Committee.*

MILLINERY.

James Haselton, Concord, for best exhibition of bonnets and millinery,	\$6 00
Miss T. H. Bickford,	2 00

NEEDLE WORK.

Mary Danforth, Concord, for the best variety of fancy and needle work,	\$5 00
Annette E. Eastman, Conway,	3 00
Caroline E. Berry, Henniker,	Diploma.
Mrs. Edson Hill, Concord, for best counterpane,	2 00
Mrs. J. A. Potter, Concord,	Diploma.
Mrs. Jacob Woods, Pembroke,	Diploma.
Mrs. W. N. Tilton, Exeter, for embroidery,	5 00
Hannah Whipple, Concord, collar,	Diploma.
Mrs. R. G. Wyman, Concord, capes,	"
H. M. Robinson, Concord, for embroidery,	"
Miss M. E. Potter, " " "	"
Mrs. A. Custer, Manchester, lamp mats,	"
Miss Kate Lord, " " "	"
Mrs. J. A. Dobbs, Hillsboro' " "	"

Mrs. Wm. Kent, Concord, patch work quilt,	Diploma.
Hattie and Minnie E. White, Concord, for worsted work,	"
Helen B. Pillsbury, Concord, for needle work,	"
Silla N. Davis, Concord, for worsted work,	"

The Whiton prize was awarded as follows :

Mrs. Isaac Morse, Haverhill, for best darning and mending,	4 00
Mrs. Benj. Hutchinson, Manchester,	2 00
Mrs. M. E. Hurlburt, Hanover, for best patching,	4 00
Mrs. S. D. Slade, Hanover,	2 00

(BEST BY GIRLS.)

Ruth J. Hurlburt, Hanover, for best patching,	2 00
Julia F. Blake, Keene,	Diploma.

KENDRICK DICKERSON, *for the Committee.*

PRINTING, BINDING, &c.

McFarland & Jenks, Concord, for best book print- ing,	\$3 00
McFarland & Jenks, Concord, for best job printing,	3 00
Merriam & Merrill, Concord, for best binding,	2 00
" " for variety of blank books,	Diploma.
G. H. Shattuck, Niagara, N. Y., for specimens of writing,	Transactions.
Robert C. Osgood, Concord, for record writing,	Diploma.
J. S. Gilman, Enfield, for ink,	Diploma.

AGRICULTURAL IMPLEMENTS AND CARRIAGES.

William Gile, Concord, for turned spokes,	Diploma.
O. G. Ingalls, Concord, for best two horse wagon,	\$8 00
O. G. Ingalls,	7 00

C. K. Daggett, Nashua, for express wagon,	Diploma.
R. Harriman, Henniker, for horse power,	1 00
S. Blodgett, Concord, buggy wagon,	Diploma.
James Hill, Greenland, for best mowing machine,	Diploma.
Putnam & Chase, Milford, for churn,	Diploma.
W. P. & T. H. Ford, Concord, for sod plow,	5 00
W. P. & T. H. Ford, Concord, for seed plow,	Diploma.
A. Goodwin, East Amesbury, Mass., for two and four wheeled chaises,	Diploma and Transactions.
J. D. Cooper, Concord, for best top buggy wagon,	7 00
Geo. H. Clark, East Washington, for bee hive,	Diploma.
A. Stickney, Concord, one hand seed planter,	Diploma.
Cooper, Shaw & Co., Concord, for Rich's patent iron beam plow,	2 00
D. A. Warde & Co., Concord, for manure and pitch- fork,	Diploma.
Thompson & Jones, Lebanon, buggy wagon,	Diploma.
Smith Marston, Enfield, for hames,	Diploma.
John M. White, Antrim, for solid steel strap,	Diploma.
J. L. Robinson, Concord, for side hill plow,	2 00
J. L. Robinson, Concord, for sod plow,	2 00
O. Reed, Concord, for best two horse sleigh,	7 00
A. Stickney, Concord, for seed separator,	2 00
A. Stickney, Concord, for seed planter,	2 00
Eben Monson, Franklin, for corn sheller,	2 00
Samuel Morrill, Andover, for clothes dryer,	Diploma.
R. Harriman, Henniker, for horse power,	10 00
(printed in list \$1 00.)	
Joseph Palmer, Concord, for springs,	7 00

[No such premium was offered by the society, and therefore cannot be paid until acted upon by the board.]

O. G. INGALLS, *for the Committee.*

MACHINERY AND NEW INVENTIONS.

Machine Company, Manchester, for a variety of scales,	Diploma and Medal.
J. W. Worthen, Concord, for saw set,	Diploma.
J. W. Worthen, Concord, for level,	Medal.
E. A. Russell, Hooksett, for hand stamp,	Medal.
J. D. Norton, Jr., Concord, for bench clamps,	Diploma.
Gust. Walker, Concord, for display of hard ware,	Diploma.
W. Whitney, Manchester, combination water wheel,	Medal.
C. H. Gould, Concord, for vine protector,	Diploma.
Samuel Morrill, Andover, for clothes dryer,	Diploma.
Cooper, Shaw & Co., Concord, Jeffers patent force pump,	Diploma.
C. H. Dana, Lebanon, for sash fastener,	Diploma.
J. M. & S. F. Stanton, Manchester, machine for filling harness and seine needles,	Medal.
J. M. & S. F. Stanton, Manchester, for set die plates and copying press,	Diploma.
George Kenny, Milford, patent noiseless carriage irons,	Medal and Diploma.
Ebenezer Morrison, Franklin, for corn sheller,	Medal.
Jesse Gilman, Nashua, machine for sawing shingles, clapboards and laths,	Medal.
R. Q. Tuson, Lebanon, improved mop handle,	Diploma.

JOHN H. GAGE, *for the Committee.*

COPPER, IRON, TIN, BRASS AND ZINC WORK, &c.

W. P. & T. H. Ford, Concord, for best iron ware,	\$5 00
W. P. & T. H. Ford, for best cooking stove,	6 00
Cooper, Shaw & Co., Concord, for best copper and brass work,	5 00
A. D. Shaw, Concord, for best air furnace,	5 00

A. R. Fuller, Concord, best portable oven,	\$5 00
Granite File Works, for best of files,	3 00
D. A. Warde & Co., Concord, for hard ware,	Diploma.
Union Stove Company, Nashua,	Transactions.
Union Stove Company, Nashua, parlor stove,	5 00
W. P. & T. H. Ford, Concord,	Transactions.

THOMAS G. BANKS, }
 W. W. EASTMAN, } *Committee*
 A. CHASE, }

FURNITURE.

Phineas Cary, Jr., Concord, for bedstead, sofa, ottoman, and wrought chairs,	Medal.
Union Spring Company, Boston, for spring-bed,	Diploma.

HATS, CAPS, &c.

Lincoln & Shaw, Concord, best lot of hats,	Medal.
C. H. Sanger & Sons, Concord,	\$2 00
C. H. Sanger & Sons, for furs,	Medal.
Lincoln & Shaw, Concord,	2 00

HARNESSES, BOOTS, SHOES, &c.

Munsey & Gilman, Concord, for best calf boots,	\$5 00
John Cayzer, Manchester,	Transactions.
Munsey & Gilman, Concord, for best exhibition of boots and shoes,	5 00
Calvin Thorn, Concord,	Transactions.

W. H. Edmunds, Northwood, for best specimen of shoes for women's wear,	\$3 00
Munsey & Gilman, Concord,	Transactions.
J. R. Hill, Concord, for best carriage harness,	4 00
Hosea Fessenden, Concord, for carriage harness,'	3 00
Hosea Fessenden, for team harness,	3 00
Hosea Fessenden, for wagon harness,	3 00
Hosea Fessenden, for lot trunks,	3 00

A. P. MUNSEY, *for the Committee.*

WOODEN WARE AND COOPERS' WORK.

James Whicher, Hooksett, for best pails,	\$2 00
James Whicher, for tubs,	Medal.
Powers & Dickey, Milford, for willow basket,	Transactions.

WM. KENT, *for the Committee.*

SILVER WARE AND CUTLERY.

Wm. B. Durgin, Concord, for best silver ware,	\$5 00
Gust. Walker, Concord, for cutlery, half premium,	2 50
D. A. Warde, Concord, for cutlery, half premium,	2 50
A. O. Miles, Manchester, for plated spoons,	Diploma.

J. EASTMAN, *for the Committee.*

PICTURES, HAIR WORK, &c.

Mrs. Ira E. Brown, Concord, for hair work,	Diploma.
Miss Nellie Burpee, New Hampton, for vase of flowers,	Transactions.

N. Brown, Concord, daguerreotypes and ambro- types,	Diploma.
Mrs. S. Clark, Concord, for hair work,	Medal.
S. G. Sylvester, Concord, for gilt frames,	Medal.
M. C. Brown, Concord, for crayon,	Diploma.
William F. Gage, Concord, Grecian frames and painting,	Transactions.
Marietta A. Gove, Concord, for crayon,	Diploma.
Mrs. Benjamin Hutchinson, Manchester, for vase of flowers,	\$3 00
F. D. Hopkins, Manchester, improved daguerreo- types,	Transactions.
E. H. Eaton, Bradford, wax work,	Diploma.
Mrs. D. E. Clark, Concord, worsted work,	Transactions.
Helen M. Webber, Manchester, crochet tidy,	Diploma.
Mrs. A. McCrillis, Manchester, for oriental painting,	Transactions.
J. Pillsbury, Boscawen, for wax flowers,	Transactions.
G. A. Brown, Concord, for oil painting,	Diploma.
E. Custer, Manchester, for oil painting,	Medal.
F. A. Brown, for improved ambrotypes,	Medal.
Mrs. B. E. Badger, Concord, for crayon painting,	Diploma.
Miss Frances Plumer, Boscawen, for hair work,	Diploma.
Miss M. Briggs, Concord, for vase,	Diploma.
Miss Antoinette Eastman, Conway, herbarium,	Diploma.
Miss Antoinette Eastman, Conway, for pictures,	Transactions.
Mrs. J. Morgan, Concord, for wax flowers,	Medal.
Mrs. A. Brown, Concord, for floral design,	2 00
H. L. Boltwood, Pembroke, for crayons,	Diploma.
Prescott & Brothers, Concord, india ink drawing,	Diploma.
Miss McNeil, Hillsborough, for basket of wax fruit,	Diploma.
Geo. Main, Concord, for oil painting,	5 00
Geo. Main, for Grecian and ornamental painting,	Diploma.
Elizabeth E. Main, Concord, for basket of wax fruit,	Transactions.

R. G. Wyman, Concord, for flowers,	\$2 00
Charles Parker, West Rupert, Vt., for deaf and dumb alphabet and chart,	Diploma.

DENTISTRY, MEDICINE, &c.

James Morgan, Concord, for case of medicines,	Diploma.
S. E. Jenness, Manchester, for jar of crystalline soap,	Diploma.
Matson & Co., Boston, for case of syringes,	Diploma.

J. C. EASTMAN, *for the Committee.*

MISCELLANEOUS.

J. R. Gilbert, Pembroke, for best specimen penman- ship,	Transactions.
Albert Webster, Concord, for best barrel flour,	Medal.
George Hutchins, Concord, for second best,	Diploma.
J. M. & S. F. Stanton, Manchester, for best rifle, own invention,	Medal.
B. W. Jewett, Laconia, artificial leg,	Diploma.
Margaret Marsh, Laconia, fancy carved work,	Transactions.
J. E. White, Canterbury, shell table,	Transactions.
Susannah Haseltine, Pembroke, for best quilt,	Diploma.
Liscom & Dearborn, Concord, for piano forte, melo- deon and seraphine,	Medal.
Prescott & Brothers, for second best,	Diploma.
A. Stickney, Concord, for lifting jack,	Diploma.
John G. Mellen, Concord, for best lock,	Diploma.
J. R. Hill, Concord, imitation horse, harness, &c.,	Diploma.

M. CLEMENT, *for the Committee.*

COUNTY SOCIETIES.

The Secretary has received reports from only a portion of the County Societies, but from sources which have come within his observation, has been able to gather the following reports, some of which were furnished, on application, by officers of the Society.

ROCKINGHAM COUNTY.

[Abridged from material furnished by W. P. Moulton, Esq., Secretary.]

Our annual Fair came off on Wednesday and Thursday, September 24th and 25th, as had been advertised, and, with slight variation, according to the programme. The copious rain of Monday and Tuesday, as it was the season for the equinoctial storm, caused many to predict bad weather for the exhibition, and, of course, a partial failure. But the storm ceased on Wednesday morning, and we had two bright, sunny days, and the Rockingham Fair was, for the fourth time, attended by a large gathering of the people. In consequence of the mud in the streets, the procession on Wednesday morning was not so long as in past years. Still it was quite respectable; and as it was escorted by Flagg's Band of music from Boston, and the Cattle Guard, it excited much attention. This "nondescript, fantastic company," now named Cattle Guard, did service on the fourth of July, under the name of "border ruffians," and their change of name was appropriate to the occasion. The number of town teams was three: Exeter with twenty-

eight yoke of oxen; Kensington with twenty-four, and Hampton Falls with fifteen. Messrs. Getchell & Son, who keep an agricultural warehouse in Water street, Exeter, put into the procession ten carts, loaded with such implements, wares and merchandise as they offer for sale at their shop. In one of the carts was a mowing machine, which was exhibited, and its operation shown in the field.

The ground, with its array of substantial pens, and a stand in the centre for the band of music and the speakers, was prepared under the direction of R. H. Parker, Esq., and all the arrangements were neat and convenient. The pens were well filled, as the reports will show; and the horses, colts, working cattle, cows, heifers, steers &c., were closely inspected by a large number of persons, and the critical remarks upon the appearance and qualities of the animals were both interesting and instructive, coming as they did from intelligent and experienced farmers. There were fine specimens of geese, turkeys, ducks, and barn yard fowls on one side of the field.

The exhibition of fruit, flowers, vegetables and fancy work, in the new Town Hall, was opened for visitors at twelve o'clock on Tuesday, and whether it equalled or excelled those of former years, there was, certainly, a splendid show of beautiful and good things, which the earth, under the hand of skilful culture, had brought forth during the season about to close. The hall was crowded during the afternoon and evening of the first day, and in the evening the band entertained the company, at intervals, with excellent music. One of S. A. Ladd's melodeons was placed in the hall for exhibition, which was occasionally touched by the fingers of amateurs.

The Town Hall was open on the second day of the Fair and was not closed till ten o'clock, P. M. During some portions of the time, it was so densely filled that locomotion was by no means easily accomplished.

At 9 o'clock on Thursday, an address from the speaker's

stand in the field, was delivered by Hon. Allen W. Dodge, of Hamilton, Mass. There was a large attendance of listeners. Mr. Dodge's address was just such a one as the occasion demanded, plain, practical, earnest, and always to the point. He spoke of the advantages of agricultural societies and farmers' clubs, and illustrated their usefulness by facts. He dwelt at some length on the subject of large farms, and recommended the possession of no more land than could be well and thoroughly cultivated. He named three maxims as very important for the observance of all farmers—1st, Whatever is worth doing at all is worth doing well; 2d, Where there is a will there is a way; and 3d, Help yourselves and God will help you. The whole address was well received, and we heard many praise it as a sensible, edifying and excellent discourse.

The Plowing Match came off immediately after the close of the address. There were fourteen competitors for the prizes, and we are informed that all the plowing was well done. The remarks of the President, Hon. H. F. French, respecting the necessity of good order on the plowing field, were happy and pertinent, and we learn from one who has attended many matches of the kind, that he never saw better order, if so good, as he witnessed on this occasion. In the afternoon, Dr. Nichols, of Haverhill, Mass., addressed the people from the steps of the Town Hall. Having recently returned from Europe, he spoke of what he had observed abroad, and of the difference between our methods of farming and those which he had witnessed, or been informed of, in the countries which he visited. Dr. Nichols' scientific knowledge, and practical application of principles, renders him well qualified to speak on the subject of agriculture, and his brief address was able and well-timed.

In addition to the above report of the Fair, some friend furnished a report, from which we copy the following account:

The Fair went off well, in spite of mud and rain. Neither the fat oxen—nor the good sensible flesh and blood men and women of Rockingham county are made of sugar or salt—so, notwithstanding the rains descended and the floods came, and the mud was as thick and black as if it was made on the banks of Lethe, instead of the Squamscot—the quadrupeds and bipeds began to congregate on Tuesday evening, and their faith in a good time coming, was, as usual, not without its reward. The weather through Wednesday and Thursday was as bright and glorious as the heart of man, or woman either, could desire, and everything passed off exactly *comme il faut*. The reports of the different committees supersede the necessity of our attempting a specific enumeration of the animal or vegetable riches exhibited on the field or in the Town Hall. We know little of fowls till they are ready for culinary martyrdom; less of oxen and swine till they have seen “the last of earth;” and nothing of vegetables, only that, like Topsy, they “grewed.” Everybody says that all these departments were very full, and so far as the places provided for them go, we add our solemn testimony to the truth of the assertion, and there leave the matter in the hands of more skilful chroniclers. The general procession was not as full as usual, owing, we suppose, to the state of the road and the bad weather of the preceding days. Those towns, who did send their *bovine* representatives, did well. We endeavor to be very impartial historians, but it seemed to us, Exeter took the lead in this department, in numbers and quality. The music was grand, and we can never be sufficiently thankful to the Society for the rich treat they provided for us two whole days and evenings. It was furnished by Flagg’s Cornet Band.

The Town Hall was, through both days, the great centre of attraction, and it reflected great credit both on the contributors and the fair hands who arranged the different

articles in such good taste. The display of fruit, considering the unfavorable season, was very full and fine, and it was hard to realize, while looking on the fine varieties of peaches, grapes, pears and apples, that this has not been one of the seven years of plenty, in this department. Talk of the poor, hard, granite soil of New Hampshire. What matters it what her soil is, while she has men, who can produce from it such beautiful and rich varieties of the necessaries and luxuries of life, as were exhibited in Exeter the past week? What western farmer can fill a table more richly and fully, than did Mr. B. F. Clark, of Stratham, who is a fair representative of what Yankee farmers may do? There was every thing exhibited there, from the bright yellow corn in the ear, tastefully arranged in the form of a pyramid, to the richly frosted cake. Where is the soil that can produce more delicious grapes, or more beautiful flowers, than were exhibited by Mr. J. T. Smith, of Brentwood, Mrs. L. S. Currier, of East Kingston, and by Mr. R. W. Currier, of the same place? And where on earth can any thing be made more tasteful and pretty, than the beautiful basket, composed entirely of the richest dahlias, and filled with fruit which was worthy of a premium, and would have obtained one, had there been one variety more—furnished by Mr. J. C. Bradley, of Danville? What soil can produce a greater variety and richer specimens of vegetables, than were exhibited on the table, furnished by Mr. Wm. P. Moulton, or those exhibited by Mr. D. F. Hayes, the Hampton Falls Club, and the other farmers in our town and county? The energy and thrift, which can raise sweet potatoes, the egg-plant, tomatoes, salsify and grapes, on the soil of New Hampshire, makes one independent of latitude and longitude. Fine fruit was sent from Greenland; we looked in vain for any from Portsmouth, or for any other manifestation or particular interest in the Fair from the gentlemen of that city. We presume that, as mercantile communities, gen-

erally, are really as much interested in the prices and productions of agriculture, as any other class of people, our neighbors have either got beyond the necessity of such vulgar renovation as comes in the form of roast beef, and bread and butter, or that they have not lately studied political economy. The ladies never forget their duty, and we saw a bouquet from Mrs. S. B. Haley, and a beautiful specimen of needle-work from Mrs. Hackett, of that city.

The Mechanics' contribution to the Fair, was not as full as we could have wished; but the specimens of hats, shoes, furs, &c., show that our manufactures are not a whit behind our agriculture, and that when we cannot live by the soil, we can exist by our wits. When a mechanic can furnish and employ ten such wagons as were exhibited in the procession by our townsmen, J. Getchel & Son, and make only a little money on each article disposed of, he is as independant as a London banker.

The Ladies' Department in the Fair, was rich and full, and beautiful. It is impossible to enumerate the variety of pretty and useful things exhibited. It was far beyond any exhibition we have heretofore had. The worsted embroideries were particularly beautiful and in great variety. Among them were specimens from Mrs. Gilman, of Exeter, who for so many years has furnished those which were most beautiful, and who, at the age of eighty, still provides the largest proportion of this department. Mrs. Tuxbury, Mrs. Sherman, Miss Murry, the Misses Robinson, and other ladies, whose names we have not obtained, also sent in beautiful specimens of this kind of embroidery. The cotton thread and silk embroideries were also beautiful—we hardly know how to specify, and pity the committee who have to award the premiums, where all were so worthy of them. Our interest was chiefly in the pictures and we were glad to see so good specimens of crayons, Grecian and oil paintings, ambrotypes by Mr. Sawyer, painting on glass, and in water colors, beautiful papier mache tables, port folios, &c—

what nots, and picture frames of leather, very handsome, wax-flowers, shell-work, a harp made by Miss Gale of amaranths, pine cones, &c— a cottage, literally moss-covered, by Mrs. Trefethen—a table and some fine pictures, by Miss Sawyer of Brentwood—all these were but a part of the abundance of riches. Mr. Morrill's display of silver was very handsome, and shows that the expense of a journey to Boston, for the purchase of any article in his line, is unnecessary. Mr. A. J. Hoyt, had a case of bonnets, *a la mode*; Mr. Piper and Mr. Lyford, of shawls, talmas, &c. The ornamental seemed rather to predominate over the useful, in the ladies' department—but still there were patch-work quilts, rugs, &c., to show that, because you have attended to the one, it is not a necessary consequence that you should neglect the other. The Hall was handsomely lighted, the music fine, the attendants gentlemanly and obliging, the accommodations made on a liberal and broad scale, and if there were no other good result, the bringing so many people together, and giving them two such holidays, must go far towards remunerating the officers of the Rockingham Farmers' Club, for the expense and trouble incurred by them on that occasion. But this is not all; the interests of Agriculture are so interwoven with the interests of all classes and conditions of society, that no man, not even the most selfish, can hope otherwise than that the society may continue to prosper, and that every year, the exhibitions may grow as steadily better as they have done, ever since its formation.

PREMIUMS AWARDED.

The award of premiums by the several Committees was announced by Judge French from the front of the Town Hall, at 4 1-2 o'clock, P. M., as follows:—

BULLS.—(NATIVE.)

John C. Evans, So. Hampton, 1st premium,	\$5 00
David Jewell, Brentwood, 2d premium,	3 00

JERSEY BULLS.

John S. Wells, Exeter, 1st premium	\$5 00
Benj. R. Perkins, Exeter,	3 00

COWS.

John Lamprey, N. Hampton, native cow, averaged 7 lbs butter per week, 7 months, last year, 1st pre.,	\$5 00
N. P. Cram, Hampton Falls, Durham Cow, 1st pre.,	5 00
Daniel Clark, Exeter, native cow, 2d premium,	3 00
Stephen Brown, Kensington, Devon cow, 2d pre.,	3 00
Mark Wentworth, Portsmouth, foreign cow, 1st pre.,	5 00

HEIFERS.

D. F. Hayes, 3 years old, grade Devon, 1st pre.,	\$3 00
W. H. Dudley, Brentwood, 3 years old native 2d pre.,	
	State Transactions.

WORKING OXEN.

Edward Giddings, Exeter, 1st premium,	\$5 00
John Weare, Hampton Falls, 2d premium,	4 00
John Norris, Exeter, 3d premium,	3 00
John C. Evans, South Hampton, 4th premium,	2 00

FOUR YEARS OLD STEERS.

James H. Butler, Nottingham, 1st premium,	\$4 00
Jewett Conner, Exeter, 2d premium,	3 00
Benj. G. Moulton, Kensington,	Transactions.

THREE YEARS OLD STEERS.

On mixed breeds, Jos. T. Gilman, Exeter, grade Devon, 1st premium,	\$5 00
John C, Evans, So. Hampton, grade Devon, 2d pre.,	2 00
On natives, B. G. Moulton, 1st premium,	3 00

ONE AND TWO YEARS OLD STEERS.

J. C. Evans, South Hampton, 1 year old, 1st pre.,	\$2 00
“ “ “ 1 pair 2 years old, grade Devon, 2d premium,	2 00
Jeremiah Robinson, Exeter, 1 pair 2 years old, grade Devon, 1st premium,	3 00
D. F. Hayes, 1 pair 1 year old, 2d premium,	1 00
Joseph T. Gilman, 1 pair 1 year old, grade Devon, Patent Office Report.	

CALVES.

Mark H. Wentworth, Portsmouth, 1st premium,	\$2 00
N. P. Cram, Hampton Falls, 2d premium,	Transactions.
Jacob T. Brown, Hampton Falls, 2d premium, Patent Office Report.	

FAT OXEN.

Geo. O. Hilton, South Newmarket, 1 pair, 1st pre.,	\$5 00
Joseph Cilley, Nottingham, 1 pair, 2d premium,	3 00

There was exhibited much more fine stock than could receive premiums.

HORSES.

Best mare to Col. Jos. Cilley, Nottingham,	\$3 00
Next best, work mare, N. P. Coleman, Newington,	Transactions.
Best work horse, G. W. Baker, Stratham,	3 00
Next best, Frank Miller, Portsmouth,	Transactions.
Best 3 years old colt, Richard Sargent, Newton,	3 00
Next best, John P. Rider, South Newmarket,	2 00
The best mare and colt, J. D. James, E. Kingston,	2 00
Next best, Aaron Bartlett, Brentwood,	Transactions.
Best 2 years old colt, Abner Littlefield, Greenfield,	2 00
Next best, 1 year old colt, Ephraim Pickering, Newington,	1 00

SWINE.

John S. Godfrey, Hampton Falls, 3 Suffolk pigs, 1st premium,	\$4 00
Lewis F. Prescott, Hampton Falls, Suffolk boar, 1st premium,	4 00
Charles D. Towle, Exeter, sow and 7 pigs, 5 weeks and 4 days old, 1st premium,	4 00
John Flannegan, native boar, 6 months old,	Patent Office Report.
Henry F. French, Exeter, 3 pigs,	Patent Office Report.

POULTRY.

Charles A. Nason, Hampton Falls, turkeys,	\$2 00
Jona. Weare, Hampton Falls, 3 Bremen geese,	2 00
Charles A. Nason, 3 English grade ducks,	2 00
John Norris, Exeter, 5 hens,	2 00

VEGETABLES.

Best show of vegetables, town of Hampton Falls,	\$5 00
Best show by one person, R. W. Currier, E. Kingston,	3 00
D. F. Hayes, 2d premium,	2 00
W. P. Moulton, Exeter, 3d premium,	1 00
B. F. Clark, Stratham, 4th premium,	Transactions,

BUTTER.

First premium to Mrs. Wm. Rowe, Kensington,	\$4 00
Second premium to Mrs. N. Parker, Kingston,	3 00
Third premium, Mrs. S. E. Morrill, Epping,	2 00
Fourth premium, Mrs. N. P. Cram, Hampton Falls,	1 00

CHEESE.

No report on this article has been received.

BREAD.

To married ladies.—First premium, Mrs. Frederick Robinson, Brentwood,	\$3 00
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To girls under twenty years of age, and unmarried :

first premium, Anna Maria Flagg, Exeter,	\$3 00
Second premium, Mary Faren, Exeter,	2 00
Third premium, Ednah D. Smith, Exeter,	1 00

Nice loaves of bread were presented by others, and it was difficult for the committee to decide at once, which most deserved a premium.

FLOWERS.

J. C. Bradley, Danville,	First Premium.
Mrs. L. S. Currier, East Kingston,	Second Premium.
Mrs. J. B. Haley, Portsmouth,	Third Premium.

J. T. Smith, of Brentwood, presented a variety of fine dahlias, and other beautiful flowers. Flowers were presented, also, by Mrs. Purdy and Solomon Holmes.

HATS.

A Merrill & Sons, for the best hat, premium,	\$1 00
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BOOTS AND SHOES.

John A. Field, Exeter, for the best pair of gents' boots, first premium,	\$2 00
Towle & Hobbs, first premium, for ladies' walking shoes,	1 00
John A. Field, second premium for ladies' walking shoes,	50

CARRIAGES.

Joseph S. Robinson, Exeter, first premium for wagon,	\$3 00
Head & Jewell, Exeter, first premium for a chaise,	3 00

TOWN TEAMS.

First premium to the town of Exeter,	\$10 00
Second premium to Kensington,	8 00
Third to Hampton Falls,	5 00

PLOWING.

John C. Evans, South Hampton, first premium,	\$20 00
James M. Sanborn, East Kingston, second premium,	15 00
J. T. G. Haley, Exeter, third premium,	12 00
John P. Blake, Exeter, fourth premium,	8 00
Levi E. Lane, Hampton Falls, fifth premium,	5 00

There were fourteen competitors for the premiums. The whole work was done so well that it rendered it exceedingly difficult for the committee to decide to whom to award the premiums.

HONEY.

We noticed a box of Honey from J. C. Bradley, of Danville, and a glass jar of the same from Mr. Williams, of Hampton. They were both in the condition in which the bees left them, and as fine specimens of the labors of the "busy bee" as we ever saw.

FAMILY AND ORNAMENTAL NEEDLE WORK,
PAINTING, DRAWING FLOWERS, &c.

The committee appointed to award premiums on family and ornamental needle work, painting, drawing, flowers, and the like, report: That, owing to the absence of a number of the committee, and a pressure of other duties upon those of the committee who were in attendance, they fear that they have but imperfectly attended to the duty assigned them, and, in fact, had it not been for the kind services of some "ladies fair," who took pity upon the small number of the committee present, and came forward to aid and advise, we fear we should have been unable to have done anything like justice to the fine display of needle and ornamental work; and if we have failed to appreciate some of the best specimens, attribute it to a lack of time to give the articles such an examination as their merits deserve. The amounts awarded to each, are in proportion to the sum placed at the disposal of your committee. In addition to those to which we have awarded a premium, we noticed a fine specimen of worsted stock; a screen by Harriet Robinson, also, some specimens on exhibition by Mrs. Gilman and Frances Robinson; a stool by Josephine Murray; lamp mats by Mrs. Benjamin Lang, Mrs. Jno. W. Dodge and Miss Flagg; wrought under sleeves and handkerchiefs by Mrs. D. M. Quimby; collar and under sleeves by M. W. Folsom and S. A. Gale; crochet tidies by Mrs. Dyball; collars, by Kate Crumley, Mary Butman and Mrs. J. Dodge; lamp mats by Kate Wells; some beautiful specimens of embroidery on flannel by Mrs. Nathaniel Welch, Miss Annie W. Leavitt and Mrs. John Wheeler; also, a child's dress, by Mrs. N. Welch, and some work by C. E. Smith and Miss M. Pike; some silk patch work, in blocks, by Mrs. H. M. French and Annie Grant; a tiny pair of mittens, and other work, by Abby Grant; a watch stand by Emily Dewhurst; some rugs by

Mrs. S. W. Leavitt, Mrs. Benjamin Lang and Mrs Trefethen; quilts, a fine specimen, knit by Mrs. E. Coleman; others, by Mary Flanders, Mrs. Otis Bartlett, Martha A. Hoyt and D. H. Gilman; fine specimens of Grecian paintings by Lucy J. Blake, Ellen Sullivan, S. E. Sawyer and E. Warren; some crayons by Nellie Purdy and Mrs. Daniel Trefethen; some beautiful specimens of leather frames by Harriet Robinson, and Mrs. R. Carter; what-nots, ornamented with leather work, finely done, by Miss L. A. Rundlett, Mrs. J. L. Lovering and Mrs. R. Carter; some hanging vases by Georgie Robinson; a flower harp by S. A. Gale, and some ornamental boxes by Mrs. John L. Lovering; a moss cottage by Mrs. Daniel Trefethen; and some shell pyramids by Mrs. Lovering and Mrs. Daniel Trefethen; an ingenious puzzle by J. H. Smith; wax flowers, by Mrs. Ryder; a fine pin cushion, ingeniously done, by Mrs. F. Tuxbury; a beautiful specimen of oriental painting on glass, for tables, by Mrs. H. Wells; also, one in frame, by M. A. Hoit; a painting on exhibition, by Mr. E. Bryant, and some fine specimens of ambrotypes by Mr. Sawyer; a fine variety of dahlias, exhibited by John T. Smith, together with a variety of plants; some fine bouquets, by Mrs. John B. Haley and R. W. Currier, and a fine piece of domestic carpeting by Mrs. Wm. Rowe, are some of the specimens which come particularly under our notice.

In conclusion, the committee have awarded as follows:

WORSTED WORK.

Mrs. Frank Tuxbury, best specimen,	\$1 50
Mrs. F. S. Sherman, second best specimen,	1 00
Hannah M. Chase, ottoman, raised work, first premium,	1 00
Harriet Kimball, raised work, second premium,	50
Lizzie D. Robinson, lamp mat,	50

WROUGHT WORK.

Mrs. W. N. Tilton, a collar, best specimen,	\$1 50
Mrs. W. H. Y. Hackett, second best specimen,	1 00

EMBROIDERY ON WOOLEN.

Mrs. John Hill, best specimen,	\$1 00
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CROCHET WORK.

Kate Moulton, collar, &c., best specimen,	\$1 00
Elizabeth Gilman, a quilt,	1 00
Mrs. D. M. Quimby, silk patch work,	1 00
Georgie Robinson, hair pin and ear ornaments,	1 50

PAINTINGS.

Mrs. J. Lamprey, water colors, very fine,	\$2 00
Daniel B. Head, oil,	1 50
S. E. Ryder, Grecian,	1 00
Ellen Lyford, colored crayons, fine,	1 00
P. H. Perkins, 15 years old, crayons,	1 00

LEATHER WORK.

George E. Brackett, large frame,	\$1 50
Mrs. Daniel Trefethen, frames,	1 00

PAPIER MACHE TABLES.

Sarah Sawyer, table, &c.,	\$1 50
Miss S. Drew, table, oriental, on glass,	1 00

WAX WORK.

Ellen N. Lane, grapes and flowers,	\$1 00
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W. B. MORRILL, *for the Committee.*

For the premiums on Flowers, the committee left the space for prizes blank, and they are so printed in the above list. We do not find that premiums for flowers were offered, except for artificial ones.

ANNUAL MEETING.

The annual meeting was held January 10, 1857, at which the following business was transacted—the officers chosen for the ensuing year as follows:

President.

HENRY F. FRENCH, Exeter.

Vice Presidents.

JOHN O. CILLEY, Nottingham;
 MOSES SANBORN, Kingston;
 CHARLES A. NASON, Hampton Falls;
 ABNER LITTLEFIELD, Greenland.

Trustees.

JOHN C. EVANS, South Hampton;
 BENJAMIN F. CLARK, Stratham;
 JAMES M. SANBORN, East Kingston;
 JOSEPH BROWN, Kensington;
 FREDERICK ROBINSON, Brentwood.

Secretary.

WILLIAM P. MOULTON, Exeter.

Treasurer.

RETIRE H. PARKER, Exeter.

Auditors.

N. P. CRAM, Hampton Falls;
 ZEBULON SANBORN, Epping.

The following resolution was adopted:

Resolved, That our president, Hon. H. F. French, being about to visit Europe with the purpose of observing the agriculture of other lands than our own, is commended to the attention of agriculturists and of kindred societies abroad, as a gentleman whose position at home, as an agriculturist, entitles him to respect and consideration elsewhere, in a department of science which knows no limits of brotherhood narrower than those of civilization.

The committee on crops reported that they had awarded premiums as follows:

John Norris, Exeter, for best wheat,	\$4 00
Rufus C. Sanborn, Hampton Falls, for best rye,	4 00
Rufus C. Sanborn, for best potatoes,	4 00

We give below Mr. Sanborn's statements relative to the raising of his crops on which premiums were awarded:

To the Committee on Crops :

GENTLEMEN—The land, on which I raised a crop of rye entered for a premium, measures one hundred and sixty-two rods; soil, sandy loam; was ploughed in the spring of 1854, with the Michigan plow, ten or eleven inches deep, and well manured, and planted with corn; yield, ninety-eight bushels; ploughed again in the fall of 1854, and in the following spring spread on ten cords of green manure from the barn cellar, and ploughed it under ten inches deep, and planted with Chenango potatoes; yield, two hundred and seventy bushels; ploughed again about the middle of September, eight inches deep, and sowed five pecks of rye; then harrowed, and sowed one peck and a half of herdsgrass seed, and rolled the piece without harrowing in the grass seed. I would say that the set of herdsgrass in October looked the best of any I ever saw; the grass was very thick and was nearly a foot high. I harvested the rye about the 20th of July.

The expenses of raising the crop were as follows:

Plowing,	\$2 50
Harrowing, sowing and rolling,	1 00
Harvesting, threshing and cleaning,	6 00
Seed,	1 75
Interest on land, and taxes,	6 50
	<hr/>
Total expenses,	\$17 75

Value of the crop is as follows:

32 1-2 bushels at \$1·12 1-2 per bushel,	\$36 50
Two tons of straw,	16 00
	<hr/>
	\$52 50
Expenses deducted,	17 75
	<hr/>
• Net profit,	\$34 75

The piece of land, on which I raised my crop of potatoes entered for a premium, measures two hundred and sixteen

rods; soil, sandy loam. It was broken up in the fall of 1854, and, the following spring, I carted on twenty-five loads of old fine compost manure composed of more than one half swamp muck; spread and harrowed in with a heavy harrow, and planted with corn; yield, about one hundred and twenty bushels. In April, I carted on twenty-six loads of green manure from the barn cellar, and ploughed it under with the Michigan plow, nine or ten inches deep, then harrowed, and furrowed little less than three feet apart between the rows, and dropped whole potatoes about the size of a hen's egg, eighteen inches apart in the rows, and covered one half with the horse hoe, and the other half with the hand hoe. The potatoes came up as well that were covered with the horse as the others; they were planted the very first of May; were hoed twice in June, after going through with the horse hoe. I went through the rows again in August, and cut up the weeds. The potatoes were harvested the first of October, and measured two hundred and fifty-six bushels. The expense of raising the potatoes, is as follows, viz :

Carting manure,	\$4 50
Plowing, harrowing and furrowing,	5 00
Planting,	2 50
Cultivating and hoeing,	8 00
Harvesting,	9 00
Seed, twenty-two bushels white Chenangoes,	7 25
Manure, twenty-six loads, \$2 per load,	52 00
Interest on land, and taxes,	8 00
	<hr/>
Total,	\$96 25

The value of the crop is as follows, viz :

200 bu. large potatoes at 80 cts. per bushel,	\$160 00
56 " small " " 25 " " "	14 00
Half of the manure unspent,	26 00
	<hr/>
	\$200 00

Total value of crop, brought forward,	\$200 00
Deduct expenses,	96 25
	<hr/>
Net profit,	\$103 75

All of which is respectfully submitted.

RUFUS C. SANBORN.

Hampton Falls, Oct. 23, 1856.

We are indebted to Mr. Joseph Winslow of Epping, for the following statement relative to a crop of corn raised by him; the same not having been entered for a premium. Mr. W. may be considered as one of the most successful producers of this crop in the county, and his method of raising it may be safely, and without doubt, beneficially practised by any agriculturist in our midst. The secretary of the society would like to receive similar statements from any of its members.

To the Committee on Crops :

GENTLEMEN—I propose to give an account of a lot of corn grown on my farm the past season, and described as follows: Lot No. 2 in field A, and containing one hundred and fifty-one rods; on which grew eighty-nine baskets of corn, exclusive of a lot of green corn. The ears were measured in a basket holding one and a half bushels; we have shelled several baskets of corn, the average yield being thirty quarts from each basket of ears, making eighty-three bushels and fourteen quarts of shelled corn on the lot, and equal to eighty-nine bushels to the acre.

Surface of the lot on which said corn grew is rolling, on a southern slope; the soil is a light colored loam, containing a large per cent. of mineral matter, of very easy cultivation when well ploughed.

Preparation.—April, 1855, six and one half cords of green manure were spread on the soil and ploughed in, furrow slice about twelve inches wide by eight deep; planted with potatoes and a good crop produced. May, 1856, spread seven cords of yard manure and ploughed in

eight or nine inches deep; harrowed twice for planting; planted the 27th of May; we furrowed the lot with a horse and plow, then crossed it the other way, making the rows cross each other at right angles; hills three feet apart each way; dropped four and five grains in a hill.

Variety planted is known as the yellow flint corn producing very sound eight rowed ears.

Cultivation.—Run the cultivator through the rows in two directions, previous to each time hoeing.

The expense of growing said corn is as follows:

Lot No. 2, Dr. for 7 cords of manure, 1-2 charged,	\$11 00
Hoeing and spreading four and one half days,	3 78
Ploughing and harrowing seven days,	5 88
Planting, six days,	5 04
Seed, ten quarts,	33
Cultivating and hoeing eight days,	8 00
Harvesting, sixteen days,	13 44
Interest and taxes on land,	6 20
	<hr/>
	\$53 67

The receipts were as follows:

One ton top stalks, } by estimate,	\$15 00
Two tons corn butts, }	20 00
83 bushels of corn at 92 cents per bushel,	76 36
	<hr/>
	\$111 36
From which take the expense,	53 67
	<hr/>
Profit,	\$57 69

The above named crop is not offered for a premium, but to show the profit of corn growing.

All of which is respectfully submitted.

JOSEPH WINSLOW.

Epping, Dec. 10, 1856.

By comparing the net gain of raising the crops of corn, potatoes and rye, above specified, it will be found that the potato crop produced the greatest, and the rye crop the least profit.—SEC'Y.

HILLSBOROUGH COUNTY.

By previous arrangement the Hillsborough County Fair was held on the 30th of September, and the 1st and 2d of October, in connection with a general Exhibition of Horses, in the city of Manchester. In consequence of the severe rain of the opening day, the attendance was thin and the entries few, though subsequently there was a great increase of people, stock, manufactured articles, and the products of the farm.

The number of horses of all classes on the ground, was but little less than two hundred, embracing many of the finest animals in the State, as will be seen by the list of awards.

In the department of neat stock, there were some fine animals, working oxen, bulls and cows, but falling far short of the usual exhibitions of the society. Among those making the best show, we may name C. H. Campbell of Amherst, W. M. Kelley of Manchester, and J. M. Rowell.

The swine presented by J. A. Stearns—the same as shown at the State show—were superior animals, and received general commendation, as were the fat pigs of Mr. Hodgman. The sheep were almost entirely wanting, only three being entered. In the tent exhibition were many good things, which have been noticed by the judges. The annual address was delivered by Rev. M. Willis of Nashua.

The following awards were made:

VEGETABLES AND SEEDS.

J. M. Rowell, Manchester, for best show of seed corn,	\$2 00
Henry R. Barrett, Amherst, second best,	1 00

C. S. Fisher, Goffstown, third best,	Transactions.
C. S. Fisher, for best show garden vegetables,	3 00
John Calef, Manchester, second best,	2 00
J. M. Rowell, " third best,	1 00
Nath'l Baker, " fourth best,	Diploma.
J. A. Stearns, " best show of pumpkins,	1 00
John Calef, " best show of cabbages,	1 00
R. Mitchell, " best single pumpkin, (48 lbs. weight,)	25
B. F. Cutter, Pelham, for egg squashes and Chinese sugar cane,	50
Nath'l Baker, Manchester, for best musk and water melons,	25
C. S. Fisher, Goffstown, for best turnips,	25
Daniel Gooden, Manchester, for squashes, pumpkins and citrons,	Diploma.
A. Tufts, Manchester, for best custard squash,	25
Henry Hayward, Manchester, for cauliflowers, &c.,	Diploma.
Mrs. Nancy Kimball, " for cauliflowers, &c.,	25
M. N. Perry, " for best citrons,	25
M. N. Perry, " for best marrow squashes,	25
J. M. Rowell, " for sweet corn,	25
E. P. Couch, Nashua, for best show of garden seeds,	2 00
B. Hutchinson, Manchester, best show of California cucumber,	25
H. R. Barrett, Amherst, for six varieties of beans,	50

FRUIT.

Charles Melendy, Amherst, for best show of fruits,	\$3 00
David Clement, Hudson, second best,	2 00
Charles Richardson, Manchester, for best pears,	2 00
Solomon Manning, Bedford, for pears,	1 00
J. L. Kelley, Manchester, for pears,	Diploma.

Henry Hayward, " for pears,	75
S. F. Stearns, " for best peaches,	2 00
David Clement, Hudson, second best,	1 00
Charles Richardson, Manchester, for best display of grapes	1 50
Solomon Manning, Bedford, for best Isabella and Diana grapes,	1 50
R. Mitchell, Manchester, for best native grape,	1 50
Mrs. O. W. Winegar, Manchester, for Isabella grapes,	1 00
J. W. Manning, Bedford, for Concord grapes,	Diploma.
Solomon Manning, " for best quinces,	50
B. F. Whitney, for a splendid show of fruit from Mass.,	Diploma.
Henry R. Barrett, Amherst, for ground cherries,	Dip'oma.
Henry Hayward, Manchester, for ground cherries,	Diploma.
Mrs. Nancy L. Baker, " for four varieties do- mestic wine,	1 50
Mrs. Elizabeth Hall, Manchester, for two varieties of wine,	1 00
Mrs. Nancy L. Baker, Manchester, for best preserves,	1 00

 ANIMALS.

Chase & Nourse, Milford, for best stallion eight years old,	\$6 00
Abel Chase, Milford, second best four years old stallion,	4 00
J. G. Morse, Frankestown, third best, (French horse)	2 00
John Kimball, Weare, for best stallion three years old,	4 00
Albert Riddle, Bedford, second best,	3 00
John Roby, Weare, third best,	2 00
Luther Colburn, New Boston, for yearling colt,	2 00
Hiram Cross, Hudson, for best mare two years old,	4 00

Porter Dodge, Francestown, for best working horse,	\$4 00
John Roby, Weare, second best,	3 00
John Roby, " third best,	2 00
W. C. Richardson, Goffstown, for best breeding mare,	5 00
J. M. Rowell, Manchester, second best,	3 00
Albert Riddle, Bedford, third best,	2 00
Ira Cochran, Antrim, for best matched horses,	6 00
For a team of seven beautiful draft horses, the committee recommended a premium to Frederick Kimball, of Manchester, of	7 00
Hiram Brown, " for best pair of working oxen,	6 00
Amoskeag Company, entered by Levi Sargent, Manchester, second best,	4 00
G. W. Stewart, city farm, Manchester, third best,	2 00
Amoskeag Co., Manchester, fourth best,	Transactions.
C. H. Campbell, Amherst, for best four years old steers,	5 00
C. H. Campbell, Amherst, for best two years old steers,	3 00
George A. Watson, New Boston, for best (Devon) bull,	8 00
C. H. Campbell, Amherst, second best,	5 00
S. M. Worthley, New Boston, (3-4 Devon) third best,	2 00
C. H. Campbell, Amherst, for best bull calf,	2 00
C. H. Campbell, " second best,	1 00
S. M. Worthley, New Boston, third best,	Diploma.
W. M. Kelley, Manchester, for best milch cow,	4 00
W. M. Kelley, " second best,	3 00
C. W. Barker, " third best,	2 00
C. H. Campbell, Amherst, fourth best,	Transactions.
C. H. Campbell, " for best heifer,	3 00
J. M. Rowell, Manchester, second best,	2 00
S. M. Worthley, New Boston, third best,	Transactions.
J. M. Rowell, Manchester, for best heifer calf,	2 00
C. H. Campbell, Amherst, for fat heifer,	1 00
P. M. Rossiter, Milford, for best buck,	2 00

P. M. Rossiter,	"	for best cosset sheep,	\$2 00
C. H. Campbell, Amherst,		for greatest and best variety of stock,	8 00
James A. Stearns, Manchester,		for best boar,	3 00
James A. Stearns,	"	second best,	2 00
James A. Stearns,	"	third best,	Transactions.
James A. Stearns,	"	for best breeding sow,	3 00
James A. Stearns,	"	second best,	2 00
James A. Stearns,	"	third best,	Transactions.
Solomon Hodgman,	"	for two fat hogs,	2 00
Geo. L. Stevens,	"	best show of poultry,	2 00
Isaac Huse,	"	second best,	1 00
Nathaniel Baker,	"	third best,	Diploma.
Henry Hayward,	"	coop of pigeons,	Diploma.
E. S. Bartlett,	"	English rabbits,	Diploma.

 DAIRY, &c.

J. M. Rowell, Manchester,		for best butter,	\$5 00
Moody Hobbs, Pelham,		second best,	3 00
Mrs. Nancy L. Baker, Manchester,		third best,	2 00
Mrs. Benjamin Hutchinson,	"	best wheat bread,	3 00
Mrs. W. S. Berry,	"	second best,	2 00
Mrs. C. S. Fisher, Goffstown,		third best,	Transactions.
Lucy G. Fernald, Manchester,		(11 years of age,) for a loaf of fine white bread,	Diploma.
E. Hartshorn, Manchester,		for best brown bread,	3 00
Mrs. P. S. Fisher, Goffstown,		second best,	2 00
Mrs. Benjamin Hutchinsen, Manchester,		third best,	Transactions.
G. H. Clark, East Washington,		for best specimen of honey,	Diploma.

MECHANICAL WORKS.

John Cayzer, Manchester, for best calf boots,	1 50
Clark & Kimball, " second best,	1 00
Clark & Kimball, " for best ladies' shoes,	1 00
C. M. Hubbard & Co., Manchester, for cooking stoves,	Diploma.
Hartshorn & Darling, Manchester, for coal stoves,	Diploma.
C. M. Hubbard & Co., " for air tight stoves,	Diploma.
Hartshorn & Darling, Manchester, copper and brass work,	Diploma.
Frank W. Miller, Manchester, buggy wagon,	2 00
C. H. Gardner, " leather work frame,	Diploma.

INCIDENTALS AND FANCY WORK.

Randall Page, Manchester, oil paintings,	50
Mrs. A. W. Sanborn, " oriental painting,	25
Helen Goodwin, Manchester, oil paintings and crayons,	50
Mrs. Geo. Holbrook; " oriental painting,	Diploma.
Miss I. A. Stokes, " oriental painting,	25
Miss Ellen Kimball, (12 years old,) Manchester, oriental painting,	25
Geo. M. Harding, Manchester, architectural drawings,	Diploma.
E. B. Gooden, Manchester, French pictures,	25
Edward Custer, " five oil paintings,	2 00
Mrs. B. Currier, " boquets and fancy boxes,	50
J. A. Perry, " oriental baln,	Diploma.
Mrs. E. G. Sanborn, " colored crayons and paint- ings,	50

Miss Martha A. Moore, Manchester, lamp-mats,	25
Miss C. S. Stokes, " lamp-mats,	25
Mrs. Custer, Manchester, lamp-mats and slippers,	50
Miss Helen M. Webber, Manchester, tidy work,	25
Miss Susan E. Clark, " vase of flowers,	25
Mrs. B. Hutchinson, " vase of flowers,	
	Diploma.
Mrs. A. W. Hamlin, Gardiner, Me., tufted embroidery,	
	Diploma.
Miss Irena Bartlett, Manchester, embroidery,	25
Miss A. L. Bunker, (9 years old) Manchester, four pieces embroidery.	50
Mrs. J. G. Knights, Manchester, Fremont collar,	25
Miss Betsey B. Dame, " fancy baskets,	25
Miss A. R. Knights, Milford, case of hair work,	25
Hattie M. Clark, Manchester, case of hair work,	37
Augusta Jackson, " hair work,	37
Mrs. W. S. Berry, " patch work,	
Mrs. A. B. Hutchinson, " lady's cravat and slippers,	25
Mrs. E. P. Johnson, " collar and head-dress,	50
Miss Betsey B. Dame, " lamp-mats and slippers,	1 00
Mrs. A. Lamouriere, " embroidered table cover,	50
Mrs. S. L. Perry, " silk bed cover,	1 50
Mrs. S. L. Perry, " table cover,	50
Miss Mary E. Hobbs, Pelham, tidy work,	75
Miss Sybel Smith, Manchester, bed spreads,	50
J. E. Ferren, " worsted rugs,	Diploma.
Mrs. Hannah Wallace, (aged 73 years) Manchester, best specimen darning,	1 00
Mrs. B. Hutchinson, Manchester, second best,	50
Mrs. B. Hutchinson, " best patching,	1 00
Mrs. B. Currier, " three rugs,	1 00
Mrs. E. P. Johnson, " two yarn rugs,	75
Miss Mary E. Hobbs, Pelham, tidy quilt,	2 50
Mrs. S. A. Perry, Manchester, bed spread,	50
Mrs. M. Barron, " stool cover,	25

Mrs. W. S. Berry,	“	stool cover,	25
Mrs. E. P. Johnson,	“	head-dress and collar,	50
Mrs. J. G. Knights,	“	collar,	25
Miss Sybel Smith,	“	bed quilt,	1 00
Granite File Company, for superior files,			4 00
Waldo Whitney, Manchester, patent water wheel,		Diploma.	
Manchester Machine Company, Manchester, fine show of scales,		Diploma.	
L. D. Morse, Manchester, for spiral bed bottom,		Diploma.	
Blodgett Edge Tool Company, Manchester, for edge tools,		Diploma.	
Jesse Gilman, Nashua, circular saw and frame,		Diploma.	
Williams & Stratton, Manchester, hydraulic ram, in operation,		Diploma and	2 00
G. H. Clark, East Washington, patent bee hive,		Diploma.	
Frank Johnson, Manchester, model window blind,		Diploma.	
Richard Dame,	“	model window blind,	Diploma.
F. A. Brown,	“	daguerreotypes and am- brotypes,	2 00
Chamberlain & Gerrish, Manchester, dentistry,		Diploma.	
Charles Perley, Andover, Mass., improved press screws,		Diploma.	
Daniels, Forsaith & Co., Manchester, India rubber valve pump,		Diploma.	

The following were the awards in the department of the Horse Show :

STALLIONS FOR GENERAL UTILITY, FOUR YEARS OLD OR UNDER. Thirteen stud colts entered.—First premium, \$40, awarded to W. P. Balch, Jr., of Hancock, for his Morgan Chieftain, three years old, chestnut. Second premium, of \$20, to F. H. Lyford, of Manchester, for his three years old, Morgan “Clifton,” chestnut. Under the head of two years old and under—first premium of \$10, to James Wal-

ker, of Bedford, for his one year old colt, "Pathfinder." Second premium of \$5, to Henry White, of Wilmot, for his two year old "Black Hawk."

STALLIONS FOR GENERAL UTILITY, FIVE YEARS OLD AND UPWARDS. Eleven stallions booked. "Flying Tiger," a chestnut, seven years old Black Hawk, owned by C. Dunn & Co., of Manchester, took the first premium of \$100. Second premium of \$50, to Henry H. Smith, of New Market, for his Messenger and Morgan, eight years old, "Emperor." "Young Green Mountain Morgan," eight years old, dark chestnut, owned by Chase & Prouty, of Milford, took the third premium of \$25. Charles W. Barker, of Hillsborough, took the fourth premium of \$15, for chestnut Morgan, five years old. D. M. Taggart, of Goffstown, took the fifth of \$10, for his chestnut Morgan, thirteen years old.

MATCHED CARRIAGE HORSES. Seven spans were booked. Morrison & Fling, of Manchester, took the first premium of \$40 for a pair of bay horses, one six and the other seven years old. Hiram Bell, of \$20, for a pair of Black Hawks five and six years old.

SADDLE HORSES. Only four horses booked. S. L. Fogg, of Manchester, took the first premium of \$10 on his Gray Black Hawk, six years old. Frank W. Miller, of Portsmouth, took the second premium of \$5, on his six years old chestnut, three-quarters thorough bred.

FASTEST GELDINGS AND MARES. Nine horses booked. "Lady Swan," entered and driven by Henry H. Smith, of New Market, took the first premium of \$75, making the time on the final trials of 2·44—2·45—2·46. A Black Hawk mare, entered and driven by James Turner, of Manchester, took the second premium of \$50, making the final trials in 2·53—2·56—2·57. "White Stocking," owned and driven by John S. Carr, of Goffstown, took the third premium of \$25, making the final trials in 2·57—3·01—3·05. James Buchanan, driven by J. Turner, of Manchester, was declared winner of the fourth purse of \$15, making the three heats in 3·01—3·03—3·05. A horse owned by John Kinsley, of Peterborough, won the fifth prize of \$10. The time was not furnished by the judges.

BROOD MARES. Only five entries. Ephraim Pickering, of Newington, took the first premium of \$40, for a mare seventeen years old. George W. Baker, of Bradford, took the second of \$15. W. C. Richardson, of Goffstown, took the third of \$5.

FAMILY HORSES. Twenty-one horses entered, making a fine display, in various vehicles, some driven by ladies and others by the sterner sex. John W. Joy, of Manchester, took the first premium of \$50. John S. Kidder, of Manchester, took the second premium of \$20. S. W. Gale, of Exeter, the third premium of \$10, and Morrison & Fling, the fourth premium of \$5.

COLTS. Ten booked. First premium for two years old, of \$10, to Harvey Hadley, of Peterborough. Second of \$5,

to G. C. Smith, of Auburn. One year old, first premium of \$10, to J. W. Pierce, of Greenland. Second premium of \$5, to Wm. R. French, of Bedford.

PACING HORSES. Only one booked—"Tecumseh," a bay gelding, owned and driven to a skeleton wagon by Joseph Marshall, of Manchester. There is no pacer in the State that can compete with him. To make up the start, James Turner rode to saddle, a Black Hawk gelding, from Dover. "Tecumseh" won two straight heats in 2:55—2:52. He was then put in a sulky and driven alone by Turner, making a single mile in 2:34.

FASTEST STALLIONS. Five horses booked. The "Leighton Horse," owned and driven by John Wiggin, of Dover, won the first premium of \$100, making the final trials, in 2:43—2:51—2:49. "Flying Tiger," owned by C. Dunn & Co., of Manchester, won the second prize of \$60, making the final trials in 2:51 1-2—2:56—2:56 1-2. "Granite Boy," owned by J. G. Eaton, of Manchester, won the third prize of \$35, making trials in 2:52—3:00—2:58. The "Emperor," owned and driven by H. H. Smith, of New-Market, won the fourth, \$20, making the final trials in 2:65 1-2—3:01—2:59. The "Young Green Mountain Morgan," owned by Chase & Prouty, Milford, won the fifth, \$10, in 3:08—3:13—3:06.

RUNNING HORSES. Two horses entered. "Fire Fly," a thorough bred, owned by Morrison & Fling, Manchester, won the first prize of \$20, in 2:13—2:03. "Nelly Bly,"

owned by S. L. Fogg, of Manchester, won the second, of \$10, in 2·16 1·2—2·20. "Fire Fly" has never yet been beaten on mile heats, and is a match, we think, for "Lady Digby."

THREE MILE HEATS AND REPEAT. Only two competitors were entered for the \$100 purse, "Lady Swan" and "Flying Tiger," the former driven by Smith, and the latter by Turner. The former won in 8·48 and 9·25.

ANNUAL MEETING.

At the annual meeting of the society, held December 11th, at Amherst, the following officers were chosen :

President.

HON. MOODY HOBBS, Pelham.

Vice Presidents.

HIRAM MONROE, Hillsborough;

ISAAC KIMBALL, Temple;

SAMUEL LITTLE, Hollis;

P. M. ROSSITER, Milford;

B. F. CUTTER, Pelham.

Recording Secretary.

C. H. CAMPBELL, Amherst.

Corresponding Secretary.

H. A. DANIELS, Milford.

Treasurer.

DAVID STEWART, Amherst.

Executive Committee.

WM. P. SANBORN, Hollis;
JOTHAM HARTSHORN, Amherst;
IRA COCHRAN, Antrim;
T. G. HOLBROOK, Bedford;
JOHN DODGE, Bennington;
N. H. SHATTUCK, Brookline;
ROBERT GOVE, Deering;
J. G. MORSE, Francestown;
JOHN PLUMMER, Goffstown;
NAHUM RUSSELL, Greenfield;
BENJAMIN GOODHUE, Hancock;
BENJAMIN PRIEST, Hillsborough;
DAVID CLEMENT, Hudson;
J. A. MARSH, Litchfield;
JOHN RICHARDSON, Lyndeboro';
J. M. ROWELL, Manchester;
JONATHAN RUSSELL, Mason;
WM. PATTERSON, Merrimack;
JOHN BRUCE, Mont Vernon;
ABEL CHASE, Milford;
T. G. BANKS, Nashua;
SOLOMON DODGE, New Boston;
WM. D. LOCKE, New Ipswich;
DANIEL MARSHALL, Pelham;
SAMUEL ADAMS, Peterborough;

SAMUEL NAY, Sharon;
WM. H. HOWARD, Temple;
ALBEE MORRILL, Weare;
OLIVER BARRETT, Wilton;
JAMES W. PERKINS, Windsor.

Auditors.

E. D. BOYLSTON,
P. M. ROSSITER.

At the semi-annual meeting, held at Milford, the following business was transacted:

The committee to prepare a premium list, &c., submitted their report by the chairman, B. F. Cutter, Esq., of Pelham, which was accepted and adopted.

Voted, That \$10 be put into the hands of the committee on honey and sugar, to be expended for deserving experiments in the growth and manufacture of the Chinese Sugar Cane.

Voted, That the sum of \$20 be placed in the hands of the committee on incidentals and articles of special improvement.

The regulations of the society for 1855, were adopted for the current year, with the following additions:

The first premium for the best show of fruit of all kinds, shall be awarded to the same individual but once in three years.

Successful competitors on the best show of fruit will not be entitled to a premium on individual specimens which compose the display.

The following resolution was adopted:

Resolved, That it is not for the interest of the farmer, or the breeder of horses, the mechanic or manufacturer, at

our county fairs to countenance or allow in any trial of horses a faster rate than a mile in four minutes, the trial to be made singly or in pairs harnessed together. And any horse driven at a faster rate shall be ruled out in all premiums.

The question proposed for discussion being the merits of the different breeds of cattle for milk, butter and cheese, for the butcher and for working oxen, was taken up and considered. The secretary being called upon, opened the discussion by remarks relative to the origin and history of the various varieties and breeds of cattle now grown in this section; the comparative merits of the different breeds for fattening purposes and for general use and profit.—Considered, for all purposes, a cross of the Devon bull with the Durham cow, one of the most desirable and profitable crosses that can be made with stock; thereby obtaining a good size, combined with the beauty of color, fineness of bones and muscle, hardness of constitution, and perfect symmetry of form and shape of the North Devon.

B. F. Cutter, Esq., of Pelham, said he had become satisfied that we must raise more stock unless we want to pay higher prices than is now demanded, which he thought would be needless; had seen some excellent stock in northern Vermont recently; heard of one man in Burke, Vt., that had sold five calves of the Devon breed, for \$500; saw some excellent dairies of cows, resembling the native stock, crossed somewhat with the Devon and Durham, which were said to be superior for dairy purposes.

C. Melendy, of Amherst, spoke favorably of the Devon breed, and the clear red cattle; had practiced raising none but bright red calves; would not have white or speckled cattle about his premises.

Mr. F. Crosby, of Milford, thought that white or speckled cattle looked larger than they really were, in proportion to cattle of other colors. Preferred small boned, thick made cattle, to the coarser varieties for slaughter.

Thought red cattle dressed rather handsomer than white ones, the beef being of a richer color.

Mr. Richardson, of Lyndeboro', thought favorably of the cross of Devon and Durham. Had a Devon bull a few years before. His calves were worth, at six weeks old, a dollar apiece more to slaughter than those sired by a common or ordinary bull.

Mr. Manning, of Bedford, spoke favorably of the Devons and Durhams. He attended the Agricultural Provincial Fair of Canada West; saw some Devon bulls of extra size, also some of the best Durhams he had ever seen. He spoke of a mammoth cheese on exhibition, weighing twelve hundred pounds—the dairy product of one hundred and five cows for four days. He spoke of a cow he had known in Chelmsford, Mass., that gave fourteen quarts per day, for eight consecutive months. The cow was supposed to be a cross of the native and Ayrshire.

Remarks were also made by Messrs. Sanderson and Hayden, of Hollis, Messrs. Chase and Whitney, of Milford, and others.

SOUHEGAN SOCIETY.

FURNISHED BY THE SECRETARY.

The Souhegan Agricultural and Mechanical Society was established in the spring of 1856. At a meeting held May 1st, at Mason Village, the following preamble and constitution was adopted:

“Impressed with advantage of associated effort, we the citizens of the towns of New Ipswich, Mason, Wilton and Temple, do form ourselves into a society to be governed by the following constitution:

ARTICLE 1. The style of this society shall be the Souhegan Agricultural and Mechanical Society.

ART. 2. Any citizen of said towns may become a member on subscribing to the constitution and by the payment of fifty cents annually

ART. 3. The officers of the society shall consist of a president, four vice presidents, one from each town, a secretary, a treasurer, and an executive committee to consist of eight members, two from each town, who, together with the president and secretary, shall constitute a board to manage the general interests of the society.

ART. 4. The secretary shall keep the minutes of all the transactions of the society and be the general correspondent of the same.

ART. 5. The treasurer shall keep all funds of the society and disburse them on the order of the executive committee, and shall make a report of the financial condition of the society at their annual meeting.

ART. 6. There shall be an annual meeting of the society at such time and place as the executive committee shall

appoint, where the officers shall be elected in such a manner as the society shall direct.

ART. 7. Extra meetings may be called by the executive committee, a majority of whom shall constitute a quorum for the transaction of business.

ART. 8. The society may hold an annual fair and cattle show at such time and place as the executive committee shall appoint.

ART. 9. This constitution may be amended by a majority vote of the members attending the annual meeting.

The following is a list of the officers chosen :

President.

HOSEA EATON, New Ipswich.

Vice Presidents.

GEORGE FOX, New Ipswich;
STEPHEN SMITH, Mason;
GEO. D. KINGSBURY, Temple;
OLIVER BARRETT, Wilton.

Secretary.

N. H. SHATTUCK, Mason.

Treasurer.

THOMAS H. MARSHALL, Mason Village.

Executive Committee.

WILLIAM D. LOCKE, New Ipswich;
MATTHIAS WILSON, New Ipswich;

JONATHAN RUSSELL, Mason ;
 MARSHALL KIMBALL, Mason Village ;
 ISAAC KIMBALL, Temple ;
 WILLIAM H. HOWARD, Temple ;
 GEORGE PARKHURST, Wilton ;
 HARRIS ABBOTT, Wilton.

The society being a new thing among our people, it must, of necessity, take some time to get its wheels in motion, consequently, its first meetings were but thinly attended ; and it was not until the last of August that it was decided to hold a fair and cattle show, which was to be held the 16th of October, at Mason Village. With a new enterprise on hand, and so little time in which to make the necessary arrangements, it was not expected that there would be many articles on exhibition, and it was feared by some, that the fair would prove a failure, but all were happily disappointed. The 16th of October came, all radiant with sunshine, and with it came the people to the number of about two thousand, bringing with them the work of their hands and the products of their farms and shops.

But, to be brief, the fair was eminently successful and surpassed even the expectations of its most sanguine friends. The amount received into the treasury, was sufficient to meet the expenses of the society and leave a balance in the treasury of \$60 or more.

The following is a list of premiums awarded.

HORSES.

George Fox, New Ipswich, stallion,	\$2 00
George Ramsdell, New Ipswich,	1 00
Stillman Gibson, New Ipswich, mare and colt,	2 00
Silas B. Walker, " " " " "	1 00
J. L. Chamberlain, Mason, business horse,	2 00
Stephen Smith, " " "	1 00

CATTLE.

J. S. Spaulding, Mason, bull,	\$3 00
Sumner Blanchard, Temple, bull,	2 00
S. W. Bent, New Ipswich, "	1 00
William Prichard, New Ipswich, working oxen,	2 00
J. L. Chamberlain, Mason, " "	1 00
S. O. Chandler, New Ipswich, three years old steers,	1 50
Samuel Smith, Mason, " " " "	1 00
James Hutchinson, Wilton, two years old steers,	1 50
W. D. Locke, New Ipswich " " " "	1 00
Willard Jefts, Mason, milch cow,	2 00
Granville Robbins, " " "	1 00
Moses Merriam, " " "	50
Harris W. Brown, New Ipswich, heifer,	1 00
Geo. W. Wheeler, " " yearlings,	1 00
Amos H. Hosmer, Mason, "	50
Simeon Cragin, Mason, herd of cattle,	5 00
John Preston, New Ipswich, herd of cattle,	3 00

SHEEP.

Geo. Fox, New Ipswich, best buck,	\$1 00
G. W. Wheeler, New Ipswich, second best,	50
Charles Going, " " best ewe,	1 00
Wm. D. Locke, " " second best,	50

SWINE.

E. B. Barrett, Mason, best boar,	\$2 00
Luther Page, New Ipswich, second best,	1 00
Geo. Fox, " " best sow,	2 00
John Preston, " " second best,	1 00
John Preston, " " spring pigs,	1 00
Geo. Fox, " " second best,	50

BUTTER AND CHEESE.

Mrs. J. B. Wilson, Mason, butter,	\$1 00
Mrs. A. H. Hosmer, " "	50
Mrs. Sanford King, Temple, cheese,	1 00
Mrs. Nathan Adams, Mason, "	50

BREAD.

Mrs. M. S. Wilson, New Ipswich, wheat bread,	\$1 00
Mrs. Jonathan Russell, Mason, " "	50
Mrs. T. H. Marshall, Mason, brown bread,	1 00
Mrs. Jonathan Russell, " " "	50

FRUIT.

T. H. Marshall, Mason, show of apples,	\$1 00
Henry Gray, Jr., Wilton, " " "	50
Geo. Fox, New Ipswich, show of fruit,	2 00
J. L. Chamberlain, Mason, " " "	1 00

VEGETABLES.

Premiums were awarded to S. W. Edwards, Temple, on carrots, beets and squashes; Charles Jenkins, Mason, on carrots and beets; Russell & Spaulding, Mason, on squashes; C. H. Ober, New Ipswich, custard squash; E. B. Barrett, Mason, custard squash; Andrew Elliott, Mason, on turnips; Joshua Parker, Temple, on turnips; Thos. Hays, Mason, on pumpkins; James Hutchinson, Wilson, potatoes, beans and cabbages; Isaac Kimball, Temple, potatoes; J. Preston, New Ipswich, potatoes; Zebadiah Abbott, Wilton, potatoes; Stilman Gibson, New Ipswich, cranberries; A. Wright, Mason, sun flowers and corn.

FANCY WORK.

Premiums awarded on embroidery to Miss Kate Miller, New Ipswich, Mrs. J. L. Chamberlain, Mason, Mrs. A. R. Searls, Temple, Miss A. Kimball, Wilton, Mrs. Stephen Smith, Mason; wax flowers, Mrs. L. B. Kellogg, New Ipswich, Mrs. Geo. W. Taylor, Mason; crochet collars, Miss Hattie Sawtell, Mason, Miss Mary J. Marshall, Mason; millinery, &c., Mrs. Wm. Claggett, Mason, Miss E. Barber, Mason; paintings on glass, Mrs. Willard Jefts, Mason, Mrs. L. B. Kellogg, New Ipswich; bed quilts, Misses M. A. and J. Taft, Mason, Mrs. Stilman Gibson; rag carpeting, Mrs. J. S. Spaulding, Mason, Mrs. B. C. Kimball, Mason; shell work, Mrs. J. L. Chamberlain, Mason; pyramid flower, Miss Rebecca Miller, Temple; domestic flannels, &c., Mrs. Solomon Russell, New Ipswich; cotton hose, Mrs. G. W. Cutting, Mason; netting tidy, Mrs. William Barber, Mason, aged 87 years; woolen hose, Mrs. Naomi Nutting, Mason, aged 82 years; ancient tape, Mrs. Mary Dunster, Mason, aged 88 years; woolen hose, Mrs. Ruth Hardy, Mason, aged 92 years.

INCIDENTALS.

Cabinet furniture; premiums awarded to Wm. Sawtell, Mason, H. N. Grey, Wilton, Jonathan Livermore, Wilton.

At the society's annual meeting, held in December, at Mason Village, the following officers were chosen for the ensuing year:

President, Hosea Eaton, New Ipswich.

Vice Presidents, Geo. Fox, New Ipswich; Amos Elliot, Mason; Zebadiah Abbott, Wilton; Isaac Kimball, Temple.

Secretary, Marshall Kimball, Mason Village.

Treasurer, Dr. T. H. Marshall, Mason Village.

Executive Committee, Matthias Wilson, Wm. Prichard,

New Ipswich; Jonathan Russell, N. H. Shattuck, Mason; Harris Abbott, Oliver Barrett, Wilton; Wm. H. Howard, Wm. Kimball, Temple.

The society has held several interesting meetings for discussion, in imitation of the Hillsboro' society; reports of some of which have been received and are in part presented in this connection.

April 1st, the subject of "Manures and their application," was up for discussion. The meeting was very well attended, and, as might be expected, from the nature of the subject matter before the meeting, was one of great interest.

William Howard, of Temple, opened the discussion, and at some length gave his views of the subject before the meeting. He believed the manure from our barns was not sufficient to keep our farms in that state of productiveness which *good* farming required; and in order to make up for the deficit, he would use an article found on most, if not on all our farms. Muck, or meadow mud, he believed to be a good fertilizer. His rule for making a compost was, to take one load of barn-yard manure, and mix with it two loads of mud. He thought a load of compost was equally as good as a load of pure manure from the barn. Salt, lime, saltpetre, &c., were good manures, but should be applied only in limited quantities. Ashes, mixed with muck, at the rate of six or eight bushels to one cord of muck, make a very good manure. He thought that land should be manured often, and would put his manure near the surface.

Zebadiah Abbott, of Wilton, inquired if the gentleman believed that there was as much intrinsic value in the muck as in the manure? If not, he could not see how three loads of the compost could be equal in value to three loads of barn-yard manure. He had three-fourths of an acre of grass land, on which he carted ten loads of green manure

and ploughed it under seven inches deep, then planted it with potatoes, and had an excellent crop. Thought the manure was not lost.

Mr. Howard replied that there was a large amount of organic matter in the muck, and it also acted as an absorbent and retained the ammonia, which would otherwise escape into the air. He thought that manure ought to be well rooted before being applied to the soil.

Mr. Locke, of New Ipswich, had a piece of moist land, upon which he had carted a heavy coat of manure, and ploughed it under, then planted it with potatoes. He could not see as the manure did his potatoes much good, but the next year he had an excellent crop of oats. He thought that the reason the manure did not benefit the potatoes the first year was owing to the fact that the manure did not decompose, the reason for which was, that the land being wet and cold, and the sod being turned over in that state, rendered the land impervious to air, consequently the manure could not decompose, and could not become food for plants. Still he thought that the best way to apply manure was to plough it under, and let it rot in the soil, thereby retaining all the fertilizing gases, which would otherwise escape into air.

Dea. Cragin, of Mason Village, and Dea. Kimball, of Temple, concurred with the last gentleman in the belief that ploughing the manure under was the most economical method of applying it.

April 22, the discussion was opened by Dea. O. Barrett, which was on the best method of feeding cattle. Mr. Barrett thought there had not been attention enough given to the subject. He was of the opinion that farmers should feed their cattle with what they raise from their farms. He had been accustomed to purchasing meal, shorts, &c., and found it expensive, and last year he adopted a new system as a matter of experiment, and it far exceeded his expectations. He cut about six tons of clover when quite green, and cured it

carefully, so that it did not heat or become musty. This he gave to his cows, with potatoes and turnips, without meal or shorts, and they gave more milk and came out better in the spring than ever before. He kept 6 cows and averaged two gallons of milk a day to each through the winter. He put his poor hay under the cows for bedding instead of giving it to them to eat. The year before, with meal, shorts, &c., he sold \$200 worth of milk from 12 cows during the six colder months, while the last year he sold \$175 worth from 9 cows, without any extra expense. He thought grass cut before it is quite ripe, if properly cured, worth more for cows than that which is cut later.

Mr. Z. Abbott, said some of the views presented by Dea. Barrett, did not agree with those he had heretofore entertained. He had always been of the opinion that hay cut after it began to ripen was better for cattle than that cut earlier. He thought the success of Dea. Barrett's experiment depended on his giving his cows clover hay. He thought cows would do better to have some meal, but we might profit by the experiment of Dea. Barrett and give them much less. He thought farmers ought to feed out to the cattle more roots—that potatoes and turnips were best to increase the quantity of milk, and that carrots were the best for fattening.

Dea. Barrett said he gave his cows as much as they would eat—the corn fodder was not usually eaten up clean—the butts he run through the cutter and mixed with the manure. He did not mean to say it was not profitable to give cows some meal, he only meant to give the result of his experiment—that he got along without it, and his cows did better than ever before. A good judge said his cows were worth \$8 each more this spring than last.

Mr. W. Keyes said he cut his clover early and his cows eat it better than usual, and give more milk.

Mr. E. B. Barrett, of Mason, said he would admit that clover cut green would cause cows to give more milk, but if

fed to working oxen and horses they could not do so much work on it. He said his practice in feeding cows was to feed in the morning with good hay—after milking turn them out to drink and give them another foddering of hay. He then took two quarts of oil meal and two quarts of corn-cob meal and added a pail of boiling water, and, when the meal is well mixed, put in two pails of cold water; this he gave to each cow—fed again at noon and watered at night. He gave salt three times a week, and fed out what southern corn grew on an acre of ground. He said potatoes made more milk than anything else, but the milk is not as good as when fed on turnips.

Mr. Harris Abbott said he thought much depended on the regularity of feeding—giving very nearly the same variety every day. He thought the poor hay would work in well, if a proper quantity of good hay is used. He gave his young stock the same quantity of hay as the older.

Mr. Kimball, of Temple, said to feed cows for milk it was necessary to use green corn fodder as soon as the grass began to fail. He never allowed his cattle to graze his mowing fields. He had, during the last year, fed out less quantity of meal and shorts and more roots. He had given his cows, carrots boiled, and mixed with meal, in the form of swill, and found they did well; gave more clover than usual. He thought the greater the variety of feed for cattle the better. For horses that labor clover hay is not as good as herdsgrass. He thought farmers ought to raise on the farm very nearly what is consumed, both in the stable and house. Carrots he had found very valuable feed for cattle and horses.

Mr. Z. Abbott said his usual method had been to feed in the morning with hay and other fodder combined, and then with one bushel turnips and one bushel carrots for nine cows, and at night one quart cob meal and two quarts of shorts with boiling water poured on it for each cow. His cows had averaged two gallons of milk a day through the winter; sells about \$50 worth a month.

MERRIMACK COUNTY.

In this county, there have been no active efforts the past year. For a long time Merrimack county had sustained one of the most efficient societies in the State. It was established by Isaac Hill and others, and received the contributions of earnest and intelligent men during the many years of its existence. In the absence of any proceedings in this county, we present an address delivered before the society many years ago, by EZEKIEL WEBSTER, Esq., brother of the late Hon. Daniel Webster. Mr. Webster was well known in the State, as an eminent lawyer and eloquent public speaker. The address has been kindly furnished us by Prof. E. D. Sanborn, of Dartmouth College, and as it has never been published, it will be read with interest. Its publication may suggest the propriety of reviving the County Society on the banks of the Merrimack.

Agriculture was the first occupation of man. And it is still the employment of the greatest portion of the human race. It supplies him with his first necessity, food. It furnishes, also, the materials of all the conveniences and comforts which he enjoys.

The materials produced by agriculture are wrought by mechanical skill and industry, with a thousand varieties of manufactured products, which, circulated by the means and operations of commerce, increase not only the conveniences and the comforts, but also the higher enjoyments of civilized and polished life.

Agricultural labor must be principally performed by the

hand of man. The earth must be subdued and tilled by the sweat of his brow. The wonderful improvements which have so much abridged and facilitated labor in the mechanic arts, cannot be applied to the purposes of agriculture. But agriculture, nevertheless, is greatly benefited and advanced by those improvements. Mechanical art can for us only improve and perfect the implements of our trade. We may never expect, as it has been said, to hoe or plough by steam.

The cultivation of the earth always has, and always must, constitute in every great community the business of a large proportion of its members. And it is among the strongest indications of the goodness of God, that what he has made necessary to so great a portion of his creatures, he has made also most conducive to their health, most propitious to their virtues, and most favorable to the cultivation and improvement of their moral and intellectual natures.

We need not be ashamed, gentlemen, of the profession to which we belong. It is, indeed, a life of hardy and incessant labor. But that very labor gives health and vigor to the body and mind. The necessity of agricultural labor is imposed by God upon the condition of our being, and this necessity of labor to bring forth the fruits of the earth, is not by any means an evil. If the native sterility of the earth be a curse, it is like the other judgments of our Father in Heaven, tempered in great mercy. A spontaneous production of the fruits of the earth would be the greatest evil that could be visited on the human race. An approximation, even, to such an order of things, leaves strong and visible marks of its injurious tendency and effect.

Look into the present condition of the human family, and you will find that it is not in countries of the richest soil and finest climate, in countries that have received most largely of Heaven's blessings, according to our poor esti-

mate of the blessings of Heaven, that the greatest improvements have been made, and the human character appeared in the fairest light. But it is in more rugged, ungenial and inhospitable regions, where men, from the pressure of numerous and urgent wants, are made, first, to feel the necessity, and then to taste and enjoy the blessings of labor. All past experience and all present knowledge go to show that it is not on those parts of the earth where production is almost spontaneous, and described by poets, with not more than their usual fiction, where man treads upon dust of gold, and breathes an atmosphere perfumed with aromatics; but it is into the bosom of labor and industry and enterprise that the Father of mankind pours out the abundant fruits and productions of the earth; and beholds the greatest advances in the cultivation and improvement of the powers and faculties which he has bestowed upon them.

Before the farmer, nature is spread out in all her grand and interesting varieties. His mind embraces various and diversified objects and pursuits. His judgment and his faculties are called into frequent, active and vigorous exercise. And in a country free as ours he acquires a general feeling of manly independence, and of high self-respect, from the consciousness of his being the lord of the soil he cultivates.

How great the difference between the mind of such a man and that of him who happens to be born in a workshop, who spends his life in the single operation of heading a pin or pointing a needle! While the mind of the former is broad and enlarged as the earth from which he derives his subsistence, that of the latter too often becomes narrowed and contracted to a sphere not broader than the point of the instrument he forms and polishes.

These reflections are not improper, and these considerations are not to be disregarded, when we attempt to form an estimate of the characters, the pursuits, and the advan-

tages of those whose business is the cultivation of the earth.

It is the object of this society to excite a spirit of agricultural improvement, to meliorate the quality of our stock, to introduce the culture of better grains, grasses and other vegetables, and to adopt new and improved modes of cultivating our farms generally, and to diffuse more widely a knowledge of these improvements.

Whatever, therefore, advances the science or interests of general husbandry; whatever goes to enable the farmer to raise more produce with less labor; indeed, whatever has a tendency to better his condition, to elevate his character and standing in the community to which he belongs, falls properly within the objects of this society.

What success shall attend our exertions, depends upon our efforts. That, time alone must determine.

Societies of this nature, established in other countries and in other States, have had a favorable influence upon the interests of agriculture. It would be a little singular if the same causes operating here, should not here produce the same effects.

England is perhaps the best cultivated country in Europe. She presents to the eye of the traveler one fine, cultivated field. Most of her soil is artificial. It has been made by the enterprise and skill and the industry of her inhabitants. Lime, clay, marl, peat, and all the varieties of manures, and all the varieties of earth, all that can be gathered from the vegetable and animal world, from the ocean and the land, have been so applied, so mixed and intermixed in her various processes of husbandry, that it would be difficult to find a sod of original and native soil now in cultivation.

She has improved her breeds of cattle, horses, sheep and swine, by importations from other countries. And she has been no less attentive to improve the quality of the productions of her soil, by importing new species of grains,

grasses, plants, fruits, and an almost infinite variety of other vegetables, which serve as gratifications to the taste, luxuries for the table, or food for animals. She has levied contributions upon the old world and upon the new, upon every region and upon every clime. And there may now be found in England the productions of every quarter of the globe. At this moment England, to every practical and beneficial purpose of agriculture, lies ten degrees nearer the equator, than she did two centuries ago.

This is the present condition of her agriculture. Yet as late as the time of Henry the 8th, his queen, Catharine, was obliged to procure her salads from Holland, and also her "green peas." "These," said Fuller, a writer of that age, "are dainties for ladies, they come so far and cost so dear."

Her best informed men, who have written on the subject, have attributed this highly improved state of cultivation, in no small degree, to that spirit of enterprise and improvement which was first excited by the institution of agricultural societies, cattle shows and fairs. One of her late and very able writers remarks: "The agricultural society has succeeded in improving our farms, the very meadows of which are clothed anew; this meadow produces the grass of the Italian fields, and that the pastures of the Netherlands; the chalky hills wave with corn, our marshes are no longer stagnated, and famine, which formerly succeeded an unfavorable season seems now to be no longer dreaded."

I mention England as an instance of what industry, perseverance, skill and capital can do, under many unfavorable circumstances. It is an example not for our imitation merely, but to be left, I trust, far behind us in our career of improvement.

We possess as rich a soil. We enjoy a better climate. We feel not the hand of oppressive taxation. Our institutions are free, and those here who cultivate the soil, have soil to cultivate. Under these superior advantages, there

is hardly any imaginable point of perfection to which the agriculture of this country may not be carried.

In every science, and in every art, knowledge is advanced by an interchange of ideas and opinions, and in none more certainly or more effectually than in that of agriculture. An annual meeting of the most intelligent farmers of a country zealous to promote the interests of their profession, cannot fail by an interchange of their opinions, and the results of their experiments to increase the stock of agricultural knowledge, and to create and diffuse more widely a spirit for still greater improvements. At these meetings competition is excited, rewards are given to such as excel, and those who come for amusement go away, we trust, instructed. Some information may be gained, some prejudices removed, and they may be induced to adopt new implements of husbandry, and practice new and improved modes of cultivation.

No county in the State offers to the enterprise of the farmer higher inducements and rewards than our county of Merrimack. It embraces a variety of soils, and of a quality not inferior to any county in the State. Its tillage on our rivers is good, and its grazing land upon our hills is not surpassed by any. Its distance from market is not great, and its vicinity to water carriage will be found in time greatly to facilitate the transportation of our products to market, and of what we may receive in interchange for them. The improvement of boat navigation upon the Merrimack and our other waters to the extent of which they are manifestly capable, will, by rendering transportation less expensive, in effect shorten the distance between the producer and the consumer. Its tendency will be here what it has been elsewhere, to give new stimulus to agricultural industry, to increase the quantity of our productions, and at the same time to enhance their value.

We are destined to be, in my apprehension, unless the fault be our own, not only a great agricultural, but also a great manufacturing district.

The Merrimack, Contoocook, Pemigewasset, and other smaller streams, afford sites for factories almost countless. We possess water power sufficient to employ capital to an amount that can hardly be enumerated. And that enterprise and that abundant capital existing in the country, will not suffer those privileges to be long unoccupied and unimproved.

The success of our manufactures is not now a problem to be discussed, but a fact to be recorded and to be considered in our reasoning on the future prosperity of the country. The rapid and wonderful growth of our manufactures is favorable to agriculture. The manufacturing interest is not to be regarded as the enemy, but the friend of the agricultural interest. It is not in the order which God has established in the world, that the great and leading interests of society should be hostile and adverse to each other's prosperity. Nature has made the interests of agriculture, commerce and manufactures one.

To commerce and manufactures the national government has been liberal, indeed munificent, and by their prosperity agriculture has been incidentally benefited. But the government of this State has done but very little for the encouragement of agriculture, and that very little very grudgingly.

We cannot expect any farther legislative patronage. An opinion prevails with those who are sent to represent the agricultural interests in the legislature, that our societies, shows and fairs are not merely useless, but are productive of much actual positive mischief.

Whatever is to be done, therefore, to improve the agriculture of the State, must be done by private contributions and individual exertions, until among the other improvements which the people of this State, sooner or later, will most certainly make, shall be their improvement of the stock and quality of the animals they send to the legislature. The objects proposed to be attained by the es-

establishment of this society are laudable. They affect deeply the happiness of the community, and are well worthy the attention and regard of all its members. If we steadily pursue these objects, they will be accomplished. Perseverance will ensure us certain and merited success. Our society is of too recent origin, and sufficient time has not yet been afforded for all its good effects to be manifested. There is nothing, however, in our experience thus far to create despondency, but much to excite our hopes. Good seed has been sown, and we may, with confidence, expect a good harvest.

Our exhibitions of stock of various kinds show the great success that has followed our attempt to improve them.

The articles of domestic and household manufacture which have been presented on this occasion, evince also the great improvement that has been made in that important branch of our industry. They show a state of perfection that could hardly have been anticipated twenty years ago, and are highly creditable and even honorable to the taste, skill and ingenuity of those by whom they are exhibited.

Better modes, too, of cultivating our farms are getting into fashion, and what is above and before all, a spirit of improvement has gone forth, which, if sustained and encouraged by your precept and example, your exhibitions and rewards, will carry fertility to the tops of our hills, and spread cultivation and production where waters stagnated and marshes slept before.

Take encouragement, gentlemen, from indications so auspicious to the full attainment of our objects. Improve your breed of cattle, horses, sheep and swine, by crossing with the best imported blood, or by a skilful and judicious selection of the animals of our own native stocks. Adopt such improvements in husbandry as experience has proved to be useful; introduce the cultivation of new vegetables,

and encourage the raising in greater quantities those that have already been cultivated among us. One of the greatest improvements to be made in New England husbandry will be the raising, in much greater quantities, vegetable food for animals. The common beet, carrot and parsnip, the turnip, ruta-baga, mangel wurtzel, and above all, the potato, will furnish excellent food for our stock during our long winters. They afford a wholesome, and at the same time, a cheaper food than hay. The potato, in my judgment, has not been sufficiently appreciated either as a luxury for the table or as food for animals.

When Sir Walter Raleigh carried the potato from the new to the old world, he conferred on Europe a greater benefit than was ever achieved for it by all the warriors who ever fought, and all the crowned heads who ever reigned there.

If you would have good animals, you must give them good keeping. Any attempt to improve our stock without improving their keeping, is altogether vain. There never was yet a fine animal raised by any breeder from any blood, upon poor, scanty and miserable fare. And perhaps the best breed of cattle, the breed that gives the best profit to the raiser, requires the best keeping. To feed well is the first principle in good husbandry. Feed your soil and feed your stock, and neither will prove ungrateful.

Proceed, gentlemen, in your endeavors to accomplish these important and desirable objects. The field for great exertions and great efforts lies before you—a field for generous rivalry, without ill will, and for manly competition without bitterness. Continue your exertions, and you will have the satisfaction and the pleasure of seeing our farms better cultivated, our buildings more commodious, our houses uniting convenience with rural neatness and simple elegance, our stock of various kinds more abundant, of superior quality, and in better condition; our implements

of husbandry greatly improved in their construction, and a more skilful and judicious application of them to the purposes of husbandry.

• These improvements, by increasing our possessions, increase also our gratifications and enjoyments, till what we call luxuries will be deemed only conveniences and comforts. These improvements will be accompanied, also, by others of a higher character. The means of education will be more generally enjoyed; our schools will be multiplied, be better endowed and better instructed. The sources of knowledge, literary, moral and intellectual, will be more accessible. Not only the physical and political condition of man will be meliorated, but man himself will be advanced in the scale of moral and intellectual being.

What higher objects than these can ever be brought to act on the motives and purposes of man? Put forward, then, gentlemen, in God's name, put forward! Let nothing discourage or dishearten you. Persevere through good report and evil report, and you will find a most certain and acceptable reward, in the increased prosperity and happiness of your fellow man.

SULLIVAN COUNTY.

FURNISHED BY JOHN S. WALKER, ESQ.

This flourishing society was organized in February, 1848, and was one of the first established in the State, under the impulse of the modern movement for improved agriculture. Anciently, when Sullivan was a part of Cheshire, some forty or fifty years ago, there was a Cheshire County Agricultural Society, and it is a notable circumstance that one of the Presidents of that old organization, ISAAC HUBBARD, Esq., of Claremont, was the first elected president of the society. It is equally worthy of remark, that the venerable gentleman is still, (April 1, 1857,) living on his noble estate overlooking the Connecticut River, in the enjoyment of a hearty and tolerably vigorous old age, eighty six or seven winters having passed over his head, and surrounded by all that can cheer his pathway down the decline of life.

The first fair, under the new organization, was held at Claremont, and was a gratifying success, showing that the people were very willing to exchange the old-time farce of the annual militia training, for something more useful and improving. The farmers and mechanics of the entire county, with their wives and their sons and daughters, seemed to turn out *en masse* to give eclat to the festival, and fitly inaugurate the new society. Never before was such a crowd of the substantial population of the county convened together. The display of cattle was very large in numbers, and respectable in merit. There were specimens of improved breeds, Durhams, Devons and Ayrshires, present, which had but recently been brought into the county, and

excited lively discussion as well as the thoughtful attention of the practical and conservative-minded farmers. There were some good sheep and pigs; a fair show of vegetables; plenty of butter and cheese of the richest quality; home-made cloth of various kinds used in farmer's families; but equal to any other department, was the well selected variety of *modern agricultural implements*. These were decided "innovations," and were criticized most rigidly, and the popular verdict was suspended till fair trial could be had. There was a plowing match and a hauling match, a procession and oration, and an award of premiums, and as the sun declined the thousands quietly dispersed, delighted and instructed with all they had seen and heard. From that day to the present time, the progress of the society and the progress of improvement in agriculture has been onward. Not always, indeed, have the annual fairs been equal in novelty and interest; but the society has, by the light of experience, been perfecting its management from year to year, till it has gradually come to be recognized as one of the institutions proper and necessary to a rural community; while partly under the stimulus of premiums, and partly owing to the facilities for *comparison*, afforded by the fair, a constant, visible, and marked improvement in cropping, manuring, plowing, and cattle breeding, is a manifest and conceded point. More land has been brought under cultivation; swamps have been reclaimed; greater care of manures and more liberal application of them has been apparent; more attention has been directed to root crops; much more to the raising of wheat; consequently diminishing the drain of capital for western bread-stuffs. All this, of course, has visibly increased *the profits of farming, and the value of farms*. Real estate throughout the county has felt the beneficial influence of these industrial reforms. The aggregate of the premiums paid by the society, since the first fair, may be, perhaps, \$3000. Now I apprehend that this sum multiplied by a hundred, would fail to express the ap-

preciation of real and personal estate which may be directly traced to the influence of our County Agricultural Society. Yet there are people who "having eyes see not;" farmers too! Many an old foggy shies 'round the edges of the crowd on fair day, with his hands thrust into his pockets, and the corners of his mouth drawn down into a perverse expression of discontent at the evidences of success and thrift everywhere around him. There always will be such people, and it would be misspent time to reason or quarrel with them; yet even they are benefited without knowing or acknowledging the fact. Indeed, these crusty 'hard shells' can no more avoid participating in the improvements introduced all about them than they can avoid smelling the perfume of a neighbor's flower garden; but they would'nt be a member of their County Agricultural Society, or take an agricultural paper on any account whatever; These societies are, however, so to say, minor providences. The good influences are general and diffusive—like the genial sun and the gentle rains which shines and fall alike upon the just and unjust.

The following is a list of the Presidents, the society changing every year: Isaac Hubbard, Claremont; Amasa Hall, Grantham; E. J. Glidden, Unity; Edmund Burke, Newport; J. S. Walker, Claremont; Henry Hubbard, Charlestown; William R. Kimball, Cornish; John M. Glidden, Charlestown; Robert Elwell, Langdon; the latter being the present chief officer.

Geo. W. Blodgett is the present Secretary, and J. H. Higbee the present Treasurer.

There is the sum of \$251 in the treasury, at the disposal of the society, which is free from debt.

At a meeting of the society held in Claremont, in April, 1857, it was voted to locate the fairs for the next ten years at Charlestown, on certain conditions being complied with, according to an offer made by citizens of Charlestown.

Whether this permanent location will result in gain or

loss, benefit or detriment, to the society remains to be seen. It may be considered an experiment, though, perhaps, a radical one.

To show that even our distintegrated granite has in it elements of fertility, it is only necessary to repeat that we have over one hundred bushels of corn to the acre; over forty bushels of wheat; and over one thousand bushels of carrots. We have also produced many pairs of working oxen, weighing from forty to forty-five hundred pounds; three-year-olds that pulled down thirty-one hundred; cows which have weighed sixteen hundred, and a pair of *yearling* steers which weighed twenty seven hundred and twelve pounds.

But remembering the injunction, "boast not thyself," though having the excuse of boasting, if it is such, in a representative capacity, I shut off steam here, engaging to keep the "Transactions" posted further as to "little Sullivan."

GRAFTON COUNTY.

The Fair in this county was held at Haverhill on the 23d and 24th days of September, in the midst of a severe rain. The grounds were well prepared and suitably fenced, the building for the display of articles closely constructed, and the entire preparation for the show ample and satisfactory. The exhibition was much beyond the expectation of the managers, and notwithstanding the rain, the attendance was very large. We have no report from the Society, and no record of the premiums awarded, and consequently can give but a limited account of the proceedings. In the absence of the transactions of the Society, the space is occupied by the annual address delivered on that occasion.

ADDRESS,

Delivered before the Connecticut River Valley Agricultural Society, at the Annual Fair of 1856, by JAMES O. ADAMS, Secretary of the New Hampshire State Agricultural Society.

We possess a love for the soil—a love which originates in the morning of life and is cherished through all coming years. From the day when our feet first pressed the greenward, and our hands plucked the ripe fruit of the orchard and the garden, onward through years of care and toil, has that love grown strong. The earth is our mother, and we regard her with a filial affection, which neither time nor place, nor any circumstance can materially change.

This love has a universal existence. It is felt alike on

the fertile fields of the tropics, laden with an excess of life, and on the barren hills of the desolate north. It exerts its power upon the rich proprietors of English soil and among the tax-burdened holders of a single acre in impoverished Ireland. The solitary patrimonial furrow, tilled by the peasant of Lorraine, inspires as deep a devotion to the soil, as the unmeasured acres in the broad valley of the west.

This love advances with advancing life. As our years increase, titles and conveyances become the more absorbing objects of our thoughts. The old man will sooner part with *any* property than convey to another the soil he has tilled in the strength of his manhood. The tie is unbroken in life and in death. Linked to the dust by nature's laws, we cling to the earth until the hand of the Destroyer consigns us to her friendly bosom.

The possession of titles to land is favorable to local attachment, and strengthens the power of early associations. What love of home is found in the bosom of the ceaseless wanderer of the desert? What sympathies are felt by the unstable tribes of the north? And what binds the denizen of the city to his cheerless walls and sunless parlors?

No fields of freshness, no flowing streams, no upturned furrow or waving plains of corn—no “felling of the tree beneath the woodman's sturdy stroke—no jocund driving of the teams afield”—have charms for him who dwells upon the sand or the glaciers, or within the city gates.

Long occupancy or possession of a single rural residence will render local attachments and associations vivid and lasting in proportion to the period of their formation. In the country, upon the farm, such associations convert the whole of nature into a scene which will never weary the imagination. If the heavens *anywhere* move the mind to a delightful sensation, it is here. If a landscape of hill and dale and waving shadow *anywhere* captivate the eye,

it is here. This is the language of one who forsook the home of his youth, but has not yet buried its memories in the pursuits of an active life. Such were the feelings of the distinguished Lamartine, as portrayed in the Memoirs of his Youth, when it was determined that the old homestead should be severed and sold. "I was overwhelmed," he says, "with grief; I gazed from afar with despair, at that little gray spire on the slope of the hill, the roof of the house, the clump of linden trees, which are seen from the road,—and I said to myself, I can never again journey by this road—I can never again turn my eye in this direction. This spire, this hill, this roof, these walls will reproach me all my life with having bartered them away for a few bags of crown pieces."

The valuator comes on, to appraise the land, and determine what can best be taken from the homestead without serious injury to the whole estate. But wherever the division is to be made, it severs some tender tie of the heart. Here is the vineyard which his father planted, and watered with the sweat of his brow,—and there the meadow and the orchard which cannot be relinquished. Here is a field which contains the family burial ground, and there the old mansion where he was born, and where he hoped to die in his father's bed!

It is in vain. Nothing can be detached, without at the same time detaching a fragment of the heart.

This will be the sentiment of every man, whose heart is not calloused by contact with dollars and cents. Wherever a land title is put on record, there is recorded the inception of a local attachment which nothing less permanent can create,—and the more that soil is cultivated by the hand of the proprietor, the more true and lasting becomes the attachment. Each rod of ground has its peculiar merits, and lays claim to the especial regard of its occupant.

This sentiment exerts a wider influence and becomes an element in the love of country. Originating within a

limited sphere, it grows outward until it embraces the whole commonwealth. Selfishness may at first be its moving principle, but extend the circle, and it partakes of a disinterested character and claims the full honors of patriotism.

The reason is evident and natural. Having a permanent interest in the soil, the farmer is ready at all times to defend it. His neighbor, equally interested, is willing to engage with the same spirit, and to make a common work, and a mutual defence of their homes, their neighborhood and their country. They watch and oppose those political schemes which threaten danger, and in their unostentatious way encourage those measures which promise good. Constantly employed in their rural pursuits, they are firm in their convictions of duty; adhere to well established customs—perhaps too pertinaciously; and cannot easily be influenced or betrayed by the inflammatory speeches of political demagogues. They are true conservatives. They choose rather to endure abuses, than adopt hasty measures for redress. But still, they are watchful of the encroachments of others, and when they are certain of selfish designs, and impending danger to them or their common country, they come to the rescue with a determination that cannot be changed, and labor with a persistence unequalled, until their object is effected.

This natural and almost universal desire to possess land is an evidence that nature designed a large proportion of every community should be engaged in its cultivation.—The earth was given to man's use that he might *subdue* it. It was God's command that he should "dress it and keep it." Agriculture, then, was the original, the natural and universal occupation. From the day when the first seed was placed in the earth by the hand of man to the present, when each of us ploughs and reaps his portion of this common inheritance, it has been every where the chief pursuit. On it depends the subsistence of all other em-

ployments. It is the one great interest which underlies and sustains all other interests, and compels men to enter its service. He who has long tilled the soil, may weary with its monotony, and for a time relinquish it for pursuits he deems more congenial. But as years roll on, he experiences cares and toil and doubt, until he longs again for the fields he has left. The youth may be impatient of the requirements of the farm, and forsaking the scenes of his boyhood, wander far for wealth or fame; but the time will come when he will return to occupy his neglected paternal acres, or having attained the object of his wishes, will seek out a rural retreat in which to spend the autumn of his life, in the quiet and unobtrusive pursuits of the farm. To the mechanic who can endure no longer the restraints of his shop; to the merchant who can stand no more at his desk; to the soldier who lays down his sword and the sailor who abandons the sea; to the statesman who retires from the field of his honors; to the scholar and the man of a profession who are worn with the mental labor of life, agriculture offers a grateful relief.

Agriculture is a respectable vocation and has been pursued by the noblest men in all ages. The greatest generals and statesmen, the most eloquent orators and the most distinguished poets, whose names are recorded on the sacred or profane page, were farmers; not mere lookers-on, amateurs, gentlemen farmers; but practical, toiling men, who held the plow or turned the soil with the spade. We need not allude to the names of those illustrious men in sacred history, who were distinguished for their possession of flocks and herds, or for the ownership of vast acres. Civil history will furnish innumerable examples, which have adorned their nation and their age. It would be no new thing for you to hear of Cincinnatus, who forsook his plow at the order of the senate, to lead the Roman armies to battle; who, when Rome's enemies were vanquished, returned to his fields, bearing the wreath of

peace; nor of the wise Cato, whose successful cultivation of the earth gave him the honor of being the best farmer of his age; nor of Fabius, and Lentulus and the eloquent Cicero, whose family names are said to have been derived from agricultural plants, which they or their ancestors were successful in producing. But I must not omit to mention the great poet whose name is immortalized in the production of the *Georgics*. Virgil's meadows, on the banks of the Mincio, in whose culture his hands grew hard and his mind became strong, furnished him the material for his practical poem on the cultivation of the soil.

In modern times, agriculture has been practiced and patronized by the best and wisest men in all nations. In the reign of Henry the Eighth, Sir Anthony Fitz Herbert, a man in high official position, appeared as the author of the first practical treatise on husbandry, ever published in England; and from that day to the present have England's most distinguished men engaged in rural labors. King George, the Third, delighted in no title more than that of *Farmer George*, and at the present day, Prince Albert is doing more for agriculture in the kingdom, than for any other industrial calling. He not only manifests his respect for the farmer's occupation by appearing at farmer's festivals, but is noted as a breeder of stock and often becomes a competitor for prizes, with the humblest laborer in the realm. "Britons of every class, venerate the plow. A taste for agriculture, and the love of country life, are the prominent attributes of the national character. Whether a banker amasses a colossal fortune, or a modest tradesman gets a little beforehand in the world, the ambition of each is to be a landed proprietor; and Lord Overstone and Mr. Mechi become equally the patrons and promoters of agricultural improvements."

At home, our most distinguished men have sprung from the farm, and in their early days were inured to labor. None of our presidents, none of our eminent statesmen, it

has been said, were born in a great city. Such interest have they in rural engagements, that when the duties of office cease, they resume the occupation of the farmer, and claim it as the most honorable position in life. Washington was a farmer, and cultivated a vast estate. Jefferson was a farmer, and ever labored for the farmer's advancement. Madison and Monroe, both, were tillers of the soil. Van Buren, retiring from the presidential chair, gave place to the farmer who lived out in the West, and deemed it no disgrace to devote his time to the culture of his garden at Kinderhook. Henry Clay was a farmer, and grew broad fields of corn at Ashland. Webster bred magnificent cattle and cultivated wide acres at Franklin and at Marshfield. John Stark was a farmer, and in the midst of his fields, on the banks of the Merrimack, stands the monument that shall perpetuate the name of the farmer of Derryfield. The great statesman of Michigan owns more land than any farmer in the country, and report says that the present chief magistrate of the nation has made purchase of an estate upon which to retire when his official career shall terminate. With such evidence before us, how can we doubt that agriculture, from its earliest existence to this very day, has held a conspicuous and honorable position among the industrial pursuits of life.

This honor shall continue—commerce may whiten every sea with its canvas, and bring in its treasures from every clime. Manufactures may cause cities to spring up in a day, by the banks of our wasting rivers, and make the nation echo with the clatter of the loom and the blows of the hammer, agriculture may plod on in her quiet and unostentatious way, but beneath her tread the earth shall blossom and yield her fruit, and with a generous hand this art of arts shall administer to the necessities of her rival sisters.

Agriculture is a safe and profitable pursuit. With the exercise of proper care, land seldom depreciates in value.

As a permanent investment no property is so reliable, and for the purposes of speculation, all that a man needs, to ensure a fortune, is a reasonable degree of prudence and the ability to purchase at the right time. You cannot point to many men, not influenced with the love of California gold, or covetous of the rich lands of the West, who have suffered losses from their possession of land, while you can name scores who have increased their wealth by thousands, through this single agency. As our population increases, land possesses an augmented value, and the probability is, that many an acre which never yet yielded to the plow, will be as costly as our gardens.

But the income of a well regulated farm, any where in New England, and more particularly in New York, and other agricultural States, will yield a fair dividend beyond the current expenses. In a word, *farming is profitable*, and he who denies the proposition, denies the most conclusive proofs, and is so unfortunate as to be a very poor farmer, or what is more to be deplored, has a *very poor wife*. I am confident that I have good authority for my position, and if you will pardon the tediousness of detail for a few minutes, I will introduce the testimony of practical men, who have given their opinions on this subject. I will commence with men in our own State, whom we well know.

James M. Whiton, of Holderness, one of our best farmers, assured me that he cleared last year one thousand dollars from his farm of about 150 acres. The present season he anticipates a greater profit. Mr. Whiton does not, like too many farmers, depend on estimates, but on reality, for he keeps his farm accounts with as much accuracy as a merchant would record his business transactions.

Hon. Joel Eastman, of Conway, who has been distinguished as a lawyer, and is now equally so as a farmer, has more than once asserted in our agricultural gatherings, that his income from the farm exceeded that of his profession.

Mr. Shattuck, of Manchester, formerly of Bedford, was for some years engaged in the mills of Lowell, where he received from \$2,50 to \$3,00 per day. Coming to New-Hampshire and taking a rough and impoverished farm, after the labor of five years he publicly declared that he had saved more money, year by year, than he ever did in the same period as a manufacturer.

But to be more definite in statements: In the year 1850, when corn was but sixty cents the bushels, Mr. Thomas Perkins, of Lyme, received a net profit of \$46,75 from two acres; in 1851, there was produced on the Webster farm in Franklin, which was cultivated in a simple manner, according to the directions of the great statesman, 500 bushels of potatoes on 5 acres, a small product, to be sure, but yielding a profit above all cost of more than \$25 to the acre. That very year, and the season following, according to statements which I have received from Mr. Eldredge, of Lebanon, and Mr. Shaw, of Sanbornton, the former produced 350 bushels to the acre, and the latter 200, though the profit was not much greater than that of Mr. Webster. In 1852, Mr. Wilson of Francestown, who has a cold soil with a northern aspect, produced on one acre and thirty-two rods, 33 1-4 bushels of wheat, and realized a net profit of \$23,75. R. W. Currier, of East Kingston, produced a crop of corn on a single acre, which brought him a profit of 41,62. In 1853, Joseph Winslow of Epping, raised on one acre and 113 rods, 190 bushels of corn, which, at 92 cents a bushel, brought him \$174,80, and a profit of \$112,79; such is Dea. Winslow's statement, sworn to by himself and another. Mr. Hutchinson of Milford, from 4 1-4 acres of wheat reaped a profit of \$137,95. Col. Glidden, of Unity, received a profit of \$19,46 from an acre of corn. Mr. Holt, of Lyndeboro', shows by figures that his profit per acre on wheat is \$35,33. Mr. Cutter of Pelham, for an acre of rye was remunerated by a profit of \$22,20. David Clement of Hudson, was a little more successful, and counted up a gain of \$24,21 per

acre. Levi McIntire, of Milford, was satisfied with a profit of \$19. Oliver Barrett, of Wilton, cultivated an acre of corn so as to get a profit of \$57,75; and John Richardson, a neighbor, received \$55,67. Mr. Howard, of Temple, found a gain of \$26,72 in the growing of one fourth acre of carrots. Mr. Closson, of Hanover, nearly doubled the crop, and more than doubled the profits.

I have thus given you a few isolated examples of money making farmers, in our own State. I might repeat as many more and go into the details of other sources of gain upon the soil; I might tell you of our producers of milk and hay; of butter and cheese; of the growers of hops and fruit, which, for a few years past, have been most prolific sources of income. I might speak to you of the yield of the garden, as well as the farm; the profits of breeding cattle and horses, and the advantages which result from the working of the quarry and the forest.

Massachusetts is a model state in every thing which regards agriculture. Her farmers have pursued a system of high cultivation, and have brought their farms up to a state of fertility seldom equaled in our country. Let us look at the profits there.

I know a most excellent man in the town of Brookline, who gathers from less than two acres of land an annual profit, beyond all contingencies, of \$1200, which enables him to give to the poor \$100 per month. Mr. Linus Green, of Hadley, has a farm of 114 acres. His net income for 1853, was \$1,355. Josiah Allis, of Whately, from 85 acres found a balance on the right side of his ledger, of \$1,854. Moses Stebbens, of South Deerfield, from 41 acres, laid by the nice little sum of \$1,116. Austin Smith, of Sunderland, saved from 73 acres a profit of \$1,237; and Samuel Powers, of Hampden County, realized an equal amount from 87 acres. Robert Murray, of Waltham occupies 135 acres, as a foreman, and in one year paid into the hands of his landlord, or rather landlady, the sum of \$1,306, as net profit. J. A.

Merriam, of Boston, on 68 acres made \$698. Dr. Morton, of Norfolk has 66 acres which returns as a profit \$1,410.

In this way we might go on, giving you proof upon proof, that the cultivation of the soil is one of the most profitable, as well as safe, healthful and happy occupations.

But you may ask, why it is, if farming is so lucrative, that many farmers toil through life and never become rich—why it is that their estates are under a mortgage—why fields are so often running to waste and dwellings hastening to decay? Tell me, if you can, why only one merchant in a hundred succeeds in accumulating property, while ninety-nine become bankrupt. Tell me why hard-laboring mechanics do not always become rich, and why the estates of lawyers and doctors are seldom so valuable as public opinion estimates them. Tell me this, and I will endeavor to answer that other question.

The truth is, there is a greater equality among farmers than among other classes. While they are generally what they appear to be, the merchant, the professional man, the speculator, are overrated. They live upon borrowed capital. Their wealth is fictitious, and when they can no longer disguise the fact, then comes a crash and a disclosure of their real position. Not so with the farmer. His gains are constant, if not large—his risks are few—his losses infrequent and trivial. He may mismanage. He doubtless often does, and we may lay it down as a rule that when a farmer has a good location—a good wife—no spendthrift sons—no fashionable daughters—and yet fails to succeed, the fault is his own, and all the income ten farms would bring him, would not place him in a successful position.

What the New England farmer needs is system, forethought, patience, to ensure the greatest profit from his occupation. He must *give* as well as *take*. He must feed his soil, if he would gather a harvest. He must expend this year's income in improvements, if he would receive a two-fold increase hereafter.

The American farmer has a labor to perform. His physical resources are unequalled. The demand upon the products of his toil is daily increasing. Each new city that springs up in the wilderness or by the sea, adds verdure to his fields and wealth to his treasures. Each wheel put in motion is an additional inducement for him to till the earth. Every institution of learning established in our growing towns enhances the profits of his farm. Thousands of barrels of pork and beef, and cargoes of flour and corn, immense quantities of apples and other productions of the soil, are annually exported to Europe, to feed her starving millions or contribute to the luxuries of the rich. The eyes of continents are upon us; the poor and suffering throughout the world look to America as the great almoner of nations. Our granaries, filled with repeated harvests, shall be like those of Pharaoh in the years of famine.

Not many years ago a voice of want came to our ears from across the waters. The stricken sons of Ireland stretched out their hands imploringly to us and begged for bread. The surplus in our garner was gathered by the hand of charity and carried to our seaports, where vessels were laden and sent out on their errands of mercy. Recently a more dreadful scourge than pestilence or famine visited the East, afflicting not Ireland alone, but embracing all the nations of Europe in one common woe. The enginery of war triumphed over the arts of peace. The tiller of the soil was withdrawn from the culture of the field to engage in the work of destruction. The mechanic reversed Heaven's order, and beat the plow-share into swords and the pruning hook to spears. Europe's fields, though fertilized with *blood*, could not produce enough to feed these devouring armies. The American soil was required to furnish the real sinews of the war. And, though now that war has ceased, the demand for bread has not diminished. Our ships still bear eastward cargoes of the surplus product of our agricultural labor, and the fruit of our fields is consumed in foreign lands.

Now, then, is the time for the farmer to plow and sow and gather in. Now he is not required to make donations to save a nation from starvation, but to furnish the productions of his fields and pastures for a liberal compensation. England, France, Russia are princely powers, and must render an equivalent for every bushel of corn, every pound of beef, and every bag of rice, which the wings of commerce may bear to their shores.

With such inducements, let the farmer find no idle day. If the great cities scattered along our Atlantic coast and on the margin of our rapid rivers,—if the thousand manufacturing towns and villages, cannot consume the surplus of the farm, there is opened a market across the waters, which will unlock its treasury at the bidding of the American farmer.

Farmers of New Hampshire, though winter snows fall heavily upon you, and early frosts clothe your fields with withered leaves, you need not doubt. Your lands are yet unworn; your plains are easy of cultivation; your meadows, yield a munificent harvest; your forest-lands groan beneath their growing riches; your hills are full of wealth; your farms have been linked by iron bands to the best of markets; and the products of your soil—your butter and cheese, your corn and oats, your sugar and starch, the timber from your woods and the granite from your quarries, are far more valuable than certificates of railway stock or money in banks. But what if this picture is *not all true*? What if there is *not* so much profit? What if every seed which is cast into the earth does not yield an hundred fold? Is it man's only motive to gather gold? Is it his whole destiny to labor, amass riches, and to die? Are there no social pleasures on the farm—no moral beauty which the vices of the world cannot pollute?

Wealth may give the possessor power and influence, but it can confer no real happiness. If our farmers could but believe, when their farms are unincumbered, and they have

a few hundreds at command for emergencies, that they have enough, and would spend their future income in the improvement and adorning of their dwellings and their minds, then might they be like Shakespeare's true laborer: "Owe no man hate, envy no man's happiness, glad with every man's good, and content with his own farm."

Such should be our aim. *Let* such be *yours*. Be content with these farms you have tilled so long, and which have never yet suffered you to want. Never allow the passion for wandering to possess your minds. Let not the broad prairies of the west, let not the sunny fields of the south, let not the golden sands of the Pacific tempt you from these familiar scenes. Abide by the homestead and encourage your sons to stand by you in your advancing years. Educate your children to be men and women, teach them to think for themselves and to act for themselves. Respect your calling and you will soon compel others to respect it. Read, study,—learn, refuse to rely forever on the judgment of others, who know no more than yourselves.

Do this, and you will be sought; your advice will be required in the transaction of business; your sons will be demanded to fill the high places of honor and of trust, and you will never grieve for the degeneracy of those who follow in your footsteps.

CHESHIRE COUNTY.

The Annual Fair was held on the Society's Ground, in Keene, Sept. 23d and 24th. No extended report has been furnished, but the treasurer of the Society, T. H. Leverett, Esq., has forwarded the following prepared by the Secretary for publication.

PREMIUMS AWARDED AND REPORTS.

BULLS.

S. W. Buffum, Winchester, best Durham bull	\$5 00
J. A. Chamberlain, Westmoreland, second best,	4 00
J. B. Elliott, Keene, best Devon bull,	5 00
Clark Stebbins, Winchester, best mixed bull,	5 00
Hosea Chase, Keene, second best,	4 00
Warren Shelly, Westmoreland, third best,	2 00
Leander Page, Swanzey, fourth best,	Transactions.
P. W. Taylor, Hinsdale, best Hereford bull,	5 00

The committee noticed a fine bull owned by Geo. Joslin of Surry, but did not think him entitled to the premium for which he was entered.

COWS.

Aaron M. Graves, Walpole, best cow,	\$4 00
Clark Stebbins, Winchester, second best,	3 00

George Joslin, Surry, third best,	2 00
George Harvey, Marlborough, fourth best,	Transactions.
Aaron M. Graves, Walpole, best dairy cow,	4 00
George Harvey, Marlborough, second best,	3 00

HEIFERS.

For best three years old heifer without regard to breed:—

James B. Elliott, Keene, first premium,	\$4 00
S. W. Buffum, Winchester, best two years old,	3 00

Mr. Buffum's heifers were full blooded Durhams, and excellent specimens.

David W. Buckminister, Roxbury, best three years heifer, (mixed,)	3 00
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George Joslin, Surry, second best,	2 00
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George Harvey, Marlboro', third best,	Transactions.
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J. B. Elliott, best two years old heifer, (mixed)	2 00
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D. W. Buckminister, second best,	1 00
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Josiah Kingsbury, Surry,	Transactions.
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The committee did not consider any yearling heifer present worthy of a premium.

REPORT ON WORKING OXEN.

Your committee, four-fifths thereof being present, viz: J. S. Adams, Lockhart Davenport, I. N. Wardwell and Danvers Martin have entered on the duties, assigned them and found thirty-seven pairs of oxen entered for premiums from eleven towns in the county, as follows:

From Westmoreland, one pair entered by Charles G. Norris, five years old, weight,	3400
From Swanzey, one pair entered by J. Lebourveau, six years old, weight,	3860
From Surry, one pair entered by J. D. Blake, (not found or examined.)	
From Alstead, one pair entered by Hubbard N. Fay, (not found or examined.)	
From Fitzwilliam, two pairs entered by Daniel H. Reed and Henry A. Bryant, five and six years old, weight,	5445
Average of weight 2722 1-2, average of age five one-half years.	
From Chesterfield, two pairs entered by Oratus Ver-ry, six years old, weight,	6400
average weight,	3200
From Roxbury, one pair entered by David W. Buck-minister, five years old, weight,	3200
From Sullivan, five pairs entered as follows :—	
By Geo. White, one pair five years old, weight,	3190
By Ashley Mason, one pair five years old, weight by estimation,	3000
By Dauphin Spaulding, one pair six years old, weight,	3400
By C. F. Wilson, one pair six years old, weight,	3120
By Ashley Spaulding one pair seven years old, weight,	3220
And one pair by D. W. Nims, six years old, weight,	3130
Making the total weight of oxen from Sullivan (entered for premiums) 19060; average weight, 3176 4-6; average of age 5 5-6 years.	

From Keene, eight pairs of oxen entered as follows :—

By James Wright, one pair five years old, weight,	3470
By Caleb Wright, one pair, weight,	3200

By Andrew H. Towns, one pair six years old, weight,	3160
By Elijah Blake, one pair, weight,	3550
By Alfred Lawrence, one pair, weight,	3615
By Willam B. Wright, one pair, weight,	3775
By Geo. K. Wright, one pair, weight,	3550
And one pair by A. W. Eastman, weight,	3760

The five last mentioned pairs being seven years of age. Making the total weight of oxen from Keene (entered for premiums) 28080 pounds; average weight, 3510; average of age 6 1-2 years.

From Marlboro', five yoke of oxen entered, as follows:—

By George Harvey, one yoke of oxen five years old, weight,	3766
By Jonathan Jones, one yoke, six years old, weight,	3750
By John Towns, Jr., one yoke, seven years old, weight,	3400
By Geo. W. Mason, one yoke seven years old, weight,	3282
By Emory Cudworth, one yoke, eight years old, weight,	3450

Making the total weight of oxen from Marlboro', (entered for premiums) 17648; average weight 3529 3-5; average age, 6 3-5 years.

From Hinsdale, eight yoke of oxen entered, as follows:—

By Elisha Stebbins, one yoke, seven years old, weight	3918
By Albert G. Newton, one yoke, six years old, weight,	3100
By Ezra Welch, one yoke, seven years old, weight,	3250
By Ozro Wright, one yoke, six years old, weight,	3000
By W. P. Taylor, one yoke, five years old, weight,	3000

By Arad Cooper, one yoke, five years old, weight,	3060
By Geo. P. Hooper, two yokes, five years old, weight,	6061

Making the total weight of oxen from Hinsdale (entered for premiums) 25488; average weight 3186; average of age 5 6-8 years.

Your committee on the examination of the said thirty-seven yoke of oxen having ascertained the above mentioned facts, were of opinion that at no former exhibition, so many superior well matched, trained, and premium-worthy oxen were ever seen at the Cheshire County Cattle Show. And they have found it a difficult task to select six yokes of oxen from the above list, for the following awards of premiums but have unanimously awarded to

George Harvey, Marlboro', first premium,	\$6 00
John Lebourveau, Swanzey, second premium,	5 00
Elisha Stebbins, Hinsdale, third premium,	4 00
Albert Lawrence, Keene, fourth premium,	3 00
David W. Buckminister, Roxbury, fifth premium,	2 00
George White, Sullivan, sixth premium,	1 00

All of which is respectfully submitted.

J. S. ADAMS, for the committee.

FOUR YEARS OLD OXEN.

George D. Kingsbury, Walpole, first premium,	\$4 00
A. M. Graves, Walpole, second	" 3 00
Eri Elmore, Hinsdale, third	" 2 00
William Phillips, Dublin, fourth	" 1 00

THREE YEARS OLD STEERS.

Winslow Pratt, Winchester, first premium,	\$3 00
William Reed, Swanzey, second " "	2 00
Merrill Russell, Marlboro', third " "	1 00
Prentiss W. Taylor, Hinsdale fourth " "	Transactions.

The committee remark that they "found it quite difficult to decide as to their awards on account of the large number of superior steers, in size, shape and match, and were entirely unanimous in their judgments.

S. W. Buffum, of Winchester, G. K. Hall, of Westmoreland, Eri Elmore, of Hinsdale, M. B. Shaw, of Chesterfield, A. M. Graves, of Walpole, A. J. Humphrey, of Winchester, C. G. Norris, of Westmoreland, and Wm. H. Woodward, of Keene, all had steers on the ground, of superior excellence and were well worthy of premiums, were the funds of the Society sufficient."

ONE AND TWO YEARS OLD STEERS.

Winslow Pratt, Winchester, best pair two years old steers,	\$2 00
S. W. Buffum, Winchester, second best,	1 00
Elihu Stebbins, Hinsdale, third best,	Transactions.
Elihu Stebbins, Hinsdale, best pair yearling steers,	2 00
R. Cobleigh, Jaffrey, second best,	1 00
A. S. Blake, Keene, third best,	Transactions.

CALVES.

D. W. Buckminister, Roxbury, best pair steer calves (mixed)	\$1 00
George Harvey, Marlboro', best heifer,	1 00
P. W. Taylor, Hinsdale, best calf (steer Durham)	1 00
D. W. Buckminister, Roxbury, second best (mixed)	
	Transactions.
D. W. Buckminister, best bull calf (mixed)	1 00

The committee noticed a lot of seven calves owned by William R. Flint, of Swanzey, raised in Vermont which are fine animals, and if raised in the county would be entitled to the first premium. They also noticed a very fine pair of steer calves that had run with the cows to the present time, but, considering their keeping, did not consider them quite as good as some others.

TOWN TEAMS OF OXEN.

First premium best pair ten yokes, to the town of Hinsdale,	\$10 00
Second premium to the town of Keene,	8 00
Third " " " " Marlboro,	5 00
The committee recommended a gratuity to the town of Sullivan of	5 00

TOWN TEAMS OF STEERS.

First premium for best pairs to the town of Win- chester,	\$6 00
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Second premium to the town of Marlboro',	\$4 00
Third " " " " Keene,	3 00

FAT CATTLE AND SHEEP.

Daniel Smith, Hinsdale, first premium (for pair four years old oxen)	\$5 00
C. Wright, Hinsdale, second premium (for pair three years old steers,)	3 00

Nine oxen only were entered. The committee noticed a very fine ox owned by A. J. Humphrey, of Winchester, in their opinion worthy of a premium; but not being entitled to one under the rules, they recommend a gratuity. Sorry to say they found no fat sheep entered for premium.

STALLIONS AND STALLION COLTS.

Laton Martin, Keene, 1st premium on Keene Morgan,	\$6 00
Lewis A. Ballou, 2d premium on Granite Morgan,	4 00
Sullivan Cross of Swanzey, best four years old,	5 00
Preston Wilbur, East Westmoreland, second best,	3 00
Sullivan Cross, Swanzey, best three years old,	3 00
H. O. French, Keene, second best,	2 00
Royal M. Flint, Swanzey, best two years old,	2 00
Royal M. Flint, " second best,	1 00

The committee had the pleasure of examining several other fine horses well worthy of premiums.

BREEDING MARES AND COLTS.

W. W. Greenwood, Marlboro', best mare and colt,	\$4 00
Willard Rixford, Winchester, second best,	2 00
C. Mason, Sullivan, best three years old colt,	2 00
D. W. Bill, Gilsum, best two years old,	1 00

The committee recommended a gratuity to Justin W.

Nims, of Marlboro', for a fine two years old, of
Transactions.

H. T. Davis, Alstead, best yearling colt, Transactions.

Ivory Ide, Hinsdale, Transactions.

The committee awarded a gratuity to Holland
Mason, of Walpole, for a very fine mare and
colt of 1 00

Also, to Sullivan Cross of West Swanzey, Lucius
Smith of Winchester, J. Kingsbury of Surry, A.
Hatch, Jr., of Alstead, F. H. Cutter of Jaffrey,
and Leonard Holbrook of Swanzey, each a gra-
tuity of 50

There were thirteen mares with colts by their side entered for premium, nearly all of a superior quality. The committee regretted that no more one, two, and three years old colts were presented for premium.

 WORK, MATCHED AND CARRIAGE HORSES.

J. B. Elliott, Keene, best work horse,	\$3 00
Samuel Burbank, Chesterfield, second best,	2 00
J. Herrick, Marlboro', best carriage horse,	3 00
Stephen B. Farrar, Troy, second best,	2 00

For want of competition the committee did not see fit to award any premium on matched horses.

TROTting HORSES.

H. W. Leonard, Swanzey, first premium, (time 3:14)	\$5 00
J. D. Dunbar, Keene, second, (time 3:14)	3 00
A. G. Hill, Swanzey, third, (time 3:30 1-2)	2 00

LADIES' HORSEMANSHIP.

Miss Ellen Chase of Keene, first premium,	Silver Cup.
Mrs. Lucretia Goddard of Swanzey, second premium,	Set of Tea Spoons.

FINE WOOL SHEEP.

C. F. Wilson, Sullivan best buck,	\$3 00
T. H. Leverett, Keene, second best,	2 00
T. H. Leverett, best lot ewes,	3 00
C. F. Wilson, Sullivan, second best,	2 00
C. F. Wilson, best lot of lambs,	2 00

The committee recommend an increase in future of premiums on this kind of stock as an inducement to bring more into the show.

LONG WOOL SHEEP.

Charles N. Wilder, Keene, best buck over three years old.	\$2 00
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D. B. Morrison, Alstead, second best,	\$2 00
Isaac Newton, " third best,	Transactions.
Isaac Newton, " best buck under three years,	3 00
P. W. Taylor, Hinsdale, second best,	2 00
D. B. Morrison, Alstead, third best,	Transactions.
D. B. Morrison, " best lot ewes,	3 00
Isaac Newton, " best lot lambs,	2 00

SWINE.

Brainard & Ormsby, Keene, best boar,	\$2 00
S. W. Buffum, Winchester, second best,	2 00
T. H. Leverett, Keene, best breeding sow,	3 00

POULTRY AND EGGS.

J. H. Wyman, Keene, best assortment of poultry,	\$2 00
J. S. Blake, " second best,	Transactions.
C. N. Wilder, " best hens,	1 00
Z. S. Barstow, " second best,	Transactions.
J. S. Blake, " best turkeys,	1 00
John Ellis, " best geese,	1 00
Geo. D. Kingsbury, Walpole, second best,	Transactions.
Henry Dowd, Keene, best ducks,	1 00
Ostinello Davis, " second best,	Transactions.
Mrs. Michael Metcalf, Keene, best lot hens' eggs,	50

BUTTER AND CHEESE.

A. M. Graves, Walpole, best butter,	\$3 00
John Lawrence, Keene, second best,	2 00
Farley Norris, Westmoreland, third best,	1 00
Mrs. Erastus Chase, Keene, fourth best,	Transactions.
Warren Shelly, Westmoreland, best cheese,	3 00
Josiah Bennett, " second best,	2 00
J. A. Chamberlan, " third best,	1 00

Mrs. Sewell Day, Nelson, best piece frocking,	\$3 00
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HOSE, GLOVES AND MITTENS.

Mrs. Alice Hamblet, Swanzey, best 1-2 hose,	\$1 00
Mrs. John Ellis, Keene, second best,	50
Mrs. Virgil Woodecock, Swanzey, third best,	50

AGRICULTURAL IMPLEMENTS.

D. W. Bill, Gilsum, best ox yoke,	Transactions.
Willard Evans, Alstead, best dash churn,	Transactions.
D. C. Colby, Keene, clothes dryer,	Transactions.

LEATHER AND MANUFACTURE OF LEATHER.

D. G. Carter, Fitzwilliam, for buggy harness, \$2 00

The committee remark that "the manufacturing of leather and those articles principally composed of it, has become nearly extinct in Cheshire county or is in the hands of those who do not take sufficient interest to exhibit their manufactures."

CARRIAGES.

Levi Jones, Marlboro', for ox wagon, \$1 00

BREAD, WINE, PICKLES, HONEY, PRESERVES AND SUGAR.

Mrs. N. Wood, Keene, best wheat bread,	\$1 00
Mrs. Ashley Jones, " second best,	Transactions.
Mrs. J. K. Smith, Dublin, best brown bread,	1 00
Mrs. Stewart Hastings, Keene, second best,	Transactions.
J. D. Gibbs, Jaffrey, best domestic wine,	1 00
T. A. Bascom, Hinsdale, second best,	Transactions.
J. A. French, Westmoreland, best preserves (tomato figs,)	Transactions.
N. W. Hardy, Nelson, best honey,	Transactions.
Samuel Kingsbury, Keene, best sugar,	Transactions.
Harriet L. Hendrick, " best pickles,	Transactions.

The committee remark that many excellent specimens of bread were presented so nearly alike that it was difficult to decide which were entitled to the premiums.

T. H. Leverett, of Keene, contributed two loaves of white bread from wheat raised on his own farm which were of superior quality. A loaf of rye bread, by Miss F. E. Darling of Keene, merited special commendation.

PATCHING, DARNING, EMBROIDERY, CROCHET WORK, AND NEEDLE WORK.

Mrs. Z. S. Barstow, Keene, best patching,	\$1 00
Miss Augusta Stone, Surry, embroidered skirt,	1 00
Mary Allen, East Westmoreland, " " Transactions.	
Miss Clara B. Chase, Keene, eight years old, for fine executed sample embroidery,	Transactions.
Mrs. E. H. Cheney, Keene, crochet collar,	1 00
Five crochet card baskets, name unknown,	Transactions.
Miss Elizabeth Tilden, Keene, richly wrought chair,	1 00
Miss Sally E. Parker, Keene, wrought ottoman,	Transactions.
Mrs. Henry Leader, Swanzey, best specimen needle work,	1 00
Mrs. Sewell Day, Nelson, melon seed basket,	Transactions.

The committee notice an embroidered skirt by Luthera Cole of Westmoreland, as very nice and well worthy of being exhibited, and another very good one by Eliza Warren, of the same town; tidies by Julia A. Ware of Swanzey, and Lucretia H. Chase of Keene, "indeed very pretty;" a piece of patch work by Nancy A. Spaulding of Sullivan, showing skill and industry for a Miss of three and one-half years; and a very tasty worsted mat by Miss C. D. Hines of Keene.

PELLIS AND PAPIER MACHE WORK.

Miss M. E. Stearns, Swanzey, pellis frame,	\$1 00
C. F. Holman, Marlboro', " " Transactions.	
H. A. Bill, Keene, papier mache writing-desk,	1 00

CRAYON DRAWING AND OIL PAINTING.

Miss Frances R. Tower, Winchester, an oil painting,	\$1 00
Miss C. Hines, Winchester, an oil painting, Transactions.	
Miss C. Hines, " crayon drawing,	1 00
Miss M. M. Stearns, Swanzey, " " Transactions.	

The committee are of opinion that the specimens of Grecian painting by Miss Carpenter of Keene, and Miss E. M. Hall of Marlboro', were worthy of a premium and that the drawing by Miss C. F. Holman of Marlboro', was deserving of commendation.

CHEMICALS.

Jacob Green, Keene, for a tasty display of useful and ornamental chemicals,	\$1 00
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IRON AND CABINET WORK.

Charles Buss, Marlboro', patent hand vise,	\$1 00
J. C. Holman, Hinsdale, bench and jack screws, Transactions.	
Jacob Green, Keene, rotary tea waiter, Transactions.	

MISCELLANEOUS ARTICLES.

The committee on Miscellany report as worthy of premium:—

Mrs. Harriet Flint, Winchester, three counterpanes,	\$1 00
Mrs. J. K. Smith, Dublin, two counterpanes,	1 00
Mrs. Miriam Huntley, Richmond, two counterpanes,	1 00
Charles Goodale, Troy, two horse blankets,	Transactions.
Mrs. E. H. Goddard, Swanzey, rug,	50
Sarah Tower, Winchester, rug,	50
Moses Sawyer, Rindge, rug carpet,	50
James Townsend, Marlboro', shirt and drawers,	Transactions.
C. J. Raymond, Rindge, nest boxes,	50
Rufus Atwood, Keene, clothes dryer,	50
D. W. Bill, Gilsum, wood trays,	50
Mrs. Geo. Tilden, Keene, natural flowers,	1 00
G. & G. H. Tilden, Keene, blank books,	1 00
Eugene Pinaud, Keene, hair work,	1 00

Monsieur Pinaud evidently possesses his share of the artistic skill of his countrymen.

Mr. Otis Whitcomb exhibited a counterpane made by the ladies of the Universalist Society in Swanzey of a very neat and tasteful appearance.

The committee exhibited a marked partiality for apple pies, and awarded with singular unanimity fifty cents each to Mrs. Barstow, and Mrs. A. S. Whitcomb of Keene.

Orrin Black, Swanzey, pails,	1 00
Mrs. M. D. Hutchins, Winchester, oriental painting, (table top,)	1 00

There were several other specimens of this kind of painting of very brilliant hues which though they might dazzle the eyes of orientals did not find favor in the optics of your committee.

A breech-loading rifle, exhibited by Milton W. Clark of Keene, patented by Allen, of Worcester, Mass., appears to possess all the requisites of a good shooting rifle. It is of very simple construction, is very easily charged, and its movable parts cannot be fouled so as to obstruct their motion as in the case with some other breech-loading fire arms.

GEORGE A. WHEELOCK, for committee.

PLOWING.

The committee on Plowing report:—That the plowing was *all* done remarkably well; seldom if ever, it is believed, has the work been done with so uniform a result. Under these circumstances, it was exceedingly difficult for the committee to mete out exact justice in all cases. As there were but seven premiums offered and eleven competitors, the committee cannot be entirely sure that all to whom premiums were given were more deserving than some that were omitted, and possibly the order in which they were given may not be exactly in the order of the merits of each competitor. The object is to encourage such specimens of plowing as are best adapted to the soil of the county generally. To plow deep, with a uniform furrow slice, and also to turn it smoothly and leave it in a friable condition for cultivation, are the principal conditions of good plowing. In accordance with these ideas, the committee awarded premiums as follows:—

George Harvey, Marlboro', first premium,		\$6 00
John Towns, Jr., second	"	5 00
J. A. Towns, Keene, third	"	4 00
A. H. Towne, fourth	"	3 00
Elihu Stobbins, Hinsdale, fifth	"	2 00
Oratus Very, Chesterfield, sixth	"	1 00
Alfred Lawrence, Keene,	"	Transactions.

There were two competitors for plowing with horses, and those were so different in character that they could hardly be compared with each other.

Charles Wright, Keene, plowed seven inches deep and did the work very well, and to him the com- mittee award a premium of	6 00
James B. Elliot, Keene, plowed with a Michigan plow, ten inches deep, and his premium is	4 00

The committee would remark that the time of plowing one-eighth of an acre varied from seventeen to thirty minutes, but this was taken as only one consideration in making the several awards, which is respectfully submitted.

J. K. SMITH, for committee.

FRUIT AND VEGETABLES.

The committee on Fruit, Vegetables and Seed Corn, award premiums as follows:—

Elijah Blake, Keene, best display of seed corn,	\$1 00
P. W. Taylor, Hinsdale, second best,	Transactions.
T. H. Leverett, Keene, best display of garden vege- tables,	1 00
Noah W. Hardy, Nelson, second best,	Transactions.
Albert Church, Keene, best display of winter apples,	3 00
P. W. Taylor, Hinsdale, second best,	2 00
Parmerly Carlton, Winchester, third best,	1 00
Asahel Tower, Winchester, fourth best,	Transactions.
Asahel Tower, " best display of summer and fall apples,	3 00
Albert Church, Keene, second best,	2 00
Rev. E. Davis, Marlboro', third best,	1 00
Curtis Fay, Ashuelot, fourth best,	Transactions.

Geo. A. Bowker, Hinsdale, best pears,	\$2 00
A. Church, Keene, second best,	1 00
Josiah Bennet, Westmoreland, best plums,	1 00
T. H. Leverett, Keene, best grapes,	3 00
J. T. Wiswall, Marlboro', second best,	2 00
Daniel Farr, Westmoreland, third best,	1 00
Josiah Bennett, " fourth best,	Transactions.

As no premiums were offered for peaches the committee recommend gratuities, 1st Albert Church, Keene, 2d Josiah Bennet, Westmoreland, 3d Asahel Tower, Winchester.

FOOT RACE.

There were ten entries for this sport by young men.—
Three premiums were awarded, as follows:—

Charles E. Chandler, Alstead, first premium,	\$3 00
Charles Collins, Marlboro', second " "	2 00
Harvey Bates, Gilsum, third " "	1 00

Time made in running the 1:2 mile, 2:17.

In the above awards, it cannot be expected that exact justice in all instances has been done, for, in the nature of the case, it would be impossible. Doubtless many will be disappointed to find that the articles they have taken the trouble to exhibit, have not even been noticed by the committees to whom the several classes were referred. But in the midst of the confusion of the day, it would certainly be too much to expect that every article should be in its proper place and meet the eye of its appropriate committee. The arrangements of the show, too, will doubtless be

seen to have been imperfect in many particulars as they must necessarily be until experience shall have added its many improvements. However, the charity of the public, we are sure will attribute any such imperfection to the head and not to the heart of any person or persons inculpated.

The friends of the society (and who are not?) must certainly be gratified at the result of this Fair. The numbers of people present must have been fully five thousand, and the show of cattle alone was an honor to Cheshire county and to the old Granite State. The show of fancy articles in the hall was of course greatly diminished by the prospect, on the first day, of rainy weather, but the exhibition was respectable even here, and those who contributed to it have the thanks of the society. The entertainments of the day were heightened not a little by the excellent music discoursed by the Winchester Cornet Band, and the society are under obligations to its gentlemanly members for their almost gratuitous services. In a pecuniary aspect this Fair was all that could be desired and the proceeds will be ample to pay all the premiums and reduce the society's debt fully one half—consequently another Fair as successful as this will clear the society of debt and give them a fee simple possession of the twenty-six acres of their beautiful Fair Ground with all its appurtenances, in value, say \$3,000. It is evident that the society has the favor of the community and that its tide of prosperity will not be allowed to ebb, but that, as its means are increased from year to year, its Annual Fair will become more attractive, and every way worthy of the great interest upon which it depends.

H. A. BILL, Secretary.

ANNUAL MEETING.

At the annual meeting, the following gentlemen were elected officers for the current year :

NELSON CONVERSE, Marlboro', *President* ;
T. H. LEVERETT, Keene, *Treasurer* ;
H. A. BILL, Keene, *Secretary*.

Vice Presidents.

J. K. SMITH, Dublin ;
GEO. W. HAMMOND, Gilsum ;
ASA BREWER, Fitzwilliam.

Executive Committee.

S. W. BUFFUM, Winchester ;
C. F. WILSON, Sullivan ;
ASA MAYNARD, Marlboro' ;
WARREN SHELLEY, Westmoreland
EBENEZER PROCTOR, Alstead.

BELKNAP COUNTY.

During the present year a society has been formed in this county, and the following officers elected. Hereafter we shall anticipate contributions from this county for our Transactions.

President.

THOMAS DURRELL.

Secretary,

O. A. J. VAUGHAN.

Treasurer,

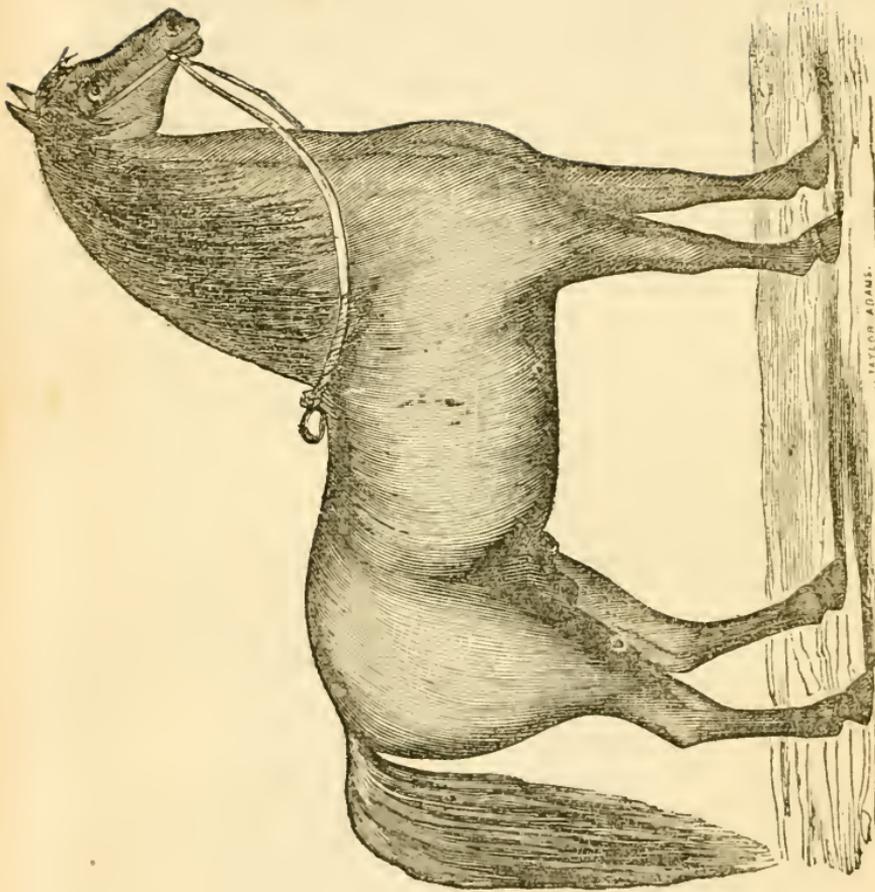
JOHN T. COFFIN.

Vice Presidents,

C. C. MOONEY, Alton ;
J. B. MERRILL, Barnstead ;
IRA DAVIS, Centre Harbor ;
JOHN P. SMITH, JR., Gilford ;
SAMUEL L. SMITH, Laconia ;
GEO. W. GILMAN, Meredith ;
JEREMIAH THOMPSON, Sanbornton ;
JOHN DALTON, New Hampton ;

Executive Committee,

THOMAS J. WHIPPLE, Laconia ;
JOHN J. MORRILL, Gilford ;
CHARLES P. TOWLE, Meredith ;
IRA MOONEY, Gilmanton ;
JOHN S. DURRELL, Sanbornton.



TAYLOR & ADAMS.

YOUNG WOODBURY MORGAN.

CHINESE SUGAR CANE.

The Chinese Sugar Cane, introduced into the United States through the agency of the Patent Office, has attracted the attention of experimental and practical cultivators throughout the country, and awakened a lively interest among all classes. It is, according to the official report published by our national government in 1854, "a new gramineous plant, which seems to be destined to take an important position among our economical products was sent four years since from the north of China, by M. de Montigny, to the Geographical Society of Paris. From a cursory examination of a small field of it growing at Verrieres, in France, in autumn of 1853, I was led to infer that, from the peculiarity of the climate, and its resemblance in appearance and habit to Indian corn, it would flourish in any region wherever that plant would thrive. But how far it will serve the purpose ascribed to it in France, should it even succeed in every part of the United States, can only be determined by extended experiments.

* * * * *

"Sorgho Sucre is a plant which on rich land grows to the height of from two to three or more yards. Its stems are straight and smooth, having leaves somewhat flexous and falling over, greatly resembling Indian corn in appearance, but is more elegant in form. It is generally cultivated in hills containing eight or ten stalks each, which bear at their tops a conical panicle of dense flowers, green at first, but changing into violet shades, and finally, into

dark purple at maturity. In France it is an annual, where its cultivation and period of growth correspond to those of Indian corn; but, from observation made by M. Vilmorin, it is conjectured that, from the vigor and fulness of the lower part of the stalks in autumn, by protecting them during the winter, they would produce new plants the following spring. If cultivated in our southern States, it is probable that the roots would send forth new shoots in the spring, without protection, in the same manner as its supposed congener the Dourah corn. At the North, the maturity of the seed probably would be more certain if planted in some sheltered situation; but if the object of cultivating be for the extracting of sugar, or for fodder for animals, an open culture would be sufficient, where the soil is rich and light, and somewhat warm. According to the experiments of M. Ponsart, the seeds vegetate better when but slightly covered with earth. M. Ledocte proposes to associate with the plant another of more rapid growth, such as lettuce, or rape, in order that the laborers may distinguish the young sorgho from grass, which it greatly resembles in the early stage of its growth. Any suckers, or superfluous shoots, which may spring up in the course of the season, should be removed.

“The great object sought in France, in the cultivation of this plant, is the juice contained in its stalks, which furnishes three important products: namely, sugar, which is identical with that of cane; alcohol, and a fermented drink analogous to cider. This juice, when obtained with care in small quantities, by depriving the stalk of its outer coating, or woody fibre and bark, is nearly colorless, and consists merely of sugar and water. Its density varies from 1.050 to 1.075, and the proportion of sugar contained in it from ten to sixteen per cent., a third part of which is sometimes uncrystallizable. To this quantity of uncrystallizable sugar this juice owes its facility of readily fermenting, and consequently the large amount

of alcohol it produces, compared with the saccharine matter observed directly by the saccharometer. In so far as the manufacture of sugar is concerned, this plant appears to have but little chance of success in a northern climate, as a large proportion of that which is uncrystallizable is not only a loss in the manufacture, but an obstacle to the extraction of what is crystallizable.

“It must not be understood, however, that the produce of this plant is unprolific or difficult to obtain, but that, all things being equal, its nature renders it more abundant in alcohol than in sugar. Yet it would be very different in the warmer climate at the South, where the sugar-cane is difficult to be obtained, in requiring protection from frost. From experiments made by M. Vilmorin, on some dried stalks of sorgho sent from Algeria, it proved that the product of sugar obtained from them was infinitely superior to that produced from the same plant which had been cultivated near Paris. I was also informed by Mr. Wray, who experimented upon the juice at Natal, that the proportion of crystallizable sugar quite predominates where the climate allows the plant fully to mature. The chief advantage of the sorgho, as a sugar plant, is the facility of its cultivation, and the easy treatment of the juice. It is thought that the rough product may surpass that of the sugar cane in those countries where the latter is an annual, and, like which, its stalks and leaves will furnish an abundance of nutritious forage for sustaining and fattening animals. As the molasses, too, is identical with that manufactured from the cane, it may be used in the distillation of rum, alcohol, and a liquor called ‘tafia,’ which resembles brandy.

“The greatest difficulty to be apprehended, probably, would be the preservation of the stalks from fermenting, owing to the short time left to the manufacture. This, however, might be obviated, as Mr. Wray informed me that, in the neighborhood of Natal, the Zoulous-Caffers

preserved it for a long time by burying the stalks in the ground, notwithstanding the climate of their country is very warm and damp. It will also be observed, that in the manufacture of brandy, or alcohol, the uncrystallizable sugar can be turned to account, which in a measure would otherwise be lost. Another advantage consists in the pureness of the juice, which, when thus converted, from the superiority of its quality, can immediately be brought into consumption and use. The alcohol produced by only one distillation is nearly destitute of foreign flavor, having an agreeable taste, somewhat resembling noyau, being much less ardent, or fiery than rum.

“ One of the points M. Vilmorin was desirous of establishing was, at what period of the growth the stalks began to contain sugar, and, consequently, when its manufacture should commence. He came to the conclusion that it coincided with the putting forth of the spikes; but the proportion of sugar in the stalks continued to increase, until the seeds were in a milky state. In the plant in flower, he observed that the amount of sugar diminished in the merithalles (parts of the stalks between the nodes, or joints,) the nearer they were to the top; and also the lower part of each merithalle contained less saccharine matter than the upper. In consequence of this, and owing to the smallness and hardness of the lower knot, the centre of the stock is the richest portion. He was inclined to the opinion that, at a later period, the merithalles lower down the stalk are impoverished in the amount, if not in the quality, of the sugar they contain. The ripeness of the seeds does not appear much to lessen the production of sugar, at least in the climate near Paris; but in other countries where it matures when the weather is still warm, the effect may be different. According to the report of M. de Beauregard, addressed to the ‘Comice de Toulon,’ the ripening of the sorgho in that latitude had no unfavorable effect; and he considers the seeds and the sugar as two

products to be conjointly obtained. On the other hand, Mr. Wray says the Zoulous-Caffers are in the habit of pulling off the panicles of the plant the moment they appear, in order to augment the quantity of saccharine matter in the stalks. This question may be of some importance in our Southern States, should this plant supersede in any manner the sugar cane. Having considered some of the probabilities of this product in an economical point of view, it remains only for me to recommend it to the attention of others who may have opportunities to cultivate it, and the means and talent to prove or refute, by direct experiments, its worth."

CULTURE AND PREPARATION.

The method of cultivation which has been generally recommended by experimenters, is to prepare the soil as for Indian corn. In planting for seed, in this northern climate, it is best to plant at a good distance, that the seed and the cane may attain their full development and maturity. The rows should be three feet apart or more, and the plants from one to two feet distant in the row or drill. It is yet questionable, as it is with corn, whether the suckers should be removed or not. Dr. Battey, a Georgia experimenter, gives a method of culture, harvesting and preparation, accompanied by the results of his experiments. With a few changes, his plan is regarded as very useful, and perhaps as easy and economical as any that has been published.

"After the first season, when a full supply of seed shall have been secured, a better-paying syrup crop may be grown by closer planting. The space between the rows may be three feet, and the seed put in, say, two or three every six inches; when well up, the stoutest and healthiest plants should alone be allowed to stand. The cane, when very young, presents so much the appearance of grass, that an advantage may perhaps be gained by dropping some other seed with the cane, that the latter may be more

readily distinguished. This, of course, should be drawn out with the superfluous cane-plants. When of sufficient size, the plants should be suckered down to one cane for each root. In other respects, the successful grower of corn will not be at a loss in the cultivation of this plant. I have found a suitable time for planting to be immediately after the corn crop, although excellent results have been obtained by planting as late as the 15th of May in Georgia. It will doubtless be desirable to make several successive plantings, that they may mature gradually, and so give more time for harvesting the crop. The land, in my opinion, should be prepared in all respects as for corn.

“ Harvesting.—When the stalk shall have attained its full size, and the seed have passed from the dough stage to a harder texture, the cane may be considered sufficiently mature; or, if the crop be large, and a deficiency of hands be apprehended, the cane may be cut earlier, and the cuttings continued from time to time, as needed for the press. The fodder should be pulled as for corn; another set of hands cutting off one half to two feet of the top with the seed, while others cut the cane at the ground and throw it into piles, from whence it is handed to the press. Prior to the harvesting, a set of proper rollers and kettles should be provided, and well set up ready for service.

“ Boiling down.—One of the first things done, in commencing operations, should be to start the fire under the kettles, that they may be well warmed by the time the juice is ready for them. The fires should be so arranged that they may be under good control, to be forced or withdrawn as occasion may require. When the juice is placed in the boiler, the fire should be gradually increased to a simmering heat, “not to active boiling,” and maintained at this temperature until a thick green scum rises to the surface and forms into puffs, seeming ready to crack. This scum, when fully formed, should be removed clean from the surface. The heat may now be raised to boiling, and kept

in an active state of ebullition, until the bulk is reduced one half. The fire may now be removed from one kettle and its contents be transferred to the other, when the heat must be gradually moderated as the syrup becomes more concentrated, to avoid the danger of scorching, which injures the color and flavor. Should more dirty-green scum rise to the surface after the first skimming, it should likewise be removed.

“In regard to the precise degree of concentration to which the syrup should be brought, it is exceedingly difficult to lay down any precise and simple rule which shall meet every case. The plan for determining it in use on the sugar plantations is based upon the judgment of the eye in respect to the consistence of the syrup when poured from the ladle and cooled as it drops from its edge. This test is evidently very defective, since the temperature of the atmosphere regulates the consistence which the syrup must assume on cooling down; so that a syrup boiled on a cold day will necessarily be thin and watery as the weather moderates, and a syrup finished at night will differ materially from that of the noonday.

“It is a prevalent opinion that lime should always be added to the juice as soon as it is pressed out, and the idea has been advanced that it could not be clarified without lime. This is undoubtedly a mistake; the juice alone, under my hands, clarifies itself more readily without lime than with it. The latter answers no useful purpose, as far as the syrup is concerned, save to neutralize the free acid (phosphoric) which exists naturally in the cane. Lime darkens the color, and detracts from the peculiar grateful flavor of the syrup. Many would, perhaps, object to the slight acidity; to such I would say, use the lime, but use it sparingly. To prepare it for use, take a half peck of lime, slake it in a bucket of water gradually added, stir up well, and strain the milk through a cloth; let it settle for half a day, pour off the water, and dry the powder. Of the lat-

ter you may use from a half a tea-spoonful to two tea-spoonfuls for every five gallons of juice, after the scum has been removed.

“ The scum is used in the West Indies for the manufacture of rum. It may be also advantageously disposed of as food for hogs. The quantity of saccharine matter left in the begass renders it a nutritious food for stock. This refuse, by leaching water through it, yields a saccharine solution which may be fermented into beer or vinegar, and may be distilled into whiskey and alcohol. It may be also advantageously used to cover the cut canes in hot weather, when it may be desired to have a large quantity kept at the mill for days and weeks before being used. The constant evaporation of the juice in the begass keeps the cane beneath at a temperature so low as to prevent fermentation, as well as the drying of the cane; it will also serve to shield it from the frost. A suggestion has been made to convert the ligneous fibre into paper. It certainly is a better material for this purpose than much that is now employed. It is, however, an object of minor importance to the southern planter as yet. As a manure, the begass, is evidently a most valuable article for its large amount of phosphoric acid, added to the decomposing vegetable and the other mineral matters which it contains, while the remaining portions of the saccharine juice readily induce a fermentation which ends in putrefaction, and leaves the mass in a fit state for the nourishment of plants. The large quantities of mineral matter, and particularly the phosphoric acid, which the cane in its growth must remove from the soil, necessarily imply that it will be an exhausting crop, since these materials certainly cannot be furnished by the atmosphere. This evil may, in a great part, be removed by carefully returning to the soil again the refuse in form of manure. If other fertilizers be needed to repair the waste, Mexican phosphatic guanos, which are now offered at low prices, would doubtless be advantageous.

“In the experiments by me, during the winter of 1855, I was forcibly struck with the better quality of the juice grown in our section of the country, as compared with that experimented upon by Mons. Vilmorin. He gives the density of his sap at 1.050 to 1.075, while that examined by myself was uniformly found to be 1.085, with but little variation, and in every case some small corrections for temperature, which would increase the specific gravity slightly. The average density given by various observers in the West Indies, of juice from the several varieties of sugar cane grown in these colonies, is about nine degrees Baume, corresponding to a specific gravity of 1.064,—less, considerably, than mine. From this fact, however, it is not to be inferred that the juice of our cane abounds more largely in saccharine matter than that of the West Indies; for such probably is not the fact; for the former is known to contain a larger proportion of salt and vegetable matters than the latter. It argues only the remarkable adaptation of the Chinese cane to our climate and soil. M. Vilmorin obtained from this ‘sap’ of the densities named, from 1.050 to 1.075, on the

13th of October, 1853,	10.04	per cent.	saccharine matter.
28th of November, “	13.08	“ “	“ “
28th of “ 2d trial,	14.06	“ “	“ “
14th of “ 1854,	16.00	“ “	“ “

“Of the latter, 11.75 were uncrystallizable, and but 4.25 of the crystallizable variety. M. Avequin obtained from the juice of this cane, grown, I presume, in Louisiana,

Saccharine matter,	152
Salts and organic matter,	10
Water,	838
	<hr/>
Cane-juice employed,	1000

I have not been able to compare these experiments with similar results obtained here. I propose doing so the coming season. M. Vilmorin estimates the per centage

of weight of juice obtained by him at 50 to 60 parts in the 100 of cane employed, and remarks that even 70 per cent. can be easily obtained by proper machinery. Mr. Peters obtained from his mill an average of 50 per cent., and the juice could be readily wrung from the begass by hand. Thirty canes were sorted out and weighed by myself, and, after grinding, gave the following result :

Thirty canes weighed,	52 lbs. 14 ounces.
Juice collected,	26 " 1 "
Begass,	26 " 7 "
Juice lost in mill, say,	6 "

The juice actually extracted weighed precisely one-half that of the cane used. Two pounds of the begass was weighed and carefully dried, and gave twelve ounces, showing a loss of one pound and four ounces of water, which represents 21.7 ounces of juice; so that the quantity of juice remaining behind in the begass may be put down at seventeen pounds, fifteen ounces. The result now stands,

Juice collected,	26 lbs.,	1 oz.,	or 49.30 per cent.
" lost in the mill,		6 oz.,	or 70 " "
" in begass,	17 "	15 "	or 34.05 " "
Woody fibre,	8 "	8 "	or 15.05 " "

Cane used, 52 pounds, 14 ounces.	100 per cent.
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In other words, we have 84 1-2 per cent. of juice, and 15 1-2 per cent of woody fibre. From these figures it would seem that 70 per cent. in juice ought to be easily obtainable by proper machinery, and it becomes more apparent when we take into consideration the soft, compressible texture of this cane as compared to that of the West Indies. Mr. Peters, of Georgia, states the yield of his best one-eighth acre, in syrup, at 58 1-2 gallons; that of the poorest one-eighth acre at 43 1-4 gallons. Taking the average, we have as the yield of the entire acre, 407 gal-

lons; assuming the yield of the juice to correspond with the average results obtained by experiment, say 50 per cent. of the entire weight, with proper machinery, expressing 70 per cent., we have a yield of 570 *gallons per acre*. I examined carefully the specimens of syrup boiled under the eye of Mr. Peters, and also by myself. Several of these specimens were of a superior quality, all of them surpassing my expectations, in view of the crude manner in which they were made. There is present in all of them, to a greater or less degree (owing to differences in manipulation,) a peculiar flavor, reminding one of the maple sugar, which is very grateful to the palate, and gives it a decided preference over the article which we get under the name of New Orleans syrup. This, so far as I know, has been the uniform judgment of all who have tested it. These syrups give a precipitate of foreign matters with the basic acetate of lead (a delicate test,) little, if at all, greater in amount than New Orleans syrup. The precise nature of these precipitates remains to be ascertained and compared. The syrups vary considerably in density; those from the Chinese cane ranging from 1.298 to 1.335, while that of the New Orleans sample was 1.321. This variation in the density is an evil which should be corrected, to produce a good marketable syrup, which shall keep well. Samples of the Chinese cane syrup have been valued by the intelligent dealers in the article, in our section, at from 65 to 75 cents the gallon, by the barrel.

“In calculating the yield of this crop, we must take into consideration twelve hundred pounds of excellent fodder, and twenty-five bushels of corn, worth, as food for stock, say two-thirds the value of the ordinary corn; so that we can fairly off-set against the syrup crop, in the way of expenses, nothing more than the labor of its manufacture, for the forage and corn will repay the expense of the culture. A full consideration of the facts, which have been passed over somewhat in detail, must make it evident to

the mind of every intelligent farmer that this plant presents, at the present time, a *promise of reward* for its culture unequalled by any which has been introduced upon our soil since the introduction of the cotton crop."

SORGHUM SACCHARATUM.

To the Secretary of the N. H. Agricultural Society:

DEAR SIR:—Agreeably with your request, I send you a brief statement of my experiment with the Chinese sugar cane, (*sorghum saccharatum*.)

In May, 1856, I received a small parcel of the seed from the Patent Office. About the 25th of that month I planted ten hills of it on light sandy soil, for many years cultivated as a garden, on which horse manure and ashes had been spread before digging, and no manure in the hills, following the directions accompanying the seed in planting—"6 seeds to the hill, reduced to 6 at first hoeing, hills 2 1-2 feet apart." It came up well, but so small and so much resembling witch-grass as to be difficult to distinguish it, as only could be done by its greater firmness to the touch.—Its growth, at first, was discouragingly slow. When a foot high it was severely riddled by hail, from which, however, it soon recovered, and made an exceedingly rapid growth, so that by the last of September it had attained an altitude of eleven feet. Hoping to ripen the seed, (but failed,) I left it standing beyond the proper time for gathering, for syrup, and until it had been touched by a slight frost, when I placed it, standing erect, in an out-building open to the air, where it remained several weeks, lessening of course, by this drying, the amount of juice to be obtained from it. About the middle of November, to test its capability for

making syrup, I cut from 36 stalks, (the product of 6 hills,) the seed panicles and two feet of the tops, and with an ordinary hay-cutter reduced the remainder to chips, the juice freely dripping from the machine in the process. With a hoop and follower and the three-inch iron screw of my standing press, three quarts of juice were obtained therefrom, which was immediately boiled down in a porcelain kettle, after straining through a woollen bag, and yielded over a pint of syrup of the thickness of sugar-house molasses. This syrup has been kept bottled in a warm room, and unstopped almost every day, and at the present time is entirely sweet and free from fermentation. It is of a light, clear appearance, extremely pleasant in flavor, and has been pronounced by very many who have tasted and examined it, preferable to any southern syrup. At the meeting of the Massachusetts Legislative Agricultural Society, for the consideration of this product, a specimen of it was exhibited, as also of that made by Col. Peters of Georgia, from the same plant, and the decision was universally in favor of the New Hampshire syrup—disproving the theory advanced by some, that the plant is better adapted to the south than to the north, inasmuch as the yield per cent. of my experiment compared equally favorable with his. Dr. D. Jay Brown, of the Patent Office, (to whom I forwarded a specimen,) stated before the United States Agricultural Society, that “syrup of a superior quality had been presented to him from New Hampshire, equally as good as that extracted from the perennial cane.” The yield of syrup, as per my experiment, would be upwards of 300 gallons to the acre, and the weight of the green plants probably from 10 to 15 tons.

The superiority of this plant for fodder, I deduce from the fact that stalks, which have laid in my barn as fully exposed to the air as possible, up to the present time, yield juice very sweet and rich on being twisted in the hand—so rich, that we can readily credit the story of a gentleman

who was unable to ascertain the value of his cane, for the reason given that "his children and negroes eat it all up." Dr. Brown, before the U. S. Agricultural Society, cited cases of cattle subsisting entirely upon it for six weeks, that were in good condition for the butcher. Working horses have also been found to keep themselves in good condition upon it. Cows fed upon it in a green state, afforded excellent milk, and do not suffer from flatulency as often when fed on succulent clover or corn. When fully matured, the hardness of the outer covering renders it necessary to reduce it to fragments before feeding it out, but when thus reduced it is devoured greedily by cattle, horses, sheep and swine, to say nothing of the "boys and negroes." For this purpose, the "Eagle Stalk Cutter," of Messrs. Nourse & Co., 13, Commercial street, Boston, will be found admirably adapted, and should be found on every farm for this and kindred purposes.

SUGGESTIONS.—Soil and Manure. The ash of the plant yields 50 per cent. of phosphates, and nearly or quite, 25 per cent of silica, showing its adaptation to a sandy and even indifferent soil, and its demand for bone-dust, phosphatic guano, wood-ashes or poudrette, rather than for stable or other ammoniacal manures. Syrup from a cane 17 feet in height, and 1 1-2 inch in diameter, grown in the District of Columbia on moist, loamy land, yielded only 14 per cent. of dry saccharine matter, while that from a stalk 9 feet high and an inch in diameter, raised in Massachusetts, yielded 23 per cent.

Method and time of planting. For syrup-making, the the hill system, with about six stalks to the hill, will probably prove the best, and yield the most. For fodder, the narrow drill, and double cupping will, it is thought, prove preferable. Time for planting, same as Indian corn.

After management. Same as corn.

Time for cutting for syrup. The development of sac-

charine matter is supposed to correspond with that of the panicles or seed, the best yield being at the time of attaining the milky stage; although in the vicinity of Washington city, it is stated by Mr. Stansbury in his late work, that the ripening of the seed had no unfavorable effect upon the saccharine character of the juice. In South Africa, the panicles are taken off as soon as they appear on plants designed for syrups. We doubt not that by planting at the earliest practicable date, the sorgho may be so advanced as to allow of cutting for weeks in good condition for use, for syrups, and then it may also remain in condition for use, if stripped of its leaves, for weeks after being cut and removed to shelter.

I am happy to know that very many of our farmers are now preparing to test for themselves the value of this plant, generally in small, and therefore it may be hoped, careful experiments. Should it prove, with others, available, as it has with me, for the purpose of syrup making, a demand will at once be created for the necessary machinery for its manufacture—a demand that will as readily be met, as the necessary fixtures are very simple—the rolling process being the most efficient; the boiling process the same as for maple sap, except in the time required, as for maple an average of thirty gallons is required to be reduced to one, while of sorgho juice only from four to five, as people may prefer. I design to test the plant, the present season, on one acre of plain land, and the products for the various purposes of which it is represented capable, by careful experiments.

Yours truly,

EDWARD D. BOYLSTON.

“BUSYFIELD,” AMHERST, MAY 11, 1857.

THE CHINESE SUGAR CANE AND SUGAR MILLS.

To the Secretary of the N. H. Agricultural Society :

The present high prices of sugar and molasses, have produced a very general desire to experiment with the newly introduced Chinese Sugar Cane. The favorable results in the manufacture of molasses from the juice of this cane, in various sections of the country, the past season, seems to hold out great encouragement to us, even here in the Granite State, that at least, molasses, if not sugar, can be profitably made for family use. The past season, the cane was successfully grown in various sections of the State; and it is confidently asserted that it can be successfully grown wherever Indian corn fully matures.

There is much inquiry respecting the form or construction of a mill for crushing or grinding the cane. Many persons seem to think some kind of a press is necessary to extract the juice after the cane is ground. This is all a mistake. Mills for crushing and at the same time expressing the juice, can be built for, perhaps, one-fourth of the cost of a good cider mill. I will here give a description of some efficient and cheaply constructed mills, in this and some other countries. The descriptions may aid us much in putting up crushing mills the coming season. Perhaps it might be well for a few persons in the same neighborhood to "club together," and build a mill, and procure sheet iron pans for boiling the juice, all of which might be readily moved from farm to farm. It may not be advisable to go into large expenditures till the *thing* has been more fully tested.

Sugar cane is grown to some extent in some portions of Mississippi. By the last census returns, it appears that the crop of 1849, was equal to 388 hogsheads of sugar, and about 18,000 gallons of molasses; many of the most substantial planters making all the sugar and molasses required

for their own use, with some to spare to their neighbors. The sugar mills are rude and of small dimensions, consisting, in part, of little more than the rollers for grinding the cane, which are made of *seasoned oak timbers*, and stand generally in the open air. A cheap shed suffices for a protection of the kettles, which are common iron ones.

Lieut. Herndon, U. S. Navy, in his explorations from Lima on the Pacific, across the Andes to Para, on the Amazon in Brazil, frequently speaks of the sugar cane, and sugar making. So also does Lieut. Gibbon.

Lieut. Herndon visited a plantation near Tarma in Peru, and says: "Sugar cane is extensively cultivated. Two men to cut and two to carry will supply a mill which consists of *three upright wooden rollers* in a rude wooden frame. The rollers are *ragged* and placed close to each other. The head of the middle one extends above the frame, and is squared, so as to allow the shipping on it a long beam, to the end of which an ox is harnessed, which walking in a circle, gives motion to the rollers. The end of the cane is placed between the rollers and is drawn in and crushed by them; a wooden trough is placed below to catch the juice. Such a mill will produce fifteen hundred pounds of juice in a day. These fifteen hundred pounds of juice will give from two hundred and fifty to three hundred pounds of sugar, which is worth, in Tarma, twelve and a half cents per pound.

"Sugar cane is the most useful and valuable product of that section of the country. The leaves of the cane when green serve for food for cattle; when dry to make wrapping for the candy and sugar. The crushed stalk is used as fuel for the oven. The hogs fatten on the foam at the top of the boiling. From the first boiling is made the candy or brown sugar cake, which is eaten after dinner by almost all classes. It is worth six and a quarter cents the pound in Tarma. From one thousand pounds of juice boiled ten hours, is made four hundred pounds of candy."

In the late published volumes of Commodore Perry's expedition to Japan, I find an account of the sugar mills of the Island of Lew Chew. These mills consist of three upright cylinders of hard wood, supported in an upright position, by means of a wooden frame. The cylinders are about a foot in diameter, and arranged in a row, with a mortice between them to regulate the approach and their pressure upon the cane. The central one has a wooden axle, or shaft extending through the frame which supports it, to which is attached a curved lever of fifteen feet in length, by which the mill is readily worked. This central cylinder has a row of cogs of hard wood near its upper end, which play into mortices cut into each of the other two cylinders. A single bull or horse is generally used to work the mill, and the animal moves in a circle of about thirty feet in diameter. The cane is placed first between the central and right hand cylinders, and, before it escapes, is caught in the hand of the workman, and, being twisted like a rope, is thrust between the central and left rollers, by which it is completely crushed and its juice expressed, which flows through gutters into a tub, placed in a hole near by. The juice is then conveyed to buildings, temporarily constructed for the purpose, and there boiled in iron pans, holding about eight or ten gallons.

In connection with the above description, there is a well executed engraving, showing two mills in use, and many other of the operations in sugar making. The plate reminds one very strongly of an old fashioned mill for grinding apples for cider.

The foregoing descriptions are so intelligible, that we think every millwright would readily construct one, and if the manufacture of syrup is found profitable it will then do to "go in" for more costly fixtures, &c.

L. BARTLETT.

WARNER, March 13, 1857.

GRAZING LANDS.

BY H. A. DANIELS, ESQ., MILFORD.

To the mind of the careful observer, the continuous process of deterioration, that is going on with pasture lands in New England, must be a source of regret and anxiety. The question is often asked, and *reiterated*, "How shall we reclaim our worn out pastures?" It is often answered, that the best way on a farm is, to have a rotation and bring the grazing lands under the plow once in six or seven years, substituting, during the process, mowing fields that have become reduced by cropping; thus in turn mowing and pasturing all the lands of the farm, except those in forest. This plan may be practicable for those owning farms of moderate size, and when all the cleared lands lie contiguous to buildings; but to the great majority of farmers in New England, such a plan is not feasible, for the reason that the more hilly and remote portions of the farm are devoted to this purpose, and the exceptions are almost always found to arise from the fact that some lands near the buildings are so rocky that they cannot be plowed and cultivated to any advantage.

Did the deterioration of our pastures consist simply in the decrease in yield of herbage, the evil would not be so serious; but to those who have looked upon the rich grazing fields of western New York, and partaken of the products of the dairy, it is obvious that the depreciation in quality of the grasses is fully as great.

How then shall the great body of the grazing lands be renovated; lying as they do upon thousands of hill-sides

remote from barn-yards and encumbered by rocks? The most feasible, cheapest and efficient remedy, I think, may be found in the use of a sharp-toothed crotched harrow, a cheap compost and a fair supply of clover and other grass seeds. I am aware that to talk of compost for pasture lands, may bring a smile upon the face of many a farmer, who (accustomed to look at things in a mass) cannot look at matters in detail, and the bare mention of spreading compost upon forty or fifty acres would appear an absurdity. Yet the same farmers would look upon it as altogether feasible to build two or three hundred rods of stone wall for fence, involving fifty times the amount of labor; and why this difference? Simply in this, that in the latter case he looks at it in its practical details, that is, he goes about the gigantic undertaking at his leisure, and makes it an incidental work to the other labors of the farm, and as he turns the sod of his fields and exposes their stores to view, he, of course, removes them to the site of his future fence, and then lays them up at his leisure. In this way, without interfering with the ordinary labors of the farm, he, in a few years, counts his rods of durable stone fence by the hundred, with scarce a perceptible expenditure of labor.

Now if farmers would view the renovation of their grazing lands in the same light, and make it incidental to their ordinary labors, we should in a few years observe a marked difference in the fertility of our pastures, and a proportionate increase in the products of our dairies. To be more explicit, if all our farmers would have a well digested plan of their operations for the year, much time, labor and travel might be saved, and at the same time extensive preparations made for fertilizers for their pastures. Almost any farm has deposits of peat or muck, and a few hours of spare time in the summer, occasionally applied to digging it out, would supply the foundation of a large amount of compost, and then a few casks of limo or

a load of leached ashes brought home from a village after the delivery of a load of wood or hay, would (so far as teaming was concerned) be so much clear gain. These materials could be composted at any odd time during the summer or autumn, and then carried to the pasture in November or December, when the ground was frozen, as a little old hay or straw thrown over the compost heap and confined by a few poles, would effectually prevent its freezing to damage its shovelling. Who will say, in view of these suggestions, that one, two or five acres of pasture lands may not be treated yearly with a coat of compost without interfering at all with the ordinary labors of the farm, and which shall be returned four fold in the quantity of milk and beef?

To the reflecting mind, the wants of our grazing lands are evident. In the early settlement of the country, our pastures were rich in the elements of fertility from the presence of large quantities of vegetable and mineral deposits from the fallen leaves of centuries, and which a continual cropping of the herbage and removal in the form of milk and beef has now reduced to a mere moiety. This being the case, our study should evidently be, to restore the same elements of fertility again to the soil as fast as it can be done profitably. No better course suggests itself to my mind, than to supply the vegetable matter in muck or peat, and the mineral, in lime or leached ashes. These properly composted, as before observed, and after sowing a reasonable quantity of grass seeds, spread upon the pasture in early spring and thoroughly harrowed with a sharp-toothed crotch harrow, will show results that will surprise any one, I think.

Following such a course as this for a few years, the farmer might reclaim from a sour, sterile state, a large pasture, and *reinstat*e it, if not in its pristine vigor, in such a condition that its effects would be visible for years.— And why should not such labors be expended on our pas-

ture lands? Is it *reasonable*, while so much labor and manure is applied to mowing and other tilled lands, that our pastures, that are expected to furnish food for our stock for one half the year, should be left to fate and blue-berry bushes? Altogether too little estimate is put upon the *quality* of the grasses in our pastures, and if our cows continue to pick a scanty living from May to November, it is thought of little consequence whether the food consists of bushes, brakes, &c., or clover and herdsgrass. This is a great mistake, and milk and butter from a herd of cows kept in pastures abounding in the cultivated grasses, are just as much better, as the beef of a stall-fed ox excels the flesh of a wild buffalo.

Can we not hope, then, that the day is not far distant, when farmers will feel that it is just as important to bestow labor and manure on their grazing lands as on their corn-fields, and when the proceeds of the dairy will exceed in amount all other products of the farm?

STOCK BREEDING.

BY J. K. SMITH, ESQ., DUBLIN.

Are our farmers generally sufficiently aware of the importance of raising the kind of neat stock best adapted to their means of keeping?

Do they fully appreciate the difference between stock bred from selected individuals of any breed, and breeding indiscriminately as many do?

And do they apply the means at their command so skillfully as to bring to the greatest perfection the stock they do raise?

I do not propose to give an elaborate answer to the foregoing questions, nor to write a formal essay on the subject of them. I shall merely offer a few hints and observations in relation to them for the consideration of my brother farmers, assured that they will value them according to their worth.

Before determining the *kind* of stock proper for any farmer to propagate, the nature of his keeping, summer and winter, should be considered.

The better his hay, the more luxuriant his pasture, the larger his breed of cattle should be. If he has plenty of good hay for winter keeping, and has pasturage which has not yet exchanged its honeysuckle, clover and herdsgrass for white-grass, the Durham breed of cattle is probably the best he could adopt as the basis of his stock. If, on the contrary, he abounds in meadow or swale hay, and his pastures have "fallen from their first estate," into barrenness and sterility, relieved only by grasses of inferior quality, some smaller and hardier breed will subserve his interest

better. The Devons, the Ayrshires, and the natives, will, under these circumstances present their respective claims, and he will choose as his judgment or fancy may direct. In the fertile valley of the Connecticut, and in many other localities in the State, the Durham would undoubtedly prove most profitable to the breeder.

But in the elevated portion of the State, where every shower levies its contribution for a portion of fertility to enrich the plain below; where the former rich and succulent grasses have given place to those of an inferior quality, the farmer must be content with a smaller and hardier breed of cattle, one that requires less forage, and whose constitutional vigor will not be impaired by feeding on that of an inferior quality. Small cattle are more easily kept, are more active in obtaining their food, can subsist on shorter herbage, and, in a poor pasture, will make more growth in proportion to their food, and also will give more milk in proportion to their size, than larger ones.

Having determined on the kind of stock best adapted to his situation and means, let him select the best individuals to propagate from. No farm stock can long maintain its standing, much less *improve*, without care in this respect. If the butcher must make his selection from the calves first, and the farmer raise those that he rejects, we need not be astonished if the "lean kine," seen by Pharaoh in his dream, are reproduced and perpetuated among us. It is but the natural effect of a known cause, and this result is the only one that could reasonably be expected. Although "a good cow *may* have a bad calf," she is far less likely to than a poor cow is. This principle is at the foundation of all the improvements in the several breeds of cattle in England. Had Bakewell bred indiscriminately, the Durham short horns, as a distinctive variety of cattle, would not have existed. By judiciously selecting those individuals for breeding, which combined in the greatest degree the qualities he sought, he developed those qualities, and

carried them farther and farther in each successive generation.

Keeping this principle in view, it is probable that improvements might be made in our native breed of cattle, which in time would result in forming a well defined, distinct variety. If crosses of different breeds are to be made, it is desirable that the male should be of the smaller breed. Thus, in a cross of the Durham with a Devon or native, the progeny would probably be much better if the female were a Durham, than if of the smaller variety. The larger size of the female gives assurance of a greater degree of thriftiness in the offspring than if the cross is made the other way.

But, we will suppose the cross made, and the calf on hand, calling for care and attention. What course is best to secure a good degree of growth in the animal, at the least expense to the breeder? This question has been, and will be, answered differently by different persons, as difference of situation or other circumstances may dictate.

Evidently, the most *natural* course is to let the calf suck its mother till old enough to wean, and some practice this plan and think it the best way. But it is evident that the use of a cow three or four months for each calf, must make it an expensive mode of raising stock, to say nothing of the injury the cow sustains.

Others modify this course by allowing but one cow for two calves, and selecting a cow that will not be used for dairy purposes afterwards. This obviates the expense, is the least trouble, and, in some respects, is a very good plan. Others, however, think they cannot afford to keep cows for the purpose of rearing calves alone, but wish to raise them and retain the cows for the dairy.

They accordingly take the calf from the cow and learn it to drink. Sooner or later skimmed milk is substituted for new milk, and the difference made up by the use of meal, or something of the kind. The danger in such cases

is, that the meal will derange the stomach and bring on scouring.

Having tried several different ways I have had the best success to let the calf suck till about three weeks old, then learn it to drink and continue the use of new milk another week, at least. Substitute skimmed milk gradually, using hay-tea, oil, meal, shorts, or barley meal, in connection with it till old enough to wean. Barley is preferable to Indian for this purpose, and oat meal is better than either. Shorts are excellent for keeping the stomach and bowels in proper condition. Some persons are desirous of making the calf *drink* his milk as soon as possible. But I am convinced that unless the calf exercise his natural propensity of *sucking*, he is much more liable to disease.

Accordingly, I indulge him with the *finger* till eight or ten weeks old, for the purpose of drawing saliva from the glands of the mouth to incorporate with his food to promote its digestion.

Calves that drink will not look so well while they take milk as those that take it in the natural way, but, generally, they will do better after they are weaned.

A trial of different ways will satisfy any person as to which is best. The high price of cattle for several years, with a prospect of its continuance, makes the rearing of them a remunerative business, especially if proper care is exercised to have *good* animals. If the foregoing imperfect hints can be made of any service to my brother farmers, my object in writing them will have been attained.

POINTS OF NEAT STOCK.

[FROM D. J. BROWNE'S AGRICULTURAL REPORT—PATENT OFFICE
DEPARTMENT.]

Were an ox of fine symmetry and high condition placed before a person not a judge of live stock, his opinion of its excellencies would be derived from a very limited view, and, consequently, from only a few of its qualities. He might observe and admire the beautiful outline of its figure, for that might strike the most casual observer. He might be pleased with the tint of its colors, the plumpness of its body, and the smoothness and glossiness of its skin. He might be even delighted with the gentle and complacent expression of its countenance. All these properties he might judge of by the eye alone. On touching the animal with the hand, he could feel the softness of its body, occasioned by the fatness of the flesh. But no man, not a judge, could rightly criticise the properties of an ox further. He could not possibly discover, without tuition, those properties which had chiefly conduced to produce the high condition in which he saw the ox. He would hardly believe that a judge could ascertain, merely by the eye, from its general aspect, whether the ox were in good or bad health—from the color of its skin, whether it were of a pure or cross breed—from the expression of its countenance, whether it were a quiet feeder—and from the nature of its flesh, whether it had arrived at maturity or not. The discoveries made by the hand of a judge might even stagger his

belief. He could scarcely conceive that that hand could feel a hidden property—the touch—which of all tests is the most surely indicative of fine quality of flesh, and of disposition to fatten. It can feel whether that flesh is of the most valuable kind; and it can foretell the probable abundance of fat in the interior of the carcass. In short, a judge alone can discriminate between the relative values of the different points, or appreciate the aggregate values of all the properties of an ox. The parts of the ox by which it is judged, let it be remembered, are called “points.”

Thus it may be seen that a person even totally ignorant of cattle, may judge of some of the most apparent properties or points of a fat ox; but were a lean one placed before him, he would be quite at a loss what opinion to pass on its present, and, far more, of its future condition. The outline of its figure would to him appear rugged and angular, and consequently coarse. To him the body would feel as a number of hard bones, covered with a tough skin and coarse hair. A judge, on the other hand, could at once discover the good or bad points of a lean as well as of a fat ox; because the properties of the former are the same in kind, though not in degree, as those of the latter; and, in accordance with the qualities of these points, he could anticipate the future condition of the lean ox, save and excepting the effects of accidents and disease.

But, it may be asked, if the qualifications of a judge of cattle may be so easily acquired as is here represented, how is it that the opinion of a judge is always held in deference, and is always referred to in cases of difference of opinion? This question admits of a very satisfactory answer: Errors in the judging of cattle arise not so frequently from not knowing the points to be judged of, as from judges attributing to one or more of their favorite points too great an influence over the future increasing condition of the ox; and as long as there are so many points to be considered, and as most of them may be partially altered

by local circumstances, a difference of opinion may exist among judges of lean stock.

Now, what are those points of an ox, a thorough knowledge of which is so essential to constitute a perfect judge? Could they be described and illustrated with such precision as that they might be applied at once to every ox, in whatever condition he might be, a great advancement would be made towards establishing fixed rules for the right judging of all the domestic animals. Fortunately, nature has herself furnished rules for ascertaining points for judgment, a knowledge of which can nevertheless be only acquired by careful observation and long and constant practice.

The first point to be ascertained in examining an ox is the *purity* of its breed, whatever that breed may be, which may be ascertained from several marks. The color or colors of the skin of a pure breed of cattle, whatever those colors are, are always definite. The color of the bald skin on the nose and around the eyes, is always definite, and without spots. This last is an essential point. When horns exist, they should be smooth, small, tapering, and sharp-pointed, long or short, according to the breed, and of a light color throughout in some breeds, and tipped with black in others. The shape of the horn, however, is a less essential point than the color.

The second point to be ascertained in an ox is the form of its carcass. It is found that the nearer the section of the frame of a *fat* ox, taken longitudinally vertical, transversely vertical, and horizontally, approaches to the figure of a parallelogram, the greater quantity of flesh will it carry within the same measurement. That the carcass may fill up the parallelogram as well as its rounded form is capable of filling up a right-angled figure, it should possess the following configuration: The back should be straight from the top of the shoulder to the tail. The tail should fall perpendicularly from the line of the back. The buttocks and "twist" should be well filled out. The brisket should pro-

ject to a line dropped from the middle of the neck. The belly should be straight longitudinally, and round laterally, and filled at the flanks. The ribs should be round, and should project horizontally, and at right-angles to the back. The "hooks" should be wide and flat; and the rump, from the tail to the hooks, should also be flat and well filled.—The quarter from the aitch-bone to the hook should be long. The loin-bones should be long, broad and flat, and well filled; but the space between the hooks and the short-ribs should be rather short, and well arched over with a thickness of beef between the hooks. A long hollow from the hooks to the short-ribs indicates a weak constitution, and an indifferent thriver. From the loin to the shoulder-blade should be nearly of one breadth, and thence it should taper a little to the front of the shoulder. The neck-vein should be well filled forward, to complete the line from the neck to the brisket. The covering on the shoulder-blade should be as full out as the buttocks. The middle ribs should be well-filled, to complete the line from the shoulders to the buttocks along the projection of the outside of the ribs.—These constitute all the points which are essential to a fat ox, and which it is the business of the judge to know, and by which he must anticipate what the lean one, when fed, would realize. The remaining points are more applicable in judging of a lean than a fat ox.

The first of the points in judging of a *lean* ox is the nature of the bone. A round, thick bone indicates both a slow feeder, and an inferior description of flesh. A flat bone, when seen on a side view, and narrow, when viewed either from behind or before the animal, indicates the opposite properties of a round bone. The whole bones in the carcass should bear a small proportion in bulk and weight to the flesh, the bones being only required as a support to the flesh. The texture of the bone should be small grained and hard. The bones of the head should be fine and clean, and only covered with skin and muscle, and not

with lumps of fat and flesh, which always give a heavy-headed, dull appearance to an ox. The fore-arm and hock should also be clean and full of muscle, to endure travelling. Large joints indicate bad feeders. The neck of an ox should be, contrary to that of the sheep, small from the back of the head to the middle of the neck. The reason of the difference, in this respect, between the ox and the sheep is, that the state of the neck of the ox has no effect on the strength of the spine.

A full, clear and prominent eye is another point to be considered; because it is a nice indication of good breeding. It is always attendant on fine bone. The expression of the eye is an excellent index of many properties in the ox. A dull, heavy eye certainly indicates a slow feeder.—A rolling eye, showing much white, is expressive of a restless, capricious disposition, which is incompatible with quiet feeding. A calm, complacent expression of eye and face is strongly indicative of a sweet and patient disposition, and, of course, kindly feeding. The eye is frequently a faithful index to the state of the health. A cheerful, clear eye accompanies good health; a constantly dull one proves the probable existence of some internal lingering disease. The dullness of eye, arising from the effect of internal disease, is, however, quite different in character from a natural or constitutional phlegmatic dullness.

The state of the skin is the next point to be ascertained. The skin affords what is technically and emphatically called the "touch"—a criterion second to none in judging of the feeding properties of an ox. The touch may be good or bad, fine or harsh, or, as it is often termed, hard or mellow. A thick, firm skin, which is generally covered with a thickset, hard, short hair, always touches hard, and indicates a bad feeder. A thin, meagre, papery skin, covered with thin silky hair, being the opposite of that just described, does not, however, afford a good touch. Such a skin is indicative of weakness of constitution, though of good feeding properties.

A perfect touch will be found with a thick, loose skin, floating, as it were, on a layer of soft fat, yielding to the least pressure, and springing back towards the fingers like a piece of soft, thick chamois leather, and covered with thick, glossy, soft hair. Such a collection of hair looks rich and beautiful, and seems warm and comfortable to the animal. It is not unlike a bed of fine soft moss, and hence such a skin is frequently styled "mossy." The sensation derived from feeling a fine touch is pleasurable, and delightful, to an amateur of breeding. Along with it is generally associated a fine symmetrical form. A knowledge of touch can only be acquired by long practice; but, after it is once acquired, it is of itself a sufficient means of judging of the feeding qualities of the ox; because, when present, the properties of symmetrical form, fine bone, sweet disposition, and a purity of blood, are the general accompaniments. These are the essential points of judging lean cattle; but there are other and important considerations which must claim the attention of the judge, in forming a thorough judgment of the ox.

The proportion which the extremities bear to the body and to each other, is one of these considerations. The head of the ox should be small, and set on the neck as if it appeared to be easily carried by the animal. This consideration is of great importance in showing cattle to advantage in the market. The face should be long from the eyes to the point of the nose. No face can be handsome without this feature. The skull should be broad across the eyes, and only contract a little above them, but should taper considerably below them to the nose. The muzzle should be fine and small, and the nostrils capacious. The crown of the head should be flat and strong, and the horns should protrude horizontally from both sides of it, though the direction of the growth from the middle to the tip varies in the different breeds. The ears should not be large, but should stand a little erect, and be so thin as to appear translucent when exposed to the sun. The neck should be

light, tapering from the front to the shoulder and neck-vein, with a gradual rise from the top of the shoulder to the head. The length of the neck should be in proportion to the other parts of the animal; but this is a non-essential point, though an apparently short neck would be preferred to a long one, because it is generally well covered with the neck-vein. A droop of the neck, from the top of the shoulder to the head, indicates a weakness of constitution, arising frequently from breeding too near akin. The legs below the knee should be rather short than long, and clean made. They should be placed where they apparently bear the weight of the body most easily, and should stand wide asunder. The tail should be rather thick than otherwise, as thickness indicates a strong spine and a good weigher. It should be provided with a large tuft of long hair.

The position of the flesh on the carcass is another great consideration in judging of the ox, the flesh on the different parts being of various qualities. Those parts called the "spare-rib," "fore" and "middle ribs," "loins," and the rump or "hook-bone," are of the finest quality, and are generally used for roasts and steaks. Consequently, the ox which carries the largest quantity of beef on these points is the most valuable. Flesh of fine quality is actually of a finer texture in the fibre than coarse flesh. It also contains fat in the tissue between the fibres. This arrangement of the fat and lean gives a richness and delicacy to the flesh. The other parts, though not all the same quality, are used for salting and making soups, and do not command so high a price as the parts just described.

A full twist lining the division between the hams, called the "closing," with a thick layer of fat, a thick flank, and a full neck-vein, are generally indicative of tallow in the interior of the carcass; but it frequently happens that all these symptoms of laying on internal fat fail. The disposition to lay on internal fat altogether depends on the nature of the individual constitution; for it is often observed that those

animals which exhibit great fattening points on the exterior do not fill with internal fat so well as others which want these points. On the contrary, thin-made oxen, with flat ribs and large bellies, very frequently produce large quantities of internal fat.

The first part which shows the fat in a feeding ox, is the point or top of the rump, which, in high-bred animals, is a prominent point; sometimes it protrudes too much, as the mass of fat laid on these is out of proportion to the lean, and therefore useless to the consumer. This is the part which frequently misleads inexperienced judges in the true fatness of the ox, because fat may be felt on this part when it is very deficient on most of the other points.

The parts, on the other hand, which are generally the last in being covered with flesh, are the point of the shoulder joint, and the top of the shoulder. If these parts are, therefore, felt to be well covered, the other and better parts of the animal may be considered "ripe." Ripeness of condition, however, can only be rightly ascertained by handling, for there is a great difference between the apparent and real fatness of an ox. The flesh of an apparently fat ox to the eye, may, on being handled by a judge, feel loose and flabby; but a truly fat ox always feels "hard fat." With such, the butcher is seldom deceived, while loose handlers give no assurance of killing well.

It is proper, in judging of the weight of a fat ox, to view his gait while walking towards you, which, if he has been well fed, will be accompanied with a heavy rolling tread on the ground. In this way, a judge can at once come very near to its weight.

The application of all these rules and considerations to the judging of lean stock, constitutes the chief difficulty to the judge. An ox in high condition, in so far as its condition alone is under consideration, can be judged of, as we have seen, by any one; and sometimes the fatness may be so great as obviously to deform the symmetry to any observ-

er. The superiority of a judge to others, in these cases, consists in estimating the weight, observing the purity of the blood, and valuing the points of the animal. But in judging of a lean ox, its future condition and symmetry must be foreseen. These rules, if studied practically, will enable an inquiring observer to foresee these points; and, in judging between a number of valuable points, it should be remembered that purity of breeding will always insure aptitude to fatten, which, in its turn, will insure the largest remuneration for the food consumed.

DRAINING WITH TILES.

BY H. F. FRENCH.

Enough has been said, and written, and observed, to convince all enlightened farmers, that a great proportion of the lands in New England which prove in the end most valuable, require to be first relieved of surplus water. This is true of all our low meadows, and a great deal of upland, especially springy hill-sides.

Though draining with tiles is, without doubt, the cheapest and best mode of doing this, and although I remarked in a recent article that we have not arrived at the luxury of using drain tiles, I find that our farmers are resolving that they will act in this, as in other matters, on the principle that what is worth doing is worth doing well; and will not be satisfied till the best mode of draining is adopted.

To keep up with the spirit of the age, I have myself opened some hundred rods of drains on my farm, and procured tiles all the way from Albany to lay in them. This being my first attempt, I can only speak now from observation, and the information I have gathered from men and books on the subject. As this subject must occupy the attention of our farmers more than any other, for many years to come, it being the next great step to be taken in the march of improvement on all our old farms, it will be deemed excusable to begin at the beginning in our discussion. Tho' milk be "for babes," it cannot injure full grown men to taste it occasionally. So let us first answer,

What are Drain Tiles?—Drain tiles are made of clay, similar to brick clay, moulded by a machine in tubes, usual-

ly thirteen inches long, and burnt in a kiln or furnace, to be about as hard as what are called hard burnt bricks. They are of various forms and sizes. Some are round with a sole or flat bottom, moulded with the tile, others are horse-shoe formed, open at the bottom, to be laid on the *hard* bottom of a ditch without a sole, or in *soft* places with a sole or flat bottom, of the same material with the tile. The size varies from two to six inches calibre, according to the quantity of water to be conveyed. It is a question of expediency, whether to use very large tiles, or to lay two or more courses of smaller size, side by side, when the flow of water is very great.

How are Tiles Laid?—Trenches are opened to the requisite depth, as narrow as convenient for men to walk in. Green hands at ditching will declare they cannot trench three feet deep, without breaking the ground two and a half feet wide; but with proper tools, I have found no difficulty in going four and a half feet deep in a trench but two feet wide at top. The English books say that men who work by the rod, always open very narrow trenches. My tools are first, a common shovel; next a common spade, and lastly, a long handled spade, cut down at a machine shop with shears, to three and a half inches wide at the point with a true taper from the heel, making a wedge-shaped spade. With this the ditch is finished, with just comfortable room to lay the tiles straight, and lay in a chip of brick or stone on each side, where the joint is too open. Then having laid the tiles end to end, with a true descent in the trench, commencing at the top, cover them first with something that will exclude sand, which I take to be the worst enemy to contend with. I use spent tan as a convenient and very perfect strainer. The books say turf with the grass down is commonly used. Hay, straw, or pine or hemlock boughs are used. Having thus covered the tiles, put into the trench next that part of the earth thrown out, which lets the water pass through most

readily, as sand or gravel, or in a clay soil, the soil top. It is perhaps possible with pure clay puddled in, to stop water from getting into the tiles, and no person of common judgment would put pure wet clay immediately on to the tiles. Finally, fill the trenches and make all level, making allowance for what the earth over the drains may settle. The first question always asked by a novice in the art of draining with tiles, is,

How does the Water get into the Tiles?—The answer is, “it gets in at the joints and through the pores of the burnt clay. Professor Mapes says, that if you cork up both ends of a common drain tile, and put it under water empty, it will fill by water passing through the pores in two minutes. A Scotchman with whom I recently conversed, who is familiar with the practical operations of tile draining, said that you might stop one end of a tile, and pour in a quart of water every day in the year, and it would all go through. There need be no fear on this point. In any soil but pure clay, you cannot keep the water out of the tiles, and it is very rarely that clay is found that cannot be thoroughly drained with them. This is no new business, and there is no need of any doubt about the facts as to the operation of tile draining.

Mr. Colman states that the Duke of Portland has completed on his immense estates seven thousand miles of drains; and that the Duke of Bedford had made two hundred miles of drains on his estates in one year! Tiles have been used extensively in parts of New York, and to some extent in New England, but if evidence of their utility is wanted, an experiment may be referred to, tried by a neighbor of mine in Exeter, a first-rate farmer and most reliable man.

Experiment by Mr. William Conner, of Exeter. Mr. Conner procured four thousand drain tiles from Albany, most of them two inch, a few larger, and laid the greater part of them in 1855. His land is a hill side of easy de-

scent of a slaty soil, with a clay subsoil in part, in other parts sand and gravel. Under most of the drained land, he found a clay bottom at about three feet depth, upon which the water from the hill above flowed along, oozing out upon the surface, and standing, in wet seasons, in little pools, and producing grass so sour and coarse that cattle would not feed upon it, and it grew up, and was mowed in the pasture where cattle were kept for bedding. Mr. Conner put in his drains across the slope, at three rods distance apart, nearly parallel, and sixty rods long, mostly in straight lines. He carried the bottoms on a regular descent, without regard to the surface, laying none less than three feet deep, and in some instances cutting to the depth of six or seven feet, and united the whole in one main drain.

He considered it important to cut through the upper strata into the clay, to cut off the flow of water from the high land. The general rule will be found to be different from this course in one particular. The best authorities advise, ordinarily, to cut the trenches up and down, and not across the hill side. But the course adopted by Mr. Conner seems effectual for his purpose. His drained land has not been plowed or changed in any way except by the drains, but so great has been the effect in a single year, of removing the cold water, that the cattle have fed the ground closely, no water stands in the holes upon the surface, even a day after a heavy fall of rain.

Mr. Conner is well pleased with his experiment, and says that he would rather have the product of the land without manure for five years to come, than to have it, had \$75 worth of manure to the acre been applied, without draining.

He has for many years attempted to drain his fields with stone drains, and pointed out a field where more than a hundred rods of them had been laid ten years. They answered well for a time, but of late have in part failed, and

the cold water begins to do its secret work upon the crops. Like many of our best farmers, he feels the want of drain tiles at a reasonable price.

Why are Drain Tiles better than Stone or Wood? We may answer briefly, they are better, because they are more durable than any other drain, being so far as ascertained, imperishable when properly laid. They are better, again, because mice and other vermin cannot live in them, or destroy them. They are better, because they drain more evenly than anything else. The labor of excavating is much less than for other drains, as the trenches may be very narrow. Finally if the tiles can be obtained at the fair price of manufacturing, say \$12 per 1,000, they are cheaper in the first cost than stone lying on the farm, because they are so much more cheaply laid. There are no tile works in New England that I know of, except in one town in Massachusetts, and the cost of freight from there or from Albany, where some three millions are made every year, nearly doubles the cost to us in New Hampshire.

But let there be a demand and the supply will come. We have clay and capital, and men, and can have tile works, whenever the farmers make known their wants. For one I am determined to try the experiment of tile draining, though at too great cost for profit perhaps, on my own farm. The whole subject requires discussion. The old fogies, if a cant congressional term is allowable, of course will declare that this country does not require draining, and that if it did stones are best; but the young farmers who have their living to get off of land that has been skinned, will work deeper than their fathers, and a few years will show a systematic course of thorough draining with tiles, on good farms.

THE HABITS OF THE HONEY BEE.

BY GEO. H. CLARKE.

1. The honey bee acts only as a gatherer of honey, or nectar, from the flower, and is not a *distiller*, or a maker of honey, and has no such power.

2. Bees also gather both pollen and honey at the same time, and many flowers yield both at the same time.

3. The bee does not use its tongue to spread wax with.

Considerable was said, a few years ago, upon the subject of feeding bees on a large scale for profit, upon the theory that whatever the bee would eat or swallow, and carry to the hive, would be transformed into the purest honey before it was deposited in the comb; and according to this belief, many, to my knowledge, bought Cuba honey and brown sugar by the barrel, to feed their bees with, expecting to get rich from the profits the first year. These great speculators prepared their feed according to the following rule: 15 lbs. of Cuba honey, 35 lbs. common brown sugar, and 50 lbs. of water—said to make 100 lbs. of the purest honey, as soon as deposited in the comb. This proved to be a humbug.

From what I had seen of the honey bees, I could not believe that they had the power of making good honey from such a poor composition. I consequently spoke unfavorably of any such speculation; but many still persisted in the truth of it. Time had not told the story then; and to satisfy myself thoroughly upon the subject, I made an experi-

ment by procuring a pound of Cuba honey, to which I added two pounds of brown sugar and three pounds of water, making six pounds of the composition. The water was scalding hot. When cool, I poured about two thirds of it into a feeder, and placed it in a hive containing a late swarm of bees with a considerable quantity of dry comb, and not a particle of honey to be seen. In about an hour from the time I placed the feeder in the hive, every particle of the feed had disappeared, and the cells of the comb were equally about half-filled with the composition, of a reddish color, precisely the same in appearance as it was before I gave it to the bees. I then opened the hive and broke out a piece of this comb containing the feed. As soon as I could clear the bees from it, I bit off a mouthful of the comb and its contents. The sensation produced by breaking the comb in the mouth, and the flavor of the wax of which the comb was made, seemed to indicate a slight change in the feed. I then pressed some of it into a spoon, and tasted again. There was not the slightest change in the flavor, and I would have defied any man to have told that which had been in the bees from that which the bees had not seen. If any doubt this statement, let them try the experiment themselves. I then gave the remainder to the same swarm, which readily deposited it in the comb, but did not cap or seal it over as bees do good honey from the flowers. I undertook to winter this swarm with the rest of my bees, but it died about the middle of the winter with the dysentery, besmearing the inside of the hive and combs from top to bottom, still leaving about half of this miserable stuff in the comb. This experiment satisfied me as to the power of bees in changing brown sugar, molasses, and the like, into good honey. Some with whom I am acquainted, after feeding barrels of this good-for-nothing stuff, but to make vinegar of, to a valuable stock of bees, lost them all, without ever receiving a dollar towards paying for this feed.

Bees do not change their honey one particle from the

time they sip it from the flowers till it is deposited in the comb. The honey gathered by bees from all kinds of fruit trees, such as the apple, pear, plum and cherry, and also the wild cherry, tastes precisely as the blossoms smell, or as the leaves of the blossoms taste when chewed in the mouth. Buckwheat honey is generally thin and watery, and of a very poor quality. The weather has a great influence on buckwheat honey as to its being thin or very thin. I never saw any very thick which was gathered from the raspberry and white clover. Bees gather both honey and pollen at the same time—not always, but often. This fact I have ascertained in different ways. I have watched the bees while industriously at work, and have seen thousands of bees return to the hive with a medium quantity of pollen on their thighs, and their sacks well filled with honey. The pollen was to be seen, and the plump appearance of the abdomen, hanging down as the bees approached the hive, indicated honey within. To be sure of this, I killed several and dissected them, and found their sacks full of honey. To be sure that it was honey, I tasted of it. I tried this several times in the same season, while different kinds of flowers were in blossom, and with precisely the same results. Fruit trees often yield both honey and pollen for awhile, then the honey will disappear while the pollen remains a day or two longer, if the weather is favorable. As to white clover, any man who has common sense knows, or ought to know, that a single head of white clover is exhibitory of all the different stages in progression from the bud to the seed, so well matured that it will germinate, thus giving the bee ample opportunity to gather both honey and pollen at the same time, which it often does. The blossoms of the river willow yield both honey and pollen at the same time, but sometimes the honey disappears first. Some flowers yield only pollen, and that is of an inferior quality. The dandelion is of this class. There is hardly moisture enough in the flower of the dandelion to enable the bee to knead the pollen into pellets sufficiently close to be carried to the hive.

Wax is a secretion from honey, and is grown at the will of the bees. When wax is wanted, the working class of bees eat honey for the purpose of growing it, and at their will it is digested in a peculiar manner, and circulated to the region of the wax packets, which are eight in number, the mouths of which are directly under the rings of the belly; here it makes its appearance in little thin scales, white in color, somewhat resembling little particles of snow. It is then removed by the bee who grows it, and also by other bees. It is then plaited into combs by a pair of mandibles or jaws that open to the right and left like a pair of pincers. The tongue performs no operation in building comb, neither is wax rendered plastic with saliva from the mouth of the bee. It is rendered soft and pliable only by a high temperature. Bees can neither grow nor work their wax at a temperature much below blood heat. This is the reason why small swarms do not build as much comb, according to their numbers, as large swarms, in hives of the same dimensions. They cannot generate the same amount of animal heat. But the man who makes his hives large or small as his swarms may be, will ultimately end in failure and disappointment, for a swarm put in a small hive can never be profitable as a large one, for want of suitable accommodations.

Bee-keeping is sadly neglected by almost all of our agriculturists in New England. There is nothing within my knowledge that pays so large a percentage on the capital invested as the culture of the honey bee when properly managed.

SEEDS FROM THE PATENT OFFICE.

BY LEVI BARTLETT ESQ., OF WARNER.

It is now generally known that, for some years past, considerable sums of money have been appropriated by Congress for the procurement of such seeds, plants and cuttings from every quarter of the globe, as would admit of useful and successful cultivation in this country. Many of the new kinds and varieties of seeds introduced, may prove worthless for cultivation in the northern States, that may prove valuable acquisitions to the rural products of the middle and southern States. Thus, many varieties of winter wheat, recently obtained from foreign sources, may do well when grown in the middle and southern States, while several varieties, upon actual trial, have been found too tender to withstand the rigors of the winters at the north, when sown side by side with some of our long cultivated sorts, which generally escape the winter unharmed. So, doubtless, it will prove with many other kinds of seed. But from actual trial, there is no doubt that many varieties of cabbage, turnip, and esculents, &c., &c., the seeds of which have been procured through the agency of the patent office, and so freely distributed to every section of our country, will prove most valuable additions to our former stock of plants.

Having experimented with a great variety of the imported seeds, I here give the result of my trials in growing the cabza, or rape.

The rape is a plant largely cultivated in England, France, and extensively in Flanders, where it may be considered a standing crop. It is a species of cabbage, and in the coun-

tries named is much used for green food for milk cows, &c. But it is more generally cultivated for the oil which is expressed from the seed, which is of a very pure quality for lamps and other illuminating purposes. The rape cake, (the refuse after the oil has been expressed,) is used like oil cake, for fattening cattle, sheep, &c., and is also used as manure.

Several years since, a quantity of rape seed was imported by the Light House Board, and, in small packages, widely distributed over the country, with the view of testing the practicability of cultivating the plant in this country, for the purpose of manufacturing oil for our light-houses. Large quantities of this seed are annually imported into the United States, at an expense of three or four dollars per bushel, for feeding to cage birds.

In the spring of 1854, I received a package of rape seed from the patent office; the seed was sown about the middle of June. The land, the previous year, (1853,) had been well manured and planted with field carrots and parsnips. The manure used for the rape, (and turnips by the side of them,) was guano, at the rate of 300 lbs. per acre. Both kinds came up well and grew finely, but the rape took the lead, altogether. As I hoed them, I thinned the plants to the distance of eight or eleven inches. The drills were 27 inches apart. Sometime in August, I found the plants too thick in the drills, and then commenced culling out every other plant and feeding them to my cows, but in the course of two weeks, the plants had become so infested with lice, that I abandoned them to their fate. The extreme drowth of that season, and the lice, killed nearly every plant before the frost came. My Swedish turnips and cabbages fared but little better.

Early in June, 1855, I carted on to a smooth plat of grass land, warm, fresh manure, at the rate of 25 or 30 cartloads per acre, which was evenly spread, and turned under by the plow from six to eight inches deep; the in-

verted sod was pressed down with a heavy roller, then well harrowed lengthwise the furrows, with a kind of horse rake; drills were made at the distance of 27 inches; a sprinkling of De Burg's superphosphate was strewn in the drills; seed sown by hand, and covered by the use of a common hay-rake. The plants came up in a few days and were not injured by any insect through the season.

In July, commenced thinning the plants, and fed them to my cows morning and evening, till the plants averaged about two feet each way. This brought it up to sixty-five days from the time the land was plowed. At that time, I cut at the surface of the ground, every other plant on two square rods. The lightest plant weighed three pounds four ounces; the heaviest, nine and a quarter pounds; the whole number averaged a little over five and a half pounds per plant. There were fifty-six plants per square rod. But to be sure of not overstating, I will call it fifty plants per square rod, which gives just twenty-two tons per acre of the choicest kind of green food for milch cows, &c., in less than sixty-five days from the time the seed was sown. I then commenced cutting a large wheelbarrow full, twice daily, for my cows, till they were used up, by which time I had a full supply of early York cabbage for the cows, numerous sprouts sprang from the stumps of the rape plants after being cut, and yielded at the rate of several tons more per acre of second crop. By the side of the rape, on the same kind of inverted sod, I raised a large crop of several varieties of cabbages, turnips, kohl rabis, &c., and was never more successful in growing these kinds of plants than on greed sward land. But the season of 1855 was wet, and rather cool, perhaps much resembling the climate of England, which is considered more favorable for growing the cabbage and turnip tribes of plants than our usually hot and dry summers.

However, I was very successful in growing the rape on old ground, the last season (1856.) I left about twenty

full grown plants last fall; where they grew the snow drifted over them, but about the middle of February the snow melted away and the plants came out bright and vigorous, and so remained for two or three weeks, but the cold freezing weather of March gave them their quietus; they were killed outright, root and branch, as were also several hundred of the stumps and their green foliage, where the tops were cut last season.

When the plant is cultivated for its seed, it is sown in August, and stands in the field over winter, and blossoms and perfects its seed the following summer, (like cabbage and turnip.) From my experience, I am led to believe, the seed cannot be grown here at the north as a field crop.— But a few August sown plants might be carried into the cellar and planted out in the spring, so that each farmer might raise his supply of seed for raising plants for his cows. In latitudes where the cabbage and turnip will withstand the winters, probably the seed might be profitably grown.

The product of a good crop of seed in England, Mr. Colman says, is estimated at thirty bushels. The stalks are often converted into manure, and are frequently used as fuel for cooking food for cattle, and in heating ovens. The idea of growing rape seed in New Hampshire, I think is out of the question; but from my experience with the plant the two past years, I believe it is *one* of the most profitable plants we can grow for feeding to milch cows, from the first of August till November. It is to be presumed that it is, pound for pound, equal to cabbage for feeding purposes but it comes into use several weeks earlier than the early York or any other cabbage. I have found it profitable growing cabbages for milch cows. Within the past few months agricultural reports from a great number of towns in this State have been published in the *Granite Farmer and Visitor*: without exception, I think, every writer has given discouraging accounts of the pastures in their several towns;

short feed, wild grasses, mosses, bushes, &c., &c., seems to be the universal complaint, at least, in reference to all our old and long-grazed pastures. To expect cows to yield large quantities of milk, butter or cheese, when grazed in these old pastures during our usually hot and dry seasons, from August till October, is to expect impossibilities. To greatly improve the feed in these old pastures is out of the question, with the present high prices of labor, guano and other manures.

The only possible remedy for the evil seems to be in growing such crops for green food, or soiling, as will in part supply the deficiencies of the feed in the pastures. It will be safer to cultivate a variety of plants that may come in in succession, than to depend upon one kind alone; early sown rape, then early York, and other cabbages; corn sown broadcast, and then the Chinese sugar cane. With a little enterprise and extra labor, I have no doubt most farmers could, with full feed and regularity and system in feeding, readily increase the quantity of butter from a given number of cows, some thirty, fifty or more per cent, besides adding as much to its quality, over that of the same cows left to shirk for themselves, in our old, dry, sunburnt pastures.

The above opinions are not founded upon conjecture, but upon the results of actual experience. At night, through the summer season, the cows should be kept tied up in well aired, or ventilated hovels, well bedded with sawdust, or some other litter, to act as an absorbent and at the same time give the cows a "soft bed". In properly arranged hovels, the cows can be kept as free of filth when tied up, as if allowed to camp down in the yard, and there is no racing about the yard, upsetting the milker, pail &c, as is too frequently the case when the cattle are yarded. In addition, the quantity and quality of the summer-made manure can be greatly increased, over that of the yard when the cows have the range of it.

The present and prospective high prices of the products

of the dairy, make it a matter of much pecuniary interest with the farmer, whether his cows yield him thirty, or fifty, or more per cent of butter, over that of their ordinary yield. The result, either way, is a matter of dollars and cents. In these "hard times," let us strive for the greatest amount.

WARNER APRIL, 22, 1857.

IS RED CLOVER INJURIOUS TO HORSES?

Many farmers are strongly prejudiced against clover hay, especially for horses, supposing, when fed to them for any length of time, it produces cough and tends to heaves. Perhaps if more care was used in cutting the clover for hay at the proper time, and in curing it for the barn in the right way, much of this prejudice would be done away with. Says Mr. Bartlett of Warner, who has collected the following evidence:—

For many years I have kept my horses almost exclusively on clover hay through our long winters, and if the clover was cut when about one half the blossoms had turned brown, and the hay mostly made in the cock, in good weather, so as to retain most of the leaves and heads, and green appearance, I have never known it to produce either cough or heaves. But I prefer it to any other kind of hay, I cut on my farm, for horses. Perhaps if a horse was kept steadily at hard work, some other kind of hay might be preferable.

I suppose the prejudice alluded to among a portion of our farmers, and others, is co-extensive with our country,—or, at least, as far and wide as horses are kept and stabled; for, in August, 1852, Mr. Ewbank, then Commissioner of Patents, issued printed circulars to almost every section of the Union, propounding a series of questions on rural affairs. One of those questions was, “Does your experience show that red clover is injurious to horses?” By referring to the answers to the above query in the Patent

Office Report, for 1852-3, I find some twenty-five or more responses, from many of the different States, most of which I will copy:—

Alabama. I. W. says, "I do not think that red clover is in any way injurious to horses."

Greenville, S. C. H. M. E. has grown clover in South Carolina for twenty years; says clover should be cut when free from external moisture, cured mostly in the cock. If too old or wet when cut, stock are not fond of it; but the great avidity with which they devour it when properly cured, fully compensates for all the care necessary to be taken; and therefore we must always keep it sweet, for when sour it will salivate a horse or mule severely. And this is one reason that persons have supposed that it was injurious to horses. And one other way it will injure horses, as will any other hay or corn-blades, viz: when it heats in curing. By being bulked too soon, it gets mouldy and dusty, and if fed to a horse in this state, it will produce a cough, and finally bellows, phthisic, (or the heaves, as we Yankees call it,) but in no other way does it injure any stock.

Virginia, Fauquier Co. J. L. B. says: "Green clover is a preferable grass for raising colts, but not good for work-horses, as they cannot endure heat and fatigue when feeding on red clover."

Dixmont, Me. W. U. Jr., says: "My experience does not show that red clover is injurious to horses; on the contrary, it is considered a favorite feed for them."

Bloomfield, Me. E. W. says: "Red clover is not materially injurious to horses, providing they have it all sweet. The great danger lies in the leaves of early summer. They die as the clover shades them, and become dust, which the horse inhales, sadly to his cost and value."

West Rupert, Vt. I. P. says: "He has no experience to show that red clover is detrimental to horses."

Newport Co., R. I. D. F. "does not think red clover injurious to horses."

Hillsboro' Co., N. H. A. G. C. says: "Clover, to be free from danger to working horses or oxen, ought to be cut and wet with cold water."

Grafton, Co., N. H. H. M. says: "I have no doubt but clover will give horses the heaves, by overfeeding when they are not at work."

Columbia, Conn. J. L. Y. says: "Clover is thought to be injurious to horses, by most people, tending to an irritation which results in heaves. Others contend that if the clover is cured in a proper manner, it will not produce cough or irritation in horses, sooner than any other kind of hay; and this opinion seems to be gaining ground, and people are more particular about curing it."

Salem, Co., N. J. D. P.—"Experience does not show that red clover is injurious to horses when fed in moderate quantities."

Another, T. S., from the same State and county, "thinks it is not safe to feed red clover, unmixed, to horses."

Seneca, Co., N. Y. "Timothy hay is preferred for horses; it is thought that clover inclines them to cough and heaves."

Chataque, Co., N. Y. L. R. says: "Having for the past twenty years had in constant employ from 20 to 30 horses, I have been led by experience to believe that red clover hay, fed to horses in the usual manner, is injurious, and many times creates a cough and heaves. It may be fed in small quantities, when *wet* or soaked in *water*, without injury. It undoubtedly makes much difference in the manner clover hay is made, as it never should be spread, and remain so until thoroughly dried but wilted and cured in the cock; and when put into the mow, a little salt applied will tend to keep it in a state in which the dust will adhere to it, and not rise when fed, which I think is the great cause of injury."

Ontario, Co., N. Y. G. W. says: "I have no reason to think that clover that is cut at the proper season, and well cured before housing, is at all injurious to any animal."

Big Flat, N. Y. I. H. says: "My experience does not show that clover is injurious to horses; but, on the contrary, good for pasture, and if properly got and cured, also for hay."

Westmoreland, Co., Pa. F. I. C. says: "Cure clover in the cock, and find it the very best hay for our stock. If properly managed, I consider it superior fodder for horses. The prejudice against its use for horses arises entirely, I am persuaded, from improper treatment in curing. If suffered to parch in the sun, as is the common practice, the leaves crumble into powder that the beast inhales, which produces a cough, and ultimately the heaves. My horses, eleven in number, are fed exclusively upon it, with a small allowance of corn or oats when at work. They are always in good condition, and are able to draw heavy logs to the saw-mill, at which they are generally employed during the fall and winter. Upon every ton of hay, as it is housed, I scatter a peck of salt."

Warren, Co., Pa. F. F. says: "Red clover, well cured, will never prove injurious to any horse or other animal."

Chester, Co., Penn. N. L. says: "Red clover hay is injurious to horses that have not sound wind, and some think that very dusty hay will produce heaves. But if clover hay is properly cured, and 'got in' without rain, it will keep horses in better condition than any other hay."

Lucerne, Co., Pa. H. F. M.—"Red clover hay is not injurious to horses."

Mark, Co., Ohio. M. R.—"Red clover is not injurious to horses."

Rush, Co., Ind. J. M. says: "I have not found good clover hay injurious to horses."

Bedford, Co., Penn. W. B. says: "I do not know that red clover is injurious to horses."

Iowa. D. M. C. says: "We have never known red clover to injure horses."

From the foregoing extracts, as might have been expect-

ed, it will be seen that men differ much in their opinions in regard to the good or bad qualities of red clover hay, as food for horses; but it will also be seen that a large majority of the responses to Mr. Ewbank's *question*, are strongly in favor of clover hay as dry forage for horses, if cut at the right time and properly cured and housed.

I think most farmers would find it for their interest to sow clover-seed liberally with their other grass-seeds,—to sow it also for the purpose of plowing in—green manuring with oats, or barley, or other spring grain, even if the stubble is to be plowed in in the fall. To sow clover-seed liberally, the farmer should raise his own seed. The second crop usually produces the best seed; it is not necessary that the clear seed should be sown—it will vegetate just as well when sown in the chaff. Farmers, try it.

BROWN CORN.

John Brown, Esq., of Long Island, Lake Winnipisseogee, gives, by request of the Secretary, a statement of his efforts in corn growing.

J. O. Adams, Esq., Secretary State Agricultural Society :

DEAR SIR:—Having promised to give you a true statement of my success in raising Indian corn the past season, I now attempt to redeem my promise. It is a fact that cannot be denied, that a large majority of our farmers content themselves by raising what they call a decent crop of corn, say twenty-five to thirty bushels to the acre, and are hard to believe that any more can be raised. They go on in the old way, planting the rows four feet apart, or nearly that, and the hills three feet apart, putting from four to six kernels in the hill, and after the blades of the corn get a fine start, and the roots spread in all directions, instead of going to work as they should do with a hoe, and giving it a light brushing to stir the ground and keep the weeds down, they take a horse and cultivator or a plow, and cut off half the roots, and by making a large mound or hill, give the corn such a check that it never recovers from it. To manage as above stated no farmer can expect a large crop of corn even if the ground is well manured.

When I first went to farming for myself in 1817, I was hoeing my corn about the first of July, and making a hill as all farmers then did; the ground was not weedy, but I found that I was cutting off a great many little roots which I ascertained to be the corn roots, and it struck me that I was hurting the corn by making the hill, and from that

instant I left off making a hill around the corn, and have since that time left the ground among the corn as smooth as possible, and the remainder of my corn that year which I did not hill, was much the best and the ears the largest.

After making several experiments as to the distance that the hills should be planted apart, I made one in the year 1836, which I have made my rule always since, and which I believe to be the best. The experiment was to plant the rows three feet apart and the hills in the row two feet apart, and not have more than three plants grow in a hill; thinned out at the first hoeing. I have also a variety of corn apparently fixed in its character, which sometimes bears my name—Brown corn—an account of which was published in the Patent Office Report of 1853, and is incorporated in this statement.

“The island on which I reside is situated in about latitude $43^{\circ} 40'$ N., and comprises about 1,100 acres, the largest portion of which is good arable land, the remainder being occupied by pastures or reserved as wood-lots. The soil naturally consists of a brownish yellow loam, which, when well tilled, becomes warm and retentive of manures. The subsoil is of a bright yellow, underlaid by a hard-pan, varying in depth and thickness. A specimen taken from a highly cultivated field, which had produced 130 bushels of corn to the acre, as analyzed by Dr. C. T. Jackson of Boston, gave the following results:

Mechanical separation of 1,000 grains of gravel, sand, and loam.

Coarse pebbles,	90
Fine pebbles,	260
Fine loam,	650

1,000

Chemical analysis of 100 grains.

Insoluble silicates,	80 8
Peroxyde of iron,	2 2
Alumina,	4 0
Salts of lime,	0 4
Magnesia, (a trace)	
Phosphate of alumina, (a trace)	
Vegetable matter,	8 7
Water,	3 9
	<hr/>
	100 0

Five hundred grains of the soil were digested in boiling water; 2·3 grains dissolved. The solution was of a yellow color, and consisted of—

Vegetable matter,	2 0
Mineral matter,	0·3
	<hr/>
	2·3

The residue from the solution before burning was acid; and after burning, alkaline. The acid was then a vegetable acid. The following substances were taken up by the water, viz: muriatic, sulphuric, carbonic, and phosphoric acids, soda, lime, magnesia, silica, iron and manganese.

The rotation of crops generally adopted by me for more than thirty years, has been—1st, potatoes; 2d, Indian corn; 3d, wheat; and then lay down to grass, and continue it for mowing until “lound out”—say six or seven years. But the last season I made a successful experiment the other way, by planting corn the first year after “breaking up,” instead of potatoes.

Early in the autumn of 1852, the ground was thoroughly plowed, turning under the green sward, which was suffered to remain undisturbed until the first of May last, when about fifteen cart loads of fifty bushels each of well-rotted barn-yard manure were applied broadcast to the acre, and carefully harrowed in. On about the 25th of the same month, twenty-two loads, of equal capacity, of green, unfermented stable and hog-yard manure, made during the

winter or fall preceding, were spread uniformly over each acre, and immediately plowed in, harrowing down the surface quite level and smooth. On the 30th of May I planted my corn in hills, four kernels in each, three feet apart one way, and two feet the other. When the corn was up about three inches high, it was neatly hoed, without the aid of cultivator or plow, thinning out the plants three to each hill. In the month of July, the corn was again dressed with the hoe, lightly moving the surface of the soil, sufficient to keep down the grass and weeds, without making any mold or hill, leaving the ground even and smooth. I prefer working with the hand-hoe to clear the weeds from the plants, instead of the cultivator or plow; for, when the latter are used, they stir the ground too deep, cutting many of the tender rootlets of the corn, which greatly injures the crop. It has long been my practice to plow under a liberal coating of green stable manure a few days previous to planting, which, in my judgment, should lie undisturbed by any implement during the growth, in order that it may impart its whole benefit to the crop.

Early in September, when the ears were fully formed, and their silks began to wither and dry, I "topped" my corn, and preserved the stalks for winter fodder the usual way. On about the 9th of October, I harvested the crop, "husking" it immediately after gathering, and stored it in the ear in my granary for future use. The result of the experiment was, that I raised 104 bushels of shelled corn to the acre, while the average yield in the vicinity of the lake was estimated at thirty to forty bushels.

We have a home market for all of our surplus produce in the manufacturing villages of this region. The present price of corn is \$1 per bushel. Estimating the profit of growing an acre, based on my last crop, the following would be near the truth:

104 bushels of corn, at \$1,	\$104 00
4 tons of husks and stalks, at \$8,	32 00
	<hr/>
	\$136 00

The value of the labor employed in the cultivation, including the drawing of the manure, at 75 cents per day, was \$37; leaving a net income of about \$100 per acre for the use of the land and the manure.

There are several things connected with the above-named experiment which it would seem necessary to explain; and these are, the mode of selecting the seed for planting, and the close proximity of the hills. It had been my rule, for a succession of years, to select well-filled ears of the "King Philip," or Northern eight-rowed yellow corn, with cobs having small butt-ends, of good length as well as uniform size; the second ripe in the field, and taken from stalks bearing more than two ears to each. The result has been, I have produced a variety of corn, apparently fixed in its character, which sometimes bears my name, having large kernels and a small cob, varying from ten to thirteen inches in length. The largest crop I ever raised was 136 bushels to the acre, weighing in the ear 9,520 pounds, or seventy pounds to the bushel, and fifty-nine pounds per bushel when dried and shelled.

Those who have been accustomed to plant their corn in hills from four to five feet apart, may be struck with the closeness of my planting, which is only three by two feet. From the comparatively dwarfish growth of my corn, I was induced some years since to plant a field at various distances apart; and the result of my experiment was, that I obtained the greatest yield by the mode I now adopt."

I have given the date of some of my most important improvements, (which many have been induced to follow,) because I think that they originated with me, by which I have increased my corn crops, and perhaps thousands of others have been benefited thereby.

About one-half of my corn the past season was planted on ground that potatoes grew on the year before; the other half on land newly broken up, the whole well manured and plowed in. That part where the potatoes were raised the

year before, was much the best, almost double to that planted on the sward land, of which one measured acre yielded 7,200 pounds of ears, weighed when I carried into the corn chamber. I shelled seventy pounds of ears and it made two quarts over a bushel, which makes a fraction over 109 bushels of shelled corn.

The whole labor, including drawing the manure, done on the acre amounts to \$28,00, seed and interest on the land \$4.00 making \$32,00; fifteen cords of barn manure was used on the acre, and estimating it at the highest price, \$4,00 per cord it would be \$60,00. Now suppose we get one-third of the strength of the manure the first year, it would be \$20,00; now reckon the fodder to be equal to two tons of hay, it would be \$20,00, just equal to what the manure exhausted, so that the whole cost of raising 109 bushels of corn was \$32,00. The corn was harvested the last of October, and was in good order to grind. If I had spread the fifteen cords of manure on two acres, I should have got (according to former experiments made,) in a favorable season, fifty bushels to an acre and the labor would be double except drawing the manure and harvesting, and the cost of raising would be fifty-four cents per bushel, while the cost the present year is twenty-nine cents per bushel.

JOHN BROWN.

December 15, 1856.

NEW-HAMPSHIRE STOCK HORSES.

As a matter of interest to all breeders of horses, the accompanying list of stock horses which are now owned in New-Hampshire, or which have been owned within the limits of the State, is presented. It is by no means complete, though a list of seventy-five is enumerated. For a portion of it we are indebted to the valuable work of Mr. Linsley, on the subject of Morgan Horses. Some information has been furnished by the owners of the animals, while notices of many have been entirely omitted for the reason that the Secretary could obtain no positive information in regard to them.

ASHUELOT MORGAN

Was foaled in June, 1845, the property of Ezekiel Flint, of Winchester, N. H. Sired by Green Mountain 2d, g sire, Gifford, g g sire, Woodbury, g g g sire, Justin Morgan. Dam formerly owned in Superior, C. E., and sired by Eagle. Ashuelot Morgan is a chestnut, with silver-colored mane and tail, both hind feet white up to the fetlock. He is 16 hands high, and weighs 1,315 lbs.

Although very large, he is compact, moves in good style, has excellent action for a horse of his size, and is a favorite parade horse. In 1855 he received the first premium of the New-Hampshire State Agricultural Society. He is now owned by Uberto Bowen, Esq., of Richmond, N. H.

ALLEN HORSE

Was bred by Pliny Allen, of Lyme, N. H. Sired by Bul-

rush, g sire, Justin Morgan. Color, blood bay, 15 hands high, weight 1,000 lbs. His reputation as a stock horse is good. He is now owned by Jonathan Currier, of Hanover, N. H.

BLACK HAWK

Was foaled in 1833, the property of Wingate Twombly, of Greenland (formerly of Durham,) N. H. Sired by Sherman, g sire, Justin Morgan. His dam was raised in New Brunswick, and is described as a half-blood English mare, a very fine animal, black, and a fast trotter. When four years old, Black Hawk was purchased by Benj. Thurston, of Lowell, Mass., for a family horse, and kept for that purpose until 1844, when he was purchased by David Hill, Esq., of Bridport, Vermont, by whom he is now owned.

Black Hawk is a little under fifteen hands high, and weighs about ten hundred pounds. His compact, symmetrical, and muscular form, and nervous, elastic style of action, give unmistakable evidence of the speed and endurance he has shown upon the turf and road; and although now twenty-three years old, his eye has lost none of its brightness, his health is still excellent, and his movements still graceful and energetic. One of the chief excellencies of Black Hawk, and one which he possesses in a remarkable degree, is the uniformity with which he stamps upon his offspring his own distinguishing characteristics. Few colts were sired by him previous to 1844, when he became the property of David Hill, and since that time he has been constantly kept at that gentleman's stable, in Bridport, Vt. (See Cut—Frontispiece.)

BARKER HORSE

Was foaled in 1833, the property of Mr. Cobb, of Nelson, N. H. Sired by Woodbury, g sire, Justin Morgan. Dam, a bay, sired by Diomedé, he by Imported Diomedé. The Barker Horse was 15 1-2 hands high, and weighed 1,100 lbs,

color chestnut, with white stripe in the face like his sire, whom he closely resembled. His style and action were unsurpassed, and he was a very fine roadster. He was kept most of the time in Merrimack County, N. H., and vicinity. Mr. Barker kept him near home until 1853, after which Jesse Johnson and Brothers kept him at Bradford, Vt., and Concord, N. H., and vicinity, until he died, July, 1855, still the property of Mr. Barker.

BONAPARTE

Was foaled in 1836, the property of Johnson and Brothers, of Bradford, Vt. Sired by Bulrush, g sire, Justin Morgan. Dam by Napoleon Bonaparte. Was 14 1-2 hands high, and weighed 950 lbs., very compact, close built, a fast driver and strong goer. He resembled his sire very much. F. A. Weir, of Walpole, N. H., purchased him in 1855, and took him to that place.

BONAPARTE

Was foaled in 1833, the property of Major H. R. Darling, of Concord, Vt., and sold by him to Rev. Isaac Knight, and taken to Daniel Webster's farm at Franklin and kept three seasons, and sold to W. R. Webster of Bridgewater, the present owner.

Bonaparte was sired by Vermont Morgan, Champion, g sire Sherman Morgan, g g sire, Justin Morgan, dam, Sherman Morgan, g dam, by Black Prince.

Bonaparte is of a jet black color, with a small star and one white hind foot—is a close, compact horse, but muscular, and he received the first premium as a stock horse at the N. H. State Fair, 1856, the only time he was ever offered at any fair in this State.

BLACK WARRIOR.

PEDIGREE. Black Warrior is owned by D. M. Taggart, was sired by Farmer's Beauty; g sire, Gifford, g g Wood-

bury, g g g sire, Justin Morgan—dam by Imported Romeo. He stands 15 3-4 hands high, weighs 1200 lbs, six years old, color, black, a fast trotter. At the age of 28 months he could trot one-half mile in 1:30. He has taken the first premiums in this State, both for speed and general utility. He was raised by, and is now, the property of D. M. Taggart of Goffstown. (See cut.)

BLACK HAWK MORGAN

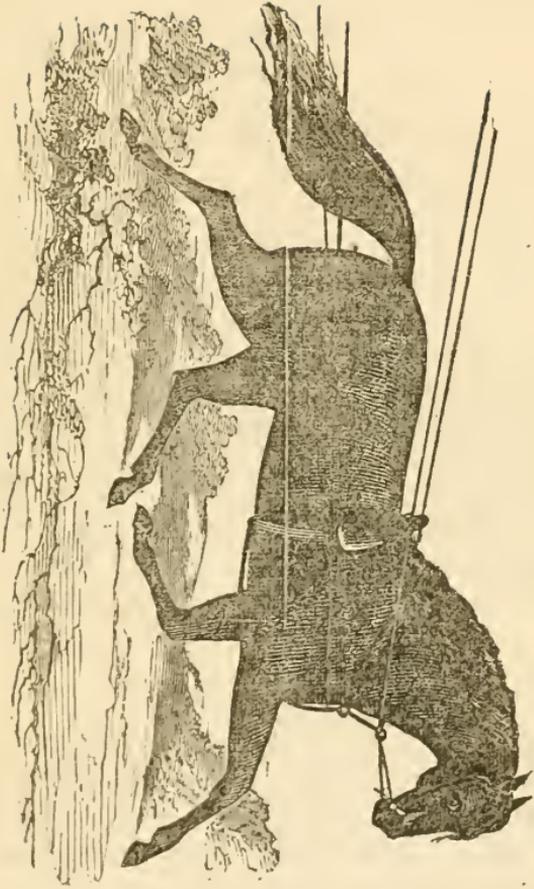
Owned by Col. Lewis Perry, of Claremont.

This colt was three years old in August, 1857. He was sired by Black Hawk Morgan, deceased, who was owned by Col. Perry, and took the first premium offered by this Society in 1852 for stallions over four years old. He was sired by Old Black Hawk, deceased, owned by David Hill, Esq: of Bridport, Vt. The dam of Black Hawk Morgan was a black Hambletonian mare, owned in Vermont. He was purchased by Col. Perry when but ten months old, and has been owned by him ever since. The day he was three years old he weighed 910 lbs. He is jet black, and is one of the finest specimens of the Black Hawk family in this part of the State, and gives promise of making the place of his deceased sire good.

BOSTON TIGER

Was foaled in 1825 or '26, the property of H. H. Kimball, of Whitefield, N. H. Sired by Cock of the Rock, g sire, Sherman, g g sire, Justin Morgan. Dam, a bay, owned by H. H. Kimball. Tiger was 15 hands high, weighed 1,000 lbs., roan color, fine form and good action.

When five years old he was purchased by Joseph Sumner, Esq., of Charlestown, N. H. Mr. Sumner kept him several years, but becoming cross, he disposed of him, and he was put into a team in Boston or Medford, where, in 1845, he was found and purchased by David Batchelder, of Haverhill, N. H., who kept him three years and sold him to Gen. Dolif, of East Wentworth, N. H., whose property he continued till his death in 1848.



BLACK WARRIOR.

BROCK HORSE

Was foaled in 1836, the property of Capt. William Brock, of Newbury, Vt. Sired by Parks horse, g sire, Green Mountain 1st, g g sire, Sherman, g g g sire, Justin Morgan. Dam by Shark. He was sold by Mr. Brock to Peter Johns, of Nashua, N. H. He weighed 900, was blood bay color, had a fine figure and excellent action, and was an uncommonly showy horse. Not fast.

COCK OF THE ROCK

Was foaled the property of Oliver Bowers, of Danville, Vt. Sired by Sherman, g sire, Justin Morgan. Dam by Bar-num, Cock of the Rock. He was a very light chestnut, with white face below the eyes, 15 hands high, and weighed 1,100 lbs. His eye, ear and head not so good, but general form, Morgan. He attracted some notice in New-Hampshire and New York, in which States he was kept. Mr. Bellows, of Lancaster, N. H., purchased him of Mr. Bowers, and sold him to Horatio Sargeant, of Springfield, Mass., at a high price. Was a bold, proud-looking and active horse, and a fine animal. Was a fast trotter, and left some good stock.

COLBY HORSE

Was foaled the property of Mr. Colby, of Warner, N. H. Sired by Barker horse, g sire, Woodbury, g g sire, Justin Morgan; is 15 hands high, weighs 1,050, chestnut color, and a capital horse, with fine action and good figure.

CLIFTON

Was foaled in 1852, the property of Wm. Bellows, Esq., of Walpole, N. H. Sired by Green Mountain 2d, g sire, Gifford, g g sire, Woodbury, g g g sire, Justin Morgan. Dam, a chestnut, sired by Gifford, g dam by Sherman. Clifton is 14 1-2 hands high, and weighs 960 pounds. His color is a

bright chestnut. At three months old Mr. Bellows sold him to Silas Hale, of South Royalston, Mass. At eighteen months old, Mr. Hale sold him to S. H. Edgerly, Esq., of Manchester, N. H., who shortly after sold him to F. H. Lyford, Esq., whose property he still remains. Clifton is a bold-looking, active and muscular horse, and in many respects resembles his celebrated sire. See cut in last year's volume.

COMET

Was foaled in 1846, the property of Jonas Flint, of St. Johnsbury, Vt. Sired by Billy Root, g sire, Sherman, g g sire, Justin Morgan. Dam, dark chestnut, known as Crane mare. Sired by Royal Morgan, g dam by Hubbard horse, g g dam, known as the Pierce mare. Comet is a chestnut, and weighs 1,050 lbs. He has taken several premiums. One at the National Fair at Boston, 1855, and one at the New-Hampshire State Fair; also one in his own county. He is now the property of Mr. Woods, of Hancock, N. H., and is an excellent horse, with plenty of life, and a spirited, nervous style of action.

DRACO

Is owned by L. T. Tucker, Laconia.

PEDIGREE. Sired by Young Morrill, g s Morrill, g g s, Jennison Horse, g g g s, Young Morgan Bulrush, g g g g s, Old Morgan Bulrush, g g g g s, Justin Morgan; dam of Draco, Sherman Morgan.

In muscular development and capacity of endurance he has no superior. Four years old in the spring of 1857—stands sixteen hands high, is of a beautiful dapple black color and weighs 1050 lbs.

DANIEL WEBSTER

Is four years old and of the clearest jet glossy black we have seen for a long time, closely resembling the beautiful

black of the Danish horses used in European countries on funeral occasions. He was sired by the celebrated trotting stallion Andrew Jackson, and his dam was a fast mare owned by Hammett of Philadelphia. He is over fifteen hands high and weighs 1000 lbs. and is in the possession of J. S. Durgin of Fisherville.

ENTERPRISE

Was foaled June 6, 1852, the property of Henry T. Davis, New Alstead, N. H. Sired by Romeo, g sire, Green Mountain, formerly owned by Silas Hale, of South Royalston, Mass., g g sire, Gifford, g g g sire, Woodbury, g g g g sire, the original Justin Morgan. Dam was sired by Flint Morgan, g sire, Sherman, g g sire, the original Justin Morgan. Enterprise is chestnut color, with mane and tail mixed with white, giving him a showy and attractive appearance; is about fifteen hands high and weighs about nine hundred and twenty-five pounds. He exhibits the characteristics of the Morgan Horse in conformation and disposition, and is claimed to be a very promising colt. He was purchased of Mr Davis, Aug. 16, 1855, by Murray & Gilman of Nashua.

EMPEROR.

This stallion is nine years old, is of a dark mahogany bay color, stands 15 1-2 hands high, and weighs 1040 pounds. He was bred by John Cricherson, Esq., in Lee; his grand-sire was a thorough-bred imported English horse, and was a present to the Governor of the Province of New Brunswick. The sire of Emperor was bred near the city of St. John, and was brought out of the Province by Rockwell & Stone, proprietors of the American Circus Co. His dam was a Morgan mare called Ellen Jewett. She was purchased and taken to the Provinces, where she produced the sire of this horse. The dam of Emperor is as near a full blood Messenger as any horse now in this country; she was bred near Farmington, on the Sandy river, in the State



FOX MORGAN.

S. E. BROWN, DEL.



of Maine. He was awarded the first premium for speed at the State Fair of 1855, and the 2d at the Horse Fair of 1856; owned by H. H. Smith, New Market.

ESTY HORSE

Was sired by Black Hawk, g sire, Sherman, g g sire, Justin Morgan. Dam sired by Romeo, owned by E. Pike, Cornish. Height, 15 1-2 hands; weight, 1,000 lbs; color, black roan. Good style and fast; but never was trained. Was burned in a stable when five years old. He was sire of the noted trotting mare, Lady Franklin.

FARMERS' BEAUTY

Was foaled in 1842, the property of Dr. Thatcher, of Wells River, Vt. Sired by Gifford, g sire, Woodbury, g g sire, Justin Morgan. Dam, a bay, said to be sired by Woodbury. Farmers' Beauty is about 15 hands high, weighs 1,075 lbs., and is of dappled chestnut color. Stock excellent and uniform. He is a good traveller; has trotted in 2.53. He is now owned by D. M. Taggart, Goffstown, N. H.

FOX MORGAN

Was foaled in 1852, the property of Miller & Fox, of New Ipswich, N. H. Sired by Comet, g sire, Billy Root, g g sire, Sherman, g g g sire, Justin Morgan. The Fox Morgan is coal black, with a few gray hairs about his flanks; 14 3-4 hands high, and weighs 950 lbs. Action spirited and stylish. He took the 2d premium at the New Hampshire State Fair, 1856; also the 1st premium in Souhegan Agricultural and Mechanical Society, in 1856.

GOODALE HORSE

Was foaled in 1836, the property of Luther Goodale, of Lyme, N. H. Sired by Woodbury, g sire, Justin Morgan. Height, 15 1-2 hands; weight, 1,100 lbs. Heavy bone and muscle; courage and bottom excellent; action not the finest, but a good driver. He left some excellent stock. Mr.



FARMERS' BEAUTY.





Goodale sold him in 1845 or '46 to B. F. Tillotson, of Oxford, N. H., who sold him in 1849 or '50, to a man in Danvers, Mass. Disposition not pleasant.

GOODALE HORSE

Was foaled the property of John Dennick, of Lyme, N. H. Sired by Young Burbank, g sire, Woodbury, g g sire, Justin Morgan. He is of a bay color, and weighs 1,025 lbs. Left one stallion, the Bold Rusher, a fine horse, now dead.

GREEN MOUNTAIN MORGAN

Is owned by Messrs. Chase & Prouty; was sired by the Royalston Horse, so called, is eight years old, and weighs 950 lbs. For speed and endurance or bottom, in the expressive language of our farmers, he has but few equals, is graceful and easy in his movements, perfectly kind and gentle. His stock is superior and well sustaining the reputation of this celebrated stock.

GEN. GIFFORD 2d

Was foaled in 1849, in Walpole, N. H. Sired by Gifford, g sire, Woodbury, g g sire, Justin Morgan. Dam weighed 1,000 lbs.; was foaled in 1831, in Woodstock, Vt.; sired by Woodbury. Gen. 2d is a bay, and weighs 1,000 lbs. A well formed horse, of good action.

GLINES HORSE

Was foaled in 1846, the property of James Glines, Haverhill, N. H. Sired by One Eye, g sire, Bulrush, g g sire, Justin Morgan. Dam, an English mare. His color is chestnut, and weighs about 1,100 lbs. He has gone West.

GIFFORD

Was foaled June 23, 1824, the property of Ziba Gifford, of Tunbridge, Vt. Sired by Woodbury, g sire, Justin Mor-

GRANTLE STATE MORGAN.



gan. Dam foaled June 21st, 1819, and sired by Henry Dundas, g dam by True Briton, g g dam by De Lancey's Imported Wild Air. Weighed 1,000 lbs., and was 14 1-4 hands high. Style and motion much admired, and was a favorite parade horse. Has left some excellent stock. March 17th, 1840, Mr. Gifford sold him to Russell Topliff, of Barnard Vt. In 1844, Mr. Topliff sold him to Lyman Stewart. Mr. Stewart sold him to go to the State of New York. In 1846 Mr. F. A. Weir, of Walpole, N. H., purchased him, and sold him to a stock company for \$2,000. He died Oct. 30th, 1850, at Walpole, N. H.

GRANITE STATE MORGAN

Was foaled June 21st, 1847, the property of Parker W. Holme, of Farmington, N. H. Sired by Napoleon Morgan, g sire, Flint horse, g g sire, Sherman, g g g sire, Justin Morgan. Dam of Messenger descent. Granite State Morgan is a chestnut roan, with one white hind foot and a white stripe in the face, 15 3-4 hands high, and weighs about 1,000 lbs. Is a good traveller, perfectly sound and kind, a pleasant, tractable temper, and can be driven by a child. He is now owned by C. C. Whitehouse, of Farmington, N. H.

GRANITE STATE

Was foaled in 1851, the property of Josiah Cram, of Hancock, N. H. Sired by Comet, g sire, Billy Root, g g sire, Sherman, g g g sire, Justin Morgan. Dam was sired by a horse called Tom Morgan. Tom Morgan was sired by a horse called Briton. The pedigree of the last two named we do not know. Granite State is light chestnut, and weighs 1,050 lbs. His style and action are good. When three years old, Mr. Cram refused \$800 for him, and still owns him.

GENERAL TAYLOR

Is owned by P. M. Rossiter, Milford. Was foaled July 1st, 1847. Sired by the Green Mountain Morgan, then owned

by Silas Hale, of South Royalston, Mass; Green Mountain by Gifford Morgan; Gifford by Old Woodbury Morgan; Old Woodbury by the original Justin Morgan horse. Dam of the Green Mountain Morgan, a colt of the Old Woodbury Morgan. The dam of General Taylor was the justly celebrated Patterson Mare, formerly owned by the late Dr. Crombie of Francestown, who stood unrivalled as a roadster. Her sire was the well-known "Nondescript" or Muzzey Horse, formerly owned by Stevens & Allds of Claremont, Gen. Taylor is of a dark chestnut color, stands about fifteen hands high and weighs 1100 pounds.

GREEN MOUNTAIN BOY

Is owned by C. H. Bowles, Plymouth. Green Mountain Boy was raised in Brookfield, Vt., was sired by Green Mountain 2d; g Gifford Morgan, g g Woodbury Morgan, g g g Justin Morgan; dam, Messenger, g Gifford Morgan. Age, four years, ninth of June, 1857; size, sixteen hands high; color, chestnut, silver clouded mane and tail; weight, 1085 pounds.

THE GRANITE STATE MORGAN

Is owned by Joseph Caverly and John F. Stevens, Wentworth, N. H. He was sired by the well-known *full blooded Morgan Horse, General Crum*; which horse was sired by the old Sherman Morgan, the father of more and better stallions than any other horse in New England.

The Granite State Morgan's dam was an imported English mare of great speed and bottom

He is about sixteen hands high, well proportioned, with very large and fleet limbs, and astonishing wind and muscles; of bright bay color, and weighs 1200 pounds. He will go his mile in three minutes; is thirteen years old.

The Granite State Morgan took the first premium at the New Hampshire State, and Grafton County Agricultural Fairs, for the year 1855.

HIGHLAND CHIEF

Was foaled June 9, 1853, the property of Henry H. Smith, New Market, Rockingham County, N. H. Color, blood bay with black mane and tail; 15 hands 1 inch high, and weighs 960 lbs. Sire, Royal Oak 3d, g sire, Royal Oak 2d, g g sire, Royal Oak, imported into the Province of New Brunswick in 1839 by the Governor of that Province. Imported Royal Oak was thorough-bred. Highland Chief's dam, Forest Maid, was by Bush Messenger; g dam by Sherman Morgan, Jr., g g dam by Sherman, by Justin Morgan.

HUBBARD HORSE 2d

Was foaled in 1851, the property of Dr. Frederick Jones, of New Ipswich, N. H. Sired by Flint horse, g sire, Sherman, g g sire, Justin Morgan. Dam, a superior animal, noted for fleetness and endurance. This horse is now owned by George B. Hubbard, of Ashby, Mass., is 14 hands high, weighs 900 lbs., is of a rich, dark brown color, compact and finely proportioned, of elegant action, and possesses the requisite points of a fleet horse.

KARBY HORSE

Was bred in Bath, N. H. Sired by Bailey horse, g sire, Woodbury, g g sire, Justin Morgan. Chestnut color, and weighs 1,125 lbs.

KENT'S MORGAN

Was foaled in 1844, the property of Adrial Kent, Lancaster, N. H. Sired by Bailey horse, g sire, Woodbury, g g sire, Justin Morgan. Dam by Sherman. This horse weighs 1,050 lbs.; is 15 hands high; a deep bay color; star in the face and white hind feet; style and action good. Stock has proved excellent. Is now owned by A. J. Congdon, of Lancaster, N. H.

LATHAM HORSE OR MORGAN CHIEF

Was foaled at Wells River, Vt., the property of Peter Burbank, in 1832. Sired by Woodbury, g sire, Justin Morgan. Dam known as Empress, sired by Justin Morgan; 15 1-4 hands high, weight, 1,000 lbs., and chestnut color.

When one year old, Mr. Burbank sold him to B. Latham, Esq., of Lyme, N. H., for \$150. In 1851, Mr. Latham sold him to Col. R. C. Sawyer, of Newbury, Vt., who kept him till May, 1847, when he sold him to Calvin Blodget, of Waterbury, Vt. In June, 1848, he was sold to Messrs. Wight & Eldridge, of Warren, Vt., who, in June, 1852, sold him to Messrs. Prescott and Wilson, of Newbury, Vt. In the spring of 1854, he was taken to New Jersey. He was not remarkable for style and action, but his stock proved good.

LONE STAR

Was foaled the 5th of June, 1848, the property of Benj. B. Tuttle, of Newmarket, N. H. Sired by Estis horse, g sire, Black Hawk, g g sire, Sherman, g g g sire Justin Morgan. Dam, a chestnut, 14 1-2 hands high, sired by Cock of the Rock. Lone Star is a blood bay, with small white star in forehead; 15 1-2 hands high, and weighs 1,065 lbs., and is half-brother to the well known trotting mare, Lady Franklin. He has never been trained, but he has a gait that indicates ability to trot. He is a fine horse, and is now owned by Sylvanus Tuttle, of Newmarket, N. H.

THE LEIGHTON HORSE

Is owned by John Wiggin, Dover. This horse is of the Morgan breed, and stands 15 hands high, of a sorrel color with a white stripe in the face, weighs 940 lbs., and his pedigree is as follows:

This horse was raised in Farmington, N. H., by David S. Roberts, and was sold when 5 years old to George Leighton, of Farmington, and was sired by the Stephen French

horse, of Farmington, g sire, the Flint Morgan, g g sire, Sherman Morgan. His dam was sired by Harmony, her g sire was Quick Silver, her g g sire was an imported running horse.

MORGAN CÆSAR

Was foaled in 1828, the property of S. Smith, of Hartland, Vt. Sired by Woodbury, g sire, Justin Morgan. Dam by Quick Silver, g dam bred by John G. Bond, of Keene, N. H., and by Morton's Traveller. This horse was 15 1-2 hands high, weight, 1,150 lbs. He was free from long hairs, had a fine head, ears and neck; mane and tail not as thick as is common. He was a fast driver, could go a mile in three minutes, and in March, 1844, was driven from Piermont to Wentworth, N. H., a distance of 12 miles, with two men in a sleigh, in 44 minutes. In 1833 or '34 he was taken to Maine, and sold by him to Gen. John M. Eustis, of that State, for a parade horse. He remained there till 1842, and sired some excellent stock, of which was the celebrated trotting horse Mac, also the noted trotter, Pizarro, and a mare known as the Robert's Mare, very fast, and reputed to trot a mile in 2.35. The administrators of Gen. Eustis' estate sold him to Manly Harriman, of Bradford, Vt. He afterwards passed through several hands, until in March, 1846, he was purchased by Jesse Johnson & Brothers, who kept him till he died, June, 1848. His stock sold high; many geldings brought from \$300 to \$1,000 each. This horse was known in Maine by the name of Morgan Post Boy.

MATCHLESS

Was foaled in 1851, the property of William M. Parker, of Concord N. H. Sired by Prince Albert, g sire, Green Mountain 2d, g g sire, Gifford, g g g sire, Woodbury, g g g, g sire, Justin Morgan. Blood bay color, with black legs; 14 1-2 hands high, and weighs 900 lbs. Fine style and action.

He is a fine, symmetrical animal, with small, finely-shaped head and ear. Promises to be fast. Dam of Matchless was formerly owned by Hiram Woodruff. She was a celebrated roadster, and was half-sister to the great Trustee. She was black, about 14 1-2 hands high.

MORGAN EMPEROR

Was foaled the property of Mr. Hough, of Lebanon, N. H. Sired by Bulrush, g sire, Justin Morgan. Dam sired by Imported Prince William, formerly kept at Hartford, Conn. Emperor was 15 1-2 hands high, and weighed 1,025 lbs., color blood bay. Jesse Johnson and Brothers kept him one year in Burlington, Vt., in 1835, and while there he trotted a mile in 2 min. 55 sec. Afterwards they kept him in Bradford two years, when he was sold to Messrs. Hamet & Butler, of Burlington, Vt. In 1837 he went to Chicago. Sired Chicago Jack, gelding, and North Star, who took the second premium at the National Fair in Springfield, Mass.; also the Tillotson horse, who trotted a mile in 2 min. 40 sec., on Cambridge Park Course, in September, 1843. From Chicago he returned to Burlington, and went from there to Petersham, Mass., where he died in the autumn of 1853. He was close and compact, with a good figure; had a very heavy mane and tail, went with mouth wide open, and more from the whip than from spirit.

MORGAN ROBBIN

Was foaled in 1827, the property of Mr. Chamberlain, of Danville, Vt. Sired by Sherman, g sire, Justin Morgan. Dam sired by Justin Morgan. This horse was 14 3-4 hands high, weighed 1,000 lbs., color bright bay, black mane and tail, with all his legs white half up to his knees. Remarkably fine style, great deal of bone and muscle, perfectly gentle, good roadster, and fine horse. Mr. Allen kept him till 1854, when he sold him to L. D. Ide, of Lyndon, Vt., who kept him till he died, the next autumn. He was kept at

Keene, Lynn, and Walpole, N. H., and at St. Johnsbury, Vt. He was sold when young, and owned by Mather Allen, of Guildhall, Vt., for many years.

MORGAN TIGER 1st

Was foaled in 1827, in Whitefield, N. H. Sired by Cock of the Rock, g sire, Sherman, g g sire, Justin Morgan. Dam sired by the noted Bellfounder. Tiger was a grey roan, 15 1-4 hands high, and weighed 1,025 lbs. He was a very hardy, enduring horse, full of courage, and good action. At four years old he was sold to Judge Sumner, of Charlestown, N. H. Judge Sumner kept him a number of years, and then sold him to someone in Boston for a parade horse. He remained in Boston several years, until his stock proved excellent, he was hunted up and brought back to Corinth, Vt., by Daniel Batchelder, of that place. He remained in Orange Co., Vt., and Grafton Co., N. H., until his death in 1850. He left good stock.

MORGAN CHIEFTAIN

Was foaled in September, 1853, the property of W. P. Balch, of Boston, Mass. Sired by Comet, g sire, Billy Root, g g sire, Sherman, g g g sire, Justin Morgan. Dam raised in Bradford; sired by Woodbury; could trot a mile in three minutes, and was a fast traveller. Chieftain is a dark dapple chestnut. He is a stout, thick-built horse, and when 26 months old weighed 930 lbs. He carries a high head, and has a small ear. He is a promising horse. He is now owned by Mr. Balch, and is kept in Hancock, N. H., by Hiram Fuller.

MORGAN BLACK HAWK

Was foaled in 1849, the property of G. Ramsdale, New Ipswich, N. H. Sired by Anglo Saxon, g sire, Black Hawk, g g sire, Sherman, g g g sire, Justin Morgan. Dam, a noted mare, of Sherman Morgan blood.

Morgan Black Hawk is 15 1-2 hands high; weighs 1,030 lbs. His color is dark, dappled bay. A fine, compact-looking horse, and a good traveller.

MORGAN PILOT

Was foaled in 1853, the property of Samuel Worthen, of Bridgewater, and is now owned by W. R. Webster, of that town.

Morgan Pilot was sired by Bonaparte; dam by Allfour; is a jet black color, 15 1-4 hands high, and weights 970 lbs.

NEWTON HORSE

Was foaled in Haverhill, N. H. Sired by Bailey horse, g sire, Woodbury, g g sire, Justin Morgan. Weight, 1,100 lbs. Color, chestnut.

ONE-EYE

Was foaled May 20th, 1834, the property of Moses Chamberlain of Bradford, Vt. Sired by Bulrush, g sire, Justin Morgan. Dam by "Postboy." This horse is 14 1-2 hands high, weighs 975 lbs., and is of mahogany bay color. A very fine horse, good style and action. Stepped light, but was not fast; was kept as a stock horse in New Jersey. Lost one eye when two years old, the consequence of a boy throwing a stone at him. In 1846, Geo. W. Kilburn, now living at Papermill Village, N. H., bought him of Rufus Calhoun, and kept him till 1852, when he sold him to Joseph Peters of Bradford, Vt., and from Peters he went to New Jersey.

PRINCE ALBERT

Was foaled in June, 1846, the property of Joel Hayward, of Ashby, Mass. Sired by Green Mountain 2d, g sire, Gifford, g g sire, Woodbury, g g g sire, Justin Morgan. Dam by Messenger; 14 1-2 hands high; weight, 1,000 lbs.; color, bay. Prince Albert is dark chestnut, 14 1-2 hands high,

weighs 1,010 lbs. His style and action are very spirited. He is pleasant-tempered and very playful. His stock is good and sells well. He was kept in Malone, N. Y., in the season of 1854 and '55, and is there at this time, but is owned by S. F. Wright, Nashua, N. H.

ROMEO 1ST

Was foaled April 30th, 1848; the property of Silas Hale, of South Royalston, Mass. Sired by Green Mt. 2d, g sire, Gifford, g g sire, Woodbury, g g g sire, Justin Morgan. Dam sired by Sherman, g dam a Messenger mare. Mr. Hale kept Romeo until September 2d, 1852, when he sold him to S. H. Edgerly, Esq., of Manchester, N. H., for \$600. Mr. Edgerly kept him until March 22d, 1854, when he sold him to Edward C. Davis, of Dubuque, Iowa, for \$1,500, and he is now owned by Mr. Davis. In 1853, Romeo received premiums at the Hillsboro County Fair, N. H., and at the N. H. State Fair at Manchester. In the Fall of 1854, he received the first premium at Dubuque County Fair, in Iowa. Is a fine horse, and much resembles his sire.

REVENGE

Was foaled in Claremont, N. H., in 1815, the property of Cyrus Moore. Sired by Justin Morgan. Dam, a light brown with a white stripe in the face, and white hind feet; she was a smart driver, but did not carry her head high; nor did she have a good gait, as she sometimes paced. Her sire is not known; her dam was bay with white in the face, and was owned by Mr. Ball, of Unity, N. H. She paced a good deal, but was very smart. Nothing is known of her sire or dam, but she was called at that time a "Narragansett pacer."

Mr. Moore sold Revenge, the autumn after he was two years old, to Nehemiah Rice. Mr. Rice kept him two or three years, and sold him to a Mr. Tyler, and he kept him in the vicinity of Claremont until nine years old, when Mr.

Moses Wheeler, of Claremont, purchased a half interest in him, and the next season purchased the other half. After keeping him one year, Mr. Wheeler sold him, and he passed through many different hands. He was kept near Connecticut river at Claremont, Croydon, Cornish, Wethersfield, and immediate points. In 1835 or 1836, he became the property of Edwin Billings, of Claremont, who kept him until he died. In April, 1837, Mr. Billings drove him to Chester, Vt., intending to go to the western part of the State, but here the horse was taken sick and died suddenly.

Revenge was a dark bay, or light brown. In the spring after shedding his coat he might almost be called a black, but in the winter he was often called a bay; he was about fourteen and half hands high, and weighed fully one thousand pounds; he had less action than either Woodbury or Sherman; but he had a very close knit form, with excellent back, loins, hips, and limbs; his chest and shoulders were not so fine as some of the others, nor did he have a very smooth, easy gait, but he never paced nor hitched. He had plenty of life, great endurance, and, as one of his owners said to us, "he was an ugly customer to get away from on the road." His stock were dark bay or brown, and occasionally chestnut. They had good size, were strong, hardy, and enduring; generally free drivers, but had not as easy action nor as good style as the stock from the others; and some of them would both pace and trot. When a colt, Revenge was frightened by the breaking of some part of the harness or carriage, and ran away. From the effects of this fright he never fully recovered, and if driven single would pull hard when a little excited, but we have not heard of his ever running, except on the occasion just mentioned. He was perfectly sound.

SHERMAN MORGAN 1ST.

Was foaled in 1845, the property of Moses Cook, of Camp-ton, N. H. Sired by Sherman, g sire, Justin Morgan. The

pedigree of the dam not fully established, but conceded to have been a very fine animal, and said to be from the Justin Morgan. Sherman Morgan is 15 hands high, weighs about 1,050 lbs., is dark chestnut, and very much resembles his sire Sherman, but heavier, stockier, and not as much action. A fine horse, and is now kept in the stable at Lancaster, N. H., where the Sherman died. He is owned by A. J. Congdon.

SHERMAN MORGAN DEFIANCE

Was foaled in 1849, the property of James Morse, of Haverhill, N. H. Sired by Boston Tiger, g sire, Cock of the Rock, g g sire, Sherman, g g g sire, Justin Morgan. Dam by Woodbury. This horse is 16 hands high, weighs 1,150 lbs., color black chestnut, fine action and style. When one year old, he was purchased by C. C. Smith, Esq., of Corinth, Vt., who now owns him.

SCOTT HORSE

Was foaled in 1840, the property of J. L. Scott, of Newport, Vt. Sired by Royal Morgan, g sire, Sherman, g g sire, Justin Morgan. Scott horse is a dark bay, 16 hands high, weight little less than 1,200 lbs., a compact well-made horse. He is now owned by Col. Thomas Kent, of Orford, N. H.

STEVENS HORSE

Was bred in Piermont, N. H., by Moses Larned. Sired by One Eye, g sire, Bulrush, g g sire, Justin Morgan. Bay color, weight 975 lbs. Was taken to Rhode Island. A fast horse. He was advertised as raised by Jesse Johnson & Brothers, but he was not.

SMITH MORGAN

Was foaled in June, 1850, the property of John Robinson, of Antrim, N. H. Sired by Flint horse, g sire, Sherman, g g

sire Justin Morgan. Dam a fine mare, owned by John Robinson, of Antrim, N. H., known as the Robinson mare. This horse is light chestnut color, 16 1-2 hands high, form good, limbs heavy, and weighs 1,310 lbs. He is a showy, handsome traveller. His stock proves good.

VERMONT MORGAN CHAMPION

Was foaled about 1826; the property of Mr. Woodruff, of Jefferson, N. H. Sired by Sherman, g sire, Justin Morgan. He was 15 hands high, and weighed 1,150 lbs.; color, black; a horse of great action, and a capital roadster. Could trot a mile in 3 minutes. High carriage and smooth light movement. He was afterwards owned by Judwine & Houghton, of Hardwick, Vt., and sold by them to Mr. Lansing, of Lansingburgh, N. Y. Was purchased and taken to Danville, Vt., in 1845, where he was kept till he died in 1846. He had a fine head, and slightly Roman nose. His stock command a high price, and many are fast.

WHITE MOUNTAIN

Was foaled in 1852, the property of S. H. Edgerly, of Manchester, N. H. Sired by Green Mountain 2d, g sire, Gifford, g g sire, Woodbury, g g g sire Justin Morgan. Dam by Brooks horse, g dam by Cock of the Rock. Height 15 hands; weight, 975 lbs.; color, dark chestnut. Time, 2 min. 50 sec. A very pleasant tempered horse, of good style, and a good driver. Still owned by Mr. Edgerly.

WELLINGTON HORSE

Was foaled in June, 1853, the property of Nathan Stone, of New Ipswich, N. H. Sired by Comet, g sire, Billy Root, g g sire, Sherman, g g g sire, Justin Morgan. This horse is 14 hands high, and weighs 900 lbs.; color, light chestnut, with light mane and tail. His form and action very like his sire, Comet. He is now owned by Mr. Oliver Wellington, Phillipstown, Mass.

WHITE MOUNTAIN MORGAN

Was foaled in 1834, the property of John A. Willard, of Lancaster, N. H. Sired by Sherman, g sire, Justin Morgan. Dam, an English blood mare, weighing 1,150 lbs. White Mountain Morgan is 15 1-4 hands high, and weighs 1,100 lbs.; color, dark chestnut. He has been kept most of his life at St. Johnsbury and vicinity. He is very compact, well-shaped horse, excellent head and neck, fine style of movement, and a good traveller, but not so much spirit as some. A very hardy and enduring horse. His stock are not deficient in spirit, and many of them have a great deal of life, and are generally excellent animals. He is now owned in Towns- end, Vt.

WINDSOR MORGAN

Was foaled, the property of Charles W. Barker, of Henniker, N. H. Sired by Burbank horse, g sire, Woodbury, g g sire, Justin Morgan; 15 hands high; weight, 1,095 lbs.; color, dark bay. Went to Wisconsin when very old.

YOUNG AMERICA

Was foaled in June, 1851. Sired by Farmers' Beauty, g sire, Gifford, g g sire, Woodbury, g g g sire, Justin Morgan. Dam, a black, by Sherman. Young America is 15 hands high; weighs 1,000 lbs., and is jet black. Good style and action. He is now owned by John S. Carr, of Goffstown, N. H. Time, 3.5.

YOUNG MORGAN EMPIRE

Was foaled July, 1852, the property of Jonas Cutter, of Jaffrey, N. H. Sired by Morgan Empire, g sire, Green Mountain 2d, g g sire, Gifford, g g g sire, Woodbury, g g g sire, Justin Morgan. Dam sired by Flying Morgan.

YOUNG ROMEO

Is owned by John C. Berry, Pittsfield. Three years old,

light dapple chestnut color, with mane and tail still lighter; weighs ten hundred pounds. Sire, Romeo, owned by S. H. Edgerly of Manchester, g sire, the Old Royalston. His dam is a bay mare, English blood, and weighed when five years old 1125 lbs. His g dam was of English blood.

WILD AIR

Was sired by Old Black Hawk, of Bridport, Vt. Justin Morgan, dam of Wild Air, was sired by Bulrush Morgan, and Bulrush by Justin Morgan; the dam of Black Hawk was an English blood mare. Wild Air took the first premium at Merrimack County Fair in 1854, and the first at the State Fair in 1855, under seven years old, and the third premium in 1856 for speed in 320 pounds wagon. He is not only fast for one mile, but a great roadster. He is black, with not a white hair on him. He is owned by J. S. Durgin, Fisherville.

YOUNG WOODBURY MORGAN,

Owned by Major Abel Chase; was sired by the celebrated Green Mountain Morgan or Royalston Horse, is about five years old and weighs 1050 lbs. The highest encomium that can be pronounced upon this horse, is, that he is said to be by good judges, almost a perfect *fac simile* of his celebrated sire. He is proud, easy and graceful in his movements, high spirited, yet perfectly kind and gentle. In beauty, symmetry of form, in ease and gracefulness of motion, he has no superior. His stock, so far as developed, is all that could be desired.

YOUNG DEFIANCE

Is owned by S. B. Gove, Weare.

PEDIGREE. He is full blood French, sired by Old Defiance, of Canada. Dam, a French mare, sired by the celebrated St. Lawrence. He is 8 years old, and weighs 1010

pounds. He took the first premium at the State Fair of 1855, for family stock horses.

YOUNG BURBANK, 2D

Was foaled in 1851, the property of Charles W. Barker, of Hillsborough Bridge, N. H. Sired by the Barker Horse; g sire, Woodbury, g g sire, Justin Morgan. Dam sired by a son of Sherman. Dark chestnut color; weighs 975 lbs. Still owned by Mr. Barker.

YOUNG BLACK HAWK

Was foaled in 1843, the property of James Smith, of Sharon, N. H. Sired by Black Hawk, g sire, Sherman, g g Justin Morgan. Dam, a deep bay, raised in Pennsylvania, and sired by the trotting horse Andrew Jackson. Young Black Hawk is a coal black, 15 1-2 hands high, and weighs 975 lbs. He has a good figure, and excellent spirit and action. Time, 2.50. Is now owned by J. E. Maynard, Lowell, Mass.

YOUNG MORGAN EMPEROR

Was foaled the property of Mr. Woods, of Haverhill, N. H. Sired by Emperor, g sire, Bulrush, g g sire, Justin Morgan. Dam, by North Star. He is a blood bay, 14 1-2 hands high, weighs 1025 lbs. Is a compact, good moving and excellent horse. He is now owned by Jonas Cutter, of Jaffrey, N. H.

YOUNG LATHAM

Was foaled the property of Bezer Latham, of Lyme, N. H. Sired by Latham Horse, g sire, Woodbury, g g sire, Justin Morgan. Dam by Post-boy; 15 1-2 hands high; weight 1150 lbs; color, chestnut; good action and a fine stock horse.

YOUNG WOODBURY MORGAN.

Young Woodbury Morgan is owned by Abel Chase, Milford; is five years old, weighs 1050, stands about 15 hands

high, of a dark chestnut color, graceful in action, and is a fine specimen of a Morgan Horse.

Young Woodbury Morgan was sired by Green Mountain Morgan, formerly owned by Silas Hale, Esq., of South Royalston, Mass.; gr, Old Gifford, ggr, Woodbury, gggr, Justin Morgan. His dam was a full blood Morgan mare, sired by the Brown Horse, of Hillsborough. She was a young, spirited mare, 15 hands high; weighed 1040 pounds when Young Woodbury was by her side.

YOUNG MORRILL

Was foaled in 1848, the property of Mr. Smith, of Cabot, Vt. Sired by Morrill Horse, g sire, Jennison Horse, g g sire, One Eye, g g g sire, Bulrush, g g g g sire, Justin Morgan. Dam sired by Sherman; 16 hands high, weight, 1160 lbs; color, dark brown. Mr. Smith sold him, when three years old, to Mr. Morrill, and Morrill, to Messrs. Town & Trowe, Barre, Vt. He received the first premium at Vermont State Fair, at Montpelier, 1853; also the first premium among Bulrush Morgans, at Rutland, 1855. Was then taken to the National Exhibition, at Boston, Oct. 1855, and entered in class for general use, where he received the first premium of \$200. Time 2.38. A heavy, close, compact and enduring horse.

[The following article was prepared and published by J. B. Clarke, Esq., editor of the Manchester Mirror, at the time the Morrill horse was purchased and brought into the State. As a historical chapter on horses it is deserving a permanent place in our State Agricultural Transactions:]

The celebrated stock horse, Young Morrill, has been purchased by Messrs. Towne & Trowe, of Barry, Vt., by Messrs. Varnum H. and Wm. H. Hill, James S. Cheney, and D. W. Fling, they paying \$4.500 for him. It seems a high price to pay for a horse, especially to those who

have not learned that "blood tells," but we assure those that think so, that twice that sum would not buy him now.

The importance of a good stock horse with the right blood, has been less considered in New Hampshire than in either of the other five New England States. Vermont is justly celebrated for superior horses; the selection of the best breeds has given the fame. It is the home of the Morgans, Black Hawks and Hambletonians; the famous Cock of the Rock, sired by Duroc, dam, full sister to Miller's Damsel, (the dam of American Eclipse,) and sired by Messenger, was kept at Vergennes from 1820 to 1829; Sir Walter, a great four mile racer, whose g g g sire was English Eclipse, was kept near the Canada line for many years.

Henry, a thorough-bred, was kept near Lake Champlain till 1850; Sir Charles, sired by Duroc, was owned at Bridport many years; and the French and Messenger blood abounds there. No wonder its horses are sought for to go to all parts of the country. We hope the bringing of so valuable a horse as the Young Morrill to this State, will lead our farmers and horse raisers to ponder over the significance of you "cannot gather grapes of thorns or figs of thistles." We will not vouch for the truth of the motto of the homœopathist, "like is cured by like," but have no doubt, in the equine department, that "like begets like."

Young Morrill is eight years old, coming nine, and weighs about 1150 pounds. He has an equal share of the Bulrush Morgan and imported Messenger blood. The Justin Morgan Horse left only three colts that became famous: Woodbury, Sherman and Bulrush. The former are prevalent in this section; such is Farmers' Beauty, Clifton, White Mountain. The Shermans are found all over Vermont and in the northern part of this State. The Bulrushes are more scattered and further known. The two former are much alike in their characteristics, color, size, bottom, beauty and docility; the Woodbury excelling in his proud, noble and showy action, making him "the observed of all ob-

servers," under the saddle. Bulrush was the only trotter of the family, and he differed from the other two as much in other qualities as in superior speed. He got his peculiarities from his dam.

In 1812, Moses Belknap, of Randolph Vt., bought a mare out of a six horse team that hauled merchandise between Montpelier and Boston. She weighed about 1000 pounds; is described as a dark bay, with black legs, and heavy black mane and tail; she was low and compact, had heavy limbs, with large joints, neck rather large, and a good head; she was a sharp trotter, and had the appearance of being part French; she was a very hardy, rugged and enduring animal. She was the dam of Bulrush. Bulrush retained the color of Justin Morgan, a dark bay, with black legs and mane and tail; his legs were large, close-jointed, broad, flat, and exhibiting a wonderful power of muscle. He was a sharp, quick driver and a fast trotter, and was tough as hickory. His descendants all have his peculiarities, and one striking quality which is a matter of record, that no one of them has ever had a ring-bone or spavin.

We have said thus much about Bulrush because no one of his breed has been kept for a stock horse in this vicinity.

Young Morrill was sired by old Morrill; dam, a Sherman Morgan mare; g sire; Jennison horse, g g sire; One Eye; g g g sire, Bulrush; g g g g sire, Justin Morgan. Of the Jennison horse we cannot give the pedigree.

The dam of One Eye was Post Boy, the distinguished son of Henry, who ran a four mile race some twenty years ago, against Eclipse, winning the first heat in the then unprecedented time of 7 minutes 37 seconds. Henry was sired by Sir Archy, g sire, Diomed; dam by Diomed, g g g g dam by Jolly Roger, who was imported into Virginia. Jolly Roger was sired by Roundhead, a son of Flying Childers.

The dam of Old Morrill was sired by the Farrington

horse, he by Vance horse, and Vance horse by imported Messenger, from which sprang the Hambletonian and most of the other trotting blood of the Eastern States.

It is plain that Young Morrill has the proper letters patent for a trotter—and he is a trotter. He has four strains of blood, which, in his case, “tells;” Morgan, French, Messenger, and Henry, a thorough bred race-horse.

Our own opinion of him is that he is the fastest trotting stock horse that stands on iron. According to the record, his only rival is Ethan Allen, who stands upon that record 2 1-4 seconds better, to the mile. Ethan has had the best of training; Young Morrill has never been trained at all; never stepped his foot upon a track except at Fairs. He has been exhibited at State Fairs, without previous preparation, driven by a man who is entirely ignorant of the skill of fast driving. Under the discipline of Hiram Woodruffe, or Dan Mace, we think in a couple of weeks, he would show five seconds better time, at least than he ever made yet. That would throw Ethan as far behind him, as the Drew Horse is now behind Ethan. As a stock horse we regard him superior; his size and showy appearance, when under speed, are in his favor; and his blood is richer. He is admired when seen, and at Fairs and shows, he has always won the applause of the crowd.

He is sound, and his Bulrush toughness is predominant. Though, at State Fairs, without competition, merely to show him, he has been driven mile heats scores of times, in periods varying 2.35 to 2.43, he never seemed the least put out or panting. His training has never been sufficient to draw out all his powers, and make the perspiration come reeking from him, and his breathing labored. When he shall be put in condition to do that, it is impossible to tell what speed he will make, or how near he will run upon the time of the “slashing black gelding,” Lanect, or the queen of the trot, Flora Temple. Certain we are that there is but one stock horse in America that can make his time.

His colts seem to be patterned after him, and are selling at a high figure. A four year old was sold to go West last fall, for \$1,500. He could trot 2.50.

A three year old was sold, and is now owned at Laconia, this State, for \$600. An attempt has been made to get some of his colts under a year old, and not one can be bought less than \$150. James Walker of this city has one of his two-year-olds that promises to bring a large price. Enough of his stock has been seen to create quite a rage among horsemen.

UNNAMED HORSES.

Sullivan Cross of West Swanzey, owns three stallions of the Woodbury Morgan stock, crossed with an English mare.

One six years old, jet black; weighs 1220 pounds.

One five years old, dark chestnut color; weighs 1200 pounds.

One four years old, weighing 1050 pounds.

These animals were all bred by Mr. Cross.

J. P. Ladd, of Hill, owns a Black Hawk colt, four years old, sired by Old Black Hawk, of Bridport, Vt., recently deceased. Dam, Green Mountain mare. Weighs 900 pounds.

WHERE DO SEEDS COME FROM?

The wonderful distribution of seeds throughout the soil of the whole earth, so that no spot is destitute of vegetation, that is at all fitted for it, is indeed a matter worthy thought.

The coral of the sea appears above the surface of the wave; it catches some floating sea weed, which, dying, leaves a tiny spot that may give nourishment to a seed. A little while and a plant is growing there. From this, as a nucleus, in the process of time, comes the beautiful island, covered with the luxuriance of tropical foliage, with plants and trees of almost endless variety.

Upon the western prairie, in the digging of a well, sand was thrown to the surface from the depth of sixty feet. This was scattered upon the surface around for a few feet. In a little time, plants, unknown before in that region, sprang up, grew and blossomed. Nor could any guess be made as to the source of the seeds, except that they had been thrown up from a great depth below the surface of the present soil. Many other instances, similar to these, might be mentioned; but these are sufficient to give natural rise to the question "where do the seeds of such plants come from?"

There are well known instances, where, when a vegetable growth of a particular kind has been removed, another kind has taken its place. The first question, perhaps, that occurs in such connection is, "Why does a *different* growth occur in preference to repetition of the same? The more superficial soil must be charged with seeds of the growth

just removed. These are in the best possible relations to air, moisture, &c., for germination. Why is it, then, in many cases, that these seeds lie dormant and the seeds of quite different plants germinate in their stead?

The second question is, *Where do the seeds that produce so different a growth come from?*

I have an answer to these questions in my own mind, the result of some thought and some reading, which I will offer

1st. The principal reason why, when one forest growth has been removed, another of a different kind appears, is, that during a growth of the same kind, for many years on the spot, the elements that enter into this peculiar growth are much exhausted. Every farmer knows that a continual cropping of the same land with corn, even with full manuring, is not considered good policy, and that after one crop has been upon the soil, something different does better. So in the natural growth of the wood. After an old growth has been removed the soil is not adapted to a repetition of the same crops—elements adapted to a different growth predominate in the soil. If, then, there are present seeds of a kind adapted to the wants of the soil, such seeds will germinate in advance of those of the growth just removed. That there are such seeds in the soil, lying dormant, yet ready to germinate when a proper opportunity occurs, the commonest observation will testify. *But where do these seeds come from?*

2d. This is our second question. It is questioned, "whether the soil retains seeds through a long series of year, or the latent power of creating them, or whether they are scattered in fitting localities at fitting times by mysterious agencies, are questions too nice for us to answer." It is not a long time since these three sources would have been all admitted by naturalists, at least so far as to admit two sources of origin for plants and animals. A distinguished German Naturalist and Physiologist, writing, twenty-five years ago, says, "it has been shown that a number of vege-

table and animal forms, placed in the most simple and least elevated ranks of organization, can, in certain favorable circumstances, be formed without the concurrence of other living bodies, at the expense of the material substance of dead organized bodies, which have been thrown into a complete state of revolution by putrefaction and fermentation." Some of these "simple forms" he mentions, such as "infusory animalculæ"—varieties of fungi—mushrooms, &c. The doctrine taught by this naturalist and others of his school, was that some of the very lowest forms of both animal and vegetable growth were produced by chemical agencies alone, without the intervention of the generative act of other similar living beings. But even these writers would not claim this origin for any but the *very lowest* tribes of the two kingdoms. And having specified a few that he thinks originate thus, the same writer I have already quoted says, "all living bodies that have not this mode of origin, (i. e. spontaneous generation) proceed from other organisms already existing," i. e. are produced by the generative acts of other similar living beings.

But Harvey, Linnæus and other naturalists had previously announced their conviction "that living bodies can *only* be propagated by ova, (eggs or seeds) and grains, and that animals and vegetables of new formation could be considered only as products of the manifestations of activity of similar beings that were already in existence.

More recent researches have gone to confirm this view. And now in the language of one of the most distinguished writers on general physiology, "it may be considered as a fundamental truth of physiological science "*that every living organism has had its origin in a pre-existent organism.*" "The doctrine of spontaneous generation," says the same writer, "or the supposed origination of organized structures, *de nova*, out of assemblages of inorganic particles, although at different times sustained with a considerable show of argument, based on a specious array of facts,

cannot now be said to have any claim whatever to be received as even a possible hypothesis; all the facts on which it claimed to rest, having either been themselves disproved, or having been found satisfactorily explicable on the general principle, *omne vivum ex ovo*, (everything living comes from an egg.) Thus the appearance of animalcules in infusions of decaying organic matter, the springing up of fungi in spots to which it would have been supposed that their germs could not have been conveyed, the occurrence of entozoa in the bodies of other animals into which it seemed almost beyond possibility that their eggs could have been introduced, with other facts of a like nature, may now be accounted for, without any violation of probability, by our increased knowledge of the mode in which these organizations are propagated."

If these views are correct, and I believe them to be more strictly in accordance with known laws of nature than any other—then, wherever we find plants of a particular kind springing up, we know that they come from seeds produced by similar plants which have at some time and place existed previously.

We may not be able, in particular instances, to account for the produce of particular seeds. Yet we cannot resist the conclusion that they have come from similar plants, growing at some time in the past, either upon that very spot, or upon some spot probably not very distant, from which they have been brought by some simple natural agency.

Do seeds remain a long time dormant, and yet preserve their vitality?

Many well known facts prove this. It is well known that our most common seeds will preserve their vitality for a long time, if they are placed in circumstances which neither call their properties into active exercise, nor occasion their decay. If kept dry, at a low temperature, and especially if the air be excluded, there seems to be no limit

to the period during which seeds may retain their vitality. Seeds taken from the herbarium of Tournefort, French Botanist, germinated after the lapse of *nearly a century*.

Another very remarkable instance is narrated by an English writer, Dr. Lindley: "I have now before me," says he, "three plants of raspberries, which have been raised in the gardens of the Horticultural Society from seeds taken from the stomach of a man whose skeleton was found thirty feet below the surface of the earth, at the bottom of a barrow (a large artificial mound) which was opened near Dorchester. He had been buried with coins of the Emperor Hadrian, and must have been there 1600 or 1700 years."

Since writing the first of this article, my memory has brought up to me an instance of the extensive and singular distribution of seeds, that came within my own *delighted* observation in my boyhood.

About a mile from the village where I then lived, was a thick, dark wood, which extended a long way in every direction. For some cause several acres in the very centre of the wood had been cleared. Very thick were the tall, black stumps, while all around stood the "old" growth of the pinewood forest. This clearing was accessible on two opposite sides by a narrow and winding cart path. The summer that I first recall as associated with this field, was its first or second season in grass, and it bore a magnificent crop of mixed clover, and herdsgrass. But what respect have boys for grass, if in the grass *strawberries* are to be found? Alas, for the owner who had planned for a nice field of grass, it came to be whispered about among the boys that such another place for strawberries did not exist in the known world. And it was true. As a boy—a country boy, I was a connoisseur in the strawberry field—but never till then had my eyes fallen upon such a sight. The surface of the ground beneath the grass was one mass of strawberries, of a size and deliciousness that I had never seen before, and have never seen since. The *size* of the

garden strawberry would hardly surpass them—the *flavor* of the wild strawberry is unsurpassable.

Now from what source did these plants originate?

When ashes are sown upon almost any field, whence comes the white clover plants that have, perhaps, never been seen before? We have but *one* answer to these questions, namely, that they originate from seeds that have been lying dormant for a great length of time.

If asked, whence came those seeds, we can only say that they were deposited on the spot by some previous plants of the same kind, or else were moved there by some change of the surface soil, from some other spot at some previous period of time.

Let us briefly consider these two propositions.

1st. It is highly probable that a great number of successive growths of plants and trees have at different times covered the earth. Geology teaches us that for a long period before man and animals found place upon the earth, trees and plants were flourishing. The earlier plants were very different from those which are found now. Especially is this true of those of the temperate zone. But we have reason to think that plants similar to those now seen, appeared just prior to the creation of man. While the surface of the earth was assuming its present aspect and becoming fit for the residence of man, many years probably passed away, and generations of plants similar to those now covering the soil, arose, flourished, died, decayed, and were succeeded by others. Since the creation of man the same has been taking place. If we are to judge by what we ourselves see, different kinds of vegetation have alternated. A growth of one kind has covered the ground, has deposited its seed and has passed away, to be succeeded by another variety. This last in time giving place to the first.

2d. After seeds have been deposited in this way, changes in the locations of land and water, or of the surface soil, have taken place, which have prevented the germination of those seeds for a time.

It is not many years since the following circumstance occurred in Maine:—"Some well-diggers when sinking a well at a distance of forty miles from the sea, struck, at the depth of about twenty feet, a layer of sand. This strongly excited curiosity and interest, from the circumstance that no similar sand was to be found any where in the neighborhood, or any where nearer than the sea-beach. As it was drawn up from the well it was placed in a pile by itself. This pile was ultimately spread around the spot. In a year or two it was perceived that a great number of small trees had sprung up from the ground over which the sand had been strewn. These trees were carefully preserved, and proved to be beach plum trees, never before seen except upon the sea-beach. They bore the beach plum. These trees must therefore have sprung from seeds which had existed in the stratum of sea-sand pierced by the well-diggers. How long they had been there it is impossible to conjecture. And whether they had been cast up by some overflowing of the sea at that place during some convulsion of the elements, or whether the sea had receded from its former shore by some upheaving of the land, it is equally impossible to say.

3d. Changes in the surface of the earth have been produced at comparatively recent geological periods, by the focus of currents of water flowing in localities now entirely removed from such actions. As for instance, there are evidences that a current once flowed across this State from the valley of the Connecticut to that of the Merrimack, crossing the highlands at the Orange summit. These currents then as now, would bear on them the plants and seeds of plants from one section of the earth to another, as they have moved solid rocks from the primitive beds and borne them miles away.

Of these various sources of seeds lying dormant in the soil the first is undoubtedly the principal one. We cannot by any other philosophical reason account for the so gener-

al diffusion of seeds. There are comparatively few seeds of common plants and trees that can be carried to any extent by wind. Birds and animals assist in distributing them, but it must be in a limited degree. So that we are forced to the conclusion that they must come from plants of the same kind that have previously stood upon the same spot.

The distinguished modern traveller, Stephens, where he found, in Central America, buried under the trees of a gigantic forest, ruins of temples and dwellings, and other traces of the rule of man, did not hesitate to conclude that at some previous time, what was then a dim and unpeopled forest, had formerly sustained and cherished a mighty people.

GYPSUM OR PLASTER OF PARIS.

BY LEVI BARTLETT.

It has long been well known, that, on some soils, gypsum has a most beneficial action on clover, and some other plants, when scattered broadcast over the land, at the rate of one or two bushels per acre; and that the small amount of a teaspoonful per hill, applied at the time of planting the seed, has frequently very much increased the crop; and it is as well known, that its use on some soils, either in large or small doses, exhibits no visible effect upon the various crops cultivated upon them. Various theories have, been advanced by scientific writers, as well as by practical farmers, to account for these dissimilar results in the use of plaster for manurial purposes. But we shall not here go into an examination of the discordant theories that have from time to time, been put forth by the learned, or unlearned upon the frequent favorable or unfavorable action of gypsum on different soils, and crops, but will give the supposed results of a free use of plaster on our farm for a few years past.

Some fifteen years ago, we came into possession of the farm we now occupy; being short of manure, we made use plaster on our corn, potatoes and other crops, without perceiving any very marked effects from its use, and after two or three years trial, with it, we came to the conclusion that the soil of our farm did not need gypsum, and we gave up the use of it. But some five years ago, we thought there might be some benefit derived from the use of plaster, when daily strewn over our hovel floor, during the winter season,

and we procured a cask of finely ground plaster, (500 lbs.) and placed it in one of our hovels in which were kept through the winter ten head of cattle. A few quarts of of plaster were daily sprinkled over the floor of the hovel which was nearly water-tight. The same course we have pursued every winter since, from the belief that a portion of the volatile carbonate of ammonia, generated by the decomposition of the urine, manure, &c., would be *fixed*, or changed to sulphate of ammonia, which is not volatile. There seems to be a difference of opinion among agricultural writers, in respect to the action of gypsum, when mixed with guano, and other concentrated manures. Some contending that plaster will liberate the ammonia, while others say it will not. Which party are right in this matter, we shall not here attempt to decide—but will state one fact, about which there is no controversy; that is, if liquid sulphuric acid and carbonate of ammonia are brought in contact by mixture, decomposition will ensue, the carbonic acid of the ammonia will be driven off, and the free ammonia will combine with the acid, resulting in gypsum of ammonia.

In 100 lbs. of gypsum there is about 46 lbs. of sulphuric acid, (oil of vitriol.) It requires 400 lbs. of water to dissolve one pound of gypsum. From this it seems that 400 lbs. of water would only put less than half a pound of the acid in a favorable condition to combine with ammonia, for it is a very general law of chemical affinity, that when two substances combine chemically, *one of them must be in a fluid state.*

But we think that urine, especially while warm, possesses greater solvent power over the gypsum, than water at the temperature of 60°. In the rear of our cattle, in one of our hovels, there is a tight trough or gutter, 24 feet long, 14 inches wide, and 2 inches deep, in which the droppings of the cattle are received. If we put plaster in the gutter, and make no use of muck, or litter for bedding, in course

of twelve or fifteen hours after the cattle have been in the hovel, there will be an inch or more in depth of urine in the gutter, (the ends being closed to retain the liquid,) and the surface of the urine is covered with a thin ice-like pellicle of carbonate of lime. This proves that the gypsum has been freely decomposed, the acid set free to combine with the ammonia, and the lime, in its affinity for carbonic acid, rises to the surface of the liquid, as there is much of this acid in the hovels every morning. But when we make no use of plaster, there is none of this ice-like stratum of lime in the gutter.

From the above fact, we are of the opinion that we save in sulphate of ammonia, many times the cost of the gypsum, even if it has no other effect than the retention of the ammonia. But its value on some soils, and favorable effects upon the clover plant, justifies us in the belief that it possesses other manurial qualities, aside from its power of combining with ammonia.

But to go back to the "supposed results" of our free use of plaster in our hovels and stables. We use our winter made manure, on land planted with corn, potatoes and roots; followed the next year with grain and grass seed.

The three past seasons have been remarkable for severe droughts in August and September, of each year, from which cause a large portion of the grass seeds sown by our farmers have been a dead loss, in consequence of the young grass plants having been destroyed by the severity of the late summer droughts; but on our farm, the grasses, especially the clover plants, have done as well as in wet seasons. We have stocked down to grass, dry hillocks and ridges of land, upon which the young grass plants have withstood the effects of the droughts, quite as well as those upon the moistest parts of our fields; though not quite as luxuriant. We do not pretend to farm better, manure higher, nor p'ow deeper, than our neighbors, but we have been vastly more successful, the past three years, in getting,

(what is termed) a catch of grass, and we can attribute it to no other cause than that of our free use of plaster in our hovels for the several past winters. We have no doubt but guano—pure and unadulterated—is a most valuable manure for the wheat, and some others of our cultivated crops—providing, we except the summer droughts; yet, we believe most of our farmers had better expend money for plaster, to be used daily in their hovels and stables during winter and summer too, if they keep their cows in the barn at night, as every good, or bad farmer should, if he consults his interests. Hay, with us, in farming, is of vastly more consequence than the wheat crop.

But if we wish to grow wheat, we had better do it through the aid of plaster and clover than to attempt it, by the use of guano at sixty or more dollars per ton.

Plaster, used as we have used it, carries to the land when mixed with the manure, lime, sulphur and ammonia, these very essential constituents of plants. Some apparently good soils do not contain these substances in sufficient quantities—neither does common farm-yard manure,—for we know this to be true, from the fact that we have time and again, seen the corn crop very much increased in value, (on-good looking and well manured soils,) by the simple addition of a teaspoonful of plaster to the hill, at the time the corn was planted. We went two miles last September, to look at a field of corn, planted on good soil, well manured, all plastered in the hill except occasionally two rows together had no plaster; we judged the plastered would produce one-third more corn. But since the harvest, the experimenter has informed us that the unplastered rows did not produce more than half as much as the same number of rows that received the plaster.

GAS LIME.

There has been some enquiry of late in regard to the virtues of gas lime for manure. As it can be readily obtained in the neighborhood of gas works, there is a disposition among the farmers to apply it to their land in the expectation of great advantage to their crops. It is well to consider before making a very extensive use of it. In looking up the matter, we find in the American Field Book of Manures the following account of it:

“The refuse lime of gas works consists principally of a mixture of carbonate of lime, with a variable quantity of gypsum and other salts of lime containing sulphur, and a little coal tar and free sulphur, the whole being slightly colored by Prussian blue, the chief difference of composition arising from the kind of coal employed in the manufacture of gas. The following table exhibits the composition of two gas limes, as analysed by Professor Johnson, one from Edinburgh gas works, and the other from those of London. The first two columns show what they contained when first received from the works, and the second two what they would have become after long exposure to the air, after being made into compost, or thoroughly incorporated in the soil:

Water and coal tar,	12 09	9 50	12 91	9 50
Carbonate of lime,	69 04	58 88	67 39	56 41
Hydrate of lime, (caustic)	49	5 92		
Sulphite of lime, (gypsum)	7 33	2 77	16 45	29 32
Sulphite and hyposulphite of lime,	2 28	14 89		
Sulphuret of calcium,	0 20	0 36		
Sulphur,	1 10	0 92		
Prussian blue,	2 70	1 80	2 70	1 80
Alumina and oxide of iron,		3 40		3 40
Insoluble matter, (sand, &c.,)	0 64	1 29	0 64	1 29
	98 69	99 82	100 09	101 81

The most marked difference between the two samples by the above analyses, is in the compounds *sulphite* and *hyposulphite of lime*. The latter of these substances dissolves readily in water, and its presence in such widely different proportions satisfactorily accounts for the different effects which have followed from the application of gas lime to the land in different districts in Great Britain. The rains dissolve the hyposulphite and the sulphurs, and carry them down in too great quantity to the roots of young grain; and hence the complaints of some that the gas lime killed their wheat, while others found that, when applied as a top dressing in a similar way, it greatly improved their crops. Therefore, unless the composition be satisfactorily ascertained, there will always be a degree of risk in applying it to the grain while the crop is growing.

Gas lime, however, in no case, if possible, should be wasted, as it would appear that it may always be safely employed with good effect under the following circumstances:

1. It may be used directly upon mossy land, upon naked fallows, and in the spring, when preparing for turnips.

2. In composts, in which the whole of the soluble salts of lime will have a tendency to be converted into gypsum by the action of the air; and consequently the benefits which result from a large application of gypsum will be obtained by laying such composts upon the land.

3. As it appears usually to contain only a small proportion of caustic lime, it may with safety be mixed at once with barn-yard or other animal manures, though not in too large quantity. It may also prove a valuable admixture with guano, on which its action would ultimately be to fix rather than expel the ammonia.

4. Strewn sparingly over the young turnip plants, it is stated that it prevents the attack of the turnip fly; and harrowed in, when the ground is naked, if the quantity be considerable, slugs and wire worms disappear from its effects.

5. If applied in too large quantity, it is liable to be injurious to crops of young grain. But grass lands, though at first browned by its application, soon recover and repay the cost by yielding a greener and an earlier bite in spring.

Gas lime, fresh from the works, it is also stated, is one of the best materials to lay under the floors of farm buildings; for it not only serves to absorb and fix the fertilizing gases in such situations, and afterwards will form a good manure, but being excluded from the air, it retains its disagreeable smell for a long time, and is much disliked by vermin and rats.

The Secretary requested Prof. Hubbard, of Dartmouth College, to give us his opinion in relation to gas lime, to be employed as an enriching agent. Below is his reply:

DEAR SIR:—The “Gas Lime” of which you inquire the value in agriculture has been very little used as a manure. The books speak of it in very few words, or not at all, and experimenters mention it in unfavorable terms. Johnston in his Agricultural Chemistry speaks of (*Ca. S.*) Sulphuret of Calcium as “fitted, when judiciously applied, to promote the growth, especially of those plants in which sulphur has been recognized as a necessary constituent.”

This is rather a statement of a principle, than of a rule of practice—and no directions how to apply this substance “judiciously” are given—probably because experience has afforded no instruction.

Johnston says, “the refuse heaps of the alkali works on the Tyne, contain much sulphur, and more gypsum—but the farmers, perhaps naturally enough, consider that if the works themselves do harm to their crops, the refuse of the works can do them no good. There are thousands of tons of this mixture which may be had for the loading (drawing) away.”

There is resemblance between these two articles, in that whenever sulphur is oxidized by ordinary atmospheric oxidation, sulphuric acid may be produced. If a base, as

lime or oxide of iron, is present, the sulphuric acid *may be* neutralized, but in such a chemical activity plants would fare badly.

A visit to the Copperas Works, at Strafford, Vermont, is very instructive, as showing how unfavorable to plants, is the decomposition of the iron pyrites, which by thousands of tons is converted into sulphate of iron or copperas.

So the sulphuret of calcium of the gas works, on exposure in the fields, must be oxidized and the sulphur become sulphuric acid, and the calcium become lime, and the two, if united, gypsum. But in this play of affinities the action on plants would in all probability be injurious.

The gas lime is undoubtedly a mixture of lime, carbonate of lime, sulphuret of calcium and sulphuret of hydrogen—presenting the elements of a vigorous chemical reaction.

In this case, and in all similar ones, experiments should be made under circumstances, involving little cost and risk of damage, and the results cannot fail of giving a rule of practice.

Yours truly,

O. P. H.

Dr. Dana, whose reputation as a chemist is well known, writes us the following:—

“Gas lime contains sulphuretted hydrogen, sulphuric acid and ammonia. It cannot be used agriculturally till it has been exposed to the air for some months, say a year, by which it is converted into sulphate of lime and ammonia, and carbonate of lime. In this state, mixed with three times its bulk of soil, it forms a useful top dressing—or it may be added, before mixing with soil, to the compost heap or to meadow muck, say two bushels to the cord.”

CULTIVATION OF ROOTS.

BY REV. J. M. MERRICK.

I apprehend that farmers would include root culture more generally in their plan if they had more exact knowledge of its advantages, its methods and its expenses. I do not believe that they forego any benefits or any chance to make money, wilfully or because they are inordinately attached to old habits. If new crops and new methods of cultivation have been neglected too long, it is not because our farmers choose to remain behind the rest of the world, but either because they lack the capital necessary to embark in new enterprises, or because they have not seen such enterprises successfully carried out elsewhere. In regard to roots the capital required for an experiment is not large; and a great many instances of complete success are within our knowledge.

A farmer might begin with a small piece, say a quarter of an acre, or even less, and make a careful experiment. Let him cultivate it highly, manure abundantly, take the best care, raise a large crop, keep an exact account of the cost, and he will satisfy himself whether it will pay. He will incur only a small risk whatever be the result.

Carrots require a good soil, not particularly heavy and strong, but rather a light loam deeply plowed and made as fine as possible. It should be liberally manured—say from four to six cords of the best manure to the acre. The seed is easily and cheaply sown by a machine in rows two feet apart. A horse can walk between these rows, carrying a horse-hoe, which is a great help in weeding.

Of several experiments, I will mention the results. In

Roxbury, Mr. Meserve raised from an acre, eighteen tons. His land had been devoted to carrots for three years before, and had never produced less than fifteen tons. Mr. M. estimates the net profits at \$170. Mr. S. Sprague, of Duxbury, raised on a quarter of an acre at the rate of nine hundred and eight bushels to the acre—or about twenty-two tons. Expense of cultivation about twenty dollars. J. Crowell, of Barnstable, raised ten thousand and seventy three pounds of carrots—over two hundred bushels on a quarter of an acre. Expense \$22.33.

M. P. Wilder, of Dorchester, raised on one-fifth of an acre, one hundred and eighty bushels. The carrots were planted in rows four feet apart. Between each row of carrots, was a row of pear trees. The trees, of which there were thirty-six hundred, made a vigorous growth. The carrots weighed nine thousand pounds. This is equal to twenty-one tons to the acre. Had the carrots been sown in rows two feet apart, without trees, the yield would probably have been forty tons to the acre.

J. H. Robinson, of Dorchester, raised twenty-six and two-thirds tons of carrots, from one and one-half acre. Reckoning the carrots worth \$12 per ton, Mr. R. estimates the profits of the field at \$178.

These specimens will suffice to show what can be done on a given quantity of land. There is no risk in saying that eighteen tons or seven hundred bushels may easily be raised from an acre of good land well manured. Much more than this is done every year without extra effort. The expense is variously estimated from eight to seventeen cents a bushel, averaging probably not more than thirteen cents. This is not far from half the value either for market or for feeding.

Experience alone can fully determine the value of carrots as food for stock. On general principles we may assert that a mixed diet is better for animals than one exclusively composed of any single article. Our personal experience

teaches us that health and comfort are promoted by a mixture of meat and vegetables and bread in our food, so one article of diet will secure all the advantages of many. Health may be preserved and flesh gained while men lived on potatoes only; but the strength, the ability of hard work is not secured. When the Irish fed, at home, on *plenty* of potatoes with perhaps the addition of buttermilk, they were fat and rosy. But when put to hard work here, they usually broke down for a while, until they had gained strength from more nourishing food.

Various ingredients enter into the composition of the body—sugar, oil, fibrin, lime &c.; and to procure these, different articles of food are requisite. Neither sugar, nor starch, nor grass, nor grain will increase the weight of flesh and stability of frame, and at the same time maintain health. Fat may perhaps be laid on while the animal suffers in health, and some physiologists assert that excessive fat is always indicative of disease. At all events the process of laying on fat, may be carried so far as to render the animal unfit for human food. Common sense should teach us that various kinds of food should be used in feeding cattle, and experience confirms the idea. The Shakers, who perhaps exercise as much judgment as any persons, and are as successful in agriculture, declare that carrots are “exceedingly wholesome,” superior to potatoes, both as an alterative medicine and a producer of flesh. Of course, judgment is to be employed in this matter as in every thing else; and ought a man to be discouraged by what may seem the unfavorable result of a single experiment?

Carrots or other roots should be clean and nicely cut up and mixed with cut hay, or some other dry food. That which contains the most fattening qualities, will in this way be hindered from constipating the animal by the laxative properties of the roots. Carrots may not increase the flow of milk in cows, but they do improve its quality, directly by nutriment, and indirectly by keeping the cows

in good health. Horses are very fond of carrots; and some of our best farmers raise them chiefly for their use. They consider them better and cheaper than hay alone, or than hay and grass.

Various estimates have been made by practical men, of the comparative value of hay and carrots. Let us look at two or three of them: Suppose that for fattening purposes 75 lbs. of carrots are equivalent to 18 lbs. of good English hay. Then if twenty-five tons of carrots are grown on an acre that will yield two and one-half tons of hay (including in the two and a half tons, the whole grass crop,) an acre of carrots is worth more than twice as much as an acre of hay. Thus, as $75 : 18 :: 5000 : 1200$ lbs. of hay, six tons. An acre should yield six tons of hay to equal in value the growth of carrots. Now admit the value of the land to be the same, and ascertain the comparative cost of cultivation in the two cases, and you have one element in settling the question of expediency.

From experiments made very carefully, it has been estimated that three pounds of carrots will afford as much nourishment as one pound of hay. If this is true, carrots are more valuable than represented above. Thus, suppose a moderate growth of carrots on an acre, say 700 bushels, these would be equal to six tons of hay. Again, we may suppose that an animal will eat of roots, one-fifth of its own weight in a day, or one-fiftieth of its weight in hay. Suppose an acre to yield in weight twelve times as much of roots as of hay, or thirty tons of roots to two and a half tons of hay. Suppose the animal weighs 800 lbs.—Then 1-5th equals 160 lbs. of roots daily; and 1-50th equals 16 lbs. of hay daily. The roots would be consumed in 375 days, the hay in 312 days. This, however, shows but a part of the superior value of the roots. The mere fact that they will support life longer, says nothing of their fattening or medicinal or preventive qualities, whenever in combination with dry food they reach their highest value.

These estimates will assist our readers to form a tolerably accurate idea of the comparative worth of roots and hay. We do not pretend to literal accuracy. It is enough for our purpose to call the attention of farmers to the subject.

In England it is understood that root crops increase the quantity of manure by means of the animals they support, and thus recruit the land exhausted by grass. If many roots are grown, many animals must be kept to consume them; and many animals make much manure. The more liberal the supply of manure, the greater the profit. No farmer can afford to half cultivate his land. Even if obliged to purchase manure, he may, by good management, be able to repay the outlay.

There is another thing about which I express no opinion, having no means of personal knowledge. It is said that roots mixed with dry food and fed out to animals, contribute to their symmetry and evenness, which is considered an essential qualification for a prize. More concentrated food, as corn or oil cake, lays on the fat in lumps or large portions, instead of thorough mixture and evenness. Experience can settle this question. If it be as alleged, it is an important matter for those who raise beef for market.

One fact is undoubted, namely, he who succeeds in raising roots, will bring his land into the very best condition. Good cultivation, tillage, pulverization, careful sowing are essential; and they leave the land in the best order for any crops that may follow. A few experiments thoroughly conducted, will teach farmers what few are aware of, that is, the amount of produce a given quantity of land is capable of yielding.



THE GROWING OF PLANTS.

BY S. WEBBER, M. D.

Some months since, I noticed an inquiry as to what would make cabbages form heads. I thought I would reply to it, but a pressure of other occupations kept me busy at the time, so that I did not do so, though the subject has not been forgotten. I have been troubled much at times with the same untowardness on the part of my cabbages, and cauliflowers as well as broccoli, to form their appropriate heads. Conversing on the subject some two or three years ago with a friend fond of horticulture, he informed me that some one, of much practical experience in the raising of such vegetables, told him, that the way to insure the heading was to transplant them twice, the second transplanting to take place at a moderate interval of time after the first. The very next year, another friend, who had been bringing forward many ordinary garden vegetables in a hot bed, sent me a number of well grown plants, both of cauliflowers and cabbages, when those I had planted were scarcely above ground. At the time I received them, I had not prepared the ground destined for the reception of such vegetables, and was too busy with other things to do so forthwith. I accordingly struck the end of a hoc-blade into a soft well prepared border, and turning the handle down so as to leave a sufficient cavity, put the cabbages in, in a bunch as I received them. I did the same with the cauliflowers, and then left them to their fate. About ten days

or a fortnight afterwards, having got the proper spot of ground prepared, and finding my plants, thus rudely transplanted before, looking thrifty, I took them up and reset them properly in their destined bed. As for the result, I can only say, that I never before had any of either race that headed so well, so uniformly, and so early as did these; thus apparently confirming the soundness of the advice given me. Before attempting any explanation of the action of his method, I will relate another experience.

This last summer, just before the drought came on, I had set out my cabbages and cauliflowers as usual in rich well prepared beds, intending to practice somewhat on the principle above, though in a little different manner. I had, on a warm dry knoll, some remarkably early peas, which, under the effects of the unusual heat and dryness of the month of June, ran through their course before the end of that month and were all gathered. Finding still in my seed bed several young cauliflowers and broccoli plants, I set them out on a part of the ground lately occupied by the peas. The heat and drought at that time were intense, and daily watering seemed scarcely more than sufficient to keep the plants alive. Scarcely any perceptible growth was manifested from week to week, and when the ground again became tolerably moist in September, they seemed but little bigger than when put out. They then began to grow better, but so much had their vitality been injured, that at the time when vegetation was decidedly checked by the October frosts, the stems were not bigger than a man's finger, though tolerably tall, and these slender stems were surmounted by but about half a dozen leaves of very diminutive proportions, yet on every one of them was a well formed though small head.

Very different were those that were set out earlier on rich and moister ground. Under the stimulus of the unusual heat of the summer, they grew with unusual luxuriance, and having a curiosity to see the natural progress of this

state of things, I forbore interfering with them in the way I had originally proposed. The end was, that, for the most part, instead of heads, I had nothing but gigantic overgrown masses of leaves, with huge stalks extending up through them to much more than the usual height. A very few heads were formed, but taking the crop together, it was the worst, except for the benefit of my cow, that I ever raised of this kind of vegetable.

The explanation that I put upon these results, I get at thus. The end of the growth and fructification of plants, is the perpetuation of the race by the production of seed. The remarks and instructions of botanists seem to show satisfactorily that the flowers, the immediate organs of the reproductive process, are but metamorphosed leaves, (at least of such plants as these, the phenogamous or phanerogamous as they call them.) For the proper changes to take place seasonably and well, it seems to be necessary that there should be only a limited supply of nutriment and stimulus furnished to the plants otherwise they will go on developing a superabundance of leaves with little production of fruit or attempt at fructification. Like other individuals that are too well nourished, they become selfish, and are occupied only with themselves and their own aggrandizement, and do not look out for posterity. They seem as it were, to have too much vitality and to presume on it too much.

It has been observed that a plant, growing in a sterile soil not otherwise unfavorable to it, will, though small and stunted, abound more with flowers and fruit, than one of a much more luxuriant growth in a richer soil, as if it had a consciousness of its own danger of perishing for want of sustenance, and was using its utmost efforts to provide for the perpetuation of its race.

The proper remedy for this too great luxuriance of growth is a diminished supply of nourishment. Hence gardeners frequently practise on trees, that grow strongly

and do not bear well, what is called root pruning, that of cutting off a portion of the roots of the tree by which its supply of nutriment is lessened, and the check given to the expansion of leaves and the production of wood, that is needed for the change of the leaves and woody growth into flowers and fruit.

The double transplanting is essentially but a sort of root pruning, as in the way in which it is usually, even when carefully and properly, done, many of the longer fibres of the roots must necessarily be broken and lost. The plant is thus checked in its supply of nutriment, and put into a situation more favorable for the changes essential to fructification, which, in the cabbage tribe, such as I have mentioned, shows itself in the formation of heads, so called. Such, also, is the case with lettuce. Now it does not seem absolutely necessary that actual transplanting should be performed. It may probably be done potentially, by grasping the stem, after the plant has got well to growing, subsequently to its first transplantation, and drawing it up gently and firmly, till it is lifted almost out of the ground, and then gently putting it back again, by relaxing the lifting force, and pressing down the earth around the stem with the foot. This way is said to be useful, also, in forwarding the fruiting of tomatoes, and checking too much luxuriance of growth. Probably the same effect might be produced by a real root pruning, by forcing a spade or shovel deep into the ground a little distance from the stem, so as to cut off the lateral roots, performing the cutting on one or two sides, or all around, as circumstances may seem to require. My intention was to try these two methods this last summer, when I was diverted from it by the very unusual rapidity of growth, and wished, as before stated, to see what it would come to.

The very results I obtained, seem, however, to favor the doctrine. My scorched and starved plants all formed heads, perfect, and in full proportion to their growth. My

overfed and overstimulated ones, in a rich, moist soil, and with an unusual degree of sunshine and heat, went on producing little, but a most unusual abundance of leaves, and an unusual quantity of stalks.

POTATOES.

A communication on this subject was forwarded to the Secretary in the autumn of 1855, by Dr. Webber of Charles town, from which the following extract is made, as being still of importance :

A new disease, this summer, made its appearance in this region, at least a disease new to me, as to seeing it, though I have read of it in English agricultural writers, and new to all the farmers about me with whom I conversed on the subject. This disease is what is called the *curl*, from the appearance of the leaves of the plants when affected with it, as they do not spread out flat and luxuriant as when they are well conditioned, but are contracted and crimped round downwards to the stem, while the stem itself, though sufficiently sturdy, runs up straight with little or no disposition to send out branches. Potatoes thus affected form but very few tubers, and those very small and of a bad quality.

In former days before the *Rot* made its appearance, this curl was occasionally prevalent in England, and was much dreaded as greatly injuring and sometimes destroying the crop. It was usually attributed to uncommon coldness in the season; I never heard of it before in this country. It manifested itself at the coming up of the potatoes in the latter part of May and the beginning of June, when the ground was very dry and the weather quite cold and windy. I noticed it first in my own potato patch, and then examining those of my neighbors, found them also to be affected, though, in no case that I have known here, to any great extent. It seemed to be scattered about in patches of

from two or three to a dozen hills here and there. I pointed it out to one or two of my neighbors and requested them to note some of the places and observe how those patches turned out when they dug them in the Autumn, telling them however what I thought the result would be.— They reported to me after harvest that my prediction was right—that the potatoes in these patches were so few and so small and poor as not to be worth the trouble and expense of harvesting. I afterwards heard other persons, to whom I had made no previous mention of the subject, state in conversing on the crop, as a matter that rather puzzled them, that, in digging their potatoes, while the yield was generally good, there were occasionally patches where half a dozen hills would not give a mess for dinner, and those small and of poor quality. In reply to my inquiry as to the state of the leaves, one or two had noticed the unusually contracted state of them, but had supposed it a mere casualty occasioned by the attack of some insect, and had not connected it with the deficiency of the tubers, never having heard of any such disease.

As a destructive agent the *curl* is equally as bad as the *rot*, and in this year's experience I suffered tully as much by it. It is not, however, I believe, so persistent an enemy, but comes and goes as seasons vary.

Much has been said with regard to the *rot*, about using fresh manure, planting for successive seasons on the same ground, planting from the same stock of potatoes continuously, &c., as being efficient causes in producing this disease. Now it so happens that I have planted the same ground with potatoes for thirty years in succession, that I have always manured it with fresh barn-yard manure, plowed it in immediately before planting; that for seed, at least sixteen years, I have planted generation after generation of potatoes from the same original seed, on a part of that land; yet I have always had a fine crop and sometimes a large one; I have suffered very little by the *rot*, and the potatoes

of the particular kind so often replanted, have in no wise degenerated, but are fully equal in size and goodness now to what they ever were when I first began to plant them. How long this may continue I cannot say, but so far, and the trial has been a pretty long one, the results are not much in accordance with doctrines that are frequently advanced with much confidence.

Moreover, I have usually planted small or undersized potatoes, though sometimes cuttings of larger ones; of the particular kind above mentioned, I have always planted small, whole potatoes.

Two years ago, in the beginning of the summer, a neighbor brought me three moderate sized potatoes. He said that he had just had a few of the kind given to him, as a valuable variety, but as it was late in the season, he did not know how he should succeed with them, but should like to have me try those three. All my planting had long been done and my ground was fully occupied, but I planted the three, about a foot and a half apart, by the edge of an alley in my garden, where the soil was dry and sandy and where little or no manure had been put for years. They did well and yielded about half a peck of moderate sized potatoes. These I planted by themselves last year, but owing to the drouth, my soil being light, gathered only about a pint of tubers varying from the size of a pistol ball to that of a robin's egg. This year I divided this pint into about two dozen hills in a light but well manured soil, and tilled them carefully. The result was that I gathered nearly two bushels of very fine potatoes, many of them large, and the tops were the least affected by the attack of the rot of any, and only two rotten potatoes were found in two dozen hills—so much for planting small potatoes.

Mr. Bartlett has the following suggestions regarding the cultivation of the potato:

The past season, the potato crop in this section of the country has been much larger, and the tubers of a better quality than for several years previous. During their growth the strong, healthy looking tops, were but little affected by the curl or blight; and but very little appearance of rot when harvested. In some instances, where the rot was scarcely noticed when the potatoes were dug, considerable quantities have been lost since storing in the cellar, by what is termed the *dry rot*; which seems to indicate that the "potato plague" is still lingering among us. I have several times seen it noticed in the papers that the rot was very destructive in its effect upon the potato, in some sections of the Western States.

Notwithstanding all that has been said, written and published upon the potato malady, there seems to have been but very little, if any light thrown upon the cause of it.— Upon this point, we are now, probably, quite as much in the dark, as when it first made its appearance.

In 1851, over one hundred persons communicated their views, (in writing,) to the Secretary of Massachusetts, on this subject. * These papers were called forth by the large *reward* offered by the legislature of that State.

None of the theories proposed were adjudged "to furnish any perfect cure or preventive of the potato disease," yet they afforded many valuable hints and suggestions relative to the nature, cultivation, preservation and improvement of the potato. Sound, healthy, *whole* potatoes are recommended for planting; dry, light, warm soils have generally been found more favorable for growing *sound* crops than wet, heavy, compact soils. Elevated land, far up the side of the hill or mountain, has generally been found a more favorable location for the growth of the potato than in valleys or low situations, which are more subject to fogs, dampness, rust, mildew and early frost. Good pasture land, when plowed and planted early, is, perhaps, the safest kind of soil to grow a sound and good crop upon. The addition

of a small quantity of plaster, ashes, lime, salt, or a mixture of some of these, applied to the hill at the time of planting the seed, does, sometimes, add much to the quantity and quality of the crop, without increasing its liability to disease; while a free use of strong, rich, unfermented manures seems directly to induce disease, producing rank, ill-flavored, unhealthy tubers.

Five or six farmers in this town, whose potatoes have rotted badly since they were put in their cellars, made a free use of unfermented manure upon their potato ground last spring. I have made frequent inquiries of other farmers who did not use green manure for their potato ground, and in no instance have I learned that any of these farmers have lost by the *dry* or any other *rot*. So far as I can learn, it seems to be the opinion of most farmers that green manure seems to induce disease.

For two or three years after the appearance of the rot, I continued to manure (as I had previously done,) with fresh manure; but my potatoes rotted badly, both before and after they were dug. Then, for some years, I used no fresh dung for the potato crop—the yield was usually light, but generally sound. Tired of digging “small potatoes,” in the spring of 1853, I thought I would try for “large potatoes.” I manured about sixty rows of green-sward land with the winter made manure from my dung shed, plowed about eight inches deep, raised a large crop, some appearances of rot when dug; they were stored in an out-door cellar; in the spring more than one-third of them were worthless from “dry rot.”

The two last years I have used Peruvian and Mexican guano; also superphosphate of lime, and hen manure and muck. Of the three first named kinds, used a large teaspoonful to the hill at the time of planting—a larger quantity of the last named was used; the result, a good yield of sound potatoes. The Chenango has been the most liable to disease, so much so, that I had given them up. Last

spring I paid one dollar a bushel for seed—planted on good pasture land plowed the previous fall, manured with the guano and superphosphate. The bushel of seed produced over thirty bushels, most of them the ugliest looking potatoes I ever saw, lots of them averaging over eighteen ounces each. John, of Patmos, saw in one of his visions, “a beast with seven heads and ten horns.” None of my Chenangoes had horns, as I am aware of, but a large portion of them had as many as seven heads. Wishing to send two barrels of them to a friend in Boston, I dug ten bushels, and picked over at least eight bushels of them to get one bushel of decent shaped ones, such as I was willing to give away.—From August till Christmas, we have been in the almost daily use of them, and have not yet found the *first* rotten Chenango.

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