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DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

VOL. XVI.

BOSTON, JANUARY, 1864.

NO. 1.

NOURSE, EATON & TOLMAN, PROPRIETORS.
OFFICE...102 WASHINGTON STREET.

SIMON BROWN, EDITOR.

THOUGHTS SUGGESTED BY JANUARY.

That our sons may be as plants grown up in their youth; that our daughters may be as corner-stones, polished after the similitude of a palace:

That our garner may be full, affording all manner of store; that our sheep may bring forth thousands and ten thousands in our streets:

That our oxen may be strong to labor; that there be no complaining in our streets.

Happy is that people that is in such a case.

Psalm CXLIV: 12, 15.



JANUARY, 1864!

Happy, indeed, must be the "people that is in such a case." And there is no reason why *all the people* in the free States should not be in such a condition, except *our own imperfections*. He who created us, has *given us all* that can possibly be necessary to satisfy every physical want. An extensive and diversified country, teeming with the richest and most substantial productions, when generously treated. A varied and delightful climate, capable of bringing to perfection every grain and fruit that man can desire, or that is required to develop his highest physical powers. He may find in it whatever degree of cold or warmth his particular temperament may demand, and still see around him the most ample means for subsistence, and for mental and material progress. Everywhere the soil yields her increase, when wrought by skilful and industrious hands, while seas and forests contribute in a thousand ways to gratify his

tastes and supply his wants.

What can we ask more! Only this,—the purity of Him who taught among the hills of Nazareth, and that our social systems be so perfected that none can be poor among us. The ancient Peruvians could not claim the exalted purity of which we speak, but their government, though perfectly arbitrary, made it impossible that any of its people should ever want for food, shelter or clothing. Under their laws, every one was *obliged to work*. If not with his hands, then with his head—in some way, certainly, so that every person who was a *consumer* must do something to produce supplies, or in some form promote the public welfare. Each head of a family had his special allotment of land, and he was obliged to cultivate it, when in health; if rich, his neighbors tended it for him, so that every allotment was productive. Government granaries were established, so that if flood, or drought or tempests destroyed the crops in any particular section, the people were supplied from the public granaries, until the sufferers could sow and reap their usual crops.

The inclemencies of the season lead us naturally to these thoughts, and we are pained with the reflection, that any should ever suffer, for the common necessities of life, in a land so crowded with all that we need, and where all might enjoy it, if our social systems were so perfect as to compel all who consume to *produce*, in one form or another. We do not mean that this product shall be limited merely to that which goes directly to sustain life—for he who introduces order or economy, teaches the arts, or imparts any useful information, is a producer, and is entitled to God's sunshine and showers and to enjoy the fruits of the earth. We are radical on this point. It is wrong, in our opinion, to consume the earnings of others, when we *have had the ability*, and yet have failed in some way to promote the welfare of our fellow-man. Had we the power of the

"Grand Turk," our first edict should be that "those who are able, and will not work, *shall not eat.*"

With all the means at our command we ought to become the people spoken of in our caption, taken from the Holy Writ,—when "our daughters may be as corner stones,"—our "garners full, affording all manner of store"—"our sheep bringing forth thousands and ten thousands"—"our oxen strong," and no "*complaining* heard in our streets."

Let us, attentive reader, strive, this year, to do what in us lies, to bring about such a blessed state of society. It *might, exist* in January, 1865, if all were true to duty. Let integrity, sincerity, patience, reverence, faith and charity ever be our aim, and all that happiness intended for us in this mortal state will be attained. Let us remember that "truth, in thought and sentiment, leads to truth in action," and that what we do now is to have its influence on future ages of the race, as "men of all time, from the remotest antiquity, have done a part in making *our* condition and character what it is to-day."

JANUARY has its appropriate and important duties as well as the other months. They are greatly varied from the mid-summer or autumnal months, and they are all the more pleasant for that.

" 'Tis now the time from hoarding cribs to feed
The ox laborious, and the noble steed ;
'Tis now the time to tend the bleating fold,
To strew with litter, and to fence from cold,
The cattle fed, the fuel piled within,
At setting day the blissful hours begin ;
'Tis then, sole owner of his little cot,
The farmer feels his independent lot ;
Hears with the crackling blaze that lights the wall,
The voice of gladness and of nature call ;
Beholds his children play, their mother smile,
And tastes with them the fruit of Summer's toil."

HUMPHREYS.

We wish there were among us more cases of "the crackling blaze that lights the wall," for then there would be more voices of gladness, and more roses on the cheeks of our young women. In that exceedingly interesting book—"My Farm of Edgewood"—the author says: "The days of wood fires are not utterly gone ; as long as I live they never will be gone. * * Coal may belong in the kitchens of winter—I do not say nay to this ; but I do say that a country home without some one open chimney, around which, in time of winter twilight, when snows are beating against the panes, the family may gather and watch the fire flashing and crackling and flaming and waving, until the girls clap their hands, and the boys shout in a kind of exultant thankfulness, is not worthy the name." We wish that in every farmhouse this beautiful picture might become a reality. In the long run, we think it would be econ-

omical, at least for the evening fire, when the whole family is usually assembled.

But we must pause. And, O, if we have touched one chord that will vibrate in sympathy with any poor sufferer, and lead you to protect, to administer to, or comfort with kind words, then our NEW YEAR'S salutation will not be in vain.

FORMOSAN TORTOISES.

A list of fifteen species of reptilia has been contributed to the Annals of Natural History by Mr. R. Swinhoe her Majesty's Vice-Consul at Formosa. Three living tortoises (Emys Simensis, of Grey) have been presented to the Zoological Society, and are now exhibited in their gardens. Other dead specimens have been deposited in the British Museum. We give a few notes respecting them. The *Trionyx Simensis* is a tortoise with a long projectile neck and very sharp teeth. When once it seizes an object it is with the utmost difficulty that it can be prevailed upon to let it go. The Chinese boil it into soup, and esteem it a great delicacy. Another tortoise, the *Cisto Clemmys Flavormarginata*, is the prevailing species about Tamsuy, north-west of Formosa. Mr. Swinhoe frequently observed it in ponds about the rice-fields, with its round back showing above the surface of the water and its head peering out. At times several might be seen together on the tops of stones in the water, basking motionless with limbs extended. On being alarmed they would shuffle off the stones with all the energy in their power, and plunging into the water, sink immediately. If the observer kept quite still, after the lapse of a few seconds they would again appear on the surface. The green turtle of Europeans (*Chelonia Virgata*) is of frequent occurrence in the warm waters of the Gulf Stream, east of Florida. The fishermen regard it with great reverence as an emblem of longevity. When accidentally entangled in the fishing-nets, it is carried to the nearest large town and exhibited for a short time. It is then usually purchased from its captors by some well-to-do native, who has a few "good words" carved on its back, in company with his own name and the date, and fills in the inscription with vermilion. The animal is then decked with ribbons, and carried in a boat with much ceremony out to sea, where it is consigned with state into its native element. Some very large specimens were brought from Sawo to Tamsuy. They were kept in a boat filled with water during the day ; in the evening they were brought out on the deck of a vessel. One of them for several consecutive evenings at eight o'clock precisely would commence scratching the deck with her fore flappers, and then set to laying eggs, usually twelve in number. She would then turn round, and commence pushing and scraping with her hind flapper—evidently the manœuvre she was in the habit of going through on the sandy beach : first scratching a hole for the reception of the eggs, then filling it up. Mr. Swinhoe had one alive for some time in the yard of his house. It used to lie motionless in the rain puddles, with only the tip of its head uncovered. When the thermometer fell below 50° it would sally out of the water and not return till it grew warmer.

For the New England Farmer.

A HINT ABOUT DRAINING.

MESSERS. EDITORS:—Enclosed is three dollars to pay for the *Farmer* for two years. It is uncertain about my living to need it; but as the success of agriculture is my highest earthly object, I do not know of anything better than to do what I can to sustain the *Farmer*, both by word and deed. I have told of my success in farming, and will now tell of one mistake which I think others may profit by avoiding.

I have a piece of land containing seven or eight acres, lying in the form of a basin, which, when I was a boy, was chiefly covered with large bushes and brambles, except about one acre in the middle, which was too wet to bear bushes. My father had a shallow ditch dug through the middle of it before I took the lead. I have since cleared the whole and underdrained one half. My mistake was, in not digging the main drain deep enough. I hope that those who come after me will be able to dig it one foot deeper, for the ditch I have at present only drains the shoalest of it, about fifteen or eighteen inches, and I would not recommend any one to drain less than two or two and one half feet. I have experienced so much benefit from my imperfect draining, that I would advise all who have land that needs draining, to underdrain so far as they are able. I would give advice similar to that of the Dutchman to his son, "Never to run in debt; but if he did run in debt let it be for manure." I would say let it be for underdraining.

T. HASKELL.

West Gloucester, Dec. 13, 1863.

REMARKS.—Friend HASKELL is one of the oldest subscribers to the *Farmer*. He is now, we believe, past "threescore and ten," but still full of interest in the progress of the art which he loves so well. That he may read and be edified, and write and edify others for many years to come, is our sincere wish.

For the New England Farmer.

THE WAR AND AGRICULTURE---THE MOON---PREMATURE BIRTHS.

As I ride along the road I have noticed that not one-fourth as much land is plowed this fall as usual. If there is little land plowed I am afraid we shall fall short of products. Plow one acre to help support our army in the field. If you have not the necessary men's help call on the mother or sister to give you a helping hand. They had rather do it than let the sons of the country suffer. We read that in the time of the Revolution the mothers, with their babes nestled down by the side of the bushes, toiled from sunrise to sunset in the fields! All men to war, none to farm. Let that cry be an untruth, or else let those mechanics who are building shops calculate to put their hand to the plow in the spring.

The old women used to talk of planting in the right time of the moon. I never thought that there was anything in it, but this year I saw that which ought to make me a believer. I saw bean vines that were planted near the full of the moon, and not ten feet distant, on the same kind of soil and situation, were a lot planted on the

decrease, and about the same time. Those which were planted on the growing, grew well and bore finely. The others did neither bear nor run to vines, but squat upon the ground.

I see that my theory in regard to premature births does not coincide with that of yours, but the reasons given by you, I don't see to hit or controvert my theory. I saw that a correspondent of an agricultural journal in England, considering upon the same subject, copies my article entire, and then goes on to say that I express his mind; that he for years has been inclined to the same opinion, but that he has of late become satisfied.

Now is the time to turn up the muck; the frost will take out the acid and fine it up; then in the spring tumble it over; if to plant after the seed is in, throw on ashes and lime in equal parts, but do not forget to put a little manure in the hill.

S. P. M.

Dover, N. H., November, 1863.

For the New England Farmer.

METEOROLOGICAL RECORD FOR OCTOBER, 1863.

These observations are taken for and under the direction of the Smithsonian Institution.

The average temperature of Oct. was 49°; average midday temperature, 57°. The corresponding figures for Oct., 1862, were 50° and 55°. Warmest day, the 4th, averaging 64°; coldest day, the 28th, averaging 32°. Highest temperature, 72°; lowest do., 21°.

Average height of mercury in the barometer, 29.35 ins.; do. for Oct., 1862, 29.28 ins. Highest daily average, 29.70 ins. on the 29th; lowest do., 29.08 ins. on the 4th. Range of mercury from 29.04 ins. to 29.74. Rain fell on eleven days; amount of rain, 3.95 ins.; sixteen wet days and 3.52 ins. rain in Oct., 1862. There were two entirely clear days—on two days the sky was entirely overcast.

A. C.

Claremont, N. H., Nov., 1863.

WINTERING BEES.

THE EFFECT OF ICE OR FROST ON BEES AND COMB.—When the bees are not smothered, this water in the hive is the source of other mischief. The combs are quite certain to mould. The water mould or dampness on the honey renders it thin, and unhealthy for the bees, causing dysentery, or the accumulation of feces that they are unable to retain. When the hive contains a very large family, or very small one, there will be less frost on the combs,—the animal heat of the first will drive it off; in the latter there will be but little exhaled.

FROST MAY CAUSE STARVATION.—This frost is frequently the cause of medium or small families starving in cold weather, even when there is plenty of honey in the hive. Suppose all the honey in the immediate vicinity of the cluster of bees is exhausted, and the combs in every direction from them are covered with frost; if a bee should leave the mass and venture among them for a supply, its fate would be as certain as starvation. And without timely intervention of warmer weather, they *must* perish!—*Quinby's Mysteries of Bee-Keeping.*

SEEDING LAND TO GRASS.

In a former article, we spoke of some of the leading points bearing upon this important subject, and will now briefly introduce a few more, with such authorities as are at hand to sustain the opinions which we advance. We shall be glad if some of our intelligent correspondents will communicate their views, whether they agree with ours or not.

The transpiration of plants—that is, the parting with their moisture—is nearly confined to the day, very little taking place during the night, and it is much *promoted by heat*. Another effect of the grain plants, therefore, among the young grass would be to keep the whole field cooler and *more moist*, and consequently in the most favorable condition to live and grow. Under such circumstances, grass seed would seldom fail “to catch,” as it is called, because it would be placed in a *warm and moist* position, and where the variations of temperature would scarcely affect it. The action of the plants, like that of the human system in health, would be regular,—not receiving nutritive influences largely at one period and losing weight at another, but steadily advancing in a healthful and vigorous growth. For “the quantity of moisture imbibed by plants depends very much upon what they *transpire*. The reason is obvious. When the vessels are once filled with sap, if none be carried off, no more can enter, and, of course, the quantity which enters must depend upon the quantity emitted.” Checking rapid evaporation of the rains and dews, and preventing the plant itself from sudden changes of gain and loss of its moisture, keep it in a natural and healthy condition and secures success.

Another important fact goes to prove the beneficial influences of the grain crop upon the young grass. If the latter were sowed alone, the surface of the soil must be nearly bare for some days at least after the grass is up, and before it could grow sufficiently to cover the ground. If dry, hot weather should take place at this period, it would be likely to ruin the crop, because evaporation from both plants and soil would be very rapid.

It is well ascertained that the earth becomes heated much quicker and deeper under a bare surface, than under a sod, or where any vegetation is growing. From two or three experiments, “tried in the coolest and warmest spots that could be found, it was evident that the relative difference in the temperature was uniform, and that on a hot summer’s day, the earth, six inches under surface in sod, was *eight* degrees cooler than under a clean, loose surface. This fact has a direct bearing upon the question at issue, viz., *whether it is best to sow grain with grass seed, in laying down grass lands, or not?*”

Few crops that we produce are more delicate

and tender when young, than most of our grasses. They are small, quite succulent, and liable to be injured by various causes, so that any cheap and efficient mode of protecting them will prove of no small consideration to most farmers. The failures in seeding this crop make up an annual heavy aggregate of loss.

In a former paragraph we recommended the laying down of grass lands in August in the midst of standing corn. A clear writer, and a practical farmer, in an article upon “*Corn, as a Shade for Fruit Trees and Plants,*” says: Last spring I planted about half an acre of strawberries. After the second hoeing, May 23, I planted corn between all the rows, using a variety called Early Six Weeks. I planted also one hundred Concord Grape Vines, between the rows of which I planted, May 25, Canada or Eight Rowed Yellow Corn. * * The drought this year was of short duration, about four weeks, but unusually severe, owing to the intensely hot weather. My strawberries suffered to some extent, but comparatively little. Of my grapes, two or three were injured, but not more than one, I think, will be lost, while the year before I lost at least twenty per cent. not shaded by corn! On a little more than half of a newly planted patch of raspberries I planted King Philip corn between the rows. None of that portion of the raspberries was injured, but about half of the rest died. Dwarf apple trees, planted last spring on a gravelly soil with south western exposure, have done much better where they were shaded by small corn than where the ground was planted to potatoes. * * From my experience and observation, he adds, I am led to the conviction that for this climate the cultivation of corn among fruit trees, grape vines, raspberries, strawberries, &c., the first summer after they are set out, is a practice of very great value.

A few more points present themselves for consideration, which we will defer to another paper.

WHAT WILL BECOME OF AGRICULTURAL SOCIETIES?

This question, and the following paragraph in reply thereto, closes an article on the subject of the late organization of the “Illinois Wool-growers’ Association,” written by Mr. Blagden, one of the editors of the *Rural New Yorker*. He regards this as a movement in the right direction. It is no longer enough that farmers—as a class—should combine; each specific interest must have its specific organization, as is the case with the different branches of commercial and mechanical business. And this, in the opinion of Mr. Blagden, is what will become of our old Agricultural Societies. He says:

The mission of these societies is ended. Their work is done. They have been pioneers of pro-

gress. The wilderness has been cleared of its rank growth of heavy timber. Nothing remains but the stumps in the way of the progress of each class of husbandmen. These must be cleaned out by a different process. The way must be cleared for the use of the reaper. The *age of machinery* is at hand. And the stimulus necessary ten years ago is no longer needed. Miscellaneous exhibitions do not do the work which needs to be done. They do not yield the nutriment required. The field is too large. Each class must concentrate its power to remove the peculiar obstacles in its path. Agricultural societies and their exhibitions do not do this. They stimulate skill and labor, and show the results of their application. But they control nothing; do not dictate to anybody; have no positive influence in politics and in shaping public policy. The time has arrived when the relations of the different industrial classes in this country, to each other, and to other classes, demand a different condition of things—demand combination. And, while I do not profess to be a prophet, nor the son of a prophet, I believe that the days of the usefulness of these State and County organizations are numbered—that the seeds of disorganization are sown in them—that from their dissolution will spring up new combinations and powers of a character indicated above.

For the New England Farmer.

LITTLE THINGS.

OR, A WALK IN MY GARDEN.

While surveying my little garden, I am sometimes led to doubt whether even a kitchen garden is profitable. It costs me so many hours to cultivate a bed of carrots and beets—so much weeding is necessary—so much back-aching work, that I am led to say,

A Garden, or no Garden?

The old proverb, "Buy all and spend all, just meets me every time I think of abandoning my garden and buying what I want: I find, too, when harvest comes, that when I collect together my vegetables into my cellar it would require quite a little sum of money to purchase as much.

"Land," says Emerson, "is bad, no land is worse." Just so have I concluded in respect to my own garden. Then there is something else; my humble garden seems more pleasant to me than the most expensive garden in the land belonging to another. Here is a row of plum trees, grafted by my own hand. Every other year I may expect a bountiful supply of luscious fruit. There is a rough trellis of grapes. They look most agreeable to the eye. Their very luxuriance seems to betoken thrift. The young apple trees growing here and there look more expansive every year.

Now I do not want to spend a mere negative state of existence for the sake of getting through the world as easily as possible. This world has its positive pleasures, and why may not I enjoy them? I must then strive to have something of my own. The idea that I have a little spot of the latitude and longitude of this world, which I can call *my own*, serves to elevate my manhood.

While walking or working in my garden I am as free as anywhere from evil thoughts that are so apt to disturb one's peace. I know of no better place for meditation, and the only palliative I can

find for Mother Eve's weakness is the fact that she had had no previous experience of the wiles of the enemy of all peace.

A Sickly-looking Apple Tree.

I have just been tearing out by the roots a sickly-looking apple tree. Labor spent on such a tree is thrown away. If a young tree has a host of sprouts coming up around it, the sooner a good healthy young tree takes its place the better. A sickly tree will grow worse and worse every year, while a healthy tree will become better.

Rotation of Garden Crops.

There are some strange anomalies in gardening, in spite of all theories. I knew a man who had sowed his carrots and beets on the same spot for forty-five years. It was naturally an unpromising soil, composed of a coarse gravel, but he always succeeded in raising very handsome crops on the same spot till the year of his death. The truth is, that a generous supply of good manure will render almost any soil productive, if it be well drained. Some one will say, "Who did not know this before?" yet how few really practice it!

For the New England Farmer.

HINTS FOR THE FALL.

MR. EDITOR:—Methinks I hear you say, as you glance at the subject, that we have had enough of this of late. I admit the truth, that nearly every agricultural paper I have seen for a month has had some of these hints, but they all tell us the same thing, and what every farmer of ordinary understanding already knows, viz: that such and such crops should be taken care of before freezing, &c. Now we all know that, but we do not all know the *best way* of taking care of these things, in order to have them keep in the best possible manner.

It is the common practice for farmers to throw their potatoes, beets, turnips, and the like, all into the cellar promiscuously, and then throw the cabbage, cauliflower, &c., on top of some of the rest, and leave them there to rot, if not used in a short time. By using a little care in storing such things they may be made to last a much longer time, and be kept in a far better condition than is ordinarily done. Every one knows how much more palatable a fresh vegetable is than one a little wilted; consequently, the nearer we can keep vegetables to the state they are in when first taken from the ground, the better they are. Potatoes keep best when buried in the ground, but most people have cellars large enough to keep all their potatoes, especially in Eastern New York and the New England States, and any plan by which they can be kept as fresh as possible will be acceptable to many.

I have experimented of late years in keeping potatoes in the cellar, and find that the best way I can keep them good and fresh for the next spring and summer's use, is to make a brick partition in one corner of my cellar for a potato bin, putting the potatoes on the ground and keeping the light entirely from them. I have no window to it, and no light is ever allowed to strike the potatoes after going into the bin, except candle light. I take them in as soon after digging as possible. The next best way is to take flour barrels without any heads, set them on the ground, fill them with potatoes and cover with sods. In either case the

cellar bottom should be dry, but not cemented.

Apples should be kept in bins—not in barrels. The bin should not be over three feet wide, so that a person can reach across it to sort the apples, which should not be over six inches deep in the bin. The bottom should be made of slats 1½ inches square, and one inch apart, which will give a free circulation of air through the apples. If picked with care, and placed in the bins without bruising, and occasionally sorted over during the winter, picking out all that are decaying, a few bushels of apples will last a large family a great while.

If all who have to buy apples would follow this plan, they would not need to buy a third more than they expect to use, in order to make up for the loss by rotting. Onions keep the best in bins the same as apples, and should be placed in the driest part of the cellar.

Beets and turnips for the next spring's use may be kept in sand and retain all their freshness. Take two boards and put them together in one corner of the cellar bottom so as to make a bin two, three or four feet square, as circumstances require, and keep them up by driving some small sticks into the cellar bottom; then a layer of beets and cover with sand; then more beets, and so continue to do until enough are put in.

A cellar must be kept very dry to keep cabbages without decaying, more or less. The best way of keeping it in the cellar is by hanging it up to the sleepers as it is drier there than nearer the ground. For spring use, dig a trench one foot deep on a dry knoll, and running up and down the hill, so that the water may run off; lay in some slabs or rails to keep the cabbage off the ground, then pull the cabbage and lay them, heads down, on the slabs; put slabs or boards over, and cover with dirt, flax shives, straw, or anything to keep them from freezing. If covered with straw, they can be got at in the winter, but they must be covered very deep to keep out the frost. And here I would remind those that like good cabbages that they should save their best cabbage for seed; set it out, head and all, taking care not to have any other cabbages or turnips of any kind go to seed within twenty rods of it, as they most assuredly mix. It is my candid opinion, that what is known of club-footed cabbage is caused by raising the seed in close proximity to turnips or ruta bagas. Squashes and citrons should be laid up from the ground, and handled without bruising. Cauliflower may be set in a trench in the cellar, or put in one out doors like cabbage, only reversing them, and putting them in as they grew, then cover so as to keep from freezing. Parsnips may be kept the same as beets, although if not wanted until spring they may be left in the ground.

Cellars should be kept as cool as possible and not freeze, as all kinds of vegetables and fruit keep better in a cool cellar than a warm one. Windows should be left open in cellars as long as possible, in order to keep the air pure, as impure air will cause vegetables to decay. A good thermometer for a cellar is a dish of water placed in the coldest corner of the cellar, and as long as that remains unfrozen there is no danger, but if it freezes, the windows may be closed. Cellar windows should always be covered with wire cloth to prevent vermin from going in.

New York, Oct., 1863. AGRICULTURIST.

For the New England Farmer.

AGRICULTURAL COLLEGES.

Several years ago the subject of agricultural education was somewhat fully—at least quite freely—discussed in the columns of the *New England Farmer*. The liberal grants recently made by the General Government to the several States to promote agricultural and mechanical education, have given a new interest to the subject, and it becomes all for whose benefit the appropriations have been made, to inquire what kind of institutions shall be established, or what disposition shall be made of the funds thus entrusted to the respective State authorities. My own views are so well expressed by a writer for the *Country Gentleman*, that, with your leave, Mr. Editor, I will borrow his language:

"If an agricultural college is to be a college for the purpose of teaching agriculture, it must fail; because agriculture is neither a science nor an art, but a handicraft or trade. As well establish colleges to teach shoe-making, or house-painting, or cotton-spinning, as to teach agriculture. Scientific agriculture, as it is called, cannot be said to exist as a science. It is aimed at and hoped for, but until analytical chemistry has been carried to a much greater perfection than at present, it must continue to be among the things hoped for, and not one of the things to be taught in colleges. Analytical chemistry discovers no difference between the components of cotton and sugar. Even in the common analysis of water, one of the most eminent chemists of New England now confesses that the method hitherto pursued has been all wrong. If scientific agriculture is based upon the idea that by a knowledge of the component parts of vegetable products, added to a knowledge of the component parts of soils and manures, a given vegetable product may be obtained, very much as a cook makes a pudding by compounding the articles according to her receipt, the idea may be a very pleasing one, but while the fact is that chemists are as yet able to analyze vegetable products only in the rudest and most elementary manner, the idea cannot be carried into practice. What good farmer ever derived any benefit from an analysis of the soil? Is it not admitted that chemists can detect no difference between some of the most fertile and some of the most barren? Something may be taught of botany and the physiology of plants, but if agricultural colleges are to graduate a parcel of young men with a smattering of chemistry, a touch of botany, and an inkling of vegetable physiology, who think themselves good farmers, agricultural colleges will be a nuisance, because they will increase the great defect of American education, superficial knowledge. Scientific agriculture stands to-day with phrenology, and biology, and magnetism. It is an undeveloped theory, not a science. Of practical sciences those only can be taught which admit of accumulated knowledge of facts leading to theories, which again are proved by the facts. But the known facts of agriculture are of the simplest kind, and discovered themselves for the most part while Adam delved. The theories of scientific agriculture are not yet proved by the facts.

"Agricultural colleges then must simply be high schools for farmers. What makes a good farmer? The same qualities which make a good mechanic, or man of business—intelligence, judgment and industry. Can a school teach these to its pupils?"

To a certain extent, and indirectly, it can; but as it is the object of all schools to do so, your object and means will be the same as those of other good schools. If you wish to teach young farmers to know when they know a thing, and when they do not, you will not put them through a course of agricultural chemistry, for the result would probably be a persuasion that they knew something of that of which they knew nothing at all.

"If then the noble endowments of Congress are to result in anything but a delusion and a snare, let those who are to direct the organization of these colleges pitch their profession low, and the results will be higher. If the colleges turn out well drilled lads, thoroughly grounded in an English education, knowing something of surveying, book-keeping, and mechanics, with such lessons in farming as they may learn by example and practice on a good farm, it will be well. Such boys will have a better education than George Washington. But if they graduate youths who think they know something of vegetable physiology, agricultural chemistry, and the theories of Liebig, they will merely produce a considerable number of badly educated men, who are worse than uneducated men, because they use their common sense less, and are more conceited. D."

As a "coincidence" that attracted my notice, the same paper (Co. Gent., Sept. 17, 1863,) in which the foregoing communication was published, contained also the commencement of a review by Prof. S. W. Johnson, of Yale College, of Liebig's latest and most elaborate work—"The Natural Laws of Husbandry,"—in which, it is claimed, the learned, and world-renowned German has given to the public his mature views on agriculture, after sixteen years of experience and reflection. Here if any where, it would seem, we might expect that the "Science of agriculture" must be embodied and illustrated. We find, however, that Prof. Johnson cannot get over the 4th page of the first chapter without complaining that Liebig assumes as uncontroverted the doctrine that plants excrete matter into the soil, while Prof. Johnson shows that this doctrine was long ago successfully controverted, and says that there are no known facts to support the theory.

Of another of the assumed facts of Liebig's "Natural Laws of Husbandry," Prof. Johnson remarks: "This is no demonstrated fact, but a purely theoretical inference, and a hasty one at that."

Another assertion of Liebig, Prof. Johnson characterizes as "one of the loose statements, 'glittering generalities,' whose ultimate effect on the reader is injurious."

Of still another statement of the distinguished German, Prof. Johnson says: "This statement would be nearer true were it considerably qualified."

How would these men harmonize as teachers in an Agricultural College? And if such men as Liebig and Johnson must be excluded, who shall occupy our embryo "chairs" of scientific agriculture?

These disagreements of the Doctors go far in my mind to confirm the conclusion that "the theories of scientific agriculture are not yet proved by facts," and, consequently, that "scientific agriculture, though aimed at and hoped for, cannot be said to exist;" therefore it cannot be taught in colleges.

With one more reference to the review of "The

Natural Laws of Husbandry," we close this article. On page 28, it is said:

"A proper knowledge of the radication of plants, [starting and growth of roots,] is the groundwork of agriculture; all the operations which the farmer applies to his land must be adapted to the nature and condition of the roots of the plants which he wishes to cultivate."

On this paragraph of Liebig's new book, Prof. Johnson comments as follows:

"There is great truth in the observation; but what are the facts which illustrate and enforce it? Where shall the inquirer look for that knowledge that is the groundwork of agriculture? * * * The mountains of the moon have been studied far more thoroughly and successfully than the radication of plants, and we know more of the whereabouts of long-vanished comets than we do of this 'ground-work of agriculture.'"

The reader will please mind his quotation marks; as this is Prof. Johnson's language, not mine. Yet he does not say that he should expect the success of a college established to teach "the mountains of the moon."

S. F.

Winchester, Mass., Nov., 1863.

For the New England Farmer.

CIDER APPLES.

This is a familiar designation, and yet it is not so easy to define what particular fruit is referred to. No one ever saw a tree thus labelled in the nursery, nor a plate bearing this title at any pomological exhibition; and a modern fruit grower would scorn the imputation of producing apples only fit for cider. But in almost every orchard planted by men of other days, there is left, here and there, a venerable tree (or offshoot from the original) that is pretty sure to yield most when grafted fruit is scarce; and you can best describe it by the title placed at the head of this communication. No trees looked more attractive in the time of blossoms, nor filled the air with sweeter fragrance. They fairly competed in this respect with the more pretentious "Baldwin," and "Seek-no-Further." When you come, however, to taste the result of all this fair promise, you will be very apt to conclude that apple blossoms are among the deceitful appearances. Some of the fruit tastes bitter-sweet, and some bitter-sour. Some sets the teeth on edge for a keener bite, and some puckers the mouth so as to prevent another bite. The only alternative is to let them be and rot, or gather them up and cart them off to the "press," which would contrive to reduce even "the apples of Sodom" to cider.

But within a few years, until quite recently, public sentiment has consigned them to decay, rather than to the hopper. Moreover, many an old cider apple tree has survived the old cider-mills. While the former have been suffered to cumber the ground, the latter have, one by one, shared the fate of all cumberers—so that apples, good, bad and indifferent, find it a rare privilege to go through the mill. Especially was this the case during the last year—not more remarkable for its abundance of apples, than for the revival of the old practice that cold water armies had so signally overcome. Everything that would press out the juice, whether operated by horse power, or hand, was called into requisition. The few old presses that had come down from a former gener-

ation only to harbor rubbish and vermin, were suddenly made to renew their youth and revive the savory associations of their best days. And in this year of general scarcity the cider apple tree is hardly less conspicuous for its abundant fruit, than for the attention paid to it. The ground beneath is no longer littered, nor the branches overhead bedecked with withered and decaying apples—but every fragment has gone to replenish the vinegar cask. Almost every prejudice seems to have gone with the apples into the hopper. Men of professed temperance principles, that shun the bar-room and distillery, are not ashamed to be seen patronizing the cider mill. Men, even, that have stood out from raising tobacco, fall in with grinding apples, for something sweeter than “filthy lucre.” No matter if the orchard contains no tree especially set apart for this use, there will be refuse fruit enough from the choice varieties for at least one barrel, or ten-gallon cask. What is to be the result of this retrograde movement? Are we old friends of the temperance union turning traitors to this, if still loyal to the other? And if we live to see another Presidential campaign, will we carry the election on the strength of hard cider, as was that of the “hero of Tippecanoe?”

So far as the writer's own observation and experience go, one hopeful feature of this returning love for cider is, the general disposition to preserve the wholesome, palatable qualities of the beverage, and exclude the injurious. If hard cases will adopt this policy, they will let their hard cider turn to vinegar, sooner than turn it down their throats; and they would as soon get drunk on lemonade or ginger-pop. The question only is, how we can most satisfactorily exorcise the evil spirit from the cider barrel. Some have recourse to a preparation of lime—but this is very apt to produce a beverage “flat as dishwater.” At any rate you are more reminded of acid lime-water, than of the pure juice of the apple. Others still cling to the old custom of adding mustard seed, or charcoal, to a given quantity of cider; but this oftener fails than succeeds. A surer expedient has been to filter the liquor through sand, and thus a mild, pleasant beverage has been drawn from the barrel late in the spring. Sometimes, without any treatment, cider keeps comparatively sweet till midwinter, as it is kept cool—and there are certain cellars where it never really can be converted into vinegar. But after a thorough trial, the writer would recommend the *heating* process, such as is applied in eastern countries to the juice of the grape, to check fermentation and preserve its sweetness.

It is a principle of chemistry that “the property of organic substances to pass into a state of decay is annihilated in all cases by heating to the boiling point.” So it has been my practice, for two or three years past, to draw off several gallons of cider just in the midst of its fermentation, heat it to the boiling point, then quickly remove it from the fire so as to avoid the burnt flavor, and, while it is yet lukewarm, bottle and cork, and store it in the cellar. When freshly bottled, it tastes very much like cider fresh from the vat; but, by January, will have the sparkle and foam of champagne—yet very seldom bursts a bottle or forces out the cork. Cider thus prepared must not be confounded with that kept boiling till it

ever after savors of the fire, nor associated with what is made entirely of sweet apples, to be boiled down to molasses for the old fashioned “sarse.” It cheers but not inebriates; is a most grateful beverage to a fever patient or consumptive, and lasts well into the warm season, if properly put up.

The writer makes no pretensions to being a connoisseur in liquors, and cider has usually been regarded as too vulgar a beverage to elicit such notice. It has only been my aim, for one, so to prepare the article as to offer it as a beverage, without the slightest compunctions, to the strictest temperance man. Nor does it matter particularly what apples are ground for the purpose, provided they are ripe and only partially decayed. The crab apple and “flier” may best suit those who still yearn for the old, bottled, alcoholic drink; and a capital temperance beverage may also be produced from them. But the beauty of the foregoing preparation is that, while improved by a choice selection of fruit, it turns to good account those poor outcast apples that have been branded as only fit for cider. W. E. B.

Longmeadow, Nov. 2, 1863.

WEST'S IMPROVED PUMP.

Our own recommendation of this pump, together with the praise awarded it by Solon Robinson, Esq., in our issue of the 7th inst., has brought us so many inquiries that we have determined to answer them all at once, and to anticipate any others that may be made.

The pump is a combined suction and force pump, drawing water from wells thirty feet deep, and forcing it, through hose, if necessary, to any distance.

Three kinds are made for farmers' use, the house pump being somewhat ornamental in design, and intended to be set under cover. The well or cistern pump (Fig. 1.)

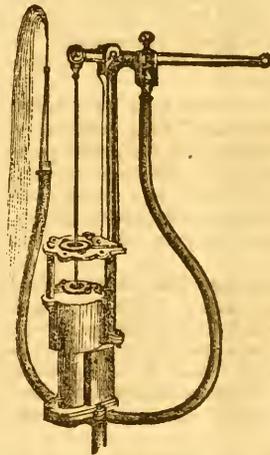


Fig. 1.

is intended for yards and exposed situations. The plate, through which the piston-rod passes, is fastened firmly to the platform covering the well, the pump being underneath, so that the only parts of the pump above the platform are the rod, and the standard which supports the handle, and attached to which is the discharging pipe. The cut represents this with a hose attached. In winter a small hole is opened in this pipe below the platform, allowing the water to run out, so that there is no water above ground and no chance for freezing.

Figure 2 shows the pump adapted to a deep well. It is of course necessary, from the very principle of a suction pump, that the working part should be not more than thirty-two feet from the surface of the water, and where the well is deeper

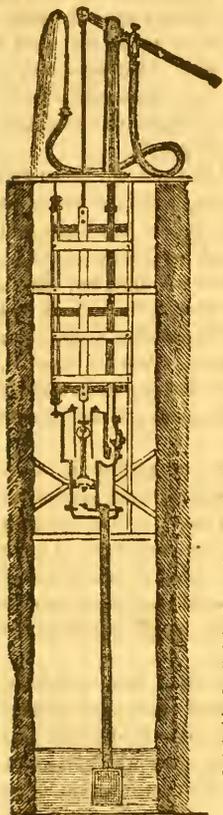


Fig. 2.

than that, the pump must be lowered till it is within that distance of the water. This cut shows the manner of suspending the pump, and also shows the pump in section, so that the arrangement of the valves can be seen.

The pump is entirely of iron, with leather washers upon the piston, and these washers are the only things about the pump that can possibly wear out. It throws water at both the up and down strokes of the handle, and works as easily, when the discharge is not contracted, as it is possible for a pump to do.

If you want the water carried to a distance from your well, the pipe can be attached under the well curb, and the water carried by an underground pipe to the place of delivery.

As a force-pump, this is as good as a small fire engine, for with a hose attached, it will throw fifteen or twenty gallons of water per minute, to a distance of fifty feet from the hose.

This may prove a timely aid in case of fire, and the feeling of security which it gives is worth the cost of the apparatus. The pump is now sold by Calvin Horton, agent, at No. 26 Union Street, Boston.

WHEAT FOR A BARREL OF FLOUR.—The question is often asked, how much wheat does it take to make a barrel of flour? At the annual fair of the Dubuque County Agricultural Society, in 1860, a premium of three dollars was offered for the best barrel of flour made from winter wheat, and also the same for spring wheat. James Pratt & Co., of the Rockdale Mills, entered one barrel of each, accompanied with the statement that sixteen bushels of winter wheat yielded three barrels and 103 pounds of flour—at the rate of four bushels and fifteen pounds of wheat to the barrel. Of spring wheat, fifty bushels yielded eleven barrels of flour, being four bushels and thirty-two pounds per barrel. The wheat used was of a fair quality, and no more.

For the *New England Farmer*.

COVERING RASPBERRIES AND BLACK-BERRIES.

It is the practice of horticulturists to lay down their raspberries early in November, and cover them with soil, to promote their fruit-bearing the next season. This is a good custom, as it is found by experience that they will hardly fruit at all unless they are somewhat protected from the severity of our northern winters. But the Catawissa variety does not need such protection, for, unlike all other kinds which are cultivated in this vicinity, its fruit is borne on wood that is made the same year. Other kinds bear on canes which grew the year before, and therefore need protection; but this peculiarity of the Catawissa raspberry is something of a consideration in favor of its more extensive cultivation. There is another peculiarity about the Catawissa, which deserves notice. It is, in a sense, *overbearing*; that is, it bears a succession of crops through the season. The September crop is nearly as prolific as the July, and the more valuable as such small fruits can hardly be obtained in the autumn at any price. Though the berry of the Catawissa is not as large as some of the other varieties, and though its flavor is by no means inferior, yet, for the reason here stated, it really claims a greater degree of attention than it has yet received from cultivators.

I believe it is not the general practice of fruit growers to protect their blackberry canes at all against the inclemencies of the winter. They are thought to be so extremely hardy as to need no protection, and besides they are very uncomfortable things to handle. They doubtless suffer much less than raspberries and strawberries for the want of protection; but if any fruit grower will try the experiment of covering them in the fall, he will be so much surprised at the great increase of his next year's crop, that he will hardly omit it again.

Waltham, Nov., 1863.

D. C.

STRAWBERRY INSECT.—Heretofore this fruit has been exempt from the depredations of insects to a greater degree than most of our cultivated fruits. At a late meeting of the Fruit-Growers' Society of Western New York, the following remarks were made upon a newly discovered depredator:

H. N. LANGWORTHY had seen an insect within the last year that eats holes through the leaves and stems. (Mr. L. exhibited a strawberry plant the leaves of which were riddled by the insect.) It also attacks the raspberry. He feared it would prove a very destructive enemy to the strawberry.

JAS. VICK said he had sent this insect to an entomologist, and it belonged to the curculio family. It does not attack the strawberry till the fruit is formed, but after that it eats up the vines and destroys them. If the strawberry beds are renewed every year, this insect does very little damage.

By a vote of the Society, the Secretary was requested to send specimens of the insect to Dr. FITCH, the State Entomologist.

IN the Ionian district, Michigan, there were taken up, in the month of October last, about 9000 acres of land, under the Homestead law.

THANKSGIVING.

The passing months have brought us to another period of time, when it has been customary for the authorities to fix a day upon which a universal *Thanksgiving* may ascend to Heaven, for the unnumbered blessings which distinguish us as a people.

This period comes immediately after the autumnal harvest, when the earth has yielded her increase, and the husbandman has gathered that increase in joy, and his barns and granaries are full and overflowing. When his flocks gather around him from hill and vale, and wait with patient confidence for that food and shelter without which they would perish long before green fields and running brooks would again invite them forth. When the labors of collecting and securing the food for man and beast are ended for the year, man sees before him the rich fruits of that industry and skill granted unto him by the same Being who gave him the early and the latter rain, and who has promised that seedtime and harvest shall never fail.

Such was the season selected by our grateful forefathers, for a general outpouring of the full heart for blessings few indeed compared with ours. In gratitude to them for their pious example, and with profound homage to the Lord of the harvest, may our hearts be filled with all that sincerity, and all that deep and ardent devotion which inspired them in the midst of their forest home and severe privations.

Never had people greater cause for *thanksgiving* than we. Our harvests have been abundant. Our pastures have fed innumerable cattle and sheep to fatness, and our valleys and plains have teemed with herbage for their winter supplies. Bending corn and grain have smiled in numerous fields all over the land, side by side with ripening fruits of various kinds. No sickness has decimated our people, or convulsions of nature laid waste our cities and plunged thousands into sudden and untimely graves. Commerce has spread her wings, with humanizing tendencies, over the remotest seas; the arts have progressed as they never advanced before; and education was never more highly appreciated, or had more devotees in its walks. No man has looked for labor in vain, or failed to find its ample rewards. The most active trade pervades our cities, while a fully compensated and cheerful industry may be seen in all the rural portions of New England. In some of the manufacturing towns, labor may have been diverted from the mill, but has at once found ample scope in the field or in the family. None have "begged leave to toil," but have been sought for, and fully rewarded for every hour's application. Indeed, public and private charities have been greatly relieved from their usual calls, during the

year that has just passed, in consequence of the activity of business and the constant demand for all kinds of labor.

On the *Thanksgiving* Day that has just occurred, every industrious and economical family in New England, with few exceptions, might have had its roasted turkey or pair of chickens upon the table, with such superaddition as to make the meal a bountiful and agreeable one. This would have required the attention of kind citizens and friends, in some cases, but in New England that attention is never dormant among our people.

The causes for open public *thanksgiving* as well as private, are innumerable, and not the least among them is the enjoyment of free and equal laws, bearing upon all, and protecting all alike. So lightly do they touch him who does not offend, that their very existence is scarcely recognized, and the most humble find no oppression under their operation. Our best powers, when all exerted, are too feeble to express the *thanksgivings* due for the blessings vouchsafed to us in this fair, fertile and free land!

We may be told that our picture is overwrought,—that a state of war demands much from us,—that the labor of our hands is diverted from our personal use, and that our sons are dead upon numerous battle-fields, or dying in the power of relentless and cruel foes,—and that "mourners go about the streets," in every neighborhood in the land.

While we are obliged to admit these sad facts, it should be one of our chief sources of *thanksgiving* and joy, that we are permitted to live and take a part in a reformation upon which Heaven smiles and will look upon with approbation,—the redemption of millions of our fellow-beings from an oppression which no terms in our power are adequate to describe.

Two years ago, the strongest mind was staggered with the question, "How shall this stupendous crime be stayed?" No power on earth seemed sufficient to cope with it. All the wisdom of legislation fell like futile shafts before its adamantine walls. Vice and cruelty stalked forth into the open light of heaven, demanding to establish a nation upon slavery as its corner-stone! It was not satisfied with this, but strove to destroy the glorious fabric reared by our fathers, and extend its sway over the entire land.

Thanksgivings! constant, sincere and profound, are due from all; that this terribly wicked power did not prevail,—that God raised up deliverers in our patriotic people, who have sacrificed, and are still ready to sacrifice property, health and life itself, to sustain our glorious Republic and its free institutions.

"Lives there a man with soul so dead,
Who never to himself hath said,
This is my own, my native land?"

So long as our *thanksgivings* are fresh and constant, so long will a pure patriotism burn in our bosoms, and love of country kindle a national enthusiasm and a spirit to defend the blessings which industry and integrity have secured.

Let, then, sincere *thanksgivings* go hand in hand with industrious and economical habits, with skill and energy to overcome all obstacles, with wisdom to devise and execute, and our country will stand before the nations of the world with a power unequalled, and spread its benign influences to the uttermost regions of the earth.

ADMINISTERING CHLOROFORM TO A HORSE.

Dr. Dadd, of the *Illinois Prairie Farmer*, gives the following account of Chloroforming a horse which he was treating for "spasms of the bowels," and which he finally cured, although this attack was so violent that the animal would throw himself upon the floor and tumble about in the wildest manner, and would kick and strike with fury if touched or nearly approached by any one.

"There seemed to be little hope for the animal, and fearing that he might either kill himself by violence or injure those in attendance, I concluded to chloroform him, and thus put a stop to his dangerous performances; he had had the best of us about long enough, and now it was for me to show what science had in store for such otherwise unmanageable cases. I procured a mixture composed of four ounces of chloroform and the same quantity of sulphuric ether; next a sponge was tied on to a broom-handle; the latter enabled me to chloroform at a safe distance.

The patient did not seem to relish my mode of practice, he fought me some,—tried to strike and kick me, but he being temporarily blind I had the advantage of him. It was soon evident that the chloroform had begun to do its work; he gradually settled himself on the floor and was soon completely etherised. As it is dangerous to keep a horse under the full effects of chloroform any great length of time, I now removed the sponge and only applied it occasionally, slightly saturated, so as to insure a sort of incomplete state of insensibility. It was an encouraging sight to behold the once powerful and furious animal, now lying free from pain and deprived of the power to injure himself or those in attendance; and it is also gratifying to know that science ministers to the wants and necessities of the *inferior* as well as the *superior* orders of creation.

At the expiration of an hour, during which time the animal was more or less under the anæsthetic agent, he was allowed to rise; he gave himself a few shakes, seemed very much relieved, and much more tranquil."

CORN AND ROOTS FOR FATTENING HOGS.—In feeding dry corn, to fatten hogs, I have found the most beneficial results from giving one or two feeds a day of roots,—turnips or sugar beets. It serves them in the place of water, renders the corn less heating, and fed in this way a bushel of roots are fully equivalent for fattening to a bushel of corn fed alone.—*Albany Cultivator*.

GLANDERS.

In an article in the *Prairie Farmer*, on the subject of glandered horses, Dr. Dadd cites the following cases of the disease being communicated to the human system:

"Within the last quarter two veterinary surgeons—one residing in Walworth, and the other Wolverhampton—are reported as having died from inoculation of glanders. This terrible disease is not often seen in Scotland, but very frequently in England, and still more so in Ireland. From the latter circumstance, the malady is often found to be imported about the west coast of Scotland. London has always been rather renowned for the prevalence of glanders among omnibus, cab and other horses. A very strict supervision is maintained, and all glandered horses are destroyed when discovered; but nevertheless, we can state on good authority that the omnibus horses of London have suffered very severely from this disease, and do so still. The partial measures adopted by companies are not sufficient to eradicate it, and the "glandered night-team" is not altogether a thing of the past. The danger to human life is so great that we feel happy to seize any opportunity to urge the adoption of the most effectual measures for the suppression of any practice which tends to prolong the life of the glandered horse."—*Vet. Jour*.

Another case as published in the *Herald of Reform* is as follows:

"Mr. J. P. Burns, a grocer, in Baltimore, died a horrid death in that city, a few days ago, in consequence of poison communicated to his system from a horse afflicted with glanders. During the administration of medicine, Mr. B. thrust into the animal's mouth his hand, a finger of which had been previously cut, and the flesh laid open. Through this wound the virus was absorbed, and mortification supervened. A surgeon was called upon to amputate the deceased member. Perceiving, however, that the poison had penetrated to every portion of the unfortunate man's system, he declined performing the operation, and stated that no earthly skill could save his life. After lingering in great agony, death closed the scene.

STILL ANOTHER.—*Death of a Russian Lady from Glanders.*—The awful death of Madame Palesikoff, one of the most charming amongst all that bevy of charming Russian ladies, who sometimes gladden the winters of Paris, has created a terrible shock amongst the circles she so lately embellished by her presence. The unhappy lady left Paris but a short time ago, on a summer tour to Germany. While stepping from a door of the opera house in Berlin, to gain her carriage, she let fall one of her bracelets close to the pavement. Stooping to pick it up, she noticed at the time, laughingly, that "one of the horses belonging to a carriage standing at hand, dropped his head so close to her face, that he had touched her, and left a moist kiss upon her cheek." In a few days the unfortunate lady was taken ill with that most horrible disease, glanders, and in a few days more breathed her last, in spite of the attendance of the first physicians in Berlin, and every resource to be obtained by wealth, or by the ceaseless vigilance of friends.—*Court Journal*.

SEEDING LAND TO GRASS.

We propose to prepare one or two articles upon this subject. Its importance is attested in the fact that the grass crop in the New England States, for the year 1862, as near as we have the means at hand to ascertain, was nearly *one hundred millions of dollars!*

The practice of seeding down land to grass with a grain crop is universal in New England—that is, of sowing grass seed at the same time of sowing a crop of oats, barley, or other grain, and levelling and smoothing the ground in order to prepare it for mowing. Universal, however, as this practice is, the precise reasons for it have rarely been inquired into, or given. We have no recollection of ever seeing it treated in books or in newspapers,—but the *principles* which are applicable are frequently advanced by some of the best agricultural writers in this and other countries.

Last winter, during a discussion in which we took a part, upon the best modes of seeding land to grass, we made the remark that “the grain crop might, in some measure, protect the young grass, and give it an opportunity to escape drought, if it should ensue.” This idea was objected to with considerable earnestness,—one person desiring to “enter his solemn protest against any *shade* theory.”

Let us examine this point with candor and care, and try to learn whether the uninterrupted solar rays are always friendly to young grass plants, or, as in the case of many other plants which we are obliged to protect, they are not sometimes extremely hurtful. The question is *not*, what course of culture will produce the largest crops of grass, but, simply, what circumstances will best promote the germination of grass seed, and its *early* growth.

In the *first* place, all grain sown with grass seed—if the grass crop is the object sought—should be cut green—not allowed to seed—which leaves the surface free for the grass after it has got fairly rooted, and will not exhaust the soil as it would if allowed to mature its seed.

Secondly, oats or barley, start quick,—partially cover the surface, and thus prevent a large amount of *evaporation*, keeping moisture in store for themselves and the young grass, by absorbing it from the air, as well as exhausting it from the soil,—for the plants are living and breathing organisms, and a mutual action is contiguously going on between them and the soil. “They are first fed by the food which the root procures from the earth, and a part of the nutritive matter which is stored up in the seed-leaves. They feed especially upon the latter until the store is exhausted, and by the time this happens, they are clothed with leaves which are themselves *able to feed them* after the seed-leaves have perished.” This is the language

of Prof. LINDLEY,—than whom there is no higher authority,—and we cite it to show that the grain plants among the grass receive a *large amount* of their support from the atmosphere, and consequently, do not—in their *early* growth—exhaust the soil so much as they benefit it by their shade, and the moisture they bring to it from the air. At any rate, not so much as is sometimes supposed.

Both HALES and DUHAMEL—among the very highest authorities—say that branches imbibe moisture equally by either end; and consequently, the sap moves with equal facility *both upwards and downwards*. Mr. BONNET states that “leaves will imbibe *enough of water to support the vegetation* of a whole branch, and the leaves belonging to it.” This does not look as though the leaves of the grain plants were made merely to *rob the soil!*

To illustrate: If the seeds of the birch, elm, maple or pine, are sown on a piece of plain or unsheltered land, a large portion of the plants—if they come at all—will perish; but if one goes to the forest, cuts trees and brush, scrapes away the leaves, stirs the soil, and sows the same kind of seeds *there*, they will not only come up, but under the general protection of the surrounding trees and shrubbery, will come and grow and flourish in surprising numbers. This piece of soil in the forest, although *no mulching lies upon it*, will be found moist and soft, when the pastures in the vicinity are parched and barren.

It is the universal practice of the most intelligent farmers all over New England to sow some sort of grain with grass seed. It is to be presumed that this is not *entirely* because they desire the crop of grain, but in the expectation that the grain itself will be, in some degree, a protection to the young and tender grass plants. A very successful farmer states that he invariably sows three bushels of oats per acre with grass seed, and that he secures the best results under this practice, which has been continued through many years, because a successful practice. Some equally good farmers use a less quantity.

We sometimes sow grass seed among standing corn, in the month of August, and have never failed of securing good results under ordinary circumstances,—but always the most satisfactory *where the corn stood the thickest*, although on soil of the same quality and in the same position. This mode we recommend as a cheap and successful one.

It is stated that where coffee is raised, it is done under *the protection of trees* wherever they can be employed; that although the trees spread their roots far and wide, they are *condensers of moisture from the air* as well as extractors of it from the soil, and are of essential benefit to the young and tender plants. On the same principle, pasture

lands are much benefited by *occasional shade trees* scattered over them,—and we believe it is often admitted that such pastures afford more and better grass than those entirely bare of trees. That though the trees sap the soil, their other beneficial action upon it is more than balanced by the drafts they make upon the air itself. FOURCROY, another authority says: "In clearing up new lands, the trees on the summits of hills should be left standing. They attract the vapor that floats in the atmosphere, and the rains, and serve as *conductors* of that element to *moisten* the ground. By their shade they retain the verdure and the feed." This is exactly to the point. But there is a limit—they must not be too numerous.

Another advantage of grain is, that it *checks the currents* of wind, and thus prevents evaporation in a considerable degree. This point needs no argument, as all admit that hay dries much faster in a bright day when there is a wind than when it is still; the wind rapidly carries away the natural evaporation of the soil, which is continually succeeded by new moisture and carried off by fresh currents, and thus rapidly dries the ground. The grain tends to keep these currents from the young grass, and consequently a large portion of the evaporated moisture is kept among them. "The sun robs the soil of its moisture, and the wind robs it of its heat, two elements that have an important bearing on the resulting crops. . . . A single row of trees has a wonderful effect in checking the force of the wind, and a belt two rods in width will entirely check it and it will go over." There are some excellent examples of this kind in this country.

The difference of opinion entertained by farmers on this point seems to arise from the fact that *no credit is given to plants for the absorption by them of water from the atmosphere*. If they did not receive and impart it, how long would it be, in the absence of rain, before the soil would become utterly unfit to sustain a plant? LINDLEY says: "If the branch of a plant is placed in a bottle of water, and the neck of the bottle is luted [or made tight] to the branch, so that no evaporation can take place, nevertheless *the water will disappear*; and this can only happen from its having been *abstracted by the branch*." This is just the action which we ascribe to the leaves of the grain plants as they stand among the grass.

He further says: "Since a plant does not perspire at night, and since its absorbing points, the roots, remain during that period in contact with the same humid medium [that is, the soil,] as during the day, *they will attract fluid into the system of the plant during the night, and consequently the weight of the plant will be increased*. In like manner, if plants in the shade are abundantly supplied with moisture at the roots, *they will also gain*

more than they can lose; and as this will be a constant action, the result *must necessarily be to render all their parts soft and watery*." The grain plants, while the grass is young,—keep the grass both shaded and moist, and the result follows which Prof. LINDLEY has described.

The above shows the *means* of keeping the ground moist, and the importance of such a condition of the soil must be clear to all. "As a general rule, therefore, we are authorized to conclude that the ground should be abundantly supplied with moisture when plants *first begin to grow*, and that the quantity should be diminished as the organization of a plant becomes completed." [Lindley, again.] Sir HUMPHREY DAVY, Dr. INGENHOUSZ, SENOBIER, and others, all confirm the opinion which we advance.

ANIMALS FOR STALL-FEEDING.

In his last weekly report of the New York cattle market, Solon Robinson gives the following advice, on the subject of choosing animals for fattening, as the result of his observation and long experience among cattle:—

"We would never select an animal, particularly of the bovine race, to fatten, which had a long, narrow, contracted skull, particularly if the horns were puny, or abruptly bent, because such an animal is apt to be wild, and to have a weak constitution, and will not fatten like one with a broad face, with a full, capacious skull, with strong, evenly bent horns, with a neck thick at the face, and a wide throat; for such an animal has a strong nervous system, and always a good appetite, and not being wild will take on fat rapidly, and by its naturally quiet habits will retain it easily. An animal to fatten well must have a capacious chest. To bear transportation, it must have a strong constitution, and this is indicated by its strongly built form—its good back, loins and legs. Recollect that some men never grow fat. Some bullocks are just so; their nervous temperament wont allow them to take on fat half as fast as some others. Hence the phrase "aptitude to fatten." This should be studied, and then people would try to select such as have that aptitude, the first index of which will be seen in the head. If that is not good don't buy the animal, no matter how cheap it may appear. A slender-headed cow, with slim neck and puny horns may be a good milker, but you may be sure of a hard job when you try to fatten her for beef. The whole Alderney breed is proof of this. When other characteristics, at first view, appear favorable, look in the eyes. If they are small, deep-sunken, or dull, or staring, dark, and fiery, let that animal pass, and take one with large, open, mild eyes, with plenty of loose skin hanging from the chin, with a large muzzle, and open nostrils. Avoid slim heads and handsome noses, that is if you esteem slim ones handsome. Look well to the mouth, that it has strength and capacity to take its food. Be sure, too, to get "a good handler;" that is, one with a soft, velvety skin. Think of this and try experiments, and see how much easier one animal fattens than another."

CATECHISM

— OF —

AGRICULTURAL CHEMISTRY AND GEOLOGY.

BY JAMES F. W. JOHNSTON, M. A.

Q. *What is agriculture?*

A. Agriculture is the art of cultivating the soil.

Q. *What is the object of the farmer in cultivating the soil?*

A. The object of the farmer in cultivating the soil is, to raise the largest crops at the smallest cost, and with the least injury to the land.

Q. *What ought the farmer especially to know, in order that he may attain this object?*

A. The farmer ought especially to know the nature of the crops he raises, of the land on which they grow, and of the manures which he applies to the land.

I.—Of the Nature of the Crops he raises.

Q. *Of what parts do all vegetable substances consist?*

A. All vegetable substances consist of two parts, one which burns away in the fire, called the organic part, and one which does not burn away, called the inorganic part.

Q. *Which of these two parts is the greater in quantity?*

A. In all vegetable substances, the organic part is very much the greater. It forms from 90 to 99 out of every 100 lbs. of their weight.

Q. *Of what elementary bodies does the organic part of plants consist?*

A. The organic part of plants consists of four elementary bodies, known by the names of carbon, hydrogen, oxygen and nitrogen.

Q. *What is carbon?*

A. Carbon is a solid substance, usually of black color, which has no taste or smell, and burns more or less readily in the fire. Wood-charcoal, lamp-black, coke, black-lead, and the diamond, are varieties of carbon.

Q. *What is hydrogen?*

A. Hydrogen is a kind of air or gas which burns in the air as coal gas does, but in which a candle will not burn, nor an animal live, and which, after being mixed with common air, explodes when it is brought near the flame of a candle. It is also the lightest of all known substances.

Q. *What is oxygen?*

A. Oxygen is also a kind of air in which a candle burns with great brilliancy, in which animals also can live, and which is heavier than hydrogen or common air. It forms one-fifth of the bulk of the air we breathe.

Q. *What is nitrogen?*

A. Nitrogen is also a kind of air differing from both the other two. Like hydrogen, a taper will not burn nor will an animal live in it, but unlike hydrogen, it will itself not burn, and therefore does not take fire when brought near the flame of a candle. It is a little lighter than atmospheric air, of which it forms four-fifths of the bulk.

Q. *Do all vegetable substances contain these four elementary bodies?*

A. No, the greater number contain only three, viz: carbon, hydrogen, and oxygen.

Q. *Name some of the more common substances which contain only these three?*

A. Starch, gum, sugar, the fibre of wood, oils, and fats, contain only these three elements.

Q. *Of what substances does the inorganic part of the plant consist?*

A. The inorganic part of plants contains from eight to ten different substances, namely: potash, soda, lime, magnesia, oxide of manganese, silica, chlorine, sulphuric acid, or oil of vitriol, and phosphoric acid.

Q. *What is potash?*A. The common potash of the shops is a white powder, which has a peculiar taste (called an *alkaline* taste, and which becomes moist, and at last runs to a liquid when exposed for a length of time to the air. It is obtained by washing wood ashes (the ashes left by wood when it is burned,) with water, and afterwards boiling the liquid to dryness.Q. *What is soda?*A. The common soda of the shops is a glassy or *crystallized* substance, which has also an alkaline taste, but which, unlike potash, becomes dry and powdery by being exposed to the air. It is manufactured from sea salt.Q. *What is lime?*A. Lime or *quick-lime* is a white, earthy substance which is obtained by burning common limestone in the lime-kiln. It has a slightly burning taste, and becomes hot and *stokes* when water is poured upon it.Q. *What is magnesia?*A. Magnesia is the white powder sold in the shops under the name of *calcined* magnesia. It has scarcely any taste, and is extracted from sea water and from some kinds of limestone rock called *Magnesian* limestones.Q. *What is iron?*A. Iron is a hard bluish gray *metal*, which is manufactured in large quantities in our iron-works, and is used for a great variety of useful purposes.Q. *What is oxide of iron?*A. When polished iron is exposed to the air it gradually becomes covered with rust. This rust consists of the metal iron, and of the gas oxygen which the iron has attracted from the air, and hence it is called *oxide* of iron.Q. *What is oxide of manganese?*

A. Oxide of manganese is a substance very much like oxide of iron, which occurs in soils and plants, usually in very small quantity.

Q. *What is silica?*

A. Silica is the name given by chemists to the substance of flint, of rock-crystal, and of sandstones.

Q. *What is chlorine?*

A. Chlorine is a kind of air which has a greenish-yellow color, and a strong suffocating smell. A taper burns in it with a dull smoky flame. It exists in common salt in large quantity.

Q. *What is sulphuric acid or oil of vitriol?*

A. Sulphuric acid or oil of vitriol is a very sour burning, oily liquid, which is manufactured from burning sulphur, (brimstone.) It exists in common gypsum, in alum, and in Glauber and Epsom salts.

Q. *What is phosphoric acid?*

A. Phosphoric acid is also a very sour substance, which is formed by burning phosphorus in the air. It exists in large quantity in the bones of animals.

Q. *Are all these substances to be found in the inorganic part of plants?*

A. Yes, they are to be found in the ash of all our usually cultivated plants.

Q. Do all have the same quantity of ash when burned.

A. No. Some leave much more ash than others. Thus 100 lbs. of hay may leave 9 or 10 pounds of ash, while 100 lbs. of wheat leave less than 2 lbs. of ash.

Q. Does the ash of different plants contain all these substances in the same proportion?

A. No. They exist in different proportions in the ash of different plants—the ash of wheat, for example, contains more phosphoric acid than that of hay, while that of hay contains more lime than the ash of wheat.

For the New England Farmer.

EXPERIMENTS WITH POTATOES.

The ground on which they were planted was a sandy loam, on the borders of a meadow, not naturally fertile, which had been for many years used as a pasture, but was so much grown up to bushes as to be worthless for seed use. In 1860 the bushes were cut and grubbed up and the land plowed, and in 1861 moderately manured and planted with corn. The crop being injured by an early frost, was not remunerative. In 1862 again moderately manured, it was planted with white beans and produced a good crop. Again, in 1863, the land was moderately manured and the general field planted with corn and beans. The piece experimented with was in an angle of the field, and contained, by actual measurement, 1440 square feet. It was marked out into rows by line, two feet apart; a slight furrow was made with a hoe under the line, and with the top of the hoe handle marks about an inch deep at the distance of from ten to twelve inches, were made in this furrow, in each of which was placed a single eye of a potato, cut out so as to be about the size of an old-fashioned copper cent; the eye placed downward and the cut side up, and covered by leveling the furrow, and over the whole was spread a mulching of meadow hay, which, when the shoots appeared above ground, was carefully removed from the shoots so as not to interfere with their upward growth; and excepting the pulling of a few weeds this was all the cultivation the crop received. They were planted the first week in June, and dug the first week in October. The yield was eight and a half bushels, which is at the rate of nearly 200 bushels to the acre. The variety, the Davis' seedling; the quality, first-rate; and when dug not more than ten of good size were thrown out as diseased.

In order to test the theory of Mr. Poor, and of the Long Island farmers, that the seed end of the potato is the author of "small potatoes," it was in preparing for this experiment cut off, and the eyes planted wholly taken from the large end. The result did not correspond with the theory. The quantity of small potatoes corresponded very nearly with that of a crop planted in the usual way, on land near by. This land, though much more highly manured, produced what was esteemed a good crop, but it was only at the rate of 156 bushels per acre. The plot above referred to, in one portion of it, suffered severely by being flooded by the excessive rains of July and August, by water flowing from higher land. If the yield of the whole plot had been equal to that which was not so flooded, the rate would have come up fully to 300 bushels per acre.

I will add one incident in regard to the potato rot. As already stated, when dug, the number diseased was small. They were not carried immediately to the cellar, but placed in a pile upon the ground where grown, and covered with meadow hay with which they were mulched, and with the vines, or tops of the potatoes, and thus remained about two weeks, during which time were several rains. When they were uncovered to be removed, it was found that the rains had not so penetrated the covering as to wash off the sand which adhered to the potatoes when dug. It was found that many of the potatoes showed small spots of white mould about the eyes, and on examination all so marked had the fatal disease. This mould I have no doubt is the fungus of the German theorists, and is the author of the mischief. It might be communicated from the ground or from the covering spread over them. The only remedy I should rely upon is early planting upon warm, well prepared land, so as to secure early maturity, and early digging and immediate removal from the ground. J. B. H.

Nov. 2, 1863.

For the New England Farmer.

CURE FOR "HOLDFAST."

MR. EDITOR:—One of your correspondents inquires in your last number if there is any cure for holdfast on the jaw of his steer.

Before we speak of the cure, we must understand the nature of the disease. Holdfast is a disease of the bone. The structure of all bones is cellular, that is, made up of small cells, filled with blood vessels and other animal substances. If you cut into a holdfast, you will find the cells increased in size, and the boney mass somewhat softened, the blood vessels enlarged, and more than the usual quantity of soft animal substances packed in the cells.

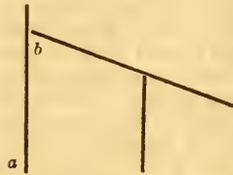
This change may be found extending through the external layer of bone to the marrow, or it may be found more superficial, involving only the surface of the bone. The same disease is found in the human subject, and the only remedy is to lay bare the bone, and with the saw, chisel and bone forceps, remove all the diseased portion, and then replace the skin and soft parts, which will soon heal.

Now that experience has taught that chloroform can be easily and safely applied to animals, and thus that operations that were formerly difficult, if not impossible, can be performed on animals without pain to the animal or danger to the operator, the veterinary surgeon performs many operations for the removal of deformities and the cure of diseases that were formerly deemed irremediable. I think the deformity in question can be removed by a surgical operation. It has been usual to turn such cases over to the butcher. But in a case like the one mentioned, rather than "spoil the pair," I think "M." would prefer having an operation done. The surgeon must cut freely, and remove all the bones in which the cells are enlarged, or show any indications of disease. If he will call on any young and enterprising surgeon, in his neighborhood, he will probably find him willing to undertake the operation. No other remedies are of any value.

Concord, Oct. 30, 1863.

A NEW TREE PROTECTOR.

We have examined a new contrivance, patented by Mr. Henry L. Ordway, of Ipswich, in this State, for preventing the injury occasioned to fruit trees by canker worms, which is more simple than any other we have ever seen. The protector is entirely of tin, and the following diagram presents as well as we can do it, a section of it.



The protector is intended to be somewhat larger than the tree, to which it is attached by common cloth, extending a few inches up the trunk of the tree. This

of course must be so tight that no worm can work its way under it. The worms passing down the protector, have a sharp turn to make, on the edge of the tin at *a*. Being heavy with the eggs they carry, few of them succeed in this, and those who do, have another obstruction to overcome in turning at the angle *b*. It is said that, on repeated trial, no worm has ever been known to pass this angle, but should any succeed in doing so, they must repeat the same operation near the outer edge of the protector, before they can ascend the tree.

The theory of the instrument taken in connection with the form and habits of the insect, is very plausible, and we are assured that in practice it is found to work perfectly. The inventor will give any further information in regard to it; and we hope that an effectual stop is at last found to the ravages of this pest.

THE WHEAT APHIS.

Prof. Glover, Entomologist to the Agricultural Department of the National Government, gives the following description of this insect which was very destructive last year in Maryland, and which threatened so much damage in various portions of the West. It is also mentioned by Dr. Fitch, in his report for 1860, as having been found all over the New England States, in New York, Canada, and Pennsylvania.

"*The Aphis Avena*, (Fab.) Grain aphis or plant louse.

Eggs probably deposited by the unwinged females in the autumn upon late sown wheat, &c., where they remain all winter, and hatch the following spring.

Insects live solitary at first upon the leaves and stems of oats, wheat, rye, &c., before the flowers or heads are formed; where, by means of their suckers, they drain the sap from the plant. At this time only females are found, which are of a green color, and bring forth their young alive. When, however, the flowers and heads are formed they discontinue their solitary habits and cluster in great numbers at the base of the chaff which envelops the grain, and, inserting their piercers into the plant, extract the juices which should

form the grain, causing the kernels to become more or less shrunken and light of weight. When feeding upon the juices of the young grain the plant lice change their color from green to a yellow orange and orange brown. These clusters or communities of plant lice at the base of each grain consist of winged females and their young; which last shed their skins several times before attaining their full size.

During the summer, female aphides give birth to living young, without pairing with the males. These young, when perfectly developed, produced young, likewise, without pairing, and so on for several generations.

The males appear later in the season, when they pair, the impregnated females flying to the late sown wheat, &c., to deposit their eggs which remain uninjured all winter and hatch the following spring.

For the New England Farmer.

WARREN.

This is the name applied to a township until 1834 called Western. Its name was changed to Warren, in honor of the patriot of Bunker Hill. It is situated on the Western Railroad, midway between Worcester and Springfield, and covers an area of 16,428 acres. It is quite hilly, and well adapted to grazing, being irrigated by the Quaboag River which furnishes power for several cotton factories. The well known Whipple Scythe Works are located here, although they are at present used for the manufacture of other implements than those required by the arts of peace. It is populated by a thrifty set of people, who point to their vacant almshouse as an evidence of general prosperity.

A portion of the farmers of Warren have, for the past twelve years, turned their attention to the production of milk for the Westboro' Milk Company. During the summer months they furnish one thousand cans per day, and in the winter season about eighteen thousand cans per month. The annual receipts for milk amount to about sixty-five thousand dollars. The present price is thirty cents per can. A farmer, who produces as much milk as any other in town, states that his cows average an annual income of *forty dollars* each. Neither cotton seed meal, oil cake, nor roots, have been used much in this region, the rich hill pastures rendering extra feed in summer unnecessary; and in winter corn meal is fed.

In addition to the demand for the Westboro' Milk Company, an immense supply is now required by the Lewis Brothers for their condensing factory recently erected at West Brookfield. But in spite of all this, there is still a surplus of milk in this region, and in consequence thereof there is now in progress a new enterprise to be called

THE WORCESTER COUNTY CHEESE FACTORY.

The extremely low prices which have been paid for milk during the past three years, and the steady advance in the price of cheese, have conspired to turn the attention of some extensive dairymen in the south part of Warren, together with others in the adjoining town of Brimfield, to the feasibility of establishing a factory for the production of cheese, similar to those now in successful operation in various parts of New York State, and in some localities at the West. Accordingly they

delegated some of their number to visit these establishments, and having been convinced of the simplicity of the plan, they immediately formed an association and entered upon the prosecution of the enterprise. They have now in the process of erection in the south part of Warren, one building 40 feet by 30, another 30 feet by 16, and also a drying room, two stories in height, 100 feet in length, and 26 feet in width. These buildings, together with fixtures, steam apparatus, etc., will cost \$3000.

To carry out the plan, thirty dairies, comprising five hundred cows, have been pledged for five years, and it is expected that others will be added as soon as operations have been successfully commenced. This will give from 1500 to 2000 gallons of milk per day; and since it is an established fact that one hundred gallons of milk will give one hundred weight of cheese, the establishment is expected to turn out one ton of cheese per day.

The care of the factory will require the attendance of only four persons. A well has been excavated in a hillside near by, from which water will be carried to any part of the building. In order that there may be no waste, an extensive piggery is to be constructed, and one hundred swine will be fed upon the whey which the factory affords. The milk will be brought from the farms every morning, and the cheese divided among the proprietors in proportion to the number of gallons of milk furnished. Each cheese will weigh one hundred pounds, and will probably be packed in separate boxes.

At a large establishment of this kind seven miles from Rome, N. Y., cheese is manufactured at an expense of only one cent per pound, and is found to be superior in quality to that made in the ordinary way, commanding from one to two cents per pound more in the market.

VIATOR.

Worcester, Nov., 1863.

KEEPING CABBAGES.—We have no reason to change our old mode of keeping cabbages through the winter; and to those who have not stored theirs we again commend it as all that is desirable. Take up the cabbage by the roots—set it closely together in rows up to the head in soil, roots down the same as it grows—drive in posts at the corners of the bed and intermediate spaces if necessary, higher one side than the other—nail strips of board, lath or anything else that will answer on these posts—lay upon these old boards, doors, or if you have nothing else bean poles and corn fodder, so that the roof will be clear of the cabbage and allow the air to circulate—close up the sides with yard or garden offal of any kind—and your cabbages will keep all winter, fresh and green, and be accessible at all times, or nearly so, the frost not being nearly so severe under this protection as in exposed places. We have pursued this plan for years and it has always given satisfaction. Remember, exclude moisture—never mind the frost, which is a benefit rather than an injury.—*German town Telegraph.*

WORTH TRYING.—The *Ohio Farmer* says that coal oil has been found, by accident, to be a most effective means of protecting fruit trees against the ravages of the curculio, by placing saw dust, saturated with the oil, at the foot of the tree.

For the New England Farmer.

AMONG THE GREEN MOUNTAINS.

The Harvest—Hay Crop—Summer Freshets—Demand for Mowing Machines—Labor-Saving Machines—Education—"Every generation grows weaker and wiser."—State Agricultural College—Union of Colleges—The "Pet" Institution—The Weather.

MESSRS. EDITORS:—After so long a silence I occupy my "Easy Chair" at the window, to note a few retrospective thoughts for the *New England Farmer*.

The harvest has come and gone since my last letter, and quite a bountiful one has it been in many respects. In this county, (Caledonia) the vegetable growth was heavy, especially so in regard to grass,—yielding a large crop of hay; but the very unfavorable hay-season caused much grass to be severely injured before it could be properly hayed and housed. The four or five weeks following the middle of July, the usual time of the commencement of haying, afforded scarcely a fourth part of the time so that grass could be made suitable for the mow. The last of August and the first of September gave haymakers an opportunity to make hay, and it was very generally improved.

Alluvial or meadow land owners were severely taxed, both of money and muscle, the past season, from the high summer freshets, which came just in season to flow the uncut grass. Probably, double the time and labor was required to harvest the hay crop on these meadows the past season, that would have been required had they not been flowed. This made a demand for mowing machines, which was greater than the supply, during the hay season. The demand, principally, was for the Union, the Wood and the Hubbard machines. The lighter draft which these possess over the Buckeye and heavier machines, gives them the preference among our farmers generally. With the present scarcity of farm help, the mowing machine is really an institution to be valued and esteemed for the saving it makes of time and human labor. The writer is an earnest advocate of labor-saving inventions for personal considerations,—be they combined mowers and reapers, seed-sowers or horse-hoes,—machines of whatever name or kind, if they but lessen the muscular toil of the laborer, and, as well, prove a blessing to the farm.

Times are continually changing. In the days of our fathers, more than now, man's physical nature predominated over his mental; his mind was not exercised in proportion to his physical powers. The consequence was strong, muscular bodies and comparatively unexpanded intellects. The present generation is to some extent reversed in this particular. Schools are more generally enjoyed; a taste for knowledge is acquired, and the mind receives a greater proportion of care and exercise, it may be to the prejudice and loss of physical power. Therefore it is that "every generation grows weaker and wiser." And it is a noticeable fact, at the present day, that the young are more anxious to procure and introduce new inventions and appliances to lessen physical labor than are the fathers. The young are physically weaker, to say nothing of the disinclination to work in the minds of some; they cannot bear the labor the fathers did. This weakness may be occasioned by climate, food, devotion to study, want of physical exercise, or other causes. The fact is apparent;

still, who would wish to live in a past age that it might be otherwise? Would our grandfathers? Would our fathers? Would *we*? I think not. Then let us *educate* the mind as well as the body, even if it be done in part at the expense of the latter, and invent and introduce appliances and machines to supply the physical deficiency.

There is an effort making to establish the State Agricultural College, contemplated by the late act of Congress, and connect or combine with it the several Universities of the State, and thus form one grand Agricultural and Classical Institution. This subject is before the State Legislature, now in session. The question was lately considered, and very ably discussed, at a special meeting at the Representatives' Hall, by the Presidents of the several Colleges; and although the desirableness of such an end was fully admitted, yet it appeared to them, for the present at least, impracticable.

Whether the "union" be accomplished or not, the Agricultural College will be instituted without fail, and founded upon a basis, by the National grant, that will give it strength and permanence. It will receive, as it should, the patronage of the farming public, which comprises four-fifths of the population and wealth of the Commonwealth, and, as a matter of consequence, be the *pet* institution of the Green Mountain State.

It would be quite unnatural, if not doing injustice to the season, to close without a word in regard to the *weather*. We have had thus far a very mild and pleasant fall. To the last week in October there was no frost to kill the most tender garden vegetables; during that week there were a few nights that the ground froze considerably—the weather being fair, with frosty nights and pleasant days. But that little flurry of King Jack was soon over, and we are enjoying fine Indian Summer days again. Yet, delightful as the season may be now, I am not forgetful that 'tis November in *Vermont*; and although we may sing very appropriately to-day,

"O, tell me not of fairer lands,
Beneath a brighter sky,"

the lessons of past experience have taught us that the morrow's hymn may read, in truth,—

Old Boreas knocks at the outer door,
The Storm king reigns supreme!

Lyndon, Nov. 9, 1863.

I. W. SANBORN.

For the New England Farmer.

THE CROPS IN VERMONT.

MESSEURS. EDITORS:—As I said in my communication, the crop of hay was abundant; the quality was considerably injured from the want of good weather to make it in its season. To "make hay while the sun shines" was next to impossible the past season, for the sufficient reason that the "old haymaker" chose almost continually to hide his face. Therefore it was that two-thirds of the present hay crop was harvested after the middle of August. Oats were fair, though lighter than usual. The rust affected them in some instances. Early, more than late sown grain suffered from the heavy rains, and continued dull weather of July and August. Corn was very good—a heavy growth of stalks, well laden with large, sound ears. There was a very light yield of wheat,—scarcely half a crop. Most of the other lesser grains did

usually well. The potato yield was less than usual,—affected by the rust. No rot to speak of. Ruta bagas and other root crops yielded well. They have grown principally since the rains above alluded to.

There has been a brisk demand for store cattle in this vicinity this fall. Hundreds of young cattle have been driven from Canada here, and sold to the farmers at prices varying according to quality, as follows: Yearlings, from \$10 to \$13 per head; two-year-olds, \$17 to \$24; milch cows, \$18 to \$25, &c. The call for store sheep is not as active as it was a year ago. Most of the farmers have a supply. All stock kind is valued at 33 to 50 per cent. higher than it was twelve months ago. I. W. S.

Lyndon, Vt., 1863.

For the New England Farmer.

THE APPLE CROP AND ORCHARDS.

MR. EDITOR:—I had the pleasure during one of the last days of September of looking at the fine apple orchards of Marlboro'. The season has been favorable for the coloring of fruit, and on some of the way the trees were literally red by the roadside.

How easy the crop looked to gather on the low trees in the young orchards. No shaking out of the dirt as with potatoes with an aching back. No husking and shelling as with corn. But here, the owner can at once barrel up this rich product of his farm, and send it to market with agreeable labor.

The soil of Marlboro' seems particularly adapted to fruit trees. It is strong, rocky, moist and deep. The surface of the town is undulating. The deep, moist soil prevents a premature ripening, common to sandy locations. The rich soil supplies abundance for the tree to feed on, and support its load of fruit.

It is not thought necessary in Marlboro' to keep orchard lands broken up, or in constant cultivation. I saw numerous orchards bending with fair fruit in sward land. The ground looked rich enough for the hay and fruit crop together.

I had a pleasant chat with my friend, WILLIAM GIBBON, in the West part of the town. I asked him, early in our walk, "Had he many apples pilfered?" "No, everybody had enough of his own." Really, it seemed so. The whole district was one continuous orchard.

Mr. Gibbon thinks much of the apple crop. He has reason to. His orchards this year will produce several hundred barrels. His trees are healthy and vigorous, although mostly in grass land, a portion of which has not been manured for ten years.

We agreed in our walk it was best to break it all up, and thin out the trees to allow more heat and sunshine to come to the roots. I believe that where such heavy, rich land is so nearly shaded by trees, the ground should be bare to the sunshine, that all the heat may be employed in promoting a profitable circulation of sap. I asked Mr. Gibbon what he thought of Dr. Geo. B. Loring's opinion, that it is not best to set good land with orchards? He replied, he could raise no crop like the apple crop in value at such moderate expense. Here, on land that had not been manured for ten years, was a heavy crop of apples.

The farmers of Marlboro' have sold several thousand barrels this fall to one party in Boston; the price obtained was \$2 per barrel at the Marlboro' depot. Marlboro' is a thriving town, full of enterprise and activity. W. D. B.

Concord, Mass., Oct., 1863.

EXTRACTS AND REPLIES.

DEPTH TO WHICH ROOTS PENETRATE.

The roots of grass, which I enclose, were taken from three, four and five feet below the surface, where they formed a complete mesh work, hanging in large masses. The soil, for eighteen inches from the surface, was a strong loam; below that, mostly mineral matter, made up of a loose hard pan. The location was somewhat elevated. The entire section, of a hundred feet or more in extent, presented the same phenomenon of the roots. JAMES J. H. GREGORY.

Marblehead, Nov. 1863.

A PUZZLE ABOUT ONIONS.

As a constant reader of the *New England Farmer*, I have seen a deal of valuable information, as from time to time I have perused its pages. I therefore write with confidence of having my question answered in your columns. I have growing, side by side, two onions, one a *thick neck*, and the other as complete as I could desire. I wish to know the cause of the thick neck? If either you or some correspondent will answer the above through the *Farmer*, I shall be gratified. M. H. H.

Fall River, Oct., 1863.

ANSWER TO THE PUZZLE ABOUT ONIONS.

It is a law of Nature that every "like begets its like," and is true, as a general rule. Let "M. H. H.," of Fall River, raise his own onion seed and select the very best onions that he has, and the nearest like those he would wish to raise for seed onions. Set these out in the Spring, save the seed and sow it next year. Continue this practice from year to year, and the presumption is that the scullions will disappear. The writer has practiced this mode for several years, and has very few scullions, or "thick necks," the present season. J. F.

Uxbridge, Nov. 10th, 1863.

SHAKE BAG FOWLS.

There are no such fowls in this country, nor ever have been. The nearest thing to it is a "shake down," to fancy buyers, according to common pick-pocket parlance. ONE OF THE SUFFERERS.

Boston, Nov. 17, 1863.

CHEAP FIELD FENCE.—A good and sufficient field fence can be made with fifteen inches in width of boards, or fifty rods of fence to the thousand feet of boards. Set the posts, and nail the first board nine inches from the ground; then make the spaces five, six, seven and ten inches, five boards three inches each in fifteen inches; now turn a furrow six inches deep toward the fence on each side. This brings the earth within three inches of the bottom board, and adds six inches to the height of the fence, measuring from the bottom of the furrow, and the ditch or bank makes it very unhandy for animals to get at the fence. This makes a fence four feet ten inches high.

I have several hundred rods of such fence. The first was built five years ago. It has proved perfectly safe and sufficient against cattle that were unruly. It is not racked by the wind like a fence of wider boards. Fourteen-foot boards, with one post in the middle, take a less number of posts, and make as good fence as twelves. I have used white oak board at about twelve dollars per thousand, and swamp oak split posts at four cents each.—S. SHARPE, in *Genesee Farmer*.

For the *New England Farmer*.

HORTICULTURE IN THE CITY.

As long ago as I can remember, I read the *N. E. Farmer*. It was not then as now a large sheet, but was published in a quarto form. The last page was particularly attractive, with its spicy anecdotes and its interesting articles. My father preserved files of most of his papers, and gave his children, who filed them for him, the price of the paper for doing it. We stowed them away in an old bureau in the garret. Many were the hours I spent, sitting on the floor, with the *N. E. Farmer*. I was considered lost for hours when I carried each new number to place with the others, because I so much liked to read and re-read the anecdotes. I have never lost my attachment to the paper; and here in the crowded city it comes to me a welcome visitor, bringing with it country thoughts and childhood's memories that cheer and bless me.

I love the country, and in the busy city I like to feel its sweet influence. I make as much of my little yard as possible, and in imagination transform it to a garden. I have grapes and currants, flowers and shrubs, and this year we have had a few tomato plants which have forgotten they grew in a city yard, and have stretched themselves till they have taken up all the room they would have claimed on a farm. They have repaid us, however, by furnishing us with fresh and delicious fruit. I am surprised that more attention is not paid to raising grapes in the city. The vines occupy but little room. They are highly ornamental, and they furnish a family with an abundance of healthful fruit. Why do not landlords plant vines about all their houses? I am sure I should much sooner rent a house with a good grape vine, than one that had none. Currants, also, grow well in a small yard, and may be so trained against a fence as to require but little room, and there is no fruit more healthful than the currant in the hot summer days. A few roots of spearmint will furnish mint sauce when wanted, and a few plants of parsley will garnish many a dish and season many a soup.

These comforts may be had without excluding flowers in a yard of ordinary size, and they will diminish the expenses of a family more than one would imagine. Six tomato plants would supply our family—and it is not a small one—with tomatoes for the season, if I may judge from this year's experience; but they take up more room than currants, and grapes, and Lawton blackberries, yet they yield their treasures till frost comes, and are not to be despised.

Plant grapes, I should say to every one in the country where grapes will ripen, and I should say the same thing to every housekeeper in the city. Let us have as many comforts as possible and with as little expense. ANNA HOPE.

New York, Oct., 1863.

TOADS IN MARKET.—Live toads, says the *Agriculturist*, form a regular article of commerce in the London Market. They are generally imported from France, and sell for from 50 cents to \$1 50 per dozen, according to size and activity. They are purchased by market gardeners in the vicinity of the city, to protect their choice vegetables from slugs and insects, which they do very effectually.

REPORT OF THE COMMISSIONER OF
AGRICULTURE.

BY JUDGE FRENCH.

An act of Congress to establish a "Department of Agriculture" was approved May 15, 1862, and this is the first report of the "Commissioner of Agriculture," whose office was created by that act. It comprises 632 octavo pages, and is published in the general style of the agricultural reports from the Patent office, entirely free, however, from the typographical blunders which have so often tortured contributors to those volumes. The volume seems to me, who am not a printer, to be superior, in point of mechanical execution, to any Patent office report ever published; which may or may not be attributable to the fact that it is published by the "Government Printing Office," instead of being jobbed by some Government favorite. Let us be thankful, at least, that the names of the best agriculturists are not so misspelled, as they were last year, that their nearest friends could not recognize them.

The volume opens with the general report of the Commissioner, whose name—Isaac Newton—is synonymous with wisdom and philosophy. Therein he discusses wisely and well of the conditions essential to progress and prosperity in agriculture, which he deems to be these—Peace, demand at home and abroad for our products, increased respect for labor, a better knowledge of agriculture, and a better general education of our farmers. He then refers to some of the subjects which are treated of in the present volume. These subjects are, for the most part, discussed in essays, by individuals who have made them their specialties, and it is fair to say that it would be difficult to find in the country an equal number of writers, who could and would treat the various subjects more satisfactorily. They are so numerous that an index, even, would fill a large space.

The International Exhibition of 1862; Some Outlines of the Agriculture of Maine; The soil, climate and productions of Florida; The Wheat Plant; Wheat Growing in New Hampshire; Cotton, Flax and Flax-Cotton; Tobacco Culture; Imphee and Sorghum Culture; Shelter and Protection of orchards; Descriptions of the Leading Popular Varieties of the Apple and Pear, with plates; Grape Culture; Remarks on the Physiology of Breeding; Sheep Husbandry; The Kerry Breed of Cattle; Poultry; Entomology; Farm Implements and Machinery; Coal Oil; Vermont Marbles; Health of Farmers' Families; Timber on the Prairies; and the Agriculture of Morocco, are some of the leading topics discussed.

This diversity of subjects appears almost ludicrous at first, and one looks curiously for the *system* which groups together the agriculture of Maine, Florida and Morocco, and omits the rest

of the world. This want of system is, however, no fault of the new Agricultural Department, which was compelled to do its best with such material as it inherited from the Patent office, which has heretofore had charge of our agricultural affairs, and such other as could be hastily gathered together. Any one who knows how little the outgoers from office in Washington love the incomers to their places, may guess how much aid and comfort Mr. Newton and his worthy chief clerk, Mr. Grinnell, whom we take to be the soul of the Department, probably derived from the Patent office in this matter.

Besides the essays, we find in the volume reports from the Chemist of the Department and the Superintendent of the Garden, and reports and tables of statistics, compiled mainly from the census of 1860, showing among other things the comparative productiveness of the loyal and disloyal States the year before the rebellion.

Great as was the prosperity of the country from 1850 to 1860, we see, by these tables, that the South not only fully shared it, but actually outstripped the North in its percentage of gain in agricultural products. Yet, with all this prosperity, Mr. Howard, of Georgia, said in the Patent office report for 1860, "In no part of Christendom, enjoying a good government, and settled by an intelligent population, does land sell for so contemptible a price as in the plantation States. In Georgia, for instance, land does not command an average price of five dollars an acre."

And yet, those sage Southern gentlemen, blind to the fact that only free labor was wanting to make their lands saleable at high prices, seceded for the sake of making slave labor perpetual!

If, now, we can keep an Agricultural Department permanent, so that it can gain materials for comparison and illustration, and so can systematize existing facts, and eliminate truth from statistics constantly accumulating, we shall find its reports yearly of increasing value. The present is a valuable and interesting volume to any lover of agriculture, and its distribution cannot fail to add greatly to the knowledge of our agricultural readers. Many extracts from its pages are well worth transferring to the columns of the *N. E. Farmer*, when its publishers find convenient space.

WOOL GROWERS' CONVENTION.—The Ohio Wool Growers' Association meets at Columbus, Jan. 5th. The *Cleveland Farmer* says the flock masters of that State are fully determined to attend to their own business in their own way, and anticipates the most interesting gathering of the kind ever attempted in this country. Hon. Henry S. Randall, author of the "Practical Shepherd," has accepted an invitation to be present and address the association.

SORGHUM AT THE WEST.

The past season has been very unfavorable to the sugar cane business at the West. The *Cincinnati Commercial* publishes an account of the extensive operations in this line of Mr. A. W. Nason, Perry county, Illinois. He planted 250 acres, which produced "only seventeen gallons to the acre, whereas it should have been, according to the results of past years, 150 gallons." The crop is said to be deficient this year in about the same proportion throughout the West. Notwithstanding the unfavorable results of this first experiment, Mr. Nason has concluded to plant 400 acres next year instead of 250, and to add to the expense of his establishment, which has already cost him \$7000, an additional \$3000 for boilers and other machinery, although his present steam mill ground the cane this fall as fast as ten teams could haul it half a mile, and fast enough to produce in one case fourteen gallons of juice per minute.

SINKING ROCKS.

In reply to a recommendation to dig under and sink rocks below the reach of the plow, a correspondent of the *Country Gentleman*, after promising that with his own hands, assisted by one man and a span of horses, he has cleared between fifty and sixty acres from boulders weighing from half a ton to twenty tons, and in places as many as twenty rocks to the acre, writes as follows:

I have dug under and sunk boulders, or as I used to say, "sold them;" but I have learned better. I can blast, dig out, and draw off ten rocks on an average, where I can sink one, and the rocks are saved for fencing or building purposes.

For a while I did my own blasting, but afterwards hired it done. I paid twenty-five cents a blast, and one blast is usually enough for a rock. Take a pick-axe and loosen the earth around the rock, put in the hole, charge and fire! and with a cant-hook, made on purpose, get under the pieces and throw them out; and then take another rock of equal size in the same soil and sink it, and see the difference.

I think, after said correspondent had sunk a rock in my orchard, measuring 28 feet long, 16 feet wide, and 8 feet above the ground, and perhaps more below, he would write no more articles on *sinking rocks*.

D. B. WAITE.

Springwater, N. Y.

We once had a *five years* experience in drilling and blasting rocks on a twenty-acre lot. That is, improving every opportunity during mild weather to get them out. We then resorted to digging and *burying* them below the plow. This experience brought us decidedly to an opinion exactly the reverse of that given above by Mr. WAITE. If rocks are wanted for walls, or for other purposes, we should not hesitate to use them, but beyond that, we should never *dig out* and take them from the land. What are upon the surface we would take away, if the soil were filled with

them. If not, we would even dig and bury those found on top of the ground. We have heretofore spoken of the injurious effects to the land of taking out and carrying away large quantities of stones.

For the New England Farmer.

THE BOY ON THE FARM.

Gardening—Winter Schools—Parental Encouragement—Amusements—fishing, fowling, nutting—A Life Devoted to Education—How to Get It—"Half is more than the Whole"—Manliness and Scholarship.

MESSRS. EDITORS:—I was born and brought up on a farm, and, from my earliest days to the present moment, I have taken the greatest interest in farming and gardening. My father was a physician of extensive practice, and seemed to have the means of educating his children as well and as fully as any man in the little town in which we dwelt. Yet, from the time my brothers and myself were able to do anything, as soon, every year, as there was anything to be done in the garden or on the farm, he took us from school and kept us at work until the last ear of corn was husked. He then sent us back to school. He was highly educated himself, and took care that, for the winter school, which was kept about half the year, a teacher should be employed possessing the best qualifications for what he considered that most important office.

We boys were kept busy in doing whatever boys could do,—driving the cows to and from the pasture, dropping corn, beans and pumpkin seeds, planting potatoes, sowing and weeding in the garden, and afterwards, as we gained strength, using the spade, the hoe, the rake, and, finally, the scythe and the flail. I thus grew up familiar with all the operations of a small farm and a large garden, and somewhat skilful in the use of all the common agricultural and horticultural tools.

My father was not a hard master, though a somewhat particular one. He often quoted the old proverb, "All work and no play make Jack a dull boy," and he acted as if he fully believed it. Fishing and fowling were among our recreations. When the time for salmon-trouts came, he took us to a creek two miles off, to places which he knew, from which we commonly returned with full baskets. When the shad began to make their appearance in the river which ran by our garden, we went below the mills, and, with spears, often succeeded in getting a fine one—sometimes several. He knew where the pickerel, the perch, and the shiners were to be found, and showed us how to catch them. Once or twice a year we went, taking a whole day for it, with all the lines, hooks and bait that were necessary, to some well-known spot on the coast, four, or five, or seven miles off, to catch cunners, or sea-perch, bass, pollock, or whatever else offered itself; and we sometimes brought home a fare of hundreds—as many as we wanted. These excursions were not accidental. They were intended as a gentle stimulus to boyish industry. "When all the weeds in that square of carrots are taken out clean, we will go a fishing, boys," said the kind old gentleman. The weeding was usually accomplished at the time fixed. "When the potatoes and corn are well hoed, we will take the wagon and go to Cape Porpoise and catch cunners, or to the Bass Rock

and try our luck upon the striped fellows."

There was not much idleness in the field with such a prospect before us. "When the whole garden is free of weeds, we will fill the chaise and the wagons, and go, girls and all, to Pickwackit Plains and gather blueberries, and take our guns and see whether we cannot shoot some wild pigeons." The memory of some of these huckle-berry parties are among the pleasantest reminiscences of my life. Strawberries, raspberries and blackberries grew in abundance nearer home, and the gathering them was often a pleasant interlude of an hour or two after a busy day. As summer and autumn waned, and the nuts grew ripe, we went up the river to Mitchell's Mill, to gather chestnuts from some trees which few people knew the existence of, or we got leave from the owner of the woods to pick up shagbarks in the hickory forests of Harrasicket; or we filled our baskets with the hazelnuts on the banks of the river Mousum. My father's practice had carried him to almost every house within six miles, and, as he had his eyes open, he knew all the good places.

The reason of my dwelling upon these pleasant scenes is, that although I have devoted my life to education, and, in order to teach well, have sought in all ways to get the best education I could, I have always considered the part of my education which I got on my father's farm, in his garden, and in the woods and on the streams and seacoasts, to which our holidays carried us, far the most valuable.

My father was an excellent classical scholar, and had also paid some attention to the trees and flowers, and to the birds and fishes and other animals. He had a copy of Turton's Linneus in his library, and was fond of pointing out the descriptions of the various animals we met with, and showing us how we should distinguish them. The river Mousum flowed by his garden, and he did not consider it time lost to point out the habits of the pickerel and other fishes that swam in it, and of the minks and muskquashes that fed upon its shells and had their holes in its banks, or to point out the curious remains of a beaver dam, which were still visible half a mile down the stream, at the mouth of a little brook. It was natural that, under such influences, I should imbibe a taste for natural history,—a taste which has been an un-failing and delightful source of amusement, of health and of improvement, all my life.

When the work of the farm and of the garden was finished, and not till then, we went to school. We thus regarded the school as a privilege, as a most agreeable change and refreshment. We were not idle. We took hold of our studies with earnestness and pleasure, and with success. It seemed strange to us that our cousins and the other boys who had been at school all summer, should dislike it so much and be so idle. To us it was delightful, and we gave ourselves entirely to it. And, what then seemed strange and unaccountable, we, with our half-year's schooling, were always amongst the best scholars. Many years afterwards, I read in an old Greek book upon agriculture, "The Works and the Days of Hesiod," an adage or proverb, which says, "The half is more than the whole." To me it seemed, even then, that my half-year's schooling was better than the whole year's of the other boys;—I have no doubt of it now. We send boys to school a great deal

too much. They get wearied of it and disgusted, and so hate it. They cannot take hold of their studies as they would if they considered it the greatest of all privileges to be allowed to go to school. Besides, in doing this, we forget that school opens to the learner a few poor books of man's making, and shuts out the infinite volume of God's works, every page rich with the facts and pictures and principles of the history of His beautiful creation.

Years after, when I conversed with my father as one of the most delightful companions I had or have ever met, I asked him why it was that, intending me, as he did, for one of the learned professions, he thus took me away from school, and kept me, half of every year, except one, till I entered college, at work in his garden or on his farm. "My son," answered the kind old man, "I wanted you to be a scholar; but I cared much more about your being a man. I valued manliness much more highly than scholarship. Are you less manly than if you had spent the whole of every year of your boyhood in school? Is your knowledge of things, or realities less? Are you less of a scholar?"

G. B. E.

For the New England Farmer.

MY JOURNAL FOR THE SEASON OF 1863.

MESSRS. EDITORS:—As every subject relating to the production of various species of vegetation has been fully discussed for a long time past, I concur with one your correspondents, that farmers, on a large or small scale, would do more good by reporting our success, by various experiments, in raising our crops in a matter of fact way, than we can by enlightening the world by our theories.

We (my son and self) commenced farming by sowing grass seed and winter wheat in the autumn of 1862, and corn, potatoes, Hungarian grass, and other vegetable productions, in the spring of 1863, after an uncommonly mild weather. To begin, we sowed our garden seeds the 11th of May, Therm. 88°, and after coming up as usual, they were mostly destroyed by a hoard of little nocturnal depredators, which left us but a small crop. On the 16th, planted corn on old, tough pasture land, lately plowed deep, dunged in the hill with muck compost, the seed having been soaked forty-eight hours in saltpetre water, the corn came up well, and was "let alone" mostly by the hated worms, which I think do not relish saltpetre. The corn was slightly cultivated and hoed twice, but the incessant rains and high winds were unfavorable to a large crop. What was harvested was of excellent quality; the seed was of the Brown or King Philip variety. The Hungarian grass comes next in course. The seed was sowed the 21st of May on old, worn out, sandy soil, where corn and potatoes had been grown two seasons previously. The ground was manured with mud and animal excrements composted, and plowed in superficially; the seed vegetated well, and the crop at harvesting was estimated at three tons to the acre, after curing, which was done with great difficulty this season by reason of almost incessant rains. By the way, experience being the best teacher, we delayed mowing it, hoping for better weather till it got far advanced in forming seed, which was done on the 25th day of August. The comparative value of the grass, and that mowed last year

while in first bloom, is decidedly in favor of the early cut. No fodder on my farm was so eagerly eaten by horses and cattle as our early cut Hungarian grass last year. This year the same animals hesitate till they find out whether it is hay or straw before they commence eating. I believe many farmers have formed their opinions and prejudices about Hungarian grass from the circumstance of delay in cutting it after it is full seeded; all except the seed is very little better than rye or oat straw thrashed. Whether the seed is of more or less value than the early cut grass for fodder, I have formed no opinion for want of experience.

Potatoes on dry or wet land in this vicinity were inferior in quantity and quality this season. Our early ones, called "crackers," were planted on dry ground in the garden; though fully supplied with rain, were less than half a usual crop of indifferent eatable potatoes. Our main crop was upon a piece of reclaimed meadow, formerly a duck pond, a most unpropitious season for planting on such land. The meadow was plowed on the 24th of Oct., 1862, with meadow plow, and was planted with the white kidney potato, on the 27th of May, after being well harrowed with the cultivator and dunged in the hill with manure from the horse's stable. The field was hoed once. On the 26th of August, a great fall of rain submerged the potatoes for a short time. They were harvested the last of September and proved a better crop than those planted in the garden; they were free from rot at the time of digging. It is seldom we have too much rain for potatoes planted on dry land, but the present season has proved an exception. During my eighty-four years of sojourn among potato fields, I have never known sandy fields, instead of dust transformed into so much "mud and mire," as has been the case the last summer. Our winter wheat was sown Sept. 2, 1862. It came up well, survived the winter and afforded a handsome yield. Thanks to friend Poor, this is the third season we have raised winter wheat enough of good quality to supply our family with that kind of bread. On the 4th of September, 1863, our winter wheat was sown on old pasture ground turned up in June; after a dressing of compost was applied the seed was plowed in with a horse plow—looks well.

Our grass crops were much diminished by the winter-kill of 1861-2, but upon newly laid down lots it was uncommonly tall, full of sap, and destitute of that gummy matter which adheres to the scythes in drier seasons. The summer of 1809, and several seasons since, were remarkable for copious rains and damaged hay; but for more than half a century, such persistency of rainy weather through all the summer months has escaped my recollection, if it ever happened.

The odd year—reminds me of that good man, Mr. Cole,—has always been the bearing year with our little orchard. This fall, from some cause or causes, our apples and pears have been uncommonly large and free from scars and worm holes, which go to confirm ideas previously entertained in regard to raising fruit. In the first place, the great abundance of rain has been sufficient to supply the thirsty grass with a competency of moisture, and allow the roots of the trees a grudging pittance, which it could not imbibe itself in orchards where we manage so badly as to let the

grass grow among the trees. Another cause of fair fruit may be the feeding of the windfalls to the cattle and pigs daily. But I consider the main cause of our fair fruit was owing to manuring the trees, and eradicating every intruding trespasser. For some years past, we have been in the habit of conveying our suds and sink water to the trees nearest to the house, and occasionally applying a load or two of meadow muck about their roots.

Whether my opinion is worth anything or not, I ask nothing for it. I think our farmers—some of them—labor under a grand mistake in planting trees in large orchards, unless they are prepared with foresight, manure and money enough to cultivate them as they would a garden. Within my recollection, in numerous instances, I have seen large orchards planted with great pains and accuracy, and for a few years the owner would feel sufficiently interested to give it a start and make a fine show; but after a while other cares and hindrances would step in, and of necessity the orchard would be neglected. A coat of thirsty grass would infest the ground; the hordes of caterpillars and cankerworms, like Goths and Vandals, would make their irruptions the moment care was neglected, and by the help of cattle the victory would be won by the invaders without "foreign intervention;" and the poor orchard, besides "going to grass," would display rotten, worm-eaten trunks, dead limbs, and the want of good calculation in the owner.

Our cranberries are equal to the Cape variety this year; something like sixty or seventy bushels are the production of our farm. SILAS BROWN.

Wilmington, Nov. 14, 1863.

For the New England Farmer.

AGRICULTURAL SOCIETIES.

In an article quoted in your last paper the question is asked, "What will become of the Agricultural Societies?" Agricultural Societies were established to encourage those departments of agriculture that need improvement. To collect facts. To diffuse information. To promote discussion. To make useful suggestions. To advance all these objects, large premiums have been offered. Liberal appropriations have been made by the State. But as agricultural Societies have been managed for some years past have these objects been promoted? Are not premiums now paid for objects that no longer need encouragement? What advantage is now gained by offering premiums for the best apples, squashes, potatoes and beets? Does not the interest of cultivators afford sufficient stimulus in this direction? What advantage now results from premiums on plowing? This whole matter is now well understood, and competition among the manufacturers of plows is doing all that can be done for the improvement of plows. The object of late has been rather to make a fine show than to promote real improvement, and in too many cases, to induce those who have good articles, to exhibit them at the show. To accomplish this end premiums have been awarded to men rather than to products; with a certain class, it has now become a mere matter of money-making. Their object is to get the premium, without regard to any real improvement. Is not the raising of a good breed of swine, of good neat stock, whether for the dairy or the shambles, of

good horses, sufficiently profitable without taxing the whole community to pay a premium to those engaged in it?

There may be some things that need temporary encouragement in this State. Possibly the cultivation of wheat, and sheep culture, are among them. There may be certain facts with respect to the preparation and use of manures, that need to be ascertained by extended experiments. Perhaps we need to ascertain by more frequent experiments, whether it is not more profitable to raise a hundred bushels of corn or four tons of hay, on one acre, than on two. Do we sufficiently understand the capabilities of land, and the powers of manures? Many such questions will suggest themselves to thoughtful men. Now, if the funds of agricultural societies could be so employed as to elicit correct answers to such questions, would they not much better accomplish the purpose for which they were intended? In this connection it occurs to me that the course pursued by the trustees of the Massachusetts Agricultural Society is worthy of all commendation. They have aimed to diffuse information, and to suggest important experiments. They have imported stock that had a high reputation abroad, that our farmers might test its value in our climate and on our soil. They gave attention to plowing, to fruit-raising and various other objects, so long as these could be promoted by premiums, and then turned their labors in other directions. They seem to me to have much better understood the philosophy of the whole subject, and to have done much more to promote the permanent improvement of agriculture than any of the district Societies. The state of society has greatly changed since agricultural societies were first established. Information on all subjects is more generally diffused, agricultural papers and periodicals have become an established institution. Their editors and correspondents are on the watch for facts, and it is their daily business to spread them before the cultivators of the soil. They have taken the place, in this respect, which was expected to be occupied by the gatherings and discussions of the members of agricultural societies.

Certain departments of agriculture, as fruit-growing, milk-raising, sheep-culture, stock-raising, horse-raising have, assumed a sufficient magnitude to warrant those engaged in them to form special associations for their promotion. It seems to me that our friends in Vermont and the West are on the right track in this respect. The question again occurs, what will become of the agricultural societies? Have they not accomplished their mission? Are they not about played out?

QUERE.

THE WESTERN VINEYARDS.—The vineyards near Cincinnati this year are blasted by the "rot," which is said to have destroyed more than half the crop. The vineyards of the late Mr. Longworth will not produce more than one-fourth of a crop. The Isabella and Catawba grapes have suffered most, and in several vineyards will hardly pay harvesting. The Delaware, Concord and Marion grape have been less touched by the rot, and the Delaware vine will yield from ten to fifteen pounds. The vineyards on Lake Erie, of which comparatively little has been said, are described as looking uncommonly well.

For the New England Farmer.

CORN COBS.

MR. EDITOR:—By some agricultural writers, corn-cob meal has been compared to saw dust, as an article of food. Admitting the cob possesses but little value of itself, it does not necessarily follow that it is worthless when ground together with the corn. Corn-and-cob meal makes lighter food than meal from corn alone; and stock fed with the former is not liable to become cloyed, as it is when the latter is used altogether. Clear corn meal is too heavy in its nature for stock that is not pretty well fattened; and the same grain used in connection with the cob, well ground together, I consider worth more than it is without the cob. I think this is true, especially with cattle and hogs. If very fat, the corn may be more profitably used alone.

I make these suggestions upon the supposition that the cob possesses no virtue of itself. But facts are recorded where animals have been kept on cob meal alone—thus proving its possession of some life-sustaining properties.

I. W. SANBORN.

"The Meadows," Lyndon, Vt., 1863.

For the New England Farmer.

SHALL WE RAISE TOBACCO?

Short-sighted self-interest says *yes*; it will bring quick returns and unparalleled profits. It is an article that the people *will use*, and Massachusetts farmers may as well enjoy the benefits of the crop as any one. Its cultivation will insure us a snug income every year. It will furnish us the means of paying all our vexatious bills for labor, blacksmithing, taxes, &c., and leave a clever surplus for permanent improvements besides. We can buy fertilizers, implements and machines. We can live better and make our farms look better than we possibly could if we did not raise it.

Ah! Look again. Moral sentiment says *No*; produce nothing that is not beneficial. Tobacco neither strengthens the arm for labor nor imparts vitality to the system. The brute creation repudiate tobacco universally. Man is the only animal that will masticate it. Physiologists are unanimous in the opinion that it does not nourish the body, but enfeebles it. It also stupefies the mind. If this is true we ought not use it; and if we ought not to consume it, we certainly ought not produce it.

Take an economical view of the matter. This nation expends \$50,000,000 for tobacco annually. This is an enormous waste. That sum, if saved for a single year, would be sufficient to establish Agricultural Colleges in every State in the Union, and endow them magnificently. It is folly to suppose that it can be relied upon for a long period of years as a profitable farm crop.

What is the testimony of tobacco growing States? The soil of Maryland has literally turned red—blushing for shame—in consequence of the exhausting crops which have been repeatedly taken from it. And can it ever be wise economy to rob the broad mown fields of the nourishment which they need for the sake of giving an acre of tobacco a prodigious manuring? It is claimed that by constantly changing the plot used for tobacco the entire farm may ultimately be brought under a high state of cultivation. But suppose that on a farm of one hundred acres five acres be

planted every year, it would require twenty years to renovate the farm; and the pieces, which were first seeded down, would by that time be in a very barren condition. Maryland is an example in this matter. Let not Massachusetts, whose example in politics, education and religion is a guiding star to the nation, strive to imitate that rebel-ridden State in its destructive policy of tobacco raising.

Worcester, Nov., 1863.

REMARKS.—We quarrel with no man in the indulgence of his appetites and tastes. It sometimes becomes a duty to *advise*, and when it does, we mean to do it in a spirit of kindness. We eschew tobacco in all its forms, and *always have*. We believe it to be injurious to the system, and greatly disagreeable to thousands who do not use it, but yet cannot escape its unpleasant odor and influences. We are sincerely sorry that any of our farmers are turning their attention to the cultivation of a crop which can in no way be made a blessing to the human family. We cannot conscientiously encourage it, though it produce ten times the money profit of any other crop.

THE INDIAN CORN.

We doubt whether our farmers raise any of the large, bulky crops that afford them a better average profit than Indian corn, or one upon which they look with more satisfaction and pride. It is a beautiful crop to look at, from first to last—from the first springing blade through every stage of its growth. What pleasanter sight does any crop present than the corn when two feet high, with its pendulous leaves, gracefully hanging over on every side and trembling in the breeze. How rich are the broad, dark green leaves at this period of its growth. In a few days, upon some aspiring stems, "spindles" show themselves, and in a short time they dot the whole field. Then the ears set, the glossy "silk" pushes its way from each kernel to the open day, and the field is in its prime. But the gradual changes which occur in maturing the seed, and in the decay of the plant itself when its work is done, are all interesting and instructive, until frosts strike the husks, opening them and revealing the *golden ear*. It is especially gratifying to raise Indian corn, because it serves so many purposes. In an unripe condition, it is scarcely excelled by anything else, as a palatable, nutritious and wholesome food. In various forms, it subserves the wants of man and beast better than any other grain. It is easily preserved, only requiring to be kept dry, in order to keep it in good condition for months or for years.

In addition to these considerations, the corn crop affords us a large amount of the sweetest and most nutritious fodder we have, when it is cut early and properly cured. A field that will

produce fifty bushels of corn per acre, will give as much excellent fodder as will the average acres of the upland mowing lots in New England. An observing farmer said to us, recently, that he always had noticed that when his corn fodder was gone, his cows decreased in their quality of milk, though well fed on English hay and rowen. We have known the horses of a livery stable kept through an entire winter on the "toppings" of corn, and came out well in the spring, though no more grain was given them than when fed on hay.

FISK'S PATENT LAMP HEATING APPARATUS.

We have read *Hall's Journal of Health* with interest and profit for several years. His teachings are natural, and reliable. Whatever he advises, we have long thought it safe to follow. Seeing, some time since, his recommendation of the lamp mentioned at the head of this article, we wrote to the Agent to send us one, which he did, and we have already used it sufficiently to add our testimony of its value to that of Dr. HALL, the *Scientific American*, and numerous other persons who have used it.

The patent is a lamp-heating apparatus, for *Boiling, Frying, Stewing and Steeping with the same flame that lights the room!* Of course, it is on a small, compact scale, admirably adapted to the nursery or sick room, but capable of cooking a moderate meal, where fuel and light must be rigidly economized. The apparatus is of various sizes, holding from about a pint to four quarts of water, heated by gas or by a kerosene or coal oil lamp, and having a vessel in which to keep milk or other food warm, or to stew in, and an arrangement for frying a small amount of meat. The prices vary from \$2 to \$5.00. We have never before seen anything of the kind which we thought would afford so much convenience and comfort at so moderate a cost.

Send to the Agent, WILLIAM D. RUSSELL, 206, Pearl Street, N. Y., for a pamphlet, with pictures illustrating the lamp, and full descriptions of its use.

JAPANESE CUSTOMS.—As soon as the babe leaves its mother's breast, the first thing it learns is not to walk or to run, but to squat on its heels in this baboon fashion. If the Japanese are on ceremony, then they sink on the mats, resting jointly on heels and knees. And this attitude, also, which would be torture to us, they maintain for hours, apparently without serious inconvenience. Finally, the day's labor over, or the time for siesta in the heat of the day arrived, they throw themselves down full length on the mat, with a little padded rest, just large enough to receive the occiput or the angle of the jaw, and sleep as soundly as the most fastidious with a feather pillow and bed.—*Sir R. Alcock's Three Years in Japan.*

RELATING TO MANURES.

The interest with which the subject of *making and applying manures* is regarded, ought not to grow less until a larger portion of our farmers better appreciate its importance. So much has already been said upon it, that we always enter upon any discussion in relation to it with reluctance. Nevertheless, it is a duty to lay before the reader whatever we may find that will shed new light upon it. This may be done in some degree by presenting the opinions of judicious and practical men. At the late New York State Fair one of the evening discussions was upon "*The best method of husbanding and applying manures.*" We will give the opinions of some of the speakers, with such remarks as seem appropriate to the opinions expressed.

"**SOLON ROBINSON** thought the best way was not to husband it at all. He would draw it out as fast as it was made."

We have never had better results from the use of manure than when it was hauled from the barn in its crudest condition, then spread and plowed in. When the ground was again plowed the following spring, it was very light and black, and the crops that grew upon it were exceedingly heavy. Every experiment of this kind has produced a similar result. During the period between the plowings, the manure is sufficiently warm to induce the putrefactive process, so that before planting time it is thoroughly decomposed, and the gases which have been evolved are retained by the surrounding soil, so that *nothing is lost*. Upon plowing in the spring the whole field strongly reminded us of a pan of well risen dough, it was so light and porous.

"**MR. VAN ALSTYNE** agreed with Mr. Robinson. He would apply it on the surface. Nature was a safe guide, and she spreads manure on the surface."

Mr. Robinson did not state what he would do with the manure when it was "drawn out"—but we do not think he would recommend to let it lie on the surface. **MR. GEORGE GEDDES** said:

"He did not think Nature a safe guide. We were at war with Nature. He believed in top-dressing, but thought the fact that trees deposited their leaves on the surface was no proof that it was best to apply manure the same way."

Certainly, we are at war with Nature every time we graft an apple or pear tree, or bud a rose bush, or root prune. Trees and the beasts of the field leave their droppings upon the surface. The cat is the only quadruped that does not believe in top-dressing!

"**MR. WALRATH** had practiced top-dressing for 20 years. It ought to be well-rotted before using it. Composting manure added 25 per cent. to its value. He thought it also killed the seeds of weeds."

We cannot agree with Mr. Walrath that manure is increased in value by composting it. It

may be more convenient to apply it in that condition to grass lands, but how it increases its value we cannot understand. It is a question, whether manure can be heated sufficiently to kill the seeds of weeds, without injuring the manure itself. We wish it were settled.

"**MR. T. C. PETERS** found that the yield of wheat on Long Island was eight bushels per acre, higher than the average in the State."

"**MR. COX**, of Long Island, said, they buy stable manure in New York which costs them \$3 per load on the farm, and apply 12 loads per acre. This gives them 20 bushels of wheat per acre. The wheat does not pay for the manure, but after the wheat they get two or three heavy crops of hay which brings a good price.

"**PROF. NASH** thought one reason why the Long Island farmers showed so well in our agricultural statistics, was because some of them were wise men, and some of them were not as wise. Immense quantities of leached ashes were brought from Western New York. Some farmers use 1,500, 2,000, 2,500 bushels per annum. They are wise. The ashes do good. Fish, too, can be purchased at a cheap rate, and they are extensively used as manure. He had said some were *unwise*. Perhaps the remark needed qualifying. To illustrate what he meant, he would say there were many *fancy* farmers on Long Island; men who had made large fortunes in the city. They raise large crops regardless of expense. A good lady sometime since was bantering with her husband about the expense of his farm. "Every man must have some pleasure," he said. "My farm does not cost me over \$3,000 a year, and it affords me more enjoyment than I can get for the money in any of the fashionable amusements of the city." The Professor knew a man of this character who has a farm of sixty acres on Long Island, and he makes it produce more than six hundred acres of the same land produced a few years ago. The crops are raised at a loss, but they help to swell the general average. As a general rule, however, the farmers on Long Island are very successful. They pay great attention to composting everything that will make manure, and keep up the fertility of the soil.

"**HON. GEO. GEDDES** remarked that the Long Island farmers sell everything they raise. They even sell their straw, and consequently they are obliged to buy manure, even if it costs \$36 an acre to raise twenty bushels of wheat. Farmers in Onondaga Co., are wise enough not to sell manure in the form of straw and hay. He knows some who raise several hundred bushels of grain, and cut one hundred tons of hay a year, who do not sell a particle of it. It is consumed on the farm and the manure keeps up the fertility of the soil. Taking into consideration the amount of produce raised, and the little that is sold off the farm, he thought the farmers of Western New York manured their land more highly than those of Long Island. There was more fertilizing matter in a good clover sod than in any twelve loads of manure you could purchase in New York. He had a field that had never had a shovelful of manure applied to it for sixty-five years, and by growing clover and pasturing it with sheep, &c., it gets richer instead of poorer. Every farm should be self-sustaining. We cannot afford to draw ma-

nre a mile. In regard to husbanding manures he had little instruction to give. Had seen excellent effects from applying manure on grass lands in the fall intended for corn. The corn was a foot higher and of a darker color. He thought that in the fall was the time to apply manure; but the question was how to keep the winter made manure through the summer without loss. He had thrown it into piles under sheds, but it fire-fanged.

THE HIGHWAY-SIDES.

In many parts of our country the borders of the highway present the most slovenly appearance. In some cases bushes grow up to the very rut of the carriage wheels, making it unpleasant for a foot-passenger to step aside, especially when the foliage is wet. In other cases the soil on either side of the beaten track is suffered to propagate thistles, daisies and other noxious weeds, which supply the adjoining fields with future harvests, each after its own kind. A correspondent of the *Country Gentleman*, who has recently visited Skaneateles, N. Y., and the adjoining towns, was much pleased with the neat appearance of the highways in that section.

The soil on each side of the carriage-track has been neatly graded and seeded with grass seed, and all the stones and rubbish removed, and a good burden of grass is cut annully. In some localities where the grass had just been mowed, I thought at the time that there would be not less than two or three tons of good hay per acre. Where a farmer has a long line of highway running through his farm, it will certainly pay well to grade the sides of the beaten track, and seed to Timothy and blue grass, or with red top, in case the soil is rather low and wet. Where the soil is high and dry, Timothy and red clover would flourish well, and pay for all the expense of grading, to say nothing of the beauty and neatness which the tall grass, or neatly mowed highway, would give to the appearance of the country.

For the New England Farmer.

FOOT ROT IN SHEEP.

At this time of high prices in wool and sheep, it seems particularly desirable that all who keep sheep should understand the preventive and cure of the most common diseases which mutton is heir to. Thousands of dollars are annually saved by careful breeders who study the habits and diseases of sheep; while many fine flocks are ruined, and much money lost by inattention and lack of that knowledge which should be in the hands of every flock-master.

Among the most common and troublesome diseases of sheep, in many parts of New England, is the foot rot. In wet seasons, like the past, it frequently breaks out in flocks which have not been exposed to others that have had it. When sheep go long in wet, low pastures, or stand long in water, it affects the issues in the feet so that an inflammation takes place, which induces the

disorder, without contagion or infection. Still it is very contagious, and diseased sheep will leave infectious matter when they travel that will communicate the disorder to others that pass over the same ground many days afterward. Therefore avoid driving sheep over a road passed by disordered ones, or into a pen for washing where such sheep have been confined. But if your flock is attacked by the foot rot, do not be unduly alarmed and sell them much under the price of sound ones, for they can be cured for a shilling per head.

The disorder usually commences in one of the forward feet, causing lameness. The sheep appears uneasy, frequently raising the foot affected. On examination the foot will be found inflamed between the hoofs. A day or two later matter will be found at the heel and between the sections of the hoof, which emits a bad and peculiar odor. If a remedy is not applied the hoof will rot off.

A very efficacious remedy is made as follows: Take three parts of finely pulverized blue vitriol, one part of white lead, mixed into a thin paste with linseed oil. Clean the foot thoroughly, cutting away all the hoof that is loose, so that the paste may come in contact with the part affected, and apply the mixture with a small paddle or brush. Repeat the application two or three times at intervals of a week, being careful to pare the hoof off where it is affected before applying the mixture; and a permanent cure will be effected.

Other remedies may be equally good—this I have proved efficacious. Some five or six weeks since, a neighbor of mine drove in, from a back pasture, a flock of fifty odd sheep and lambs very badly affected with foot rot. I assisted in doctoring them as above. In paring, we found it necessary to remove nearly the entire hoof in some instances. They rapidly improved, and after three applications no lame sheep were to be seen in the flock. He now considers them entirely sound, and it has not cost him over ten cents per head to cure them. Thoroughness is the *sine qua non*.

J. R. WALKER.

Springfield, Vt., Nov., 1863.

For the New England Farmer.

SALT AS A MANURE.

The importance of common salt as a plant fertilizer has not perhaps been fully understood by agriculturists. It has long been known to possess a specific influence in fructifying certain plants—asparagus, in particular—and to such it has been applied liberally. But few trials have been made with it upon grass lands, upon garden vegetables, cereal grains, &c., in this country, or, at least, but little has been said respecting its use in the journals. Upon theoretical grounds it should prove serviceable, as the analysis of the ash of turnips, potatoes, kitchen garden vegetables, meadow plants, &c., prove them to be rich in soda and the chlorides. I suppose we are not yet prepared to reject the teachings of chemical science as afforded by the analysis of soils and plants, although the faith of some may be shaken as regards their value.

The practical trials of salt, as a manure, on record, are those of Kuhlman in 1845, and the General Committee of the Agricultural Society in Bavaria, in 1857 and 1858, and recently we have the report of Dr. Phipson, of Liverpool, who was employed by the Chamber of Commerce, of that city,

to investigate the subject. He reports, "1st, that plants, without a due proportion of salt, cannot attain their proper degree of perfection—and this applies especially to colza, turnips, sweetes, beet, spinach, wheat, oats, maize and other grasses. 2d. That salt is an essential constituent of plants as well as animals. 3d, That the soil is constantly losing by cultivation a great amount of salt, taken away by the crops. 4th, That none of the manures, at present used, contain any salt; even guano contains only four-tenths of one per cent. 5th, That it is necessary to add salt at regular intervals to the soil in some shape or other, if we wish to derive the greatest possible benefit by our crops."

The Doctor's report, covering as it does nearly the whole field of plant growth, looks a little extravagant. Like most men employed to investigate specifically in one direction, he has become surrounded with the halo of one idea, and everything that grows upon the earth has a saline look to his eye. Still, there is undoubtedly much importance to be attached to the views presented, and farmers will do well to experiment intelligently with salt as a fertilizer. Kuhlman very nearly doubled his crop of hay upon a natural meadow by the use of salt. The Bavarian Agricultural Society increased the crops of wheat and straw in a very remarkable degree by its use. It should, however, be stated that in both of the experiments the salt was combined with the salts of ammonia, the muriate and sulphate.

We are not to suppose that salt in all cases is required to furnish the plant with the saline principle, or even its separate substances, for in the cereals they form by no means the most important constituent. There is a mystery as regards the action of certain agents upon plant growth. Their influence results from their presence in the soil, or they effect certain chemical decompositions which produce the food requisite without being themselves assimilated. This opens a broad field for chemical research, and the future is to shed much light upon the subject.

If salt increases the growth of wheat upon a field, it is certain that there was present in the soil the requisite quantity of phosphoric acid, silicic acid, potash, &c., to supply all the wants of the grain, but yet it was not in a condition to be assimilated. The salt, like a prompt and efficient nurse, properly prepares the food; the plants eat and thrive. Salt in such a case is not a *manure*, but a chemical agent capable of fitting certain substances to act as manure or fertilizers. Soda, the base which unites with hydrochloric acid to form salt, has been found to exert a specific influence in the production of barley; potash has the same effect upon wheat; and yet under certain conditions, reversing the application of the salts, has produced results, as regards magnitude of crops, far more striking than when applied in their natural order.

As regards the application of salt to our fields, the question arises, how and where shall we use it, and in what quantity? It should be tried upon weak meadow lands which have not been under tillage for a considerable time. Use it in the vegetable garden; use it whenever, in accordance with an intelligent judgment, you think there is slumbering in the earth the essentials of plant nutriment, which may be aroused by the action of

the alkaline agent, or the acid with which it is combined. Use it upon plants which assimilate it as food. Dissolve it in water and apply the solution, or sow it broadcast by the hand. Three bushels to the acre for meadow land may be enough, although more can do no harm. If you get no good results the loss will be of little account. If possible, combine it with the cheap nitrate of soda, or sulphate of ammonia, in equal proportions, and you will obtain more prompt and satisfactory results. JAMES R. NICHOLS.

Haverhill, Nov. 30, 1863.

For the New England Farmer.

WHAT MAY BOYS AT SCHOOL BEST READ?

While I was at work on the farm or in the garden, I did not every day feel any inclination to read. Still, at intervals, when work was not pressing, and on rainy days, when there was nothing for boys to do, I read such things as fell into my hands. But in the long winter evenings, when there were no school lessons to learn, which was usually the case, I had a great deal of time at my own disposal, and commonly spent it in reading.

One of the most delightful books I ever read was "Conversations on Chemistry," which came out in those years, and which my father bought, and read, and talked about, and which thus naturally attracted the attention of us boys. I found it particularly interesting. I remember the delight with which I found that the air was made of oxygen and nitrogen, or azote, and read the experiments which showed that one of these, oxygen, is essential to life, and at the same time, makes a part of everything sour, as was at that time thought; of the experiments which proved that water is composed of two airs, or gases, one this same wonderful oxygen, the other the not less wonderful hydrogen, which, while with oxygen it forms the comparatively heavy fluid, water, is the lightest substance known—sixteen times lighter than oxygen, which is itself but little heavier than common air.

I began immediately to think of the air, and what was floating in it. The clouds, as we boys found, from our "Conversations," were water raised into the air by the power of the heat of the sun. How much we talked, as we were working together, of these wonderful facts, and of the beautiful colors which the light of the sun, falling upon the clouds at all parts of the day, and especially towards evening, formed there. Then with what delight we read of the experiments upon heat, of its being condensed by a lens and reflected by a mirror, of its being absorbed by dark surfaces and reflected by all, particularly by bright, polished surfaces, and of its being radiated continually, in straight lines, from every point, however minute, on all surfaces. How wonderful seemed to us the changes made by heat, first of snow and ice into water, next of water, gradually raised to the point of boiling, and then, by that process, turned into visible vapor, and by still more heat, into invisible gas. With what interest we watched the tea-kettle when it was boiling, and observed that the vapor, rushing hot and invisible from the nose, became visible at the distance of a few inches, by being cooled by the surrounding air. And how curious and wonderful it seemed to us that all plants and the greater

part of the bodies of all animals were made up, almost entirely, of oxygen and of carbon, of the same black substance we call charcoal, and that the greater part of the material for the formation of plants was always floating in the air as a gas made of carbon and the wonderful oxygen; that the rain dissolved or absorbed it and brought it down, and the radicles of plants drank it in from the soil. What an interest this gave to our examination of the roots of the weeds we pulled up and of the garden vegetables we removed in trimming them.

What an amount of pleasant conversation these chapters produced on us boys; perfectly natural conversation, and which would have been occasioned by a similar cause, in any other two boys favorably situated, as we were. I was then twelve or thirteen years old; my brother four or five years older. Whoever will recall the thoughts of his own childhood, or listen to the questions of intelligent, inquisitive children, will find that questions far more profound than any of these are continually occurring to children at a much earlier age.

Such thoughts and questions as these were, however, at this time, occupying the minds of thoughtful, scientific men in all parts of the civilized world. The discovery of oxygen, made by Priestly in 1774, and by Scheele and Lavoisier soon after, followed by the discovery of the composition of the atmosphere and of part of what it contains, of that of water and of the action of oxygen upon the metals and upon almost all other substances, has made a change in many of the arts, and pursuits, and investigations of men, greater than has ever been produced by any other discovery recorded in the history of science.

We boys considered the "Conversations" the most entertaining book we had ever read as interesting as "Keeper's Travels" had been, more interesting than "Pilgrim's Progress," and more intelligible, as interesting, but in a very different way, as the Arabian Nights' Entertainment." It seemed to explain to us the secrets of nature, and gave a new and more beautiful aspect to the earth, the waters, the air, the clouds, and to all that was living above and beneath them.

I see no reason why all other boys, and girls, too, should not enjoy the same privileges that we did in this respect. We cannot present them all with a copy of the "Conversations on Chemistry," and I much fear that there is no book so well suited to give an idea of the elements of chemistry, so changed now, as that book did when it was written. But books might be found and introduced into school,—into all the schools,—which should explain, so that all children might understand, what the air is, what water is, what thunder and lightning are, what heat and light are, what the common rocks are, what the soil is and how plants and animals grow. Ought not all persons to be acquainted with those things?

Is not this knowledge really essential to every well informed, intelligent being? And is not the age of boyhood and girlhood the most proper age for such knowledge to be acquired? I repeat that whoever will listen to the questions which are almost always asked by intelligent children, will find that all such children are instinctively longing for just this kind of knowledge. The Creator of the world and of its wonderful and

beautiful laws, is the Creator of the mind of man, and He has, in His infinite wisdom, adapted the faculties of the mind to the easy, and delightful, and early attainment of this knowledge. Ought not children, therefore, whenever they are so situated as to make it possible, to be introduced, as early as nature indicates, to something of this knowledge, at least to its elements? Ought they not to be led to understand how wonderful, and beautiful, and excellent is the world in which God has given them their life?

How this may be done, in the common schools of New England, I shall endeavor to show in my next communication.

G. B. E.

For the New England Farmer.

THE "POP CORN" CROP.

MESSRS. EDITORS:—I have often thought it not a little singular that our farmers, and others with small pieces of land to cultivate—especially those with large families of children—should pay so little attention to the cultivation of the small white corn, usually called "pop corn." I suppose the main reason for this inattention to be the common supposition that the crop is a small one, compared to that of other corn. I think this is a mistake. My own experience, small though it be, leads me to the contrary opinion. The present season, on a little less than five hundred square feet of land, I have raised nearly two bushels of ears, or about one bushel shelled, of this corn.

This is at the rate of about eighty-eight bushels to the acre; and it was apparently no better crop than I have raised before. True, the corn is small; but then it may be planted much nearer in the hill than other varieties, and it possesses the peculiarity of yielding generally two, and sometimes three ears to the stalk. The stover of this corn is also much finer and more acceptable to cattle than some of the other varieties.

As an article of diet, parched corn is one of the simplest forms of unleavened bread. It can hardly be otherwise than wholesome. Children, though they may not "cry for it," as they are reported to do for sugar-coated pills, are almost universally fond of it; and it is so very light that there is little danger of over-eating it. When wheat flour is ten dollars per barrel there certainly must be general economy in feeding children, and adults as well, on grain which yields eighty-eight bushels to the acre.

There is another consideration. The reason why this corn expands or "pops" so freely is undoubtedly the fact that it contains a much larger share than usual of vegetable oil. This adapts it peculiarly to the fattening of poultry; and I very much doubt whether those farmers who grow poultry for market can find any other crop so profitable for that purpose as this kind of corn. The kernels are so small that they must be more easily digested than the coarse kernels of Western and Southern corn, so frequently fed out to poultry.

E. C. P.

Somerville, 1863.

THE American horse nail company at Providence have invented a steam spading machine which will do the work of fifteen yoke of cattle, requiring only a man and a boy to operate it. It consumes a quarter of a cord of wood a day.

For the New England Farmer.

APPLES EVERY YEAR.

As far as my memory goes back, I recollect my father grafted quite a large-sized apple tree, inserting some twenty grafts, more or less. The scions he procured from a neighbor's tree, noted for its bearing a very full crop every other year, of excellent quality for that period. When not the bearing year not an apple was to be found upon it. The result of his grafting was, that all the scions inserted upon the northerly side of the tree grew finely the first season and afterwards, while those upon the south side did not live. The next spring he procured more scions from the parent tree and regrafted the south side, and with perfect success. At the proper time he was rewarded with a full crop of apples on the northerly side of the tree—the year following a full crop from the southerly side, and not one on the northern. From that time to the present (about fifty years) the tree has given a crop of apples every year, alternating regularly, first the north, then the south side—not an apple to be found on the sides when not the bearing year.

There is one instance in my neighborhood of similar habit. A large tree, great bearer every other year, with the exception of one large limb, on which not an apple can be seen the bearing year. The following year this limb is bent down with apples, while not one can be found upon the other part of the tree. This tree I have carefully observed for the past twelve or fifteen years, and have noticed no change in its alternations of bearing. Its history I have not been able to learn.

Having been a constant reader of your monthly *New England Farmer* from its first to this date, and having had many an intellectual feast therefrom—and never having given anything in return therefor, except dollars and cents, I therefore feel somewhat indebted to you—hence the above.

Joppa, Mass., Nov. 23, 1863.

R. C.

REMARKS.—The dollars and cents are essential, and so are such facts as you have communicated. Please write again.

WINTER CARE OF STOCK.

No man can afford to let his cattle shrink during the winter—though nine out of ten manage precisely in a way best calculated to bring about that very result. The mere keeping the breath of life in them, by dealing out poor or scanty rations, is one of the most miserable pieces of economy a herdsman can practice. The man who tries to see how little fodder he can keep his cattle on, is "saving at the spile and wasting at the spiggot." Though in the spring he might console himself with the reflection that it had cost him but little, comparatively, to get his cattle through, yet their emaciated forms and skeleton appearance could not add much to his peace of mind, nor their depreciation in actual value to the contents of his pocket, either present or prospective. To be sure, such management must be adopted as will insure the consumption of the coarser kinds of fodder early in the season, but in our zeal to get rid of this we commit a fatal error.

The effect of the change from grass to hay is great upon the system—especially if put immediately and wholly upon poor hay. And if we wish

to keep our animals in a growing and thriving condition, there should be no check at this period. Let it be understood that every pound shrink is so much lost. It is lost outright to everybody and everything, and may be put down among those misfortunes classed as "dead losses." If we view this matter aright, it is not improbable that the losses within this State from the mismanagement of stock, is scarcely less than its taxes.

What we wish especially to impress in this connection upon the reader is the importance of a *variety* in feed. That is to say, cattle should not be put upon one kind of fodder, exclusively—especially upon poor fodder. Let the hay and the straw and the corn fodder be alternated, and each will be consumed with a better relish. Above all, let every animal have at least one foddering a day of as good hay as the barn affords, and then,—

1st. Feed regularly and with sufficient quantity.

2d. The daily allowance should be made up of as large a variety as the barn affords.

3. Easy and frequent access should be had to pure water.

4. Every possible means should be adopted to administer to their comfort, in protecting our animals from the inclemencies of the weather—which shall include a constant and liberal supply of bedding of some sort, if nothing but sand.—*N. H. Journal of Agriculture.*

FIXING UP.

Yes, that's the word. We can find no better term to express the idea which we wish to bring before your mind's eye. "Fixing up" is a good term; it refers to acts which comprise those dozen-and-one little, comparatively insignificant things which are too often omitted, and which in the aggregate, after all, affect our well-being wonderfully.

This is the season of the year for "fixing up," here a little and there a little; our fields, our gardens, our barns and our houses—a rail or a stake in a weak fence, a couple or so of young trees in place of those dead ones in the orchard—a load of boughs for covering plants and vines in the garden, a load or two of kindlings for the wood-shed, a shingle or board on the barn or out-houses, several panes of glass in the different buildings; fix up the pump at the barn and house; look out for your tools which you have done using for the season; in a word see to all those little things of which you know more than we do, and not let the cold, north winds of early winter find you unprepared to meet them. We repeat it, "fix up generally," and don't be caught napping.—*Maine Farmer.*

A DESTRUCTIVE DOG RAID.—The *Hartford Times* says that a flock of 34 fat sheep, kept about two miles below the city, were nearly destroyed one night last week by a pack of ferocious dogs. The dogs got into the enclosure and succeeded in killing a very valuable watch dog—a regular fighting "bull"—which was chained there, and then slaughtered most of the sheep. Out of thirty-four only seven could be found the next morning. The dogs had driven the flock half a mile up the road to the slaughter house, leaving their mangled carcasses strewn along the way. Twenty-one mangled carcasses were found, and six are missing.

LADIES' DEPARTMENT.

THE SONG OF SEVEN.

BY JEAN INGELOW.

I leaned out of window, I smelt the white clover,
 Dark, dark was the garden, I saw not the gate ;
 "Now if there be foot-steps, he comes, my one lover—
 Hush! nightingale—hush! O, sweet nightingale, wait
 Till I listen and hear
 If a step draweth near,
 For my love he is late!

"The skies in the darkness stoop nearer and nearer,
 A cluster of stars hangs like fruit in the tree,
 The fall of the water comes sweeter, comes clearer ;
 To what art thou listening, and what dost thou see ?
 Let the star-clusters glow,
 Let the sweet waters flow,
 And cross quickly to me.

"You night-moths that hover, where honey brims over
 From sycamore blossoms, or settle or sleep :
 You glow-worms shine out and the pathway discover
 To him that comes darkling along the rough steep.
 O, my sallow, make haste,
 For the time runs to waste.
 And my love lieth deep—

"Too deep for swift telling: and yet my one lover,
 I've conned thee an answer, it waits thee to-night,"
 By the sycamore passed he, and through the white clover,
 Then all the sweet speech I had fashioned took flight.
 But I'll love him more, more
 Than e'er wife loved before,
 Be the days dark or bright.

For the New England Farmer.

A SUBSTITUTE FOR PURE COFFEE.

Coffee is now so expensive that most families are seeking for some substitute. I find nothing so much like the genuine article as a mixture of the best coffee with barley in equal parts. We buy this mixture for twenty-five cents a pound. It is roasted together so that the barley is thoroughly impregnated with the flavor of the coffee, and the coffee thus made is better than much that is made from pure coffee at forty-five cents a pound. The patent roasters where the aroma is preserved are a great improvement upon the old way of browning, especially when it is important to secure as much of the flavor as possible. I have never known any who have tried this substitute to be dissatisfied with it, and I give it for the benefit of those who like coffee, but think they cannot well afford to drink it. ANNA HOPE.

THE LITTLE FOOTPRINT.

"What a beautiful place!" said I to myself, as I walked out in the garden and grounds of my friend. It was early in the morning, when the dews were on the flowers, and the rays of the new sun were just glinting through the trees, and the birds were fluttering and singing in their gladness. The walks were smooth and perfect, and if there were fairies in those days, I felt sure they would love to dwell here. In the laying out of the grounds and in the choice and cultivation of the flowers, nothing was to be desired more perfect. In one of the walks among the flowers, I noticed a large flower pot, turned bottom upwards. It seemed in the way, and out of place, and I wondered at the carelessness of the gardener who had left it there. But perhaps there was a reason for it. So I stooped down and carefully lifted it up, and there in the soil, plain to be seen, was the *footprint of a little child!* Then I understood it all! The little one, more precious than all these flower grounds, the only child, had lately been

carried away by unseen hands! It was among the dead; and the mother, in her walks, had found the print of its little foot, and had carefully (O, how carefully) covered it with this flower pot. How often she had lifted it with tears, can never be known. But I felt I had almost done a wrong to lift it up. It was not for my eye.

O, mother! who but He who created the heart can know anything of the agony which thou hast felt? They call thee childless! But it is not so! When in thy dreams thou stretchest out thy arms for the little one, the heart feels it. When thou sittest down, its beautiful face is in thy memory; and when thou walkest forth, its little footsteps patter by thy side. It lives fresh and green in thy memory, and will never cease to live there. Other mothers will have all their children grown up and passed out of childhood, but thou wilt never be without a little child! Thou mayest live and grow old it may be, but the child will live a *child still*, just as it drooped and withered in thy arms—a child still, till thou meetest it in heaven. These bright and early dead, how we love them! The golden tresses of childhood seem to wave before our eyes, and the tones and echoes of their voices seem to ring in our ears, so long as we live!—*Rev. John Todd.*

A DARK HOUSE.—A dark house is always an unhealthy house, always an ill-aired house, always a dirty house. Want of light stops growth, and promotes scrofula, rickets, &c., among children. People lose their health in a dark house, and if they get ill they cannot get well again in it. Three out of many negligences and ignorances in managing the health of houses generally I will here mention as specimens. First, that the female head in charge of any building does not think it necessary to visit every hole and corner of it every day. How can she expect that those under her will be more careful to maintain her house in a healthy condition than she who is in charge of it? Second, that it is not considered essential to air, to sun and clean rooms while uninhabited; which is simply ignoring the first elementary notion of sanitary things, and laying the ground for all kinds of diseases. Third, that one window is considered enough to air a room. Don't imagine that if you who are in charge don't look to all these things yourself, those under you will be more careful than you are. It appears as if the part of the mistress was to complain of her servants and to accept their excuse—not to show them how there need be neither complaints nor excuses made.—*Florence Nightingale.*

DELICACY IN CONVERSATION.—A maxim of Bruyere's is going the rounds of the English newspapers: It will do for any locality:

"There is speaking well, speaking easily, speaking justly and speaking seasonably. It is offending against the last to speak of entertainments before the indigent; of houses and lands before one who has not so much as a dwelling; in a word, to speak of your prosperity before the miserable. This conversation is cruel, and the comparison which naturally arises in them betwixt their condition and yours is excruciating."

SHOW can easily be purchased; but happiness is always a home-made article.

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CATTLE MARKETS FOR DECEMBER.

The following is a summary of the reports for the five weeks ending December 16, 1863:

	NUMBER AT MARKET.			
	Cattle.	Sheep.	Hogs.	Fat Hogs.
Nov. 18.....	8449	6900	175	2000
“ 23.....	1706	3228	80	1800
Dec. 2.....	2357	4715	75	3500
“ 9.....	3350	6496	260	2500
“ 16.....	3019	6091	62	1062
Total.....	13,881	27,423	652	9,862

The following table exhibits the number of cattle and sheep from each State for the last five weeks, and for the corresponding five weeks last year; also the total number since the first of January, of each year:

	THIS YEAR.		LAST YEAR.	
	Cattle.	Sheep.	Cattle.	Sheep.
Maine.....	2733	4932	2678	5446
New Hampshire.....	1827	3797	1950	1763
Vermont.....	4387	10,052	6018	7989
Massachusetts.....	275	661	253	444
Northern New York.....	259	1852	657	1746
Western States.....	3170	1237	1409	438
Canada.....	924	4847	548	5540
Total, last five weeks.....	13,881	27,428	13,620	23,366
Total, since Jan. 1, 61 wks.....	108,030	242,784	97,549	229,230

PRICES.

	Nov. 18.	Nov. 25.	Dec. 2.	Dec. 9.	Dec. 16.
Beef, 1st, 2d, 3d qual.....	5 @ 8	5 @ 8½	5½ @ 8½	5½ @ 8½	5½ @ 8½
“ ex. and premium.....	8½ @ 9	8½ @ 8½	8½ @ 9	8½ @ 9½	8½ @ 9
Sheep & lambs, each.....	\$3½ @ 5	\$3½ @ 5½	\$3½ @ 5½	3½ @ 6	\$3½ @ 6
“ (old) ½ lb.....	5½ @ 6	5½ @ 6½	5½ @ 6½	5½ @ 6½	5½ @ 6½
Swine, stores, w'sale.....	5 @ 7	7 @ 7½	—	5½ @ 6	@ 7
“ “ retail.....	5½ @ 8	7 @ 8½	6 @ 8	6 @ 7½	7½ @ 8½
Live fat hogs.....	6 @ 6½	6 @ 6½	6 @ 6	6½ @ 7	6½ @ 7
Beef hides, ½ lb.....	8½ @ 9	8½ @ 9	8½ @ 9	8½ @ 9	8½ @ 9
Pelts, sheep & lambs.....	\$2 @ 2½	\$2 @ 2½	\$2 @ 2½	2 @ 2½	\$2 @ 2½
Tallow, ½ lb.....	8 @ 8½	8 @ 8½	8 @ 8½	8 @ 8½	8 @ 8½

REMARKS.—Although there were more cattle than could be sold at two or three of the foregoing markets, prices have been pretty well sustained, except for ordinary or premium beef; but they have not advanced, as many predicted they would do after the store cattle season was over. It will be noticed that the number from the West is more than twice as large during the past five weeks as it was for the same time one year ago. The quality of the stock is also as much poorer as it is more numerous. The 926 at market Dec. 16th were uncommonly slim. Indeed, the straight, fat Western steers of two years ago, are not to be seen at all at Brighton this year, notwithstanding the high prices that are paid for extra beef, and indeed for all kinds of meats. The following are the prices for extra beef, mutton and pork on Thanksgiving week of the past three years:

	1863.	1862.	1861.
Beef extra.....	8½ @ 9	6½ @ 7	6½
Sheep, live weight.....	5½ @ 6½	4½ @ 5½	4½ @ 5½
Pork, “.....	6½ @ 7	5	4 @ 4½

The last market was overstocked with both cattle and sheep. Some 700 head of cattle were probably unsold Wednesday night, and many sheep were left in the hands of the hands of the butchers to be disposed of on the best terms possible.

SPRUNG KNEES IN THE HORSE.—The trouble does not always result from an injury of the leg, or strain of the tendons; it is more often found in horses that have bad corns in the feet, or troubled with navicular disease, than in any other. The animal raising his heels to prevent pressure upon the tender parts, bends the knee, which bending becomes finally, from the altered position of the limb, a permanent deformity. Horses with sprung knees are unsafe for saddle purposes, owing to their consequent liability to stumble.

Respecting the treatment, it may be said that six out of every ten sprung-kneed horses will be found to have corns. If these be of recent growth, there is a fair prospect of straightening the limbs by removing the corns as directed under the head of that disease; by the removal of these the heels are brought to the ground, and the limb becomes straight. Under any other circumstances all treatment proves useless.—*Jennings on the Horse.*

AMONG the novelties of the age is a seedless apple. A tree has been found in Dutchess county bearing this fruit. There are no blossoms; the bud forms and without any show of petals, the fruit sets and grows entirely destitute of seeds. In outward appearance the apples resemble Rhode Island Greenings.



DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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NOURSE, EATON & TOLMAN, PROPRIETORS.
OFFICE...102 WASHINGTON STREET.

SIMON BROWN, EDITOR.

THOUGHTS SUGGESTED BY FEBRUARY.

"Read nature ; nature is a friend of truth ;
Nature is Christian, preaches to mankind,
And bids dead matter aid us in our creed."



FEBRUARY, with the farmer, affords a comparative season for rest. Not that he has nothing to do, or only a little to do, for he may always have enough. But, after the proper care of the stock, in this month, he may indulge in visiting, or reading, or some amusement, without that detriment to his interests which would certainly follow, if

he were to do so in the midst of his planting, or summer or autumnal harvests. He can, properly, find relaxation and rest from his more severe summer labors, and with a decided profit both to body and soul.

It is probable that man has never lived in so interesting an age of the world as the present. An age of energy, of thought and of effort never before equalled. Never before were the advances of science and literature so great, if we except, perhaps, the time of Elizabeth, in England. Scholars are exploring the immensity of the solar system, and plunging into the very depths of ocean and earth, and in all their efforts are developing some substantial good for the human race. The war, cruel and bloody as it has been, has stimulated the genius of our people to its utmost tension, and has been the cause of unfolding a thousand useful contrivances, indirectly, for the arts of

peace, that might have slumbered for ages, but for this moving power. And this progress has not been in the art of war alone. While new death-dealing instruments have been devised and multiplied to an astonishing degree, and war vessels constructed with such a terrible power as to paralyze and upset all previous notions of the maritime world,—new contrivances have been sought out for the workshop and the farm ; new books upon astronomy, geography, mechanics, chemistry and the art of agriculture, have been written in the most attractive style, and are crowded with that information which the farmer needs.

Now, then, is his golden moment to read such books and establish a treasury of knowledge in his mind that shall become a perpetual well-spring of gratification and intellectual power. Many of these works have a direct bearing upon his occupation of life, and if these were understood, would become the source of permanent pleasure, as well as increase the profits of his labor. It is not now so essential to study the manipulations of the farm as it might have been fifty years ago. In this respect great progress has been made. Every observing farmer's son has had the means of learning, either in examples at home, or in his vicinity, the best modes of planting, cultivating, and securing harvests,—something of the stock best fitted for his purposes, and of the construction and arrangement of farm buildings, and that light, well-made and efficient implements and machines are cheaper than those that are made, like "Pindar's razors," merely to sell.

What he needs now, is to better understand the principles which govern things ; the laws, for instance, by which he can procure the best horses, oxen, sheep, or cows, and something more of animal physiology, so that he may know how to treat them, when obtained, and so to secure the largest possible profit from a given outlay. Everything is governed by fixed laws ; all vegetable as well as animal products ; all mechanism and art,

and everything that touches the labor of the farmer, either in his flocks or fields. How important, then, that a portion of his time should be devoted to an investigation of these things, which are so intimately connected with his labors, and so vitally affect his interests.

And what else would be so pleasing for the present, as such a study. What amusements of a physical nature would give so much calm enjoyment, so much that will feed the mind in the future, so much that will be profitable to the farmer in his business, and qualify him to take an active part in the public affairs of life, as well as in his more personal employments? The individual who is best informed in the common things of life, who is able to give a reason for what the world is perpetually doing and seeing, is infinitely more useful than he who is learned only on one or two abstruse subjects. Such persons, also, are more agreeable and attractive in conversation, and gain hearers and converts where the other entirely fails.

The farmer, of all men, should be a constant student of *natural philosophy*. He should learn the "why and the wherefore" of the thousand things which are continually rising around him, and especially with regard to the wonders of the animal and vegetable kingdoms. Such study will increase the compass of his mind, greatly aid his conversational powers, and qualify him for such a teacher as every farmer should be in the midst of his family. His children will catch the tone of his mind, and thus unconsciously be led into habits of thought and investigation for themselves, which is the high road to usefulness and distinction.

Such a farmer will neither forget nor neglect the duties of the present month. He will see that his children avail themselves of the advantages of the common or high school, of the lecture-room, of opportunities for associating with those of their own age, and with those of mature years, in the agreeable and instructive gatherings so common in New England society.

He will also see that the animals which are dependent upon his care shall have that systematic attention which their dependent condition demands; that all winter work, whether of the forest or field, of house or barn, at market or at home, is promptly and judiciously performed; that everything shall be done to make the work of the women light; that dry wood and soft water are abundant and convenient, and that the "men folks" shall always give a "helping hand" in the house when it is called for. Under such circumstances, the wife will be healthy and cheerful, and the one to whom all eyes of the household will constantly be turned. Hers will be the most loving and responsible position of life, the stay and

charm of the family circle. The daughters will be gentle, graceful, affectionate and intelligent, and the sons dutiful, manly and patriotic. No one has better opportunity to rear such plants as these, than the farmer. May the month of February be one of great progress with him and his, in all that elevates and ennobles our nature.

SEEDING LAND TO GRASS.

In two former articles we have spoken of the importance of this subject, and considered some of the leading points bearing upon it. We close now with brief reference to two or three additional points, hoping that others will express their views upon it through their columns.

We suppose *action* never ceases in the soil any more than in living plants. That by the dews, rains, and even atmospheric contact with a piece of surface, soil is acted upon by the ammonia and other agencies which they contain, and that this activity is altogether greater where the sun's rays have their full force upon it. A writer, in the Rural Register, (Baltimore) says that the rapid exhaustion of our very best soil is not due so much to constant cropping as to the *hoed crops*. One of the primary reasons why these crops have proved so deleterious to the soil, is the fact that the system of cultivation required to bring them to perfection, keeps the intervals between the growing plants *utterly bare* during the hottest part of the year. The action of the sun upon these exposed surfaces, together with the constant stirring of the soil for the purpose of keeping it loose and light and friable, whilst it promotes the solubility of the plant food, yet at the same time exposes the organic and inorganic substances which constitute in their several proportions the elements of fertility to great loss, both by evaporation and washing rains. A simple exposure of bare soil to the action of the sun and rain in summer time, kept constantly plowed, without any crop whatever being grown upon it, if not suffered to grow up in weeds, will gradually cause it to lapse from a state of fertility into one of comparative barrenness. It will lose year after year, by evaporation and by leaching rains, the greater portion of its plant-food, its vegetable and mineral wealth.

The observing farmer cannot fail to see this, and from it he may draw the following conclusions, for it is susceptible of no other:

First. That the exposure of the soil to the sun, heat and rain of our semi-tropical summers rapidly exhausts its fertilizing elements.

Second. The covering or shading of the soil preserves those elements, and induces the putrefactive process in the surface of the earth itself, in some degree.

Third. That green crops, such as clover, should take the place of hoed crops more frequently in

our husbandry, and that the less frequently the surface of the soil is exposed to the wasting influences of the summer sun, wind and rain, the longer it will retain its original condition of fertility.

Trees exert an influence similar to that which we attribute to the grain among the grass plants, only in a more appreciable degree. The great HUMBOLDT said that, by felling the trees that cover the tops and sides of mountains, men were preparing two calamities for future generations—the want of fuel and a scarcity of water. Trees surround themselves with an atmosphere constantly cold and misty. They affect the copiousness of springs by *sheltering the soil from the direct* action of the sun, and diminishing the evaporation of the water produced by rain. The dreadful droughts which so frequently visit the Cape de Verd Islands are avowedly due to the removal of their forests. In India, a few years ago, a proprietor, in laying down some grounds, well watered by an excellent spring, for a coffee garden at Genmore, contrary to the advice of the natives, *cleared the adjacent ground*, when the supply of water soon vanished. Forests increase rain and moisture, and produce springs and running streams. Tracts destitute of woods become strongly heated, the air above them ascends perpendicularly, and this prevents the clouds from sinking, and the constant winds (trade winds or monsoons) where they can blow uninterruptedly over large surfaces, do not allow the transition of vapors into the form of drops.*

Such is the action, only in a smaller way, as we view it, of the grain crop upon the grass.

From the investigation of this subject which we have been able to make, we have come to the conclusion that, when lands are stocked to grass, the first essential to be secured is to keep the ground moderately moist,—and the second so to shelter the tender plants as to protect them from the rays of the sun and high winds, as that they shall not be withered by one nor lacerated or broken by the other! With a deficiency of water in the ground, sunny and warm days, which under other circumstances would be the most favorable for growth, actually prove the most pernicious, particularly for summer plants, which have not yet had time to push their roots deep into the soil where there still exists a supply of water that might convey food to them.† Or, where exposed to high winds that lash the plants against each other, or constant currents that desiccate both soil and plant, the results are equally ruinous to the crop.

To revert for a moment to the *shade theory*. On visiting some of the largest and most productive gardens in my knowledge, we have often been

surprised at the wonderful fertility of the soil, and the perfection of its products, whether of vegetables, fruits, or flowers, where various plants were growing in a condition so crowded as to be touching each other. Indeed, in some instances, not a foot of cultivated soil could be seen, the spaces between the stems of the plants being thoroughly covered with some sort of litter, and the only bare places the paths of the garden!

It is in such places, that we have witnessed the highest results of culture,—the most ample outpouring of the generous soil into the lap of the skillful cultivator. That the soil is rich in such choice spots there can be no doubt,—but would it yield, comparatively, as much, were open spaces of bare surface left throughout the garden, equal to one-fourth of its whole area?

Cannot the common farmer visit such places and learn their history with decided advantage to his general operations on the farm?

EXTRACTS AND REPLIES.

STEEPS FOR SEED CORN.

Having addressed an inquiry to the *Scientific American* in regard to whether you still published the *New England Farmer*, and whether they could tell me the amount of copperas required to the bushel (of corn) in applying it before planting, and how long it should soak, as suggested in a very old number of your work, by the suggestion of the *American* I desire you to give me the information. R. C. HARRISON.
Baltimore, Md., Jan. 5, 1864.

REMARKS.—The article to which our correspondent alludes is probably one published about ten years ago—the statement of a Mr. Wetmore. The sum of which is, that at noon of the day before planting, the seed was put to soak in a decoction of about an ounce of copperas in water sufficient to cover a quart of corn. The next morning the corn was taken out, about a pint of soft soap added to a peck, and thoroughly stirred, after which plaster enough to make it convenient for planting, say one quart, was added. The whole field was planted with seed thus prepared, with the exception of four rows, which were planted with seed without preparation. Cultivation, &c., the same. The result as stated by Mr. Wetmore was eleven bushels and a half of ears on the four rows of unprepared seed, and seventeen bushels on four rows of copperas-steeped seed.

THE MASSACHUSETTS HORTICULTURAL SOCIETY.

The first meeting of this society was on the 24th of February, 1829, when *sixteen gentlemen* convened at the insurance office of Zebedee Cook, Jr., 7½ Congress street, Boston, for the purpose of instituting a Horticultural Society, when the Hon. John Lowell, of Roxbury, was chosen Moderator, and Zebedee Cook, Jr., appointed Secretary.

It was then voted—That Messrs. H. A. S. Dearborn, Zebedee Cook, Jr., and Samuel Downer, be a Committee to prepare a Constitution and By-Laws for the government of the Society.

Among the sixteen were two from Salem, Mr. Robert Manning and myself. I am desirous to ascertain how many are now living. Those present at that meeting, as far as I can remember, that are deceased are Messrs. Manning, Dearborn, Cook, Downer, Bartlett, Brewer, French and Phinney. If you can furnish the names of the sixteen for your journal, you will oblige, yours truly,
JOHN M. IVES.

*Report of Secretary of Bombay Geographical Society for 1850.

†Liebig, *Mod. Ag.*, page 196.

CATECHISM

- O F -

AGRICULTURAL CHEMISTRY AND GEOLOGY.

BY JAMES F. W. JOHNSTON, M. A.

[CONTINUED.]

II.--Of the Organic Food of Plants.

Q. *Do plants require food as animals do?*

A. Yes, all plants require constant supplies of food in order that they may live and grow.

Q. *Where do plants obtain their food?*

A. They obtain it partly from the air and partly from the soil.

Q. *Do plants require two distinct kinds of food?*

A. Yes, they require organic food to support their organic part, and inorganic food to support their inorganic part.

Q. *Whence do they obtain organic food?*

A. They obtain their organic food partly from the air and partly from the soil.

Q. *Whence do they obtain their inorganic food?*

A. They obtain their inorganic food wholly from the soil in which they grow.

Q. *In what form do plants take in organic food from the air?*

A. In the form chiefly of carbonic acid gas.

Q. *What is carbonic acid gas?*

A. It is a kind of air which has no color, but has a peculiar smell. Burning bodies are extinguished in it, and animals die, and it is heavier than common air. It causes the boiling up of soda water, and the frothing of beer, and forms nearly half the weight of all limestone rocks.

Q. *Does carbonic acid gas form a large part of the atmospheric air?*

A. No, the atmospheric air consists almost entirely of a mixture of oxygen and nitrogen gases. Five gallons of air contain about four of nitrogen and one of oxygen, but in 5000 gallons there are only 2 gallons of carbonic acid gas.

Q. *Do plants drink in much carbonic acid from the air?*

A. Yes, they drink in a very large quantity.

Q. *How can plants drink in so large a quantity of this gas from the air, which contains so little?*

A. They spread out their broad thin leaves in great numbers through the air, and thus are able to suck in the carbonic acid from a large quantity of air at the same time.

Q. *How do they suck it in?*

A. By means of a great number of very small openings or mouths which are spread everywhere, especially over the under surface of the leaf.

Q. *Do the leaves suck in this carbonic acid at all times?*

A. No, only during the day time. During the night they give off a quantity of carbonic acid.

Q. *What does carbonic acid consist of?*

A. Carbonic acid consists of carbon, or charcoal, and oxygen.

6 lbs. of carbon and 16 lbs. of oxygen form 22 lbs. of carbonic acid.

Q. *How do you prove this?*

A. By burning charcoal in oxygen gas, when carbonic acid gas will be formed.

Q. *Does the plant retain both the carbon and the oxygen contained in the carbonic acid that is absorbed by its leaves?*

A. No, it retains only the carbon, giving off

the oxygen again into the air.

Q. *How do you show that the leaves give off this oxygen gas?*

A. By putting a few green leaves under a tumbler or gas-receiver full of water, and setting them out in the sunshine, when small bubbles of oxygen gas will be seen to rise from the leaves, and to collect in the upper part of the tumbler.

Q. *Do the leaves of plants drink in anything else from the atmosphere?*

A. Yes, they drink in watery vapor.

Q. *What purpose does this vapor serve?*

A. It serves in part to moisten the leaves and stems, and partly to form the substance of the plant itself.

Q. *In what form do plants take in carbon from the soil?*

A. In the form of carbonic acid, humic acid, and some other substances which exist in the black vegetable matter of the soil.

Q. *In what forms do plants derive nitrogen from the soil?*

A. In the forms of ammonia and nitric acid.

III.--Of the Substance of Plants.

Q. *What does the substance of plants chiefly consist of?*

A. The substance of plants chiefly consists of woody fibre, starch and gluten.

Q. *What is woody fibre?*

A. Woody fibre is the substance which forms the greater part of all kinds of wood, straw, hay, and chaff, of the shells of nuts, and of cotton, flax, hemp, &c.

Q. *What is starch?*

A. Starch is a white powder, which forms nearly the whole substance of the potato, and about half the weight of oatmeal, wheaten flour, and of the flour of other kinds of grain cultivated for food.

Q. *What is gluten?*

A. Gluten is a substance like bird-lime, which exists, along with starch, in almost all plants. It may be obtained from wheaten flour, by making it into a dough, and washing it with water.

Q. *Which of these three substances is usually most abundant in plants?*

A. The woody fibre is the most abundant in the stems of plants, and the starch in their seeds.

Q. *Is starch found in the roots of plants?*

A. Yes, it exists abundantly in the potato and other similar roots.

Q. *What do woody fibre and starch, and also gum and sugar consist of?*

A. They all consist of carbon and water only.

Q. *May these substances then be formed from the kinds of food which the leaves drink in from the air?*

A. Yes, because the leaves drink in carbonic acid and water.

Q. *Can you tell, then, why the leaves give off the oxygen of the carbonic acid into the air?*

A. Yes, they require only carbon and water to form the woody fibre and starch, of which they consist, and therefore they give off the oxygen of the carbonic acid because they cannot make use of it.

Q. *If plants suck in so much carbonic acid from the air, may they not at length rob the air of the whole of the carbonic acid it contains?*

A. No, because new supplies of this gas are continually returning into the air.

Q. *Whence do those supplies come?*

A. They come from three sources; *first*, from the breathing of animals, since all animals throw off a small quantity of carbonic acid from their lungs every time they breathe.

Second, from the burning of wood, coal, candles, &c., since the carbon which wood contains, when it burns in the air, forms carbonic acid gas just as carbon when burned in oxygen does.

Third, from the decay of vegetables and roots in the soil, since this decay is only a slow kind of burning, by which the carbon of plants becomes converted into carbonic acid.

Q. *Do animals and plants thus appear to live for each other's support?*

A. Yes, the animal produces carbonic acid upon which plants live, and from this carbonic acid and water together, plants produce starch, &c., upon which animals live.

ATMOSPHERIC INFLUENCES UPON SOILS AND PLANTS.

The essential elements of vegetable productiveness are *Earth, Air and Water*. If we can place the first of these, the Earth, in proper condition, the other two will follow as a natural sequence. That is, when the soil itself is in a favorable condition to receive *atmospheric influences*, it will require, and be greatly benefited by them, without further agency on our part. For instance: If a field is thoroughly *drained*, and then plowed and pulverized as is usually done where a good crop of grain is obtained, that field *will constantly receive fertilizing influences* that a field undrained *will not* receive, although just as well plowed and pulverized.

When a shower falls upon the drained field, the water percolates slowly, but constantly, through the whole earth to the bottom of the ditches. It does not rest upon the surface, nor meet with considerable obstruction on its way to the lowest point of drainage. The withdrawal of cold, stagnant water has permitted the air to enter the soil, taking *heat* along with it, so that it has actually become *warmed and dried* to a certain extent, and has caused it to occupy less space than it did before it was drained. The evidence of this may be seen in innumerable cracks, or crevices, which may be found on examination to exist through the whole mass of earth, from the surface to the bottom of the drains, even though they go down four or five feet. This is the *first* effect of drainage, and is the prime operation, *on our part*, to make the land ready for the reception of *atmospheric influences!*

Now the field is ready for the shower, or the dews that are distilled upon its surface, or upon the herbage that covers it. Rain water is charged—in greater or less degree—with salts as well as moisture, that act an important part in the growth of plants. These, finding little obstruction, descend freely among the particles of soil, heating

or oxygenizing a little humus here, starting it into the fermentative process so that it shall be easily soluble—for the young rootlets to take up—or touching a grain of sand there, and fitting it to strengthen the tender plant, by covering its outer surface with a coat of mail as brittle as glass itself, such as we find on the straw of wheat and other plants.

But this is not all,—moisture descends in company with these salts, and carries *heat* along with it. It descends freely through the cracks or fissures, already mentioned, imparting its warmth as it goes, so that after passing through the soil and reaching the outlet of the drain, it will often be found *ten degrees colder* than when it first entered the surface!

This moisture is contained in the *air*, held there in solution, too thin and unsubstantial for mortal eye to see, and is continually passing into the soil and ranging freely through it,—as no cold and stagnant water is present to prevent its passage. Here, then, are two most important *atmospherical* operations upon soil that is fitted to receive them; one actually imparting elements of fertility, and the other supplying a generous warmth through its recesses, with all the kindly influences that are gained from a well-constructed border, or the genial bottom heat of the hot-bed! But there is another agent at work no less important than these.

Suppose the season to be a dry one; the earth languishes for the summer rain; the grass withers, the corn-leaves roll and the surface of our fields becomes like ashes. Can we rely upon any *atmospheric* influence under this condition of things, or has He who created the wonderful phenomena with which we must deal, left us helpless and incapable of securing the accustomed crop upon which our lives may depend? There are no clouds that promise rain, but the sun shines on,

“All in a hot and copper sky,”

as though all vegetation must perish under it. In the midst of such a drought, however, the *atmosphere* is crowded with moisture, containing more than it does when showers are frequent. This atmosphere rests upon the surface with a pressure equal to fifteen pounds to every square inch; and the soil being light and porous, greedily receives it and passes it along from particle to particle, distributes its ammonia and other salts, and its heat, as it goes.

At length it reaches a point where the soil is cooler than itself, and is at once condensed into water, and thus the *atmosphere waters the well-drained soil* through a pinching drought, and brings its plants to perfection. The beneficent operation, which is thus ever going on through the long, hot days of July or August suns, is often

beautifully illustrated on our dinner tables when the pitcher is filled with cold water from the well. For a few moments its outside appears to be quite dry, but is soon covered with large, crystal drops, which are condensed from the vapor held in solution by the air. The air comes in contact with the pitcher, by which, being colder than itself, its vapor is rapidly condensed and is seen in accumulated drops. This is precisely the process continually carried on in the soil during a hot day by the atmosphere, and this is supposed to be what is meant by the decomposition of the air by the soil.

The final purpose of the shower, then, may be, not merely to afford drink to the living plant, but to displace stagnant water in the soil and renew it by percolation.

TWO FINE COWS.

A writer in the *Valley Farmer* states that his brother, in Danube, N. Y., has two cows, native breed, which he kept on a five acre pasture, together with "several calves, a heifer or two, and a horse." The family of the owner of the cows consisted of three persons; he had a common share of company, and yet he sold, for several years in succession, \$200 worth of butter a year, at an average of 21 cents a pound. Besides this, all the butter and milk that the family needed was used, and 400 pounds of pork made! He lays this success mainly to the treatment which the cows received. In the winter their stables were kept warm and clean. Running water and salt they could constantly get, but had no grain. Their pasture was rendered sufficiently dry by ditching, and produced abundantly of timothy red top and clover, so that some of each kind seeded. It was lightly top-dressed with plaster and ashes. Did not feed short in the fall.

There is scarcely any product of the farm in which there is such diversity of result as in the product of milk cows. In this case, with only "good cows, not much more," the writer says they produced more than a hundred dollars each, while the average, we believe, is but a trifle, if any, beyond thirty dollars to a cow! From the tenor of the whole article—which we have read with interest—we have no doubt that this unusual success was secured, mainly, by the treatment which the cows and the land upon which they were fed received, and not through any superior excellence of the cows.

Since the introduction of pure blood animals from abroad, what are called native cows have gradually fallen into disrepute, and yet we believe a hundred natives, or grades,—as probably most of them are now,—may be found to-day, that will produce as much as a hundred pure blood cows of any breed.

Since preparing the above, we have found the following in the *Country Gentleman*:

Two Extra Milkers.

MESSRS. EDITORS:—The cows noticed in the *Country Gentleman* of the 26th November, as having produced large quantities of milk, must "clear the track," in order that I may "trot out" two *Dutch heifers* imported and now owned by myself.

These heifers were imported in the autumn of 1861, and were four years old last spring. One of them dropped a heifer calf on the 2d day of last April, that weighed at birth 92 pounds, and during the month of June following, a record of the cow's milk was carefully kept, showing a result of 1704½ pounds for the month, or an average of 56.81 pounds per day. The first six days in June she gave an average of 59.04 pounds per day, and on four respective days during the month she gave 60.50 pounds per day.

The other heifer dropped a bull calf on the 26th day of last August, that weighed at birth 110 pounds, and a record of this cow's milk was kept from the 3d to the 9th day of September inclusive, showing a yield of 338¾ pounds, or an average of 48.39 pounds per day. The calf of this cow was weaned when two days old, and fed upon a portion of the mother's milk until he was eighty days old, when his weight was found to be 350 pounds, a gain of 240 pounds in eighty days, or just three pounds per day. And this without an ounce of grain of any kind.

W. W. CHENERY.

Highland Stock Farm, Belmont, Mass.

For the New England Farmer.

FRUITS IN THE NORTHWEST.

Farmer C., a dozen years ago, planted out about one hundred apple trees. He kept the ground cultivated five or six years, then seeded down to grass. Before seeding it had commenced to come into bearing. Soon after seeding down his yield of fruit showed signs of growing less instead of more. Farmer C. could not understand why his orchard refused to yield him fruit. In conversation with a neighbor, he got an inkling of what was the matter. He was told the mischief lay in seeding down his young orchard. If that is the case, I will straightway break it up. He did so. The second year after cultivation he picked a heavy crop for so young an orchard. This year he has raised about three hundred bushels of fruit, the most of which he has sold for one dollar per bushel.

Farmer L., likewise, seeded down his young orchard, but the result was such that he soon plowed again. Now the trees are loaded with good crops yearly. Not fully convinced, he left an isolated patch of trees growing in grass—or trying to grow. They bear no fruit to speak of, and are not half the size of others growing in his garden, located side by side.

Farmer B. has had his young orchard down to grass for the last three or four years. His trees look forsaken and have been dying out the last year, and yield him no fruit of consequence. His garden lays along side of his orchard, and trees in that are growing and yielding finely. Another orchard, not three miles from the above, on a similar soil, yields now five hundred bushels per annum. The trees have been kept cultivated, but bear marks of having been badly used, being bad-

ly scarred and mangled by careless cultivation. I have two orchards in view, located not over eighty rods apart. One is seeded down to grass. The other has its trees all scarred and mangled by careless cultivation. Yet with this drawback the cultivated orchard is a long way ahead.

Go where you will in the Northwest, trees are looking finely as a general thing, in cultivated grounds. But as a general thing they are looking half starved, sickly and more dead than alive, where the grounds are overgrown with grass and weeds.

Experienced cultivators and observing men recommend the following varieties as valuable apples for cultivation in the Northwest, and as being extra hardy. They furnish a supply the year round:

Red Astrachan, Dutchess Oldenburg, Fall Stripe, Ant. Strawberry, Sweet Pear, Fameuse, Fall Wine Sap, Colvert, Cider, Sweet Wine, Tollman Sweet, Pomme Gris, Northern Spy, Winter Wine Sap, Perry Russet, Golden do., Raules Janet, Canada Black, Red Romanite, Dumelows.

There are nearly as many more that promise well, but have not had thorough trial, which will give entire surety in their ability to stand our hard winters.

Eastern varieties that are hardy grow very fair fruit and of good size. Canada and Eastern people are often at loss to recognize well-known varieties.

L. L. FAIRCHILD.

Rolling Prairie, Wis., Nov., 1863.

For the New England Farmer.

PRINCETON.

Twelve miles northward from the city of Worcester, there is a beautiful eminence called Wachusett Mountain. It is not a great mountain. It rears its conical head only about two thousand feet above Massachusetts Bay. It is the point of land that the eye of the mariner first rests upon as he nears our coast. The view from the summit is an enchanting one. Wood, lawn, lake and river, all conspire to create a magnificent prospect.

Nestled in the embrace of this mountain lies the quiet town of Princeton. It is noted for its salubrious atmosphere and delightful prospects. The town was named from one of the early pastors of the Old South church in Boston—Rev. Thomas Prince, who was a large stockholder in the landed property of the place. This learned gentleman was something of an historian, having published in 1736 "The Chronological History of New England," which was considered a work of considerable merit in those days. Only as many copies as had been previously subscribed for were permitted to be printed, the subscribers having the satisfaction of seeing their own names printed at the commencement of the volume.

In the summer months many people from the city resort here, seeking health and pleasure. It is situated only fifty miles distant from Boston, and is easy of access by railroad, so that the man of business who can ill afford the loss of time requisite for a trip to Saratoga can easily spend a day at Princeton with his family, and gain real strength and vigor for future labor. A few invalids spend the entire summer here, but the larger class of visitors remain but a few days, or weeks at most, and then give room to others. During the past summer there were about three hundred

visitors constantly enjoying the hospitalities of the people. The three hotels being insufficient to accommodate so large a number, many a farmhouse opened its doors to receive them.

As an agricultural town, Princeton takes rank with the best towns in the State. No better pasture lands can be found anywhere than those lying adjacent to the road leading from Princeton to Worcester. As a natural consequence, we find superior dairies. The dairy products amount to \$75,000 annually. Much of the pasture land being situated at an inconvenient distance from the farm buildings for dairy purposes, is devoted to making beef, some of the farmers turning forty head of beef cattle the present season.

There are some noted farms and farmers in this town. Mr. Boylston occupies a farm which has been counted the model farm of the State in former years. The commodious buildings, majestic shade trees, trim fences, etc., are the theme of admiring remarks from all who visit the premises. In the same locality we find the residence of the late John Brooks, Esq., who was a truly progressive agriculturist. His many experiments in feeding stock, testing the comparative value of different kinds of fodder, as well as his experiments with field crops, which are recorded in "The Agriculture of Massachusetts," give abundant evidence of an investigating mind and persevering industry. Others in this vicinity have given evidence of skill in rural affairs, worthy of mention, if I had space; but rather than incur the risk of being tedious, I forbear to speak of them.

Worcester, Dec., 1863.

VIATOR.

REMARKS.—We thank "VIATOR" for this and other favors, and suggest that, as our paper is now enlarged to its former size, room may be found for his interesting articles, even if they are somewhat extended.

For the New England Farmer.

METEOROLOGICAL RECORD FOR NOVEMBER, 1863.

These observations are taken for and under the direction of the Smithsonian Institution.

The average temperature of November was 40°; average midday temperature, 45°. The corresponding figures for November, 1862, were 37° and 42°. Warmest day, the 17th, averaging 57°; coldest day, the 30th, averaging 22°. Highest temperature 59°; lowest do. 18°.

Average height of mercury in the barometer 29.22 inches; do. for November, 1862, 29.25 inches. Highest daily average 29.69 inches; lowest do. 28.83 inches. Range of mercury from 28.79 inches to 29.69 inches.

Rain fell on ten days; amount of rain 3.55 inches,—no snow. Six days rain and snow in November, 1862, with 7 inches snow and 1.05 inches of rain and melted snow. There were no entirely clear days; on three days the sky was entirely overcast.

It will be noticed that the average temperature of the month was decidedly higher than the same month last year. The barometrical average was lower, with more than three times as much rain. The constant succession of cloudy days and the small proportion of sunshine will be remembered.

Claremont, N. H., Dec., 1863.

A. C.

For the New England Farmer.

REMEDY FOR THE BORER.

I derive much information, as well as pleasure, in reading your useful journal. I saw awhile since in the *Farmer*, a communication concerning a remedy for the borer, by F. N. Thayer, Blackstone, Mass. No one can deny the value of such a discovery, if effectual, when we consider the thousands of trees destroyed by this insect, and many others made worthless. If this remedy is good, the public ought to know it. I have tried it—I admit at first with little faith—and found it most satisfactory; easily applied, the trees protected soon revived, and were not troubled with the borer, whilst all others suffered more or less, in spite of all the digging out, till they looked more like a target than a fruit tree. I feel that that the trifle paid for the information was well invested, and feel thankful to the inventor for a remedy that removes the greatest difficulty to fruit-growing. With my present knowledge, I should not think of planting young trees without using this remedy. And then I should see my trees grow with their natural vigor without being marred and bored by this creature. If all who plant trees would use it, I think we should soon hear little of the borer. Its value to the community cannot be overrated; with it we can raise all choice fruits; without it, fruit-growing requires our constant care, and then we often fail.

Such is my experience, Mr. Editor, with this ingenious discovery, that shows a thorough knowledge of the habits of this insect.

Cumberland, R. I., 1863. A. C. FARMER.

For the New England Farmer.

A FEW WORDS ABOUT BEES.

In the *Farmer* for Dec. 5th, I notice a quotation from an article written by Mr. J. Hazen, for the *Country Gentleman*, in regard to overstocking with bees.

No doubt it can be done, but it is not so often as some suppose. Honey does not exist in condition to be gathered by bees at all times and seasons, and must be gathered in its season or not at all; as it vanishes like the manna of the Israelites; but while it lasts millions of bees can fill their sacks as well as thousands. Hence swarms that are not ready to gather in honey harvest have no stores.

I have become satisfied, from thirty years' experience, in bee management, with close observation, opening and examining swarms at all times of the year, that it is from the mismanagement of the beekeeper, or no management at all, that bees do not store more honey, even to fabulous quantities. I have frequently taken one hundred pounds of honey from a single swarm, in one season, and left plenty for winter; have done it this last season, and as the writer says it has been a very poor honey season.

In hives generally used bees have family store-room for about an average winter, (and frequently are not allowed to fill that,) hence in hard winters for bees, they are short near spring, and frequently starve. Those that survive have not sufficient stores to warrant supplies for breeding, hence breed little till the honey harvest comes; then there is a small stock of bees to do the work of rearing brood, gathering honey, pollen, etc.,

and keep up the necessary warmth in the hive.

The consequence is, late swarms, honey season far advanced, or nearly over, the honey of the old stock consumed by brood, while some of the young swarms nearly fill their hive with comb and some honey, and later swarms less, or next to none.

Should the fall be favorable for honey, some of the largest swarms will lay in sufficient for winter. Late swarms of few bees can do but little, and should either be doubled, sometimes tripled, or returned to the parent stock.

A small supply of honey and pollen furnished to swarms in early spring will send out early and large swarms, which will store large quantities of honey for man and bees, in proper hives, in average seasons. Bees too often starve through the negligence of their keeper, and they sometimes die leaving plenty of honey; sometimes die of disease.

J. CURTIS, *Practical Apiculturist.*

New Britain, Ct., Dec. 8, 1863.

For the New England Farmer.

A QUERY FOR ARBORICULTURISTS.

Does the sap which enters the roots of a tree go into the general circulation? or does each root-branch furnish nutriment to a corresponding portion of the loss—the two mutually acting upon and sympathizing with each other?

In my orchard are three apple trees, standing in wetish ground, rapidly descending on one side to soil so wet as to produce sage grass, on the other gradually rising to dry and warm soils. On the wet side the limbs have been dying until full one-half of the top of each tree has been removed, while the up hill side of each top remains healthy and bore a good crop of fruit this season. Now if the acid is poison, drawn in by the roots dipping into the mud, and has been carried into the general circulation, why not the whole tree die?

R. B. H.

SAFE FARMING.

What a farmer wants, is success; and he wants it immediately. If your book or your newspaper tells him what to do, he wants to be certain; he cannot afford to experiment. Well-to-do farmers may do that. But the man who buys a farm, or but a few acres, does it to reap benefit from it. He may have a family dependent upon his first year's success; or he may have debt to pay, which is generally the case. He must have success the first year, and the years immediately after. If not, he may lose his farm. Success in farming, as in life, is what we want.

"Can I depend upon my book? Will my *Valley Farmer* or other agricultural journals not deceive me? I want to know this, if I am to follow their directions. They are published to make money; that is clear. Do they also look to the good of the farmer?"

Yes, if your publisher is honest. Or, if not, it is for the interest of the publisher that he print what is beneficial, for that is what his paper is taken for. It is necessary then to at least appear honest.

The young farmer, beginning life under such delicate circumstances—of debt and dependence—should not fear. If an agricultural book or paper misrepresents, it is only what the world sometimes does; in all its departments (the world's)

defects are found; necessarily found, because human affairs are imperfect.

But our best agricultural books and papers are to be relied on; not of course always, for there must be more or less theory connected with the practical. It is theory that starts the practical—helps it along. The reader must have intelligence enough to discriminate. An ignorant farmer will not do. He will drag along; no more. Our best farmers are our best thinkers; not our richest always, for some people have a great faculty for saving. We know many such, with a good deal of native shrewdness, and more of parsimony—these people know how to hoard, how to strike a good bargain as well.

But good common sense should the farmer bring to his vocation. He will then see what is merely opinion, and what is fact. He will not trust his year's farming upon a vague statement. This he will do: when he sees his neighbor's success, he will inquire into that success. If that neighbor is an honorable man, he will tell him about the *modus operandi* of that success; not the success of one year, but success generally; and relate what he knows about the matter; and that is no more nor less than communicating his success. Now this honorable, successful farmer, not only communicates to his neighbors, but also to agricultural papers. Such men write our successful farming books. You want to know your man then; and you want to know him by his success. As you must have some pattern to follow after, take the successful kind of farming, practiced by honorable men. That is the whole nut of the secret. Example is the grand lever in farming.

GREASE, OR SCRATCHES ON HORSES.

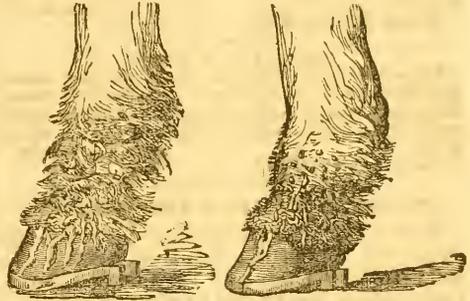
Scratches, as this disease is commonly called in New England, is not dangerous, or difficult to cure, unless neglected by the grossest carelessness and abuse. It is occasioned, sometimes, by cutting the hair from, and thereby exposing the hinder heels to the operation of cold and wet. In winter when the legs most require warmth and protection, the heels are deprived of the covering which nature intended should protect them, and parts where the blood flows most tardily are laid bare to the effects of evaporation and frost.

Turning out to grass, especially during the colder months, when the wet is particularly abundant, and the bite short, is another fruitful source of this affection. Allowing the mud to remain on the parts after the horse is returned to the stable, and a general neglect to keep the feet and legs clean, is, perhaps, the chief cause of this painful disease.

The earliest symptom of "grease" is the cracking of the skin of the fetlock, very much as the hands become "chapped" in cold weather. The legs then swell, accompanied by more or less fever. If the hair should be examined, it will be discovered loaded with scurf about the roots, while one foot will be frequently seen employed to scratch the back of the opposite leg. At the same time, the part begins to exude a thick,

unctuous moisture, from which the disease derives its name. This hangs upon the hairs of the heel in heavy drops. It is an offensive secretion.

Should no regard be now bestowed upon the sufferer, and the horse worked on despite the lameness, the skin swells, white cracks, deep and wide, appear upon the inflamed integument, the



lines of division ulcerate, sometimes very badly, and a thin, discolored and unhealthy pus mingles with the discharge.

The remedy for this disease is simple enough, but the *preventive*, cleanliness, is still more easy. Wash the parts in warm suds of castile soap, rub them with some soft, fresh oil, with the fingers, and keep the horse warm and quiet.

Mayhew, in his excellent work, "*The Illustrated Horse Doctor*," recommends the following, to be used three times each day, viz.:

Lotion for the Earliest Stages of Grease.

Animal glycerin.....	half a pint.
Chloride of zinc.....	half an ounce.
Water.....	six quarts.

Lotion for the Ulcerative Stage of Grease.

Chloride of zinc.....	one ounce.
Creasote.....	four ounces.
Strong solution of white oak bark.....	one gallon.

But, we urge again, a humane care of the animal—when this is observed, the disease will never appear.

FEEDING CALVES.—A friend of ours who has great success in raising calves on skimmed milk and "corn pudding," adopts the following method: He never lets the calf suck the cow, but teaches it to drink out of a pail. When the calf is three or four days old, he takes about a teacupful of corn meal and pours a pint of hot water over it, stirs it up and lets it scald for a few minutes. He then pours on three or four quarts of skimmed milk, or as much as the calf will drink. In the meantime he has had a piece of iron heating in the stove. When red hot he stirs the milk with it. This "scorching the milk" he considers of the greatest importance when calves are fed on skimmed milk. It prevents it from scouring the calves. As the calf grows older he increases the quantity of corn meal. When three weeks old he gives at least a pint at each meal. The skimmed milk, at first, is only twelve hours from milking, but when the calf is older the milk may be allowed to stand twenty-four or thirty-six hours before it is skimmed.—*Genesee Farmer*.

EXTRACTS AND REPLIES.

ONION PUZZLE.

Your correspondent will find the solution of his thick necked and perfect onions growing side by side in the difference of seed. His seed might have been the product of a scullion (thick necked) and perfect onion respectively. As "like begets like," the seed from perfect onions produces perfect onions, and the seed from scullions produces scullions, other things being equal. Poor soil, deep planting, and seed from immature thick necked onions will produce scullions. If you wish perfect vegetables, be careful what seed you sow.

Rolling Prairie, Wis.

L. L. F.

PRODUCT OF 31 SHEEP.

I have sold from thirty-one sheep the past season \$281.25 worth of wool, being a trifle over \$9 a head. They were neither coarse or fine wool. They raised me forty-six lambs, which were sold at the market price.

MILO LAWRENCE.

Passumpsic, Vt., 1863.

THREE HINTS FOR THE SEASON.

Be sure and cover the bits of your bridles with leather, to prevent the frost from making the mouths of your horses sore. It is downright cruelty to put an iron bit into a horse's mouth on a cold morning. If you doubt it, bit yourself some day when the mercury stands below zero.

When you cut India rubber, keep the blade of your knife wet, and you can then cut it without difficulty.

We have heard of and tested a great many kinds of waterproof blacking for winter boots. Let us tell you what we have tried for two winters, and found to be the best article we know of. When your boots are stiff and you think need oiling, wash them in castile soap-suds—oil before the leather dries, (you may use blackball or any kind of grease;) have a saturated solution of gum shellac in alcohol—anybody can make it, as all there is to be done is to dissolve in a pint or half-pint of alcohol just as much shellac as the liquid will take up—and apply this solution with a sponge to the oiled boots. In two or three minutes the shellac will dry and harden, and you will have a coating on your boots through which the water cannot by any possibility penetrate. Try it, reader.—*Germantown Telegraph.*

LANGUAGE OF INSECTS.

A most singular discovery, the credit of which appertains, we believe, to Mr. Jesse, is that of the antennal language of insects. Bees and other insects are provided, as everybody knows, with feelers or antennæ. These are, in fact, most delicate organs of touch, warning of dangers, and serving the animals to hold a sort of conversation with each other, and to communicate their desires and wants. A strong hive of bees will contain thirty-six thousand workers. Each of these, in order to be assured of the presence of their queen, touches her every day with its antennæ. Should the queen die, or be removed, the whole colony disperse themselves, and are seen in the hive no more, perishing every one, and quitting all the store of now useless honey which they had labored so industriously to collect for the use of themselves and the larvæ. On the contrary, should the queen be put into a small wire cage placed at the bottom of the hive, so that her subjects can touch and feed her, they are contented, and the business of the hive proceeds

as usual. Mr. Jesse has also shown that this antennal power of communication is not confined to bees. Wasps and ants, and probably other insects, exercise it. If a caterpillar is placed near an ant's nest, a curious scene will often arise. A solitary ant will perhaps discover it, and eagerly attempt to draw it away. Not being able to accomplish this, it will go up to another ant, and, by means of the antennal language, bring it to the caterpillar. Still, these two, perhaps, are unable to perform the task of moving it. They will separate and bring up reinforcements of the community by the same means, till a sufficient number are collected to enable them to drag the caterpillar to their nest.—*Once a Week.*

CHURNING IN WINTER.

The frequent inquiries for a sure method of always churning butter as quickly and of producing as good an article in winter as in summer, we cannot well answer, for the substantial reason that we knew of no such method. Good mixed feed for the cows, keeping the milk and cream from freezing, and bringing the cream to a proper temperature before beginning to churn, comprehend about all we can say on the subject.

A subscriber, a lady, at Locust Valley, Queen's Co., N. Y., communicates to the *American Agriculturist* her method of making butter in winter, which she thinks far surpasses any other plan which she is acquainted with. She writes that "by this method the full quantity of butter is obtained, the quality is equal to that of grass butter, the buttermilk is rich and remains sweet for drinking or culinary purposes, such as making rice puddings, and the process is certain and simple, and attended with little trouble. It is as follows: The cream is skimmed each day, and placed at once in a kettle, and the kettle put into hot water (to prevent scorching,) and put over the fire. The cream is allowed to scald, without boiling. It is then put into a vessel and set aside; each day's cream being in like manner scalded, and added to the mass, until enough for a churning is obtained. The churning is commenced immediately after adding the last day's cream, which brings the whole to a proper temperature, without thinning by the addition of hot water."

WINTER THE TIME TO THINK.—Winter is the time for farmers to think—spring, summer, and fall to work; and the three latter seasons' labor will be to little profit, if the time of the first shall have been misspent. All the plans of the next season's operations should be laid and well considered during winter. All improvements, all designs for new operations; all the work to be done, should then be considered and prepared for; so that, when the time for work arrives, he will have nothing to do but to "go ahead." Then he has no time to think; but if he has been wise during winter, he will have no need of it. It is a pitiful sight to look at in the spring, when all nature is in an ecstasy of delight, to see a farmer flying about "like a hen with her head cut off," trying to do a thousand things at once, not knowing which to do first, running here and running there in search of rusty implements, some of which require repairs, some can't be found, the plowing season passing away, the planting season rapidly advancing, and he not prepared for anything. O, it is pitiful!—*Exchange.*

SONG OF THE BLACKSMITH'S WIFE.

My husband's a blacksmith, and where will you find
A man more industrious, faithful and kind?
He's determined to thrive, and in that we agree,
For the ring of his anvil is music to me.

Though dark his complexion and grimy his shirt,
Hard and horny his hand, and disfigured with dirt;
Yet in that rude casket a jewel I see,
And the ring of his anvil is music to me.

Ere Aurora's fair nymphs chase the night from the skies,
Ere the sun pierce the glooming, from bed he does rise,
Ere the lark leaves her nest, at his forge he will be,
And the ring of his anvil is music to me.

Though to labor he owns, we are far from being poor,
Industry has banished gaunt want from our door;
For the blacksmith's a man independent and free,
And the ring of his anvil is music to me.

At a distance from home I have seen with delight,
The red sparks from his chimney illumine the night,
And have heard the fast strokes on the anvil rebound,
And my heart has leaped up at the musical sound.

Those strokes on the anvil, say, what do they prove?
Forethought and affection, industry and love;
A resolve to be honest, respected and free!
That's the tune on the anvil that's music to me.

MAKING PORK AT THE WEST.

While many Western farmers allow their hogs to run at large in the woods, or in short pastures during the summer, and to come up in the fall poor, stunted and hidebound, there is a class who pursue a more economical plan, and aim to keep their hogs in a thriving condition from the time they are weaned till they are sent to market. The course of fattening adopted by many intelligent pork raisers is thus described by a Western farmer in the *Albany Cultivator*:

They arrange their crops so as to have a regular succession, upon which the hogs are turned, something in the following order: First, into clover; after this into a field of rye, as soon as the grain is fully out of the milk. They are next turned upon the wheat stubble, or into the oat field, while the grain is still soft. As soon as the grains of Indian corn are fairly formed, the corn and stalks are cut up at the ground, and this is fed to the swine, stalks and all; or what is also common the hogs are turned into the smaller fields of corn to help themselves, where they take on fat rapidly, while the weather is warm and the corn soft. Corn in this state has all the advantage of that which has hardened and been cooked. Thus the animals are kept constantly thriving, and with good breeds, are ready for the knife at almost any time.

SHEEP SHEDDING WOOL.—MR. LEWIS CLARK, in the *Wisconsin Farmer*, says the best plan to keep the wool on sheep is to keep them *fat*, and that if sheep "run down" from any cause, and are fed high at once, their wool will start. Even a change of pasturage, from a poor to a timothy and clover pasture, will start the wool from a lean sheep. But the feeding of corn, beans, wheat, rye, barley, oats, vegetables, or anything that sheep will eat that makes *fat*, avoiding sudden changes, will not only cause the wool to stick, but will increase it more than enough to pay the additional cost.

MAINE AGRICULTURAL STATISTICS.

A law was passed by the Legislature in 1862 requiring the municipal authorities of the respective towns and plantations in the State to make return of certain agricultural statistics to the office of the Secretary of State annually. From a communication in the *Portland Courier*, it appears that 237 towns have made these returns.

In the 237 towns making these returns there are 41,778 heifers, 67,008 cows, 39,659 steers, 36,085 oxen, 277,970 sheep, 1,028,102 lbs. wool, 33,054 horses, 618,842 bushels corn, 215,899 bushels wheat, 4,255,473 bushels potatoes, 1,361,387 bushels apples, 4,458,778 lbs. butter, 821,970 lbs. cheese, 124,830 lbs. honey, 74,843 lbs. maple sugar, 19,968 gallons maple molasses; 996 sheep killed by wild animals, 1,371 sheep killed by dogs. Damage to sheep by dogs, \$5,905.

Kennebec county has the largest number of cows, 9,557; Oxford the most oxen, 5,487, and steers, 7,089; Somerset the most sheep, 47,745, and the greatest amount of wool, 261,268 lbs, and swine, 8,132; Oxford the largest number of colts, 1,792; Penobscot the largest number of horses 4,657; Oxford raises most corn, 120,659 bushels; Somerset the most wheat, 36,519 bushels; Oxford the most rye, 14,245 bushels; Somerset most barley, 106,903 bushels; Penobscot most oats, 171,061 bushels; Aroostook most buckwheat, 23,679 bushels; Penobscot most potatoes, 929,499 bushels, and turnips, 29,396 bushels; Lincoln most beets, 13,030 bushels; Kennebec most apples, 249,440 bushels; Somerset most upland hay, 59,885 tons; Oxford most intervale hay, 11,882 tons; Kennebec makes most butter, 575,513 pounds; Oxford most cheese, 168,651 pounds; Penobscot produces the most honey, 36,328 pounds; Oxford makes the most maple sugar, 53,560 pounds; Somerset raises the most beans, 15,169 bushels.

For the *New England Farmer*.

ROGER'S HYBRID GRAPES.

NOTE FROM SAGGAHEW.

MESSRS. EDITORS.—I have just noticed in the monthly *Farmer* for November the inquiry of "Vitis," in regard to Roger's Hybrid grapes. Had I not, most unaccountably, overlooked the weekly number containing it, a reply would have reached him sooner.

He asks if he is right in supposing No. 19. of these new grapes to be "the most promising one for Massachusetts," and "whether No. 5, or any of the other numbers, are proving to be valuable for us here in New England?"

In reply, I will say that No. 19 is proving to be an excellent out-door grape for this latitude, and I am confident that it is one of the very best of the few desirable numbers of Mr. Roger's grapes. It is yet too soon to say which is the best, and from experience thus far it seems very probable that no one of them will ever be so considered—from the fact that several of them are so nearly equal in qualities, (though essentially different from each other) that it is difficult to decide which is the better one for general cultivation. Nos. 4 and 15 were the first ones "figured," and have had the start of all the others in getting into the hands of propagators, but it is now well known that several of the others are every way equal to these, if not superior. If I read the reports correctly, No.

19 has literally *forced* its way to recognition as the equal of either of those so early and so extensively heralded. My own selection from these grapes was originally made upon the private judgment of a friend. He was inclined to place No. 19 at the head of the list, though he considered that there was but little choice between several of the other numbers. Persons with whom the Black Hamburg is a favorite will be likely to select No. 19, because it so much resembles the former. Those who prefer the "vinous" to the "sugary" flavor will be more likely to select No. 15. No. 19, within my observation, proves to be as hardy as any of our out-door grapes; is a vigorous grower; bears large crops of large fruit (both bunch and berry being large;) the quality is generally admitted to be superior to the Concord, and it ripens at least one week earlier than the latter. One of its peculiarities is the tenacity with which the berries "hang on." A friend, who kept some until Christmas, found that the berry and stem were even then unwilling to part company. Did time and space allow, I would quote from the reports of others in regard to this and others of these new grapes. I can safely recommend No. 19 as well worth a place in every collection.

Of No. 5 I know but little, and prefer to wait before recommending it. Nos. 1, 3, 4, 9, 15, 33, and others, are each worth a place in larger collections, but more time is wanted before it will do to advise their general cultivation. They each "promise" well, and I have not the least doubt that several of them will become established favorites in time. With my present experience, I should select from these Hybrids something in the following order: No. 19, 15, 14, and then "toss up" for the others. SAGGAHEW.

EGGS IN WINTER.

We have noticed that a mild winter, with little or no snow; i. e., a season in which the ground is much bare and warm; is the season for eggs. Last winter, hens were laying in all directions; merchants were largely stocked with fresh eggs.

Will not our friends take a hint here, and convert all winters into egg-laying winters; that is, by artificial means, make a mild winter for your hens.

Our aunt said, last winter, that she was going to have eggs from her seven hens. We told her she would be very apt to get no eggs. The season advanced. The weather proved mild. One day she announced four eggs, and did it in triumph.

"Yes, but all the neighbors have the same luck; they all get eggs. How is this? It is the summery aspect of the season that does this, and proves what I said, that hens must have a warm place in order to lay."

Will my aunt or anybody else believe, that as soon as cold weather sets in, eggs will continue? Even my aunt will find out she is mistaken. Hens must not suffer from cold, if we wish them to lay; they must not suffer at all. Feed them as much as we may, they must not shiver in the cold, if they are to lay.

They love to see the sun; they must have ground to be on, and to wallow in; fresh water, and a good, quiet place to go to lay. Most of all they must be warm.—*Maine Farmer.*

For the New England Farmer.

TENT CATERPILLARS.

MESSRS. EDITORS:—I have seen a newspaper item recently, stating that the government of Switzerland has paid one million of francs the present year for the destruction of butterflies; and, however odd the idea of such an expenditure may strike many people, undoubtedly the money could not easily have been better spent for the public good. If our own State of Massachusetts would offer a generous bounty for the collection and destruction of the eggs of the common tent caterpillar, that to such a fearful extent ravages our apple trees, much good would result not only to the farmer, but to the general public.

The common tent caterpillar seems to be decidedly on the increase in our orchards. Their numbers the present year in this section have certainly been unparalleled in my recollection, and we have had accounts of their unusually extensive ravages in various parts of the country. Here, scarcely an apple tree was free from them, and even some small trees were burdened with several colonies; and often when one colony would be removed from the fork of a young tree, in a few days another would be found at the same point, which, removed, a third would soon appear tented at the same point as the others—different colonies successively hatching on different parts of the tree, and choosing a common point for their headquarters. At the same time, in the hedges and forests, scarcely a bush or tree of the several species of wild cherry could be found that was not literally stripped of its foliage.

Looking over some young apple trees last October, I was not surprised to find the clusters of eggs adhering to the twigs in unusual abundance. It was not uncommon to find from three to six clusters on trees not yet large enough to come into bearing, and on trees a little larger, from eight to ten, or twelve, or even more, was no unusual number. Hardly a tree was examined that did not have some. The wild cherry trees I find this fall are exceedingly well stocked, bushes not larger than one's wrist having four or five clusters, quite commonly, and many even more.

To gather them in great quantities would be no difficult nor very expensive operation. So long as the caterpillars are permitted to multiply without check on the wild cherry trees, however well the orchards may be watched and the insects there exterminated each year, the evil will not be materially lessened. The amount of forage furnished by the wild cherry trees, their original food, is, and has for a long time been continually decreasing, and hence they resort to the apple trees as furnishing food the next most agreeable to their taste. The moths are furnished with wings, and guided by instinct to select the most favorable places for the sustenance of their progeny. To exterminate the species, which is a thing not impossible, we must not confine our labors to the cultivated trees alone, but follow them wherever they riot, and attack them in the egg. They are then most easily and safely destroyed, especially on small trees. The clusters of eggs can very easily be detected after the leaves have fallen in autumn, and at any time after prior to their hatching in May, and may be removed without difficulty by the thumb and finger, or by clipping off the

twigs whereon they are deposited with shears.

The course adopted by several European governments in reference to the destruction of noxious insects, based as it is on sound scientific and natural principles, and having the greatest good of the public in view, is certainly most commendable. If Massachusetts would offer a liberal bounty for all the eggs of the tent caterpillars, sent in to some designated place or officer, perhaps a dollar or two per quart, or enough to give a handsome remuneration for collecting, we should soon see a marked diminution in the numbers of this destructive insect, and corresponding good resulting to the general public, as well as to the fruit-growers. Children might gather them with ease from the wild cherry shrubs in the thickets and woods and by the roadsides; and if properly rewarded would do it with as much interest as though they were blueberries. It is evident that if this course were to be adopted by the New England States generally, and followed for a series of years, these insects would be here no longer in such destructive abundance.

J. A. A.

Springfield, Dec. 8, 1863.

For the New England Farmer.

NATURAL SCIENCE IN COMMON SCHOOLS.

How can the Study or the Reading of Lessons upon the Elements of Natural Science find a place in the Common Schools of New England?

Very many people are willing to admit that something of the study of the elementary facts and principles of natural science might be very pleasantly and profitably introduced into the common schools, if there were any room for them. But, they say, there are too many things studied in the schools now; even these are not well enough learned; and to introduce a new study would be absurd; it would be like pouring more into a vessel already too full.

Let us see. I advise every parent who is anxious for the best education of his children, to examine carefully the text books in arithmetic which are now used; to consider the immensely numerous questions which are to be ciphered out and answered, and the rules which are to be committed to memory. I think he will be obliged to conclude that there are vastly too many—four or five times too many—questions to be solved. I think he will be obliged to admit that many of those questions are useless, some of them absurdly useless,—such as will never be likely to occur in the business of life in this world, and some of them such as could hardly ever occur in any conceivable world.

The object of studying arithmetic ought to be to qualify the learner to answer correctly and speedily the questions likely to occur in the transactions of common life. This ought to be done thoroughly, much more perfectly than it is often now done. But to do this would, if a proper selection of questions and rules were made, require not one-fifth part of the time nor one-tenth part of the study which are commonly devoted to this branch. Ask any man of business, How much of the arithmetic you studied in school did you remember twenty years after you left school? How much of it have you ever found applicable to your business? I am willing to leave the decision of the question, How much is necessary? to the an-

swers that will be given to these two questions by the great majority of men of business.

It is a striking fact, most pertinent to this inquiry, that the text-books in arithmetic used as introductory to the highest courses of mathematics in the best scientific schools in the world, the French, the German and the English, are not one-tenth part so long, and would not require one-tenth part of the time to master them, as are the text books and the time devoted to them in most of the common schools in New England. And yet, in the Polytechnic school in Paris, and in the similar institutions in London and in Berlin, admirable mathematicians are made, notwithstanding the brevity of the introductory course in arithmetic.

I say then that, by making a proper selection of the things required to be done in arithmetic, in our schools, four-fifths of the time now devoted to it might be saved, and yet the essential part be much better done than it now is, and children be made better reckoners.

I would not divert from mathematics, in some form, all of the time thus saved. On the contrary, I believe that geometry should be studied in school by all who can possibly have that privilege given them. I would have it studied as the best foundation possible for exact knowledge of form and magnitude, as giving, better than anything else can, an idea of the way in which men have obtained the knowledge of astronomy and the other sciences of distance, and also as furnishing the most faultless specimens that can be furnished of perfectly exact reasoning, of the application of the severest and most rigorous logic. This study is an admirable preparation for accurate thinking, upon all subjects. It has been introduced in some schools; it ought to be, in all; and it might be, and yet leave unexpended a good deal of the time that would be saved by a more judicious arrangement of the lessons in arithmetic.

I would have the parent extend to the study of algebra the same inquiries which I have suggested in regard to arithmetic. What is to be the use of so much of it?

The favorite answer of the advocates of excessive attention to arithmetic and algebra is that it is an excellent discipline to the mind. I admit that the elements of both are a most useful study. I have never been in a school where too much attention was paid to mental arithmetic; and the most useful part of algebra is the mental operation required to put a question into an equation. But, when once understood, the solution is almost entirely mechanical, a statement of the truth of which is proved by the fact that the most difficult operations in arithmetic and algebra are performed, most rapidly and with unerring exactness, by Babbage's machine. Indeed, Prof. Pierce, a competent witness, states that many of the longest and most operose of these operations can be perfectly performed, and the results printed, by the machine, far more rapidly than they can be calculated by the most accomplished mathematician, who, after all, would not be sure of the correctness of his conclusion till he had carefully gone over the operation a second time, while the machine, properly worked, never makes a mistake. To perform difficult and complicated operations requires, doubtless, care and patience, but to say that the performance, by the mind, of operations

which can be better done by a machine, is a useful exercise of the mental faculties, is it not to say that it would be an improvement of the mind to become like a machine?

The writer of these communications is not willing that his opinions on this subject should be attributed to ignorance or to dislike of mathematics. In early life, he was more fond of this study than of any other, and more successful in it. In college, he attained some distinction therein, and, two years after leaving college, he was invited back to teach mathematics there. This pleasant duty he performed for about two years, during which he translated, annotated, and prepared for use by the students, a work on the Differential Calculus, a branch of mathematics which had not previously formed part of the studies of undergraduates. He was urged to remain at the college and give his life to this department of teaching. The temptation was very strong. He resisted it from a rising suspicion, which has gradually grown to a settled conviction, that there was great danger of giving too much time to mathematical studies, to the neglect of others far more important. It would lead too far, to state the grounds of this opinion at length. He will only say that all that he has seen and read upon the subject for many years has confirmed him in it.

Upon other means by which time may be saved, in the schools, for higher and more real studies, I shall have more to say in another paper.

G. B. E.

For the New England Farmer.

INFLUENCE OF THE ATMOSPHERE On the Soil, and on the Animal and Vegetable Kingdoms.

[Read before the Concord Farmers' Club by J. B. FARMER.]

MR. PRESIDENT:—As well might we expect to live and flourish shut up in a glass receiver, with the air exhausted, as to think of any living thing existing on the face of the earth without the atmosphere. Of the fifteen elements that made up more than 99-100 of all known matter, more than one-half are gases, or can be converted into gas. The atmosphere is but a combination of gases, varied somewhat by heat, cold, and other causes.

When Solomon said, "There is no new thing under the sun," his idea might have been, that the elements which compose the leaf, or our bodies, to-day, are the same elements that composed leaves or bodies thousands of years ago. These elements can be changed, but not destroyed. Burn a stick of wood, for instance, and you but change a solid into a gaseous substance, which combines with the atmosphere and is then food for animal or vegetable life. The same is true of all organic matter; the ash only remains. The part that has disappeared will return, perhaps in rain, or shower, to fertilize the soil, or refresh our bodies; or, it may float in the air, and be taken up by the leaf or rootlet of some plant or tree. The elements of creation are the same throughout the world; but may be of a different combination, and affected by heat or cold. Were it not so, what would be the condition of the earth now? The calculation has been made that a thousand millions of human beings die every thirty years, and in addition, there are all the beasts of the field, the fowls of the air, and all the vegetable

productions of the earth, that are as thoroughly consumed as by fire. Were it not for the decomposition of all these bodies, by their being turned into gases, and absorbed by the atmosphere, thence reorganized into living things, life to all, human, animal, and vegetable creation, would be extinct.

I trust I shall be pardoned if I make a few extracts from more able writers than myself, as well as attempt to show the effect of the atmosphere *indirectly* on the soil, by showing how it affects animal as well as vegetable life. Loudon, in his "Encyclopedia of Agriculture," says, "manure is useless in a state of solution, if the water so abound as to exclude the air; for then the fibres, or mouths, unable to perform their functions, would soon decay and rot off." Any one of common observation may see the truth of the above quotation. Nearly every spring, in some part of our oat or wheat fields, the grain is drowned out, as it is termed. So sure as the water excludes the atmosphere from the roots, the plant dies, but it would as surely die if the air were kept exhausted by any other means, as it would to keep the soil covered with water. But he further says—"Water is known to be a condenser and solvent of carbonic acid gas, which always exists in the atmosphere, and is carried down by rains and snow to fertilize the soil; animal and vegetable substances exposed to the alternate action of heat, moisture, light, and air, undergo spontaneous decomposition, which would not otherwise take place."

Speaking of pulverization, he says, "A portion of atmospheric air is buried in the soil. This air, so confined, is decomposed by the moisture retained in the earthy matters, and heat is given out during these processes, more especially if manure has been added at the same time, and the process of fermentation will go on faster when the soil is loose, and the interstices filled with air, than afterwards, when it becomes compressed with its own gravity." Of aeration, or summer fallows, he says, "For this purpose if the soil is laid up in large lumps it is evident that it will receive more heat, by exposing a greater surface to the atmosphere. Clay soils, it is said, may be heated to 120°, which may, in some measure, alter their absorbent powers, as to water, and contribute materially to the destruction of vegetable fibre, insects, and their eggs."

In New England, I think well of fall plowing, particularly of clay, peat, and hard, stony soils, which results in a free admission of air and water, thereby favoring minute mechanical division, the water freezing and occupying more space in a solid than in a fluid state, and thus earthy matter is rent asunder, and the soil crumbles gradually to a fine mould.

It is a well known fact, that the atmosphere warms the soil, when light, and well pulverized, to a greater depth than it does one that is more tenacious.

Thus you see that in addition to the gases absorbed by the soil, you have it warmed, and rendered far easier of cultivation, which is a great advantage in all clay soils. Peat, clay, and black soils, are absorbents of atmospheric gases. We cannot but acknowledge nature's powers, heat, cold, moisture and air, as far superior to any instrument of man's invention, for breaking down tenacious matter, and rendering it fit food for veg-

etable growth.

How often we hear persons speaking of meadows: One has a meadow, situated on a gentle rivulet, with a fine, decomposed vegetable soil, producing abundantly whatever crop is on it, while the other complains that his is not worth a cent. He says his is but a parcel of old sticks, leaves, and grass! My friend of the sticky meadow, what is the difference? Have you ever let nature into your bog hole, with her all-absorbing atmospheric team? No? Go, then, and admit her. All you have to do to have her commence her operations, is to clear out your old ditches, and dig new ones, until you have taken off all the surplus water, and she is there, without money and without price, entering every crevice as fast as the water leaves it, and will continue her work until it is accomplished. She sows no seed as man scatters it, but millions are borne by the gentle zephyrs and terrific whirlwind, and whatever is there, she causes it to spring up, and in time to flourish like a green bay tree. There can be but little difference in the elements of the meadows. The one is finely decomposed, fit food for vegetable mouths, while the other is too coarse for vegetable jaws to masticate.

As climate is a state of the atmosphere, I shall not attempt any discrimination, but will try in an indirect way to show its effect on some of the animal and vegetable creation. I have it from good authority, that if sheep, raised in a cold climate, are taken too near the equator, in Africa, the wool of the progeny, if suffered to go much past shearing-time, soon begins to fall off, and hair grows in its place, and will ever remain so. Another example of the effect of climate can be seen in the fleet Arabian horse. When brought to England its offspring soon begins to grow stouter, and gets to be, in a few generations, stout, heavy horses, and *vice versa*, when taken back to Arabia. The effect of the atmosphere does not end with domestic animals. Compare the fur of the polar bear, or other quadrupeds of the Arctic, with those whose home is near the equator. You see in the effects of climate the wisdom of Him who adapts means to ends.

I cannot close my remarks on the animal creation without saying one word about the bird or insect. Who has not noticed the class of birds that take their food on the wing? At times you behold them high in the air, twittering their merry notes. Again you see them in a more silent state, just skimming the surface of the earth. And what of all this? It but shows the state of the atmosphere equally well with the barometer. Insects cannot easily rise in a cold, damp atmosphere, and it is certain that if the swallow wants his food he must go where he can find it. Hence his moody state, because the insects are under the leaves of grass to protect them from the cold air, and he cannot get them.

My knowledge is too limited to explain the chemical effect the atmosphere has on animal or vegetable creation, but of the truth of the above statement I have no doubt. In regard to vegetation, I will state one fact that came under my own observation.

A few years ago I noted down the weather for a few months, and in that time my peach trees were in full bloom. The wind being in the north-east for fourteen consecutive days, I noticed that

the blossoms remained on the trees longer than usual. This drew my attention to the subject, and I watched the result, which was nearly a total failure of the crop; the peaches never formed. The germ of the young peach turned yellow, and soon fell off. The cause of this, in my opinion, (and that opinion is corroborated by good authority) is, that the cups that contain the pollen never open in cold, wet weather, particularly when the wind is in the north-east. Therefore, there is no impregnation, and thus the truth of the old adage, "A north-east wind blasts the fruit when in blossom."

The above remarks I hold to be correct in regard to all fruits, but as they do not all blossom at the same time, and as many varieties have a succession of blossoms, we do not notice the effect of the atmosphere on them.

Strange as it seems, nevertheless I believe it to be strictly true, that a cold atmosphere is as essential (some part of the year) to produce a good crop of what we term English hay, as manure. Some may ridicule the idea, but you know that when you get far enough south for the ground not to freeze in winter, you are beyond the cultivation of the best of grasses, as they will not grow except in a feeble and stunted way.

Different plants and animals require different food, and a change of atmosphere demands different food for their support. There is wisdom in nature's laws.

The growth in a cold atmosphere is conducive to fat-making principles, while a warm atmosphere possesses more gluten and muscle-making properties; each needed most where nature causes them to exist. Oil for the Esquimaux, and vegetables for the Equatorial regions.

DIVIDING SHEEP FLOCKS FOR WINTER.—In latitudes where sheep are fed dry feed, and are kept confined to stables and small yards in winter, even Merinos will not bear herding together in large numbers. They should be divided into separate lots before, and preparatory to, going into winter quarters. It is better that these lots be made as small as convenience permits, and not exceed 100 each. The sheep in each should be as nearly uniform in size and strength as practicable, or otherwise the stronger will rob the weaker, both at the rack and trough, and drive them about whenever they come in contact. Breeding ewes, wethers and weaned lambs, should always be kept in separate parcels from each other, in well regulated flocks.

Sheep which are old and feeble, late born lambs, etc., had better be sold at any price or given to a poor neighbor who has time to nurse and take care of them. But if kept by the flock-master, they should be put by themselves in a particularly sheltered and comfortable place where they can receive extra feed and attention. This is usually called "the hospital."

English sheep should be divided into still smaller parcels, and with the same regard to age, condition and sex.—*Randall.*

A BEAN came up last spring in the door-yard of James M. Garland, of Hookset, N. H., and giving evidence of unusual thrift, it was protected and allowed to spread itself at will; 205 pods matured upon it, containing 1218 beans.

FAILURE OF SEEDS.

Complaint is often made of the failure of seeds, and dishonestly imputed to the grower or vender, where the unfortunate result is attributable solely to the planter.

The germination of a seed in the soil, is one of the most beautiful and wonderful of all the operations of nature, and when contemplated with a scientific eye, will be found to be the result of a concurrence of causes, so intimately interdependent, and nicely balanced, that failure, even where the vital principle is unimpaired and perfect, can scarcely excite surprise. As a result, it may be considered as produced by the combined agency of earth, air, moisture and heat, and in order that the development may be successful, it is indispensable that these elements be duly combined and adjusted in accordance with the specific habits and wants of different kinds of seeds.

Hence it is that culturists frequently encounter no small difficulty in causing some kinds to germinate; and hence, too, the well founded doubts of the anxious husbandman or gardener respecting certain crops, till the appearance of the youthful plant allays his fears by the gratifying assurance that all is well. We offer a brief explanation of the causes occasioning the frequent loss of crops, as is supposed, from the non-germination of the seed. In order to exonerate seedsmen and producers from the unjust imputations of those to whom want of skill and information in sowing is apt to suggest the supposition that they have been imposed on, we submit the following remarks.

In order that a seed may germinate healthily, it must, in the first place, be exposed to the unrestricted and free operations, conjointly exerted, of the three elements, viz.: *moisture, atmospheric air and heat*. It is also essential that light be excluded until such time as the nutritive matters contained in the seed, shall have been exhausted, or the root, by having obtained a permanent fixture and position in the soil, is prepared to derive its sustenance from that medium.

In the first place, immediately upon being placed in the soil and covered, the seed experiences a modification of its physical properties; its starch is transformed into sugar, or pultaceous matter, which is the appropriate nourishment of the nascent plant. If at this stage of its development, the surrounding soil should be suddenly deprived of its moisture, the plant would inevitably be destroyed. But with a full supply of moisture, the contents of the seed will continue to swell, until, by degrees, the formation of the future root being completed, the point penetrates the integument, or shell, enveloping the seed lobes, in a downward direction, while about the same time the plumule,

or that part which becomes the stem, is evolved, and progressively makes its way upwards to the air, which, with the elements of heat and moisture, are no less essential to its existence, than to the development or germination of the seed.

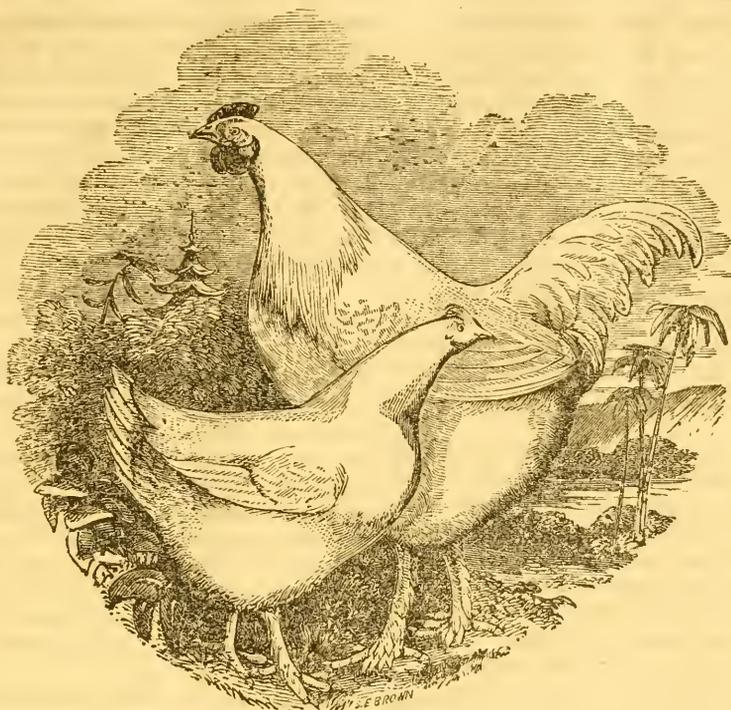
When seeds are planted or sowed, they frequently experience the incipient fermentation, or normal change preparatory to germination, and the earth not being sufficiently consolidated around them, they perish from lack of moisture; or it may be from a too copious supply of moisture, where the ground is humid and unduly retentive around them.

Seeds are sometimes buried too deep, and thus perish from lack of warmth and air. When seeds are of small size, great care should be exercised in the preparation of the soil for their reception. It should be very fine, in which state it will admit of the degree of compression necessary to bring it in contact with every part of the seed, and yet not be sufficiently consolidated to impair its vegetative powers, even in case of drought.

In putting in crops, the careful farmer will consult both the state of the weather and the condition of the soil, and regulate his conduct accordingly. If the surface be dry, and the indications are of clear and dry weather, he will consider an extra amount of covering necessary, for no seed will germinate in a *dry* soil, and that which is moist, and in a condition to retain an adequate supply, exists, at such time only at a considerable depth. But if the weather be cold and the soil wet, he will see the necessity of depositing his seed nearer the surface; it will then be more directly exposed to the vivifying influences of the sun, and be less liable to be smothered by excess of moisture, when the soil is saturated with wet.

Many seeds are so small and the pericarp enclosing the seed lobes so excessively hard, that they generally remain a long time in the soil before germination commences, unless extra care is bestowed in sowing them. By compressing the soil closely around them, this tenderness of development is to a certain extent overcome. But it is more judicious, before committing such seeds to the soil, to prepare them by a temporary immersion in some steep, which will soften the integument, and prepare them for a healthy, and more rapid start.

CHEAP CIDER VINEGAR.—Take the water in which dried apples are washed and soaked, and after carefully straining, put in a vessel; add a pound of sugar, or its equivalent in molasses. Put in a piece of brown paper and set where warm. In a few weeks you will have good cider vinegar. More sugar added, will improve it. The vinegar will also be better, the more concentrated the cider is. The strongest vinegar is made from boiled cider.



A PAIR OF WHITE SHANGHAI FOWLS.

Several years ago there was a sort of *furor* among the people in regard to rearing and keeping fowls. It was not confined to the country, but found more favor in villages and towns than on the farm. It ran its race, however; the fire slumbered; and men, women, and children are quite reasonable again upon the subject. The attention called to it has been productive of more good than harm, we think, as it appears to us that more poultry and eggs have been produced since that fever ran through the land.

There is no doubt on our mind, that attention to poultry on the farm affords more profit on the money invested, than is realized from any other item of equal investment. But the comfort and convenience of having poultry and eggs at hand whenever they are wanted, are sufficient in themselves to recommend their production, even if there were no profit.

The beautiful fowls placed at the head of this article are *White Shanghais*. They have proved themselves to be an excellent breed, as they are of a naturally quiet disposition, come early to maturity, and can be made to reach a large size. Their eggs are of a fawn color. Their bodies are broad and stout, and the legs usually feathered.

As represented in the books, the White Shanghais resemble the Brahma Pootras, in the general appearance of the body, but are entirely unlike each other in the tail. The Brahmas are repre-

sented as without tails, or as having nothing more than a short bunch of feathers, which in the rooster flows over at their ends only in a slight degree, while the male Shanghai has a long and flowing tail. There is a difference of opinion among poultry breeders as to the identity of the two. We wish Mr. Ives, of Salem, or some other person, well informed, would give us his views on the matter.

From the numerous accounts sent us, which have been kept with accuracy, we think it safe to say that *one dollar* per head may be reckoned upon as profit, where fowls are properly provided for in shelter and feed.

HONEY BEES.—We notice much complaint in our exchange papers from all parts of the country that bees have not done well this season. A correspondent of the *Illinois Farmer*, who had ninety swarms in the spring, did not get a single new swarm the past summer. He has reduced his stock from ninety to seventy hives, and thinks one-third of these will have to be fed more or less during the winter. He says: "I do not think there is a young swarm in this town (Mill Co., Ill.) that has got enough honey to winter on, nor have half of the old ones. I would say to all bee keepers, sow a few acres of Alsike or Swedish white clover, it is splendid for the bees and it makes the best of hay."

WINTER CARE OF STOCK.

The change from the young herds-grass and sweet clover of the fields, upon which cattle feed just before going to their stalls for winter, contrasts strongly with the dry hay and corn stalks upon which they are fed after they are tied up. The change must considerably affect them, and therefore they should be brought to it gradually, by feeding them once or twice each day with a foddering of such dry food as they will eat, whether of hay, corn fodder or unthreshed grain. When this is done, no habit of the system is suddenly disturbed, and the animal passes from the green, juicy feed of the pasture to its dry fodder entirely, without losing appetite or being checked in growth.

New milk cows, if treated in this way, will not only yield a good flow of milk through the winter, but if young, will increase in weight, if fed liberally and systematically. Steers will perform sufficient labor to pay their keeping, and grow rapidly under the same circumstances. But in order to secure these results, several things must be observed, and among the first are

Neatness and Kind Treatment.

Without kind treatment, entirely aside from the manner of feeding, the stock of the farmer may grow and yield a fair product in labor, flesh or milk, but it cannot be in that profitable proportion which would be the result of kind and sympathetic care, in connection with judicious feeding. A sudden blow, accompanied by loud and angry tones, will not be soon forgotten by the horse or other animal. They have excellent memories with regard to certain things, as their actions plainly indicate if the blow and loud voice are likely to come the second time. If they remember injuries, why not gentle and kind treatment? Even if the animal is refractory, such management is a thousand times better than kicks, blows and scoldings. A stock of cattle that will shun their owner whenever he approaches, that rush out of their stalls the moment they are liberated, as though they expected a rap from a cudgel or the tingling lash, and that are always ready to leap the fence or break down the bars to get out of the way,—may be transformed into mild and obedient animals by the influence of fair and generous treatment. Under such a temperament they will prove of far greater profit.

Neatness and Order.

A practice prevails, to a great extent, of allowing cattle to lie upon their droppings until they accumulated to a disgusting degree upon their sides and thighs. This certainly cannot be healthful or comfortable. When they range in the pasture they are quite careful not to lie in the same place the second time, and this keeps their hair clear,

sleek and bright. We know that it is somewhat difficult to prevent this, but it can be done by a proper arrangement of the leanto floor, liberal littering or bedding, and a trifle of daily care. The bedding performs a double duty, as it keeps the animal warmer and more comfortable every way, which promotes the production of milk, flesh or fat. The bedding absorbs the liquids, keeps them from the skins of the cattle, and they thus become an essential item in farm economy.

Importance of Regular Feeding.

Under the head of order several things may be observed, but the most important relates to the *time of feeding*. The practice of throwing feed to cattle at any time when the keeper happens to be at the barn, and doing it at irregular intervals, is a bad one. It keeps them in a constant state of expectancy and excitement. If they are lying down and chewing the cud of contentment, the moment the keeper comes in sight the cattle rise and attempt to hook each other, and the horses neigh and paw as though in violent agitation. And this scene occurs several times in the day, unless the animals are actually eating when the keeper approaches.

A better way is to feed them systematically—at regular hours each day. When this is done, they will soon understand that they are to receive nothing out of those hours, and will remain quiet, even if the person who feeds them comes into their presence every hour. Under such a system the appetite is sharp, but as all are fed liberally, no quarrelling takes place among them.

Hay of an inferior quality should make the first foddering in the morning,—as the cattle are then supposed to be hungry,—and the last foddering at night, when they are to remain many hours without fresh feed. The other fodderings should be in small quantities and continued for an hour or two, and then the orts that remain before them entirely raked away.

Preparation of Fodder.

Most New England farmers have more or less corn fodder to be consumed. When this is properly cured and prepared, it ranks next in value to our best English or upland hay. If allowed to remain too late in the field and get black and weather-beaten there, or if put away too green or damp in the barn, it moulds badly and loses its sweetness and nutriment. A good way to prepare corn fodder—we mean every part of it, top-pings, butts and husks—is to run it through the hay cutter and mix with it its own bulk of cut hay of the various qualities on hand; throw the whole into a compact pile, sprinkle with water, add a little salt and mix the whole with a fork. In two or three days, if the barn is warm enough to prevent freezing, the whole mass will be softened and may

be fed out. A little cob meal or other grain added will give the whole a decided flavor and relish, so that cattle or horses will reject nothing but some of the coarser joints of the corn fodder. In this way all the coarser fodder may be used in the early part of winter, leaving the better portions for a later period, when it is supposed the appetite of the cattle is not quite so good. From an experience of many years, we know this course to be economical, while it makes the stock thrifty and productive.

Sunshine and Air.

The practice of keeping cattle and horses in the barn during the day, as well as the night, is becoming quite common. It may be carried too far, as that has been of keeping them in the open yard through many a stormy winter day. Cattle become greatly attached to their accustomed stalls, and will return to them if they can, even in mild and pleasant weather. But they need *sunshine and air*, and should be able to enjoy their invigorating influences for two or three hours every mild and clear day. If this practice is commenced when they are first returned to the barn in autumn, it will soon become a part of their habit, and they will greatly enjoy the change.

There is too much indifference among our farmers in all these particulars. That indifference is money out of pocket. It is far easier to save by system and economy what we have already earned, than to labor to earn more to be wasted by negligence and carelessness.

GREAT DESTRUCTION OF TREES BY ICE.

After an autumn of unusual mildness, and of an unsurpassed forest brilliancy, Old Winter set in with rather a severe grip before the middle of December. Up to the 25th there was no driving storm, such as we sometimes have, accompanied with severe cold, but a dry, low temperature with the thermometer vibrating about zero for several days in succession. This state of the weather was preceded by a mild snow storm which soon changed to rain within fifteen miles of the sea coast. Beyond this, and south-west for a distance of forty or fifty miles, and a breadth of less than twenty miles, north and south, the rain froze upon everything that it touched. The ground was soon cased in an icy covering, which has continued to cling to it like the shirt of Nessus for more than a week, without abating a jot in its brittleness or brilliancy. Nothing can exceed the grotesque forms everywhere presented by the bending trees, or the brilliant scene by sun or moonlight. We find in the *Boston Journal*, the following :

Destruction of Trees by Ice.

The slight snow storm which occurred in the region of Boston, on Thursday, the 17th inst., ended

in a drizzling rain twenty miles west of the city. It commenced raining Thursday evening, continuing through the night and most of the following day, Friday, and froze as fast as it fell, to everything it touched. When the sun was unclouded for a short time on Saturday, the spectacle presented was truly magnificent. The late sylvan was suddenly transformed into a *silver* world. Everything was covered with glittering ice—fields, fences, shrubs and trees, and when the wind slightly moved the latter, the noise made one think of the clatter of ten thousand cavalry scabbards, or the rush of mighty waters. But the sight, gorgeous and pleasing as it was, was attended with the greatest destruction of trees by ice that has ever been known in the memory of a veteran agriculturist. Before noon, on Saturday, limbs, varying from one inch to ten inches in diameter, began to fall from the grand old elms in every direction. Sometimes the entire side of a splendid tree would go down, leaving the other whole; in others, limbs would fall from different parts of the tree, while in many cases nearly every branch would be broken from the top, leaving nothing but slivered stubs pointing to the skies. In the afternoon some of the sidewalks and highways became so obstructed that men were sent out with axes to clear away the ruins—some of the branches being too heavy for two men to move out of the roads. Some dwelling-houses were injured by the falling masses—in one case twenty or thirty feet of the covering was rent away, slating torn off, and the house otherwise injured.

In some places the roadsides present a most interesting appearance. The white birches, all sparkling with their diamonds, are bent over on each side toward the road, their tops reaching into the carriage-way, while their pendulous branches hang on every side, forming the most grotesque arbors and arches imaginable. By the moonlight they remind one of the fairy tales of the East—of vast halls peopled with supernatural beings and glittering with ethereal lights. But the sudden crash and the moanings in the forest, proclaim the fact that our old and splendid shade trees are rapidly coming to the ground. Elms suffer most, having long and sweeping branches. Willows and locusts are also badly broken. Fruit trees are not yet much injured; but all are still covered with thick ice. On some of the maples, every little twig holds a ball of ice as large as a good sized walnut, and from the under side of the ball icicles of various lengths are suspended. A brisk wind, while the trees are in their present condition, would work wide-spread ruin among them all. A friend weighed a branch with the ice on, and found it fifteen pounds. On thawing off the ice the branch weighed less than two pounds.

The above description does not exceed the reality of the case. Indeed, it would be difficult for the freest pen to do so. The account, however must refer to the country west of the city, as no ice made there upon the trees.

DURING the month of August the value of the government horses brought from Canada and entered at Detroit was \$135,000. During the quarter ending October 1, the whole number there was 3167, worth in round numbers \$200,000.

EXTRACTS AND REPLIES.

CULTURE OF TOBACCO.

On taking up the *Monthly Farmer* this morning, my attention was arrested by the remarks of "Franklin," on the "cultivation of tobacco." The inquiry arose, whether it is worth while to grow it at all? Is it not a crime to waste our lands and strength in growing that which benefits no one? It is admitted by many that the use of tobacco often does a positive harm. I have known many whose mind and person have been seriously impaired by the excessive use of tobacco. I now have in mind a near neighbor, a man of independent fortune and estimable family, who is an inmate of an insane asylum, solely from the excessive use of tobacco, in the form of a cigar! One such case should be sufficient to deter others from the habit of smoking.

Dec., 1863.

ESSEX.

SETTING AN ORCHARD.

I am about setting an apple orchard, and wish to inquire of you or some one through the *Farmer*, who has had experience in orcharding, whether the New York trees will do as well as those grown near by? The piece I have selected is on a hill and bad to get manure on. It is, or was, a rich, deep soil, but when new was plowed and cropped without manure, until nearly exhausted, and then turned into pasture, and has remained so some fifteen years. I think of putting on ashes and mulching with brush muck and leaves, as it is near a wood lot. How will that do? Is there any thing better? How thick should I set them?

Woodstock, Vt., Dec., 1863.

C. F. LINCOLN.

REMARKS.—We have never set apple trees brought from Western New York, and cannot speak of them from any actual experience. They have been set in our neighborhood, and when treated properly have succeeded well. We have set several hundred pear trees from the New York nurseries, which have grown finely. Apple trees should be set at least thirty feet apart; some persons prefer a still greater distance. The ground should be thoroughly plowed, and the holes dug eighteen inches deep and five or six feet in diameter, so that in setting the trees there may be ample room to extend the roots in every direction, on a fine, rich soil. If the field, if in sward, is planted and cultivated one year before the trees are set, the work of setting can be more easily, and will probably be better, done.

For the *New England Farmer*.

LEARNING FROM EXPERIENCE.

This is a source of information especially valuable to the farmer. Nor yet need it conflict with the knowledge derived from books, as some would have us believe. For a book is often but a transcript of the author's own experience. Book-farming, as it is termed, is only to be denounced when a new novice in the business lays out and attempts to execute his plans entirely "by the book," without consulting his own or others' judgment as to the adaptation of means to ends. It is very much like investing in a farm that looks rather better in the advertisement than on the premises; or as it used to be in reference to city lots, that the luckless speculator in the far West found only to exist on paper. No writer on agriculture, as I take it, claims to be infallible, so as to render superfluous the exercise of one's private judgment. And no matter-of-fact correspondent of the *Farmer*, even, can expect that any theory he contributes, or any result of his particular experience will be accepted as law for all. It is only claimed that every interested reader should be liberal enough to "prove all things and hold fast that which is good." Circumstances, too, alter

cases, and what this and that man may confidently recommend, after successful trial, may fail in another man's case, simply because the circumstances are changed.

I have often wondered that so many diverse theories have been woven by philosophers in their closets, to catch the fancy of that class of men whose life is so much out-of-doors. No individual can have so little need of "such stuff as dreams are made of" as the plain, blunt farmer. And only let him suspect that an author has had no personal experience of what he writes about, and he regards him as one that "darkeneth counsel by words without knowledge." Moreover, the reason is obvious why the amateur farmer is so liable to ridicule and failure. His ideas on the subject are very apt to be analogous with dreams of Arcadia, and rural pictures that look so refreshing on canvas, and so alluring to the summer tourist amid green fields, and grand old woods. But when he comes to the homely reality of handling the subject without gloves, or cosmetics, the romance of it is taken out with the starch, and he beats an ignominious retreat. Let us not be understood as disparaging that class of men who retire from business in the metropolis to some estate in the country, where their means enable them to enjoy the sweets of rural life, without its drudgery. Many such have come to be model farmers, reclaiming many a barren waste by their cultivated taste and liberal expenditures, causing many an old village to "look better than new," and distancing all competitors at the agricultural fair. It is only the "snob," or degenerate "sprig of gentility," that lays himself open to the contempt of every honest tiller of the soil, when transplanted thither, by talking flippantly on what he knows nothing about, and affecting to live in clover, while feeling above sowing the seed.

There must be a beginning to life on the farm, and still everything does not depend, as it seems to me, on the start. As time passes on the old adage comes in play, "live and learn." One year goes by, and leaves behind its lessons of experience, richer than all the garnered fruit and grain. The man may not have realized from this first trial the full fruition of his hopes. The seed-time may not have been propitious as he had calculated, or the mildew, worm and untimely frost may have conspired to dampen his enthusiasm and undermine his faith. But he is not alone in these reverses—hundreds share them with him. And yet they are not discouraged, for experience has taught them to expect alternate good and evil fortune. This same schoolmaster will instruct him—and how many men in this world have gone through years of reverses and all been thankful for the experience thereby gained! But we are not necessarily taught from this source to expect failure—but rather how to avoid it in time to come. We have gone the round of the twelve months, and now are about to traverse the same cycle again. We have the "lamp of experience" to light our path. It reveals, also, our mistakes and blunders in the past, and indicates now a better way. It shows in bold relief the rock, perhaps, on which we have once been wrecked, and, like a skilful navigator, we will heed the warning light, and this time steer clear of the breakers. Thus every year we may grow wiser to win success, and escape failure, though, all the while, reminded

that uninterrupted prosperity in this life of discipline is neither to be expected nor desired.

Farmers, as a class, are not great readers, simply because they have not the time or means for this end, but every one has at hand his volume of experience; and I, for one, have been largely indebted in this respect to one and another who had little "book-learning," and only a common school education. They confessed themselves illiterate, but knew enough to keep their journal of the weather and crops, year after year, until it had become a most valuable book of reference. Besides this, they had accumulated a fund of information, more precious to them than libraries, because all gleaned from their own personal experience; and an encouraging word or two would unloose their tongues, and render it a privilege to sit at their feet and learn wisdom. Some poet has said that,

"Old experience doth attain
To something like prophetic strain."

And this is why old men do sometimes seem invested with the gift of prophecy. Why should not a man that has reached his three score years and ten, and can look so far back over the past, be able to look farther ahead than those whose experience is but of yesterday? The ancient prophets we are wont to regard as men of heavy locks and wrinkled brows, and venerable aspect generally. Their far-reaching vision was of course due primarily to inspiration; and yet their long experience of men and events must have contributed not a little to their deep insight of the future. No wonder, then, we have this injunction, "thou shalt rise up before the hoary head, and honor the face of the old man!" But with all this deference to age, let me caution the well-meaning farmer against a mistake made by the infidel Hume. He disbelieved in *miracles*, because he never had any *experience* of them. So some better men than he will have no faith in this and that miracle of agriculture, because such phenomena had never fallen within their own experience, or that of their fathers before them, and thus they keep moving in the old ruts which will by and by be worn so deep that they must halt, while the world moves on without them. W. E. B.

For the New England Farmer.

HOPKINTON, MASS.

How it got its Name—Its Manufactures—Good Highways—Investments in Farms and Stock—Agricultural Reading—Little Cedar Swamp Drained under the Law.

"Tot coniecta manu præruptis oppida saxis."

So many towns upreared by hand on cragged rocks.

On many a rugged New England hill, so sterile as to be almost valueless for cultivation, we find a flourishing manufacturing village and an industrious and thrifty people. Such towns are happy evidences of the enterprise and perseverance of our people. The growth of a town situated on the bank of some noble river, furnishing ready facilities for communication, and an abundant water power, is easy and natural. Lowell, Lawrence, and Webster are instances of such a growth. But there are towns which have been blessed with none of these promising beginnings; which nature has slighted and left without a dowry, that have called to their aid the power of steam, and through the inventive genius of the people have achieved a name in commerce and a place in the records of industry. Of this latter class is

Hopkinton, situated on a ledgy ridge in the south-west corner of Middlesex county, twenty-eight miles west south-west from Boston. It was originally an extensive tract of land known among the Indians as Maguncook, and famous for its rich hunting grounds. Although not permanently settled until 1710, its history commences as early as 1657, and is interwoven with that of the University at Cambridge.

A gentleman in England by the name of Hopkins, an ardent lover of learning, became deeply interested in the bold project of establishing a college in the wilds of America, which the Puritans had formed, and at his death in 1657 bequeathed eight hundred pounds sterling to Harvard College and the grammar school at Cambridge. This money was invested in the tract of land just described, which, in honor of its donor, has since been known by the name of Hopkinton, under which name it was incorporated in 1715.

The only endowments which nature bestowed upon it were, wood, granite, and the mineral springs at the west part of the town. These are three in number, each differing in properties from the others. They have been a favorite resort in the summer months until 1862, when the hotel was destroyed by fire.

Hopkinton is engaged in that branch of labor which, according to the late census, employs a larger number of operatives than any other single branch of American industry,—the manufacture of boots and shoes. In reference to the number of cases of boots annually made up and sent to market, it has but one rival in the State. During the past five years, great improvements have been made in the machinery used, and in the methods of manufacture. The application of steam power has been of some advantage, although not available to so great an extent in this as in many other branches of industry.

Situated aside from any line of railway, and realizing the importance of rendering the means of transportation as easy as possible, the town has paid especial attention to the improvement of its highways, and has discovered that the inexhaustible beds of granite which abound here are the very best material for roads. It has purchased and has now in successful operation a crushing machine, operated by steam, which converts large blocks of granite into rubble with a rapidity that is truly astonishing.

Having intimated that the natural resources are limited, the reader will, perhaps, conclude that agriculture is little attended to. But the spirit of enterprise is diffusive, and manufactures always encourage agriculture. The demand for farm products, which is created by a community of mechanics, stimulates the farmer to improve his soil and multiply its products. We trust that the yeomanry of Hopkinton understand this sort of philosophy, and are not blind to their own interests. Although they have invested only \$40,000 in farms, stock and implements, there are signs of progress among them. They have a farmers' club, which holds semi-monthly meetings, and an annual exhibition. They have also an agricultural library, and besides a goodly number of other agricultural papers, a club of seventy subscribers to the *New England Farmer*. These things betoken reading, thought, and discussion, which are precursors of right action. And it is

one of the objects of this article to present a brief statement in relation to a work which they have had in progress during the past two years, hoping that others in the same circumstances may profit by their example.

THE IMPROVEMENT OF LITTLE CEDAR SWAMP.

This name is applied to a tract of low land one mile in length and of variable width, comprising some two hundred acres in the east part of the town. This land has been usually covered with water during a portion of the year, and has produced only a small quantity of very inferior hay. It is the property of eighteen proprietors, a part of whom having given the subject considerable thought, have long desired to make the experiment of thorough drainage, but being unable to convince all the owners of the expediency of such a movement, were not able to get the enterprise started. They resolved in the summer of 1861 to avail themselves of the provisions of the law for the improvement of meadows and swamps. (See chapter 148, page 750, General Statutes of Massachusetts.)

Their petition to the Superior Court was answered by the appointment of William F. Ellis and Elias Grout, of Ashland, and David Fiske, of Framingham, Commissioners, to prosecute the work. The first named gentleman being a civil engineer, and the other two having had experience in improving meadow land, the appointment was considered peculiarly appropriate. The parties were heard, a survey made, a plan agreed upon, and about five hundred rods of ditch opened. The main channel is four feet in depth, and eight feet wide at the top and six at the bottom. The other ditches are four feet in width and of depth adapted to grade.

As these ditches extend entirely across the meadow, each proprietor can connect cross ditches with these and drain his own land and make such improvements as he deems for his interest; it being the design of the Commissioners to proceed only as far as the protection of the law was necessary, leaving the completion of the work to the parties interested. The cost of the improvements already completed is estimated at five hundred dollars, which is assessed upon the owners in proportion to the benefit which each receives. A small plot of this land has already been plowed, and was planted with potatoes the past season, but in consequence of the severe rains did not succeed. A plot which was topdressed with sand two years ago produced a superior quality of hay the past season.

The question which the proprietors desire to have answered now is, How is this vast tract of meadow to be reclaimed? Shall we plow it? Shall we burn it? Shall we dress it with sand? And if so to what depth? At what distance apart will it be necessary to cut cross ditches? Replies to any of these queries are respectfully solicited by the proprietors.

VIATOR.

THE PINE LEAF SCALE.—Some time back Mr. A. A. Crampton, of Coal Valley, Ill., forwarded to this office a number of Scotch pine leaves, (*Pinus sylvestris*), covered with insects which he says "are destroying his finest trees, causing the leaves to turn yellow and fall, the tree ultimately dying." —*Prairie Farmer*.

WOOD ASHES AND CHARCOAL FOR WHEAT.

In a paper read some years since before a meeting at the State House, Albany, N. Y., Dr. LEE, an able friend of agriculture, presented some very valuable suggestions relative to wheat culture. In the analysis of Sprengel it is asserted that the mineral proportion of it amounts to only about three per cent. of the whole; and that in wood ashes we have very nearly the same mineral ingredients, and in almost precisely the same proportions. Hence the inference that soils most deficient in wheat growing principles would be greatly benefited, if not actually made capable of producing excellent crops, simply by a small dressing of ashes.

As regards charcoal, the expense of supplying a sufficient quantity to the soil would not be large. Charcoal is not a manure in itself, properly so considered, but merely a *caterer* of *pabulum*. Twenty bushels of finely pulverized charcoal to the acre, would probably be sufficient for most soils, and as, from its well known indestructibility it endures unchanged for years, the application would scarcely require repeating oftener than every eighth or tenth season, to produce unmitigated, its most salutary effects. As regards ashes, Dr. LEE says: "Being but slowly decomposed by the vital action of plants, ashes are an enduring fertilizer when compared with stable manure. Mixed with quick lime, their good effects are more speedily obtained. Lime will render alumina, either in the soil or in leached ashes, soluble in water, so it can enter the minute pores of the roots. Clay in the soil is always combined with a large portion of silica; and before it has been exhausted by continual cropping, it holds in combination considerable potash and soda. Lime, by combining with alumina the basis of clay, liberates these alkalies and silica, which uniting chemically, form soluble silicates of potash and soda." These also enter into the circulating nourishment of plants, and are decomposed in the stems of grasses and cereals. The silica goes to make vegetable bone, to keep the plant upright; while the potash and soda go back to the earth, to dissolve, as before, another portion of sand to be also absorbed and transformed into bone. It is in this way that a few ashes, applied to a sandy soil, will enable grass and grain to take up the eighty-one per cent. of flint found in their ashes. Lime will do the same thing on clay soils, for the simple reason that they generally do not lack potash, soda and magnesia."

In relation to the organic elements of this vegetable—a subject as yet but imperfectly understood by the great mass of practical agriculturists, Dr. L. remarks:

"I come now to speak of the organic elements of the wheat plant, which, as I have already intimated, form ninety-six or ninety-seven per cent. of its substance. Water and its constituents, oxygen and hydrogen, carbon and nitrogen, are the four elementary ingredients of all cultivated plants, besides their minerals. As there is no lack of water or of its elements, oxygen and hydrogen, our attention will be confined to obtaining a full supply of carbon and nitrogen. These are indispensable, and, fortunately, nature has provided an amount of carbon and nitrogen in the air, if not in the soil, more than equal to all the wants of vegetation. A large portion of the fertilizing elements of vegetable mould, in a rich soil, is carbon, and a small portion is nitrogen; both of which are usually combined with other substances. These important elements are often nearly exhausted in fields which have been unwisely cultivated; and I have paid much attention to the subject of cheap and practical renovation. By the aid of clover and buckwheat, dressed with gypsum, ashes, lime, or manure, and plowed in when in blossom, much can be done in the way of augmenting the rich vegetable mould so desirable to a certain degree, in all soils. Straw, cornstalks, leaves of forest trees and swamp muck, made into compost with lime and ashes, are of great value. Charcoal, well pulverized, and saturated with urine, I regard as the cheapest and most useful fertilizer that can be applied to a poor soil, for the production of wheat, or almost any other crop.

The earths contained in charcoal, as the analysis of its ashes demonstrates, are identical with the earths found in the wheat plant. Coal contains a very large portion of carbon, and will imbibe from the atmosphere a large quantity of nitrogen in the form of ammonia and its carbonates. Unlike stable manure, the salts of lime, potash, soda and magnesia, it will not waste by premature solution nor by evaporation. On the contrary, it is of incalculable value to mix with the liquid and solid excretions of all animals; to absorb and fix in a tangible condition those volatile, fertilizing elements, which are so prone to escape beyond our reach."

DE SANSURE found that charcoal formed from box wood, in twenty-four hours absorbed and retained within its pores, the following volumes of the several gases below named:

	<i>Volumes.</i>
Hydrogen.....	1.75
Nitrogen.....	7.5
Oxygen.....	9.25
Carbonic oxide.....	9.42
Olefiant gas.....	.35
Carbonic acid gas.....	.35
Nitrous oxide.....	.40
Sulphuretted hydrogen.....	.55
Sulphurous acid.....	.65
Muriatic acid.....	.85
Ammoniacal gas.....	.90.

It may be here proper to present an analysis of wheat, and for this purpose we select the following made by the celebrated BOUSSINGAULT. The wheat was dried at 230° *in vacuo*, and was found to contain,—

Carbon.....	46.1
Flydrogen.....	43.4
Oxygen.....	5.8
Nitrogen.....	2.3
Ash.....	2.4
	100.0

Before taking leave of the subject we will say, that the evil called "smut," so generally and justly complained of, is not probably utterly irremediable. If the seed be *thoroughly* purified by washing in clear water, and then soaked in solution made of lye from common wood ashes, common salt, saltpetre, potash, glauber salts, and of unslacked lime, of a specific gravity adequate to fairly float a common hen's egg, the germinating power of the *smut* will be destroyed, and the produce of the crop uncontaminated by the disease. The above salts are of a cleansing and caustic nature. Wheat from the same bin, sown without this preparation, and in contiguous fields, has been rendered worthless by smut, the crop from the prepared or cleansed seed being pure.

ALARMING DISEASE AMONG STOCK.

The Stockton (Cal.) *Independent* says, that on the range of the Mormon slough, about eight or ten miles from this city, a disease has recently attacked both horses and horned stock, which generally proves fatal in the course of from twelve to twenty-four hours after the animals are afflicted.

One farmer has lost about \$3000 worth of cattle, and others have suffered greatly. First they are taken with a sudden swelling, then become blind and stupid, then drop and die. Mr. Perryman has lost seven head of cattle; Mr. Kennovan, four head; Mr. Rogers, two head, and several other parties have been sufferers. A cow belonging to Mr. Thornlow, one of our Supervisors, dropped down and died suddenly, having exhibited the symptoms above described but a short time, and when the animal was flayed and dissected the flesh appeared as if it had been battered and bruised, so bloody was its surface found. Mr. Wolf, who has had much experience among stock, gives it as his opinion that it is a species of virulent erysipelas. He believes that the disease should be treated in a manner calculated to check erysipelas alone, as he has observed that the epidemic afflicts cattle and horses in the exact way that the above named disease affects the human family. If the disease prevails to any great extent it will prove a great calamity to our country, as it contains a large quantity of very valuable stock.

SONG OF THE SPARTAN MOTHER.

Away with all sighing! away with all tears!
 My boy shall behold, not my grief, but my pride;
 Can I faint his young manhood with womanish fears,
 When the flag of his country is scorned and defied?
 I will arm him, and bless him, and send him away,
 Though my heart breaks with grief when he goes from my
 sight;
 I will bid him not falter or blanch in the fray,
 But fight to the death for the Truth and the Right.
 I must teach my brave lad what it is to be true
 To the Red and the White and the stars in the Blue.

'Tis to love the mild rule of the land of his birth,
 To succor the weak in the thrall of the strong,
 To honor all manhood, to cherish all worth,
 To further the right and to baffle the wrong,
 As the nations throng onward toward Liberty's light.
 From the gloom of misrule—'tis to march in the van,
 With God as the leader, with Justice and Right
 Perfecting his purpose—ennobling the man.
 'Tis a sign and symbol—it is well to be true
 To a cause which is beleaguered with the Red, White and Blue.

'Tis a Text and a Faith, on the land and the sea,
 A Gospel in Peace—Inspiration in War;
 A nation's Evangel—a Creed to the Free;
 The Scripture of Liberty, Order and Law,
 Shall apostates revile what our sires adored,
 And the steel of hot vengeance die reddened in dust?
 Shall apostles of bondage, of handcuffs and sword,
 Trail the pride of the faithful, disheartened in dust?
 No, never, while mothers teach sons to be true
 To the banner of banners, the Red, White and Blue.

He's my all! he's my treasure! but take him, dear land,
 And add him a jewel to Liberty's crown—
 One hero the more for your patriot band—
 The widow's last mite to the nation's renown.
 For I'll arm him, and bless him, and bid him go forth,
 To take his proud stand in front of the wars,
 And add his own blade to the swords of the North;
 Unheathed for the triumph of Truth and the Laws,
 For his brave heart has learned what it means to be true
 To the Stripes and the Stars in the union of Blue.

N. Y. Evening Post.

For the New England Farmer.

A SKETCH OF FRANKLIN.

"The thunders of a mighty age
 May drown the voices of the past,
 But thou—the printer and the sage—
 Thy name shall live time shall last."

The town of Franklin, Mass., was undoubtedly the first town of the name, as it was set off from Wrentham in the time of the Revolutionary war, and when its illustrious namesake was in France. This fact of the appreciation of the Doctor's greatness in its early youth is an honor to the men who named it, and he, in acknowledgement of the compliment, presented the town with a library of books instead of a church bell, as some one had suggested, supposing, as he expressed it, that "the people of Franklin were more fond of sense than sound." Every year as we come around our altars at our annual thanksgivings, we are expressly called upon to pray God to save our respective Commonwealths; and as we pray for them, and as history—that "reverend chronicler of the grave"—treasures up the distinguished acts performed within the limits of larger and more populous regions, may not it be well to communicate to the world the most distinguishing characteristics of our smaller towns?

The town of Franklin is situated about twenty-six miles southwest of Boston. The Norfolk Co. Railroad intersects it, the principal depot being situated in the most thriving part of the central village. The soil of Franklin is mostly light, although some of it is excellent for cultivation. It is something like a cross of the hilly, rocky, springy lands of Worcester and Berkshire Counties, so excellent for grass and orcharding, and the light soil of the shore towns of Plymouth Co.

Still, there is considerable done at farming here, and like our enterprising friends of the Cape, we are developing the resources of our meadows by the culture of cranberries, which seem to be the most profitable crop ever raised this side of cottondom. The most important of these meadows is that of Erastus Miller, M. D., of Providence, R. I., a native of Franklin, from which he obtained about 1200 barrels this year. It is supposed to be the finest fresh water cranberry meadow in the world. The Doctor is extending his cranberry grounds; if all our Drs. would emulate the example of Dr. Miller, by investing their surplus capital in the productions of fruit, they would make money by the operation, notwithstanding the fact that it would be the means of promoting the health of their patients more than all their drugging.

The principal manufacturing business done here, is that of straw goods. We have six straw factories, all of which are expected to manufacture this winter. The proprietors of three of these shops have wholesale stores on Broadway, New York, which are wholly supplied from these shops. This would seem to be a rather singular fact, considering that the population of the town is but little more than 2000. There is also something done in manufacturing boots. We have one manufactory, Mr. J. M. Freeman's, while many others make for firms in Medway and Milford. Besides these, the Messrs. Ray, of Unionville, three enterprising brothers, carry on a large business making shoddy. By this means, the appearance of the above named village has more than trebled in importance, and we may suppose its business has met with at least equal success.

I forgot to state that the Dr. Franklin library is still partly in existence. Unfortunately, some of the volumes are lost, but the remainder form the basis of a fine new library, containing from 1200 to 1500 volumes of the choicest standard historical and literary works of the age, which is placed at the disposal of every man in town, for a trifling annual compensation; a privilege by the way, which few towns small as this enjoy. Several of these works were written by our worthy townsman, the Rev. William M. Thayer, the talented author of the "Bobbin Boy," the "Printer Boy," (Franklin) the "Pioneer Boy" (Pres't Lincoln,) &c., &c., all of them highly entertaining and instructive books.

It is often the case that a town like this, though small in territory and population, wields a far greater power through its children, over the destinies of the nation, or even of the interests of human civilization, than its unpretending appearance would seem to indicate. Washington, Webster, Clay, President Lincoln and many other of our greatest men were born in thinly settled places. The late Hon. Horace Mann, whose intellectual combat with Daniel Webster is acknowledged by all to have resulted in the triumph of the former, and who received the encomiums of Senators Sumner and Seward, and other distinguished men, as the able champion of education, temperance and freedom, was a native of this town, as was also Judge Theron Metcalf, of Boston.

While education, liberty and Union, the principal elements of American civilization, shall continue to make the Yankee what he now is—the most energetic, patriotic, intelligent, enterprising and successful inhabitant of the earth—may our

little town, as for the last 80 years, continue to bear the name of the Philosopher and Statesman of our country's earliest years, and may she not prove unworthy to bear that name as a monument to the undying memory of his noble deeds and words. And to close. Mr. Brown, if you wish to see a village as neat and tasteful as any of its size, with inhabitants intelligent, industrious and hospitable, call and see us. Furthermore, what is most important of all, we are thoroughly loyal, and, myself included, real black republicans, and emancipationists.

MONTHLY READER.

REMARKS. — We thank you, Mr. "Monthly Reader," for your interesting sketch of Franklin, and for the invitation to "call and see us." We have been there, and had the pleasure of talking to your enterprising farmers "in town hall assembled," and of looking into several of the straw manufactories to which you refer in your sketch. But we are all the sharper to see you again for having once been there.

REARING LAMBS.

The rearing of lambs, both for the renewal and increase of the flock, and for the use of the butcher, is a matter which deserves more care and attention than is usually bestowed upon it by our farmers. If the bucks or ewes are not in good condition at the time they are brought together, or if the latter, during the period of gestation become reduced and weak the chances are that the progeny will fail altogether, or at least lack the vigor necessary to carry them successfully through the first winter. We do not mean by "good condition," that the sheep should be fat, for that extreme should be equally as much avoided as the other; but they should be vigorous and healthy, and in first rate store order. A healthy buck should not be required to serve over fifty or sixty ewes, as such a number is a sufficient tax upon his powers; more than this is liable not only to permanently injure the male, but also to produce a feeble progeny.

The period of gestation in ewes is twenty-one weeks; so that, where it is desirable the birth of the lambs should occur early in May, the bucks should be turned into the flocks about the first of December. This period may be varied a little either way, according to locality and climate. As young ewes are more apt to be careless and improvident mothers, neglecting, and sometimes disowning their lambs, more attention is required for them than for older sheep. Many of the English shepherds separate the former in the fall, and serve them a week or two later, in order that the season shall become further advanced, and the lambs less exposed to a chill and adverse temperature. The ewes with lambs should be kept quiet and not subjected to fright or excitement, well fed, and comfortably sheltered. The successful rearing of a fine young flock will amply repay the farmer all his care.

Where twins are produced by some of the sheep, while at the same time others have lost their lambs, it is a good plan to take one of the twins from the former and give it to the latter. Some difficulty is occasionally experienced to get

the lamb adopted, but it is usually overcome by shutting it and the new mother together for a few days; and in extreme cases, binding the skin of the dead lamb upon the back of its successor. Bucks, by carelessness and inadvertence, occasionally get mingled with the flock unseasonably, and occasion much trouble, and sometimes loss. We once knew a flock of ewes that got with lamb in September; and, as a consequence, they gave birth to their progeny in February. He kept them sheltered and well fed, making roots and other succulent materials a portion of their food, turning all his barns and out-buildings into sheep-hospitals, and devoted much time and attention to the helpless lambs brought forth in the midst of a rigorous winter. It thus turned out that scarcely a lamb was lost, and at the subsequent washing and shearing, that flock of lambs was the admiration of all who saw them. One of the ewes, after her lamb was born, failed to give it suck, although the udder was distended, and apparently full of milk. On an examination, however, and attempt to milk the dam by hand, a thick fluid exuded, nearly the consistence and appearance of candied honey, which the lamb swallowed with avidity, although its own strength was insufficient to draw it from the teat. The lamb thrived upon it, however, swallowing as it was pressed out by the hand, until, in the couple of days, the milk assumed its natural flow, and needed no further special attention. This instance is cited, not for the purpose of urging the month of February is one propitious to the birth of lambs, but only to show that even an untoward event, if properly managed, may be turned to profitable account.

Where lambs are designed especially for the butcher as early period of birth as is consistent with safety is desirable. Like any other production in the market, early and well-developed specimens command the highest price and the readiest sales. Let us assume as a basis of calculation, for the profits of lamb rearing for the market, the following data in a flock of sixty common woolled, well-developed ewes. These, if properly cared for, will, by offsetting the twins against the losses, raise one lamb each. Setting aside ten of the best yew lambs as substitutes for ten of the oldest dams, whose powers will soon begin to fail, we have left fifty for sale; and the debit and credit sides of our account will stand as follows:

STOCK ACCOUNT.	DR.
To 60 medium woolled ewes at \$3 each.....	\$180 00
Interest or investment one year.....	12 00
	<hr/>
	\$192 00
CONTRA.	CR.
By 60 fleeces 3 lbs. each at 30c 7/8 lb.....	\$54 00
By 50 lambs for slaughter at \$1 50.....	75 00
By 10 ewes displaced by lambs at \$3.....	30 00
	<hr/>
	\$159 00

This sum is nearly eighty-three per cent. on the capital invested, and by substituting ten lambs annually for the oldest sheep, the entire flock is renewed in six years, and therefore subject to no deterioration. In the above calculation it will be observed we have made no account of the keeping of the flock, an important item it must be admitted; but the best figures we could give would only be proximate, and inapplicable to many localities. We, therefore, leave for each farmer to determine for himself. Within any reasonable

bounds the above margin leaves ample room for profit, and we have no doubt our farmers will assent to the proposition when we say, that rearing lambs for the butcher, taken in connection with the fleece of the dam, is a profitable employment where the soil and other circumstances render it available. There are other pecuniary considerations worthy of note in this connection, viz., the rapidity with which a return is obtained, and the regular annual period of its receipts. In the rearing of horses, for instance, several years must be awaited for a full development of the animal, and the interest of the money lost through all the intervening time. Again, the individual instances of casualty and loss will not be so severe. There is a wide difference for instance in the loss, say of half a dozen sheep at three dollars each, and that of a valuable colt worth two hundred. Other considerations might be mentioned equally cogent, but with the above suggestions, we leave the subject at present to the considerations of our readers.—*Exchange.*

For the New England Farmer.

BUMP'S PATENT ATMOSPHERIC AT-TEMPERING CHURN.

The inquiry in the *Farmer* respecting this invention, by a correspondent from Fitchburg, has prompted a few thoughts which may be of interest to those who have not yet been victimized by it. I have little to say in direct reply to that inquiry. A neighbor of mine, who has tested it to some extent, is of the opinion that it is easy to operate, but requires considerable time to produce butter. It may or may not be an article worth possessing. Let those who have been so fortunate as to possess it, and have given it a fair trial, judge of its merit and give us their decision through the columns of this paper. I propose to speak of the manner in which it has been introduced to many of the farmers of Worcester county, with whom I have conversed, and who invariably set down the churn as a humbug, and the agent who brought it to their notice as a swindler. This agent commenced operations in the fall of 1862, and during the last winter and spring canvassed all the best farming towns in the county. His plan of operation was something like the following: Upon arriving in town he inquired who kept the largest dairies, and having obtained the names of such, first applied to the most credulous and presented his cause, describing the construction and action of the churn, and claiming for it a great superiority over all churns now in use, or ever to be invented. It was something which needed only to be seen to be admired, any one who should once witness its operation would be considered decidedly idiotic if he did not throw away his old churn and purchase the wonderful invention. All the farmers in town would want one of those churns, and he was willing to dispose of the right to sell it to them for sixty dollars. He proposed to divide the stock into twelve shares of five dollars each, and having formed a club of twelve persons to give each a certificate entitling him to one share in the right to make, sell and use the churn in that town. If the person selected for the first victim was sufficiently credulous to drink in the lubricating words of the stranger, as freely as the ground drinks in water, he, of course, passed over the V, and received his cer-

tificate; or if the ready cash was not at hand his note was equally acceptable. But if timorous and unwilling to be the first to subscribe to a prospective fortune, he need only promise to take a share if Squire B. did so, and the scheme was initiated. Squire B. was next approached and his name obtained at any sacrifice. If he could not be led to see the value of five dollars in the patent, *four* would be accepted, or if he were peculiarly obstinate an old churn would be taken in exchange, and at a price which would reduce the cost of the patent to so small a figure that, for the sake of encouraging a progressive enterprise, he would make the venture. I have even known an instance where a suspicious deacon, the president of the farmers' club, received his certificate without paying anything whatever. Having obtained the names and influence of two or three leading citizens it was not difficult in any town to complete the club at some price, and collect from forty to fifty dollars in cash and notes in a short time. The notes were usually disposed of to some person in town at a considerable discount, and the stranger made his exit, promising to forward the churns immediately. The farmers waited anxiously until the time appointed for their appearing, but they did not come. Days and weeks passed, and still they were not; they began to mention the matter to each other, and were surprised to find that such a variety of prices had been paid and that they differed in their ideas of what they were to receive. Some supposed that in buying the patent they had also secured a churn for their own use. But a few of the wiser sort had probed the matter deeper, and understood that the five dollars secured only the patent right and that the churn, *de facto*, must be paid for at the cost of manufacture. They wrote to the agent in regard to the delay and were informed in reply that in consequence of a rise in materials the churn could not be furnished at the price agreed upon, and they would not be forwarded until he received the advanced price.

That the goods were a different thing from the patent was now evident to all. I am told that in some towns the matter has been followed up until the churns were furnished at the price agreed upon, although the farmers were obliged to pay the cost of transportation, and sometimes to take the goods in a damaged condition. But in most places the people had not sufficient confidence in the agent to place any additional funds in his hands, and consequently have remained as well satisfied as they could with the possession of the *patent* and—their old churn.

I am not disposed to dwell upon the details of this interesting transaction, but a passing comment may not be out of place. Every operation of this sort leaves behind it a feeling of bitterness prejudicial to the introduction of improvements. The generality of people do not use as much discrimination as they ought. Why should an intelligent farmer, who ought to have opinions of his own and to weigh every matter in the balance of his own good judgment before making a decision, sit, spell-bound, in his hay field and listen to the syren song of some pretender who has obtained possession of a few nice words of extraordinary size, and by long practice has acquired a tact for rolling them off his oily tongue with the speed of an express train? There is a class of

men who are always anxious to get of every novelty that is presented, and who have faith to believe that each new invention is pregnant with great riches. They dream of wealth while under the soporific influence of the loquacious agent, and in their deceptive ecstasy can almost imagine themselves the prototypes of the patriarch Kilmansegg, whose good fortune is described in a humorous poem by Thomas Hood, from which the following is an extract :

"Tradition said he feathered his nest
Through an agricultural interest
In the golden age of farming ;
When golden eggs were laid by the geese,
And Colchian sheep wore a golden fleece,
And golden pippins—the sterling kind
Of Hesperus—now so hard to find—
Made horticulture quite charming.

"Moreover, he had a golden ass,
Sometimes at stall, and sometimes at grass,
That was worth his own weight in money—
And a golden hive, on a golden bank,
Where golden bees, by alchemical frank,
Gathered gold instead of honey."

I have before me a pamphlet published in 1848, professing to disclose a new method of making manure. It claims to show how to convert almost everything on the farm into a rich fertilizing compost, which costs next to nothing and is capable of being increased to an unlimited extent. The system is somewhat complicated, and requires the building of vats, drains and other appurtenances.

This pamphlet cost the owner five dollars, and I doubt whether he ever read it through ; and although a goodly number of farmers purchased the right, I have not been able to find, after the lapse of fifteen years, a single farm where this method was applied. But, says one, I obtained some good ideas from Bomer's Method. No doubt of it, but would you not have obtained more information for the money if it had been invested in standard agricultural books ?

A few years ago a new variety of corn was hawked about the country at a ninepence per ear, which was recommended to yield several hundred bushels to the acre. Those who tested it found themselves in possession of a large supply of *green corn* at harvest time, but very little of the full and ripe corn. A marvelous potato appeared soon after, which was too costly to be sold by the bushel, and therefore was disposed of at a certain price *per eye*. The only advantage ever derived from it was the opening of the eyes of those who bought it.

Many farmers have been deceived by the agents of irresponsible nurserymen, who, with a beautiful picture-book and a smooth tongue, have sponged a large order from them, and then forwarded such trash as a nurseryman at all anxious for his reputation would have discarded from his grounds as worthless. And rather than be called *mean* by the cheeky agent they have paid the bill and set the trees. How much better to take a day's time and visit the grounds of some responsible nurseryman and make the selection yourself, and know for a certainty that you have secured the varieties which you desired, and which the labels on the trees represent them to be.

It is not the intention of the writer by these remarks to throw out the impression that *strangers* are always imposters. Far from it. In many business transactions it is necessary to deal with

strangers, and as great a benefit may be received from a stranger as from a fellow-townsmen. But it is well to remember, that a new man with a new subject for discussion has a decided advantage in his favor. By constant study he has learned how to present *his* side of the subject in the most favorable light possible. And as the same objections will naturally arise in the minds of different people from hearing the same story told in the same manner, he has learned how to answer or evade every objection that is raised. Let a company of farmers discuss the same subject among themselves and they would be quite likely to arrive at a correct conclusion.

Be suspicious of those who, by much talking, are determined to make you yield,—who flatter your pride, and who propose to give more than a dollar's worth for a dollar. Let no one say that, because he has once been deceived, he will never test anything that is new. He ought to receive new things with a charitable and an investigating spirit, but with discrimination also. VIATOR.

For the New England Farmer.

WHAT ARE GOOD COWS ?

MR. EDITOR:—I noticed in your issue of Dec. 19th, an article in which some one says he had a brother in York State, who had two cows from which a half-ton of butter was made annually, for several years, besides supporting a family of three persons, together with all their company, so far as butter and milk is concerned, and made 400 lbs. of pork ! These cows are called only good, not extra, and no grain in their feed.

Up here among the granite mountains we think that if the cows are not extra the story is. Furthermore, these cows are said to have been kept on a five-acre pasture, together with a horse, a yearling or two, and an indefinite number of calves, while a portion of the grass goes to seed, and is not fed short in the fall. I do not say I think that is a tiptop pasture, for it may lie spread out in some rich valley. But I do say I wish I owned one like it for a calf pasture.

Honestly, I have no doubt but they have fine cows in York State, and very rich land, cultivated in the best manner. But if the gentleman who is the owner of the cows and the five-acre pasture in question would be kind enough to tell us the precise number of cattle he kept in said pasture, and what amount of fodder, corn, carrots, ruta bagas, or other green feed, the same received, how many months they were stabled, &c., and what a good cow will do there, with ordinary treatment, I shall be better able to form a correct estimate of the value of his pasture, and also of what value the extra kindness is in the dairy line.

Goshen, N. H., 1863.

J. M.

HOW TO CATCH SHEEP.—Never seize them by the wool on the back. It hurts them exceedingly, and in some cases has been known to kill them, particularly in hot weather, when they are large and fat. The best way is to avoid the wool altogether. Accustom yourself to catch them by their hind leg, or, what is still better, by the neck, placing one hand under the jaws, and the other just back of the ears. By lifting the head in this manner, a child may hold almost any sheep, without danger to the animal or himself.

REPORT OF THE COMMISSIONER OF AGRICULTURE.

The Second Annual Report of the Commissioner of Agriculture embraces a summary of his doings for the year 1863. In the opening paragraph he congratulates the country that during the past year "a wider territory has been cultivated and a larger yield realized, except where drought and frost interfered, than during any previous year." The amount of the leading agricultural staples produced in 1863 as compared with 1862, is as follows:

	1862.	1863.
Wheat in bushels.....	169,993,500	191,068,239
Oats in bushels.....	172,520,997	174,858,167
Corn in bushels.....	586,704,474	449,163,894
Hay in Pounds.....	20,000,000	18,500,000
Tobacco in pounds.....	208,807,078	258,462,413
Wool in pounds.....	63,524,172	79,405,215

The influx of foreign population has greatly increased during the past year, the report of the New York Commissioners of Immigration showing that the number of immigrants which arrived at that port during the eleven months ending on the 30th of November, 1863, was 146,519 against 76,306 in 1865.

The collection of agricultural statistics, according to the system pursued by the Commissioner during the past year, has been of much importance. The secretaries of agricultural societies and farmers' clubs have furnished much information, and active farmers and business men of all professions have also lent their aid. About 2000 circulars comprising questions have been sent monthly to correspondents in every State and almost every settled county, and the replies, systematically arranged, have been published monthly. About 20,000 circulars have been issued in all, and 70,000 monthly reports have been sent out.

The Commissioner sums up what has been done in the distribution of seeds as follows:

"Pursuing what I regarded as the most judicious and satisfactory course, I imported from England, France, Belgium, Russia, Sweden, and other foreign countries, several hundred bushels of choice wheat and other cereal grains, and several thousand dollars' worth of the most valuable seeds for field and garden culture, including a large collection of such flower seeds as were deemed suitable for our country. These, with an assortment of the choicest varieties of the most desirable grains and vegetables grown in our country, were spread over the country with a lavish hand. In addition to these about 1500 bushels of cotton seed were procured, packed and distributed mainly among the farmers of the west. There was, too, a very great demand made upon the department for tobacco seed, which was not readily found in many parts of the country, but which, fortunately, I was prepared to supply, and by which the wealth of our country was increased millions of dollars. Of the quality of these seeds and their products it is sufficient to say that, in reply to a question proposed to all the correspondents of the departments as to the seeds, the response was universal that the seeds were good and had produced satisfactory results. The whole number of packages of seeds, cereals, &c., distributed, is about 1,200,000. Of these, over half a million were sent or given directly to those applying for them. About 300,000 were distributed to members of Congress, and over 300,000 to agricultur-

al societies. About 40,000 were quart packages of wheat and other cereal grains; about 950,000 garden and flower seeds; about 120,000 tobacco seeds, and the remainder cotton, flax, &c."

In regard to the Propagating and Experimental Garden, the Commissioner reports that it had suffered much in former years through incompetency and neglect; but that these evils are now being remedied as far as possible under the management of a gentleman every way qualified to carry on the experiments. There have been distributed from the Garden during the year about 25,750 articles, comprising vines, bulbs, cuttings and plants.

In regard to the general scope and objects of this branch of the department, the Commissioner remarks that investigations having in view a thorough knowledge of the diseases of plants, should receive attention. The greatest importance of the grape crop has led to an extensive correspondence in regard to the success of different varieties in various parts of the country. In connection with this, a collection of varieties of vines has been made, and illustrations given of various modes of treatment, a feature which is said to be found of special interest to visitors of the garden.

The contracted limits of the present garden are said to retard the development of this object, and it is proposed to enlarge it. "The purposes of a garden, as a proper auxiliary to the department," it is said, "will not be fully answered until a botanical collection and museum is established. It is a source of well-founded surprise to visitors at the Capital of the nation, that no systematic attempt has been advanced having in view a museum of native vegetable products, or a general botanical garden of plants."

An entomologist has been engaged for the department, and arrangements have been made to place on exhibition a large collection of insects, accompanied with drawing and descriptions.

In reference to the appropriation by Congress of \$20,000 to test the practicability of preparing flax and hemp as a substitute for cotton, a commission was appointed by the Agricultural Commissioner, consisting of J. K. Morehead, of Pennsylvania, W. M. Bailey, of Rhode Island, and J. M. Warder, of Ohio, who met in Washington, and after the transaction of some preliminary business adjourned to meet again, and report in detail on the subject.—*Boston Cultivator.*

THE WHEAT QUESTION.

Upon this question, I will say that farmers who plowed their old ground last fall, can try the experiment without much cost. Some will fail, no doubt. Many will succeed, in my humble opinion. It is not for my interest to advise farmers to do what would be for their disadvantage. I have stated facts in my own experience. Plowing the ground in the fall exposes it to the frost and air, and insects find a cold berth. The exposure of the soil to air and frost prepares it to support the straw, or my experiment amounts to nothing. The same soil, treated in the same way, in all respects, except it was plowed in the spring, produced a crop of small kernels and broken backed straw. The other stood up like well drilled soldiers, and produced a good kernal. I attribute my success to fall plowing, *early sowing*, and the kind of manure applied in the spring. My stables are plentifully supplied with dry muck and

forest leaves. Upon this, during the winter, a hog is made to labor. He is cheated into working it over by a slight sprinkling of corn or acorns. When the manure is thrown from the stables, I consider manure thus made contains all the elements requisite to grow wheat. I am satisfied with the result.

Many good farmers may doubt the propriety of trying the experiment. Some think there are certain sections not adapted to wheat. That is true, judging from past experience, when cultivated in the old way.—Different treatment might change the result. That can be decided by experiment. Theory is often upset by practice.—Z. B. in *N. H. Jour. Agriculture*.

A NEW DISORDER AMONG CATTLE.—R. W. Burt, of Atlanta, Ill., gives the following description in the *Prairie Farmer* of a disease new at least in that section:

The animals affected appeared to look gaunt, and would move and stagger and fall, in some cases not get up again, or if they did, only to fall again and die. On examination some blood appeared about the nose and anus. The veins under the skin were very full; the spleen or melt was very much enlarged, and on breaking the thin skin, or covering, it seemed rotten. The liver seemed unnatural. Large fine two and three year old steers, and cows with young calves, seem to be those attacked mostly. Some fifteen have died. These cattle had been two or three weeks on very luxuriant clover meadows, full of seed. The same disease has appeared on an adjoining farm.

In reply, Dr. Dadd remarks:

From the above description I should infer that the disease alluded to, is, or very much resembles Splenic Apoplexy, a disease which has generally baffled the skill of those, who in this country, have attempted to cure it. What the conditions are, which favor its propagation, I am unable to determine, for I have known it to affect, equally, those which appeared healthy, as well as others, unhealthy in appearance, hence it is very difficult for any one to point out the direct causes of the affection.

DIPHTHERIA AND ITS CURES.—The distinguishing mark of this malady from other diseases of the throat, is the formation of a membrane which increases gradually until the patient is strangled to death. It is sometimes accompanied with ulceration and great bodily prostration. To prevent the formation of this membrane is to arrest and cure the disease. The *Cincinnati Post* gives the following simple remedy: In the early stages of the complaint, which is always accompanied with a soreness and swelling of the throat, let the patient use a simple solution of salt and water, as a gargle, every fifteen minutes. At the same time moisten a piece of flannel with a solution of the same kind, made as warm as the patient can bear it, and bind it around his throat, renewing it as often as the gargle is administered, and in the meantime sprinkle fine salt between the flannel and the neck. Use inwardly some tonic or stimulant, either separately, or if the prostration be great, use both together. The treatment, as may be seen, is extremely simple, and, if used in the earlier stages, will effect a complete cure.

EXTRACTS AND REPLIES.

SORE EYES AND SORE MOUTHS IN SHEEP.

I noticed in my flock of sheep, when they came up to the barn, that some of them had very sore eyes, and one of them has become entirely blind. The malady is still spreading through my flock. Many of them are also having very sore mouths. Those that are not affected with sore eyes, have sores, commencing in the corner of the mouth, and spreading upon the edge of the lip, scabbing over, and bunching out like small warts. Can you or any of your readers tell the cause and recommend a cure? CONSTANT READER.

Marlow, N. H., Dec. 29, 1863.

REMARKS.—We hope some of our correspondents, who are engaged in sheep culture, will reply to the above. We have had considerable experience with sheep, but never found a disease like the one described here.

SILK WORMS' EGGS.

For a long time I have been desirous to obtain some *silk worms' eggs*. Can you inform me where they may be obtained, or give me the slightest clue to finding them? I have quite a large nursery of mulberry trees, and wish to engage in the making of silks, but can procure no silk worms. K. Mc A.

Limington, Me.

REMARKS.—We do not know. Will some correspondent reply.

NEW RECIPE FOR MAKING SOAP.—A correspondent of the *German town Telegraph* says: We have lately tried a new recipe for making soap—new to us at least—and as we had such success, I thought it would be well to send you the *modus operandi* for the housekeeper's department of your paper.

Pour four gallons of boiling water over six pounds of washing soda and three pounds of unslacked lime, stir the mixture well and let it settle until it is perfectly clear. It is better to let it set all night, as it takes some time for the sediment to settle. When clear, drain the water off, cut six pounds of fat with it, and boil for two hours, stirring it most of the time. If it does not seem thin enough, put another bucket of water on the grounds, stir and drain off, and add as wanted to the boiling mixture. Its thickness can be tried by putting a little on a plate to cool occasionally. Stir in a handful of salt just before taking off the fire. Have a tub ready soaked to prevent the soap from sticking, pour it in and let it set till solid, when you will have from the above quantity of ingredients, about forty pounds of nice white soap, at a cost of about two cents per pound. Housekeepers, try it.

THE PATENT OFFICE.—During the past year the increase of the business of the Patent Office has more than compensated for the falling off at the time of the secession of the Southern States, and enabled the office to pay all its expenses without any further appropriation. This increase is derived chiefly from patents for labor saving machines, particularly agricultural implements, the inventions of which have been stimulated by the detraction of field labor by the war. Numbers of patents have been issued for inventions occasioned by recent discoveries. About four hundred are registered solely for lamps to burn coal oil.

JAVA yields the Dutch government a cool million annually by the traffic in birds nests.

**PENNSYLVANIA AGRICULTURAL
COLLEGE.**

We have just received from President Pugh a copy of the catalogue of this institution for the past year. All the public lands to which Pennsylvania is entitled for educational purposes have been bestowed upon this College, and its prospects for usefulness appear to be very encouraging. One hundred and forty-two students have attended the session just closed. That for 1864 will open upon the 24th of February, and close on the 14th of the following December. The address of President Pugh is "Agricultural College P. O., Centre county, Pa."

Not having leisure at this moment, for a more careful examination of this Fifth Annual Catalogue of the institution, we think our readers will be interested in the following brief synopsis of its facts and contents, by the editor of the *German-town Telegraph*:

At present the college is managed by five professors, two assistants, one teacher and five superintendents. It is under the care of thirteen trustees: nine elected tri-yearly by delegates from the county agricultural societies of the State, and four ex-officio members. The course of instruction extends through four years. A primary department has been established for such as are not sufficiently advanced to enter the regular college course, and a fifth year for graduated students is added to the course. During this year, the student pursues some special scientific study, having direct reference to his immediate plans of activity in life. The object of the college course is to give the student a thorough scientific knowledge, at the same time that he acquires a good English education, and becomes familiar with the practical operations of the farm, garden and nursery of the college.

Each student is required to perform three hours' manual labor daily upon the college farm; and, by having the students divided into four working details, the labor on the farm is kept up during twelve hours daily.

All the work of a farm of four hundred acres is thus performed by the students. The college building is now completed, and all its museums and recitation rooms are ready for use. Its chemical laboratories are as completely filled with all the aids and appliances for analytical chemistry as those of any other institution in the world, and the course of instruction pursued is similar to that of the best German laboratories. The geological collection of the State Geologist, obtained during his survey of the State, is in the college museum; and all the departments of instruction, so as to embrace all the means and instrumentalities for education in all the natural sciences, and most especially those bearing upon the practical operations of life.

FRAUDS OF SHEEP EXHIBITORS.—In a report of a committee of the New York State Agricultural Society, consisting of Hon. A. B. Conger, J. McGraw and D. B. Hight, we find the follow-

ing expose and rebuke of the means resorted to by some exhibitors to give their sheep the appearance of a model form which they do not possess:

It is well understood that, for the purpose of carrying out this system, animals designated for exhibition are shorn in mid-winter, not closely nor evenly, but so as to hide their natural defects, or to give undue prominence to certain parts of the carcass. That they are then blanketed so as to prevent their taking cold, and afterwards, and for some little time before exhibition for sale, they are again trimmed, the wool being left, as in the case of most of the animals exhibited at the fair, in some places twice as long as in others.

Your committee consider this a gross deception upon judges who examine only by their eyes, and also upon farmers who are not cognizant of these practices, who become purchasers and undertake the business of breeding, and also a great source of injustice to such as exhibit their sheep after the ordinary system of shearing, as late as the first of June, on an average, and closely and evenly shorn at that.

For the New England Farmer.

**USE OF BONES---CROPS AND WOOL IN
VERMONT.**

MESSRS. EDITORS:—As time has come for me to calcine, or make fine, what bones I may have got together during the year past, I will tell you how I have done it for many years, and if you think best, you may give it to your readers.

When I have got through with killing meat for the year, I have a 90-gallon kettle set in an arch, in which I cook food for my hogs, and in which I try out the beeves' heads and feet. After the oil is taken off, I add what other bones I have to those in the kettle, and fill up with good strong wood ashes, and make the ashes barely wet, not sloppy, but "thick as pudding." I then heat the mass to a scalding point, and keep it so, or as near as I can, for two or three days, stirring it frequently, when the bones will be fine; and if the ashes are really strong, and managed rightly, even the hoofs will all be so nearly dissolved that you cannot find them.

It makes a most powerful manure. It may be applied in various ways; I generally mix it with dry leached ashes, or soil, and sow it broadcast on dry ground, and harrow in with grain. It might perhaps be so reduced as to be put in the hill with corn, but great care should be taken, as it is so strong.

As to the crops here in Lamoille Co., the hay crop was full an average one in quantity; and though later than usual when it was secured, the quality was not so bad as the time of securing would indicate. The wet weather, which made us late in getting in our hay, kept the grass growing at the bottom, so that, on the whole, our hay crop was bountiful, and of good quality.

Corn was a good crop, and sound; oats, middling; wheat, a very small crop; buckwheat and India wheat, middling; potatoes, very uncertain—some pieces very good, and some very light,—though I think, from what I have learned, there is a better crop in this county than in this State generally. Other roots, beans, &c., were about as usual. On account of the scarcity of help, there

was not quite the usual amount of land under cultivation.

I need not tell you that the sheep fever rages high in this State. Of course you can't help knowing it. It is almost equal to the *Morus Multicaulis* fever, of near thirty years ago. If some folks don't get their fingers nipped, then I haven't been to a "guessin' Institoot." The few "smart ones" that stop in the right time, will make money by it; but woe to the tail-enders. I rather think it is parly a gum game, and some artificial oil, that makes, in part, the heavy fleeces. That there has been great improvement in the stock of sheep in this country within a few years, I don't doubt. But I don't believe that all the circumstances combined relating to sheep husbandry will warrant the present excitement in the premises. I think we had better raise less gum and oil in proportion to the wool, and more wool in proportion to the gum and oil, than some of these high-priced, fancy sheep are reputed to produce.

Johnson, Vt., Dec. 29, 1863. C. WHITING.

For the New England Farmer.

THE BLACKBERRY.

I have read with considerable interest the "Horticultural Notes" of Mr. Hyde. As a cultivator of small fruits, my experience has been confined mainly to the strawberry, which I find a profitable crop. I made some inquiries last summer in regard to the blackberry, and was invariably informed by men both of observation and experience, that they would vastly rather have the itch than to have the blackberry in their land. In the month of August last, I called on Mr. Francis Dana, of Roxbury, the highly successful cultivator of small fruits, and originator of the "transparent,"—the very best white currant. I conversed with him concerning several kinds of small fruits, and the profits of their culture, not, however, mentioning the blackberry, of which I thought I had sufficient proof of its worthlessness already. Next day, however, I accidentally met Mr. D. in Boston. At his invitation I accompanied him to the horticultural rooms, where he was carrying one or more boxes of the Dorchester blackberry for exhibition. This led to some conversation on the subject, concerning which I afterwards wrote him a letter. From this letter, and from statements which he made verbally, I deduce the following propositions:

1. The Dorchester is the most profitable blackberry to cultivate for the market.

2. The average price to be obtained for good fair berries through the season, may be safely estimated at from 20 to 25 cents per box.

3. The expense of time and labor in cultivating and picking them, and the expense of fertilizing is comparatively small.

4. Everything considered, they are the most profitable small fruit cultivated.

And how can the latter proposition fail to be correct, if the former are?

Mr. Hyde estimates the average value of strawberries per box at 20 cents, through the season. This is two cents per box higher than I have usually been informed by cultivators for Boston market. I sell my strawberries in the country, and thus save the expense of hulling. Some city markets do not require strawberries hulled.

I wish some experienced cultivators of the

blackberry would give their experience in regard to that fruit, concerning which so much difference of opinion seems to exist. It would be particularly interesting to hear from some one who has been successful. Mr. Hyde seems to consider the blackberry a profitable crop, and that is all. He speaks in much more enthusiastic language, of the strawberry. MONTHLY READER.

For the New England Farmer.

METEOROLOGICAL RECORD FOR DECEMBER, 1863.

These observations are taken for and under the direction of the Smithsonian Institution.

The average temperature of December was 22°; average midday temperature, 27°. The corresponding figures for December, 1862, were 25° and 30°. Warmest day, the 4th, averaging 42°; coldest day, the 10th, averaging 3°. Highest temperature 46°; lowest do. 2° below zero.

Average height of mercury in the barometer 29.36 inches; do. for December, 1862, 29.28 inches. Highest daily average 29.85 inches on the 7th; lowest do. 28.71 inches on the 14th. Range of mercury from 28.50 inches to 29.90 inches.

Rain or snow fell on twelve days; amount of snow 17.50 inches; amount of rain and melted snow 4 inches. Nine stormy days, with 11 inches snow and 1.59 inches of rain and melted snow in December, 1862. There were two entirely clear days. On six days the sky was entirely overcast.

The changes of the barometer have been remarkable during this month—the mercury reaching a point both unusually high and low, with sudden changes. It will be noticed that the average is much higher than same month last year. The difference in temperature between December this year and last will be noticed. Although there have been no very cold nights, the average is, nevertheless, low.

A. C.

Clemon, N. H., Jan., 1864.

For the New England Farmer.

A GOOD COW.

MESSRS. EDITORS:—I own an Ayrshire cow, raised upon my farm, now seven years old, and weighing about 1000 pounds, which gave during the year ending with the month of April, 1863, 13,540 pounds of milk. I was in the habit of weighing her milk, every Monday morning, during the entire year, and calculating for the week, upon this basis. She gave during the last ten days of May, 1862, 650 lbs. of milk; in the month of June, 2100 lbs.; in July, 1950 lbs.; in August, 1800 lbs.; in September, 1650 lbs.; in October, 1550 lbs.; in November, 1350 lbs.; in December, 750 lbs.; in January, 600 lbs.; in February, 480 lbs.; in March, 360 lbs.; in April, 300 lbs.; total, 13,540 lbs; making in measure 1504 gallons. From the milk of twenty-eight days of the month of June, we made 96 lbs. 3 oz. of butter, and during the year, from her milk alone, were made 610 lbs. of butter.

As I am anxious to improve my stock of cattle, any one having a cow which will beat this, can find a purchaser, by addressing me, and giving the age, color and breed of their animal, and the price at which she can be obtained.

STEPHEN SCAMMON.

Stratham, N. H., Dec. 29, 1863.

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CATTLE MARKETS FOR JANUARY.

The following is a summary of the reports for the four weeks ending January 13, 1864:

	NUMBER AT MARKET.			
	Cattle.	Sheep.	Shotes.	Fat Hogs.
Dec. 23.....	1775	4267	50	1400
“ 30.....	1010	3136	—	2000
Jan. 6.....	1083	3063	—	2000
“ 13.....	1526	3106	30	—
Total.....	5,399	13,572	70	5,400

The following table exhibits the number of cattle and sheep from each State for the last four weeks, and for the corresponding four weeks last year; also the total number since the first of January, of each year:

	THIS YEAR.		LAST YEAR.	
	Cattle.	Sheep.	Cattle.	Sheep.
Maine.....	447	2453	1148	3731
New Hampshire.....	677	1893	827	1055
Vermont.....	1666	3,843	2650	2944
Massachusetts.....	363	1957	243	1250
Northern New York.....	187	770	222	857
Western States.....	1902	1838	1318	1703
Canada.....	152	755	271	863
Total, last four weeks.....	5,399	13,572	6,659	12,213
Total, since Jan. 1, (2 weeks),.....	2,614	6,769	2,329	5,404

PRICES.

	Dec. 23.	Dec. 30.	Jan. 2.	Jan. 9.
Beef, 1st, 2d, 3d qual.....	5½@8½	5½@8½	6 @9	6 @9
“ ex. and premium.....	8½@9	8½@9	9½@9½	9½@10
Sheep and lambs, ½ lb.....	5½@7½	5½@7½	6 @7½	6½@8
Swine, stores, w'sale.....	@7	@7	—	—
“ retail.....	7½@8½	7½@8½	—	7 @8½
Live fat hogs.....	@7	6½@7	@7	—
Beef hides, ½ lb.....	9 @9½	9 @9½	9 @9½	9 @9½
Pelts, sheep & lambs.....	\$2½@2½	\$2½@2½	\$3	\$3

REMARKS.—The two last markets of 1863 were dull and heavy, although the amount of stock sold was considerably less than that for the last two weeks of 1862; while the first two markets of this year were quite brisk, and prices have advanced full ¼¢ per lb. on beef, and more than that on sheep, with quick sales.

SALES OF WESTERN CATTLE.

W. Scollans & Co., sold to G. Davis 20 Western steers, 1523 lbs. each, at 9¼¢, ½ sk; and 2 at 10¢, ½ sk; 55 to Brooks & Stone, 10 at 8¢, 35 sk; 10 at 8½¢, 35 sk; and 35 at 8½¢, 34 sk; 17 to G. Wildes, 1431 lbs. each, at 9¼¢, 34 sk; 24 to C. Sanderson, 1494 lbs. each, at 9¼¢, ½ sk; and 4, of 1620 lbs, at 10¢, ½ shrink.

Statistics for the Year 1863:

According to our weekly reports the following numbers of live stock have been sold at these markets during the year 1863, compared with those of 1862:

	Whole Number.	1862.	Weekly Average.	1862.
Cattle of all kinds.....	110,815	98,218	2091	1889
Sheep and lambs.....	250,597	229,198	4728	4408
Veal calves.....	16,005	10,000	302	192
Fat hogs.....	68,891	55,000	1300	1053
Shotes and pigs.....	22,950	46,000	244	835

SOURCES OF SUPPLY.—The following table exhibits the number of cattle and sheep arriving at market, from several States, for each quarter of the past year:

Quarter ending	Me.	N. H.	Vt.	Mass.	Nor.	N. Y.	West.	Ca.
Mar. 26,	2423	2274	5923	1596	474	7035	79	
June 25,	654	1952	2623	1545	78	7709	271	
Sept. 30,	7262	4514	7820	363	1206	11,441	1350	
Dec. 30,	9927	6425	12,050	932	1607	8709	2498	

This year,	20,206	15,165	28,241	4436	3365	34,944	4213	
Last year,	12,501	9,958	31,206	3360	3603	35,405	1885	

Quarter ending	Me.	N. H.	Vt.	Mass.	Nor.	N. Y.	West.	Ca.
Nov. 26,	1971	5684	8820	10,292	1299	8196	221	
June 25,	689	8936	15,677	3279	1442	3824	316	
Sept. 30,	13,133	8924	39,544	3271	8704	3587	18,173	
Dec. 30,	11,925	11,516	23,573	1701	5547	4024	17,380	

This year,	82,723	35,060	91,614	18,480	16,990	10,631	36,790	
Last year,	31,169	22,946	95,495	14,878	11,846	19,927	32,987	

TRANSPORTATION.—The cattle and sheep have reached the market by the several railroads, boats, &c., in the following proportion:—

Quarter ending	Fitch.	Lowell	CATTLE. Eastern and Me.	Worcester	On foot and boats.
March 26,	5520	3999	2441	7103	796
June 25,	3468	2159	882	8020	383
Sept. 30,	7114	7067	4379	11354	3932
Dec. 30,	10731	10026	7006	8717	5668
Total,	26,833	23,251	14,708	35,194	10,829

Quarter ending	Fitch.	Lowell	CATTLE. Eastern and Me.	Worcester	On foot and boats.
March 26,	19523	6566	1931	8413	—
June 25,	22180	7413	40	3804	726
Sept. 30,	38540	35657	6400	3445	15153
Dec. 30,	25506	31931	14023	4325	4876
Total,	105,749	81,567	22,539	19,987	20,755

During the first half of the year there was a large advance in the price of beef; equal to three cents per lb., according to our quotations, on the various qualities. That is, our figures stood 4½¢ @ 7½¢, Jan. 1, and 8 @ 10¼¢ per lb., April 23. During the last six months prices have been much more uniform. Our highest weekly quotations for extra beeves have been as follows:

1st Quarter.	2d Quarter.	3d Quarter.	4th Quarter.
7½¢, 2 w'ks.	0¼¢, 7 weeks.	7¢, 6 weeks.	8¼¢, 7 weeks.
7½ 4 “	9½ 1 “	9½ 2 “	9 3 “
8 3 “	10¼ 1 “	8½ 6 “	9½ 2 “
8½ 2 “	10 4 “	—	8½ 1 “
8½ 1 “	—	—	—

1st Quarter.	2d Quarter.	3d Quarter.	4th Quarter.
7¢, 3 weeks.	7¼¢, 1 week.	7¢, 1 week.	6¼¢, 5 weeks.
6¾ 7 “	7 9 “	6¾ 7 “	6¾ 5 “
6¾ 2 “	6¾ 3 “	6½ 5 “	7 8 “

Notwithstanding the high prices offered for beef this year the average quality of the Western stock, in particular, has been very much below that of former years.

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NOURSE, EATON & TOLMAN, PROPRIETORS.
OFFICE...102 WASHINGTON STREET.

SIMON BROWN, EDITOR.

THOUGHTS ABOUT MARCH.

"Truly Winter passes off
Far to the north, and calls his ruffian blasts ;
His blasts obey, and quit the howling hill,
The shatter'd forest, and the ravaged vale ;
And softer gales succeed."



MARCH weather is usually extremely varied, giving us a sample of that of several other months of the year. A March morning will sometimes dawn upon the earth with great beauty ; the sun clear, the air soft and balmy, black-birds chattering in the meadow and the social robin uttering clear notes from a top-most bough of the old elm tree. At noon, dark clouds hover over the land in gloomy majesty, shutting out the genial sun ; the cold increases, and snow flakes fall slowly, and gracefully cover the evergreens and buds that had dared to open a little and take a peep at the sun. At night, old Boreas rides in with his attendant train ! Carriages rattle over frozen ruts, flying snow blinds the traveller, while fierce winds rock the old trees and drive man and beast to some sheltering retreat.

But MARCH weather, rough and blustering as it is, could not be spared. Its rude winds are ordained to sweep away the surplus moisture and prepare the soil for the hand of the cultivator. If the winter has been stern and cold, we long to see the streams unlocked, to hear the birds sing, and feel the warm sun and balmy air. We cast

longing looks up and down the garden walks where a crocus is peeping from the rubbish, among which the warbling sparrow tunes his little throat, though thick flakes of snow may be falling fast. We are impatient for genial skies and gentle winds, without counting the cost of an enjoyment of them now. We forget that "the late spring makes the fruitful year," and that if we have April suns and showers now, April frosts will be likely to pinch the buds and blossoms which MARCH suns and showers have produced, and we shall have neither fruits nor flowers in due season, and this explains an old proverb, that "March flowers make no summer bowers."

The "changes of the seasons are silent messengers of the Creator, speeding on their mission in the sight of man, and holding a secret intercourse with his heart." The opening of spring is a new creation, which awakens new hopes, faculties and powers, in nearly all. Men, women and children may here and there be seen, even now, "employed in their little gardens, making preparations for the reception of spring ; the spade is brought forth from its hiding place ; seeds which have been carefully preserved, are hunted up, and even a few of the earliest sown in hotbeds or some sunny and sheltered spot. Even the very changes of the weather, which seem for a time to check these operations, are silently forwarding them. The snow that occasionally falls warms and nourishes the tender buds ; the winds dry up the over abundant moisture ; mists, fogs and rains, all bring their tribute to enrich the earth, and do His bidding, who gives us "seed-time and harvest." The rank decay of vegetation—the exhalations that are ever arising—the insects that burst from their larva state—and the poor blind worms that burrow through and loosen the soil, are all doing their allotted work, and, though disregarded, are assisting man to prepare the ground for the reception of his crops.

A GOOD START.—It is a good thing to get an early start in the spring; to have all plans for the summer crops matured, and all seeds, machinery and teams, in preparation to commence work the moment the soil is in a condition to permit it. All labor of importance is uncertain and drags heavily without such preparation. Many things are attended to too late, or postponed until the next year, that could have been conveniently done under a good system.

We have recently suggested the importance of getting in early potatoes, onions, and other vegetables, and we urge more attention to the garden as the means of great convenience, health and comfort, to the family, as well as a work of great economy.

CLOVER SEED may be sown any time this month, on fields laid to grass in August or September last.

HOT BED.—Take an old window-sash and a few rough boards, and start some early cabbages, radishes, lettuce, tomatoes, &c. It will cost little and but a few hours' time, and will furnish many valuable plants.

STOCK.—Carefully examine all the stock, and see that every animal is clean and free from vermin, and that all cows about to drop their calves have liberty in pens or yards for some days before calving.

IMPLEMENTS.—Are the plows, harrows, garden rakes, cultivators, and seed-sowers, in order,—and so of all the yokes, chains and harnesses that will be needed some time in April?

MARCH is a month of preparation. The lengthened days, the bright suns, the south winds, and the new stir and energy of nature all about us, all call to us to prepare for *summer work in the fields*. Will you heed the call?

AGRICULTURAL MOVEMENTS.

New England Agricultural Association.

At a late meeting of the *State Board of Agriculture*, a movement was made for the organization of a *New England Agricultural Association*, and a convention was appointed to call on the several agricultural societies of the State to send delegates to a meeting to be held in Worcester on the 2d of March next, for such a purpose.

Several years ago, when the U. S. Agricultural Society was in its full vigor, but when we saw plain indications of its early decay, through the want of a sincere co-operation on the part of the South, and some other causes, we proposed to Col. Wilder, and some other leading gentlemen, to form a *New England Agricultural Society*. All agreed that the proposition was a good one, but the pressure of other duties prevented action upon it, and the matter, though often alluded to, was not agitated.

It seems to us, that if the county and State societies are not accomplishing all that is desirable in this direction, nothing can be more appropriate than to form a *New England Association*. The territory is sufficiently large, and could not be contemplated as in any way a sectional or exclusive movement, as its good influence, if it had any, could be enjoyed by all.

The Agricultural College.

The Board of Trustees met at the State House on Wednesday, Feb. 3, and received a report from the committee appointed to examine the "Cary farm," at Lexington, which was favorable. Mr. ERASTUS HOPKINS, of Northampton, stated to the Board that he was satisfied the sum of \$75,000 would be raised by subscription, and he offered that sum on the behalf of the citizens of the town. He also said that ultimately nearly ten times that sum would be realized by the institution from the "Smith fund," in case the college were established there. Hon. CHARLES G. DAVIS, of Plymouth, submitted to the Board propositions, conveyed by Prof. William S. Clark, of Amherst College, including votes of the town of Amherst appropriating and offering \$50,000; also votes of the Trustees of Amherst College giving to the Agricultural College for ten years the free use of many facilities, and of much valuable property, severally on condition that the Agricultural College is located in that town. Mr. PHINEAS STEDMAN, of Chicopee, addressed the Board in favor of establishing the college at Springfield, and pledged \$50,000 from that city in case the institution shall be located in that place or in Chicopee. He gave facts tending to show the advantages of that locality.

Massachusetts Horticultural Society.

At a meeting of this society on Saturday, Feb. 6, 1864, the report of the Building Committee recommended the erection of a permanent building on the Montgomery House estate, in accordance with a plan submitted by Messrs. Bryant & Gilman, Architects, the estimated cost of which will be \$102,500. The building proposed will comprise committee rooms, a large and small exhibition hall, and on the lower floor there will be several stores. The large hall will comprise an area of 4000 square feet, with a gallery at one end and a stage at the other.

The income of the building, it is thought, will be equal to six per cent. per annum upon the amount invested.

The report was adopted, and the whole matter relating to the erection of the building referred to the Building Committee, with full powers to make contracts and construct the building in connection with the present architects, providing it can be done at a cost not exceeding \$105,000.

AGRICULTURAL COLLEGE OF PENNSYLVANIA.

We have before us, through the polite attention of President PUGH, the Catalogue of this Institution for the year 1863. It contains the names of the officers and students of the College, gives the course of studies and progress of construction of the buildings. The number of students for the year was 142. We have read its pages with interest, and so far as the course of study is developed, think it judicious and practical, and one that will commend itself to such persons as are desirous of placing their sons in a position to learn agriculture and its kindred arts. The progressive step in the study, or laboratory, and in the field, are natural, and are so arranged as to attract and lead the earnest student into the intellectual regions of rural life.

In speaking of the peculiarities and advantages of the "course of study," President PUGH says:

"The student has an opportunity of seeing all the practical operations of the farm, garden and nursery performed in the most approved manner, with the use of the best manures, seeds, tools and implements; and, what is of more importance than this, he studies in the class-room and laboratory, the scientific principles involved in all he does, and by becoming a scientific man and analytical chemist, he is enabled to protect himself and others against the frauds that are continually being practised upon the uneducated, by dealers who are themselves either ignorant of science, or who use it to impose upon the community. He learns how to study the geology, mineralogy and chemistry of the soil he cultivated, the botany of the plant he grows, and the laws of health and diseases of the animals he uses.

"In a word, he is made thoroughly acquainted with the laws and phenomena of the material world with which he is in immediate contact, and about which farmers are most deplorably ignorant, but a knowledge of which is essential to their material success or intellectual pleasure, in the pursuit of the duties of rural life."

THE DANGERS OF COLD WEATHER.

The N. Y. *Evening Post*, in an article on this subject, says that frozen limbs should never be rubbed. The juices of the fleshy tissues, when frozen in their minute sacs or cells, at once become in each of these enclosures crystals, having a large number of angles and sharp points; and hence rubbing the flesh causes them to cut or tear their way through the tissues, so that when it is thawed the structure of the muscle is more or less destroyed. The proper mode of treatment is thus stated:

When any part of the body is frozen it should be kept perfectly quiet till it is thawed out, which should be done as promptly as possible. As freezing takes place from the surface inwardly, so thawing should be in the reverse order, from the inside outwardly. The thawing out of a portion of flesh, without at the same time putting the blood from the heart into circulation through it, produces mortification; but by keeping the more external parts still congealed till the internal heat

and the external blood gradually soften the more interior parts, and produce circulation of the blood as fast as the thawing takes place, most of these dangers are obviated.

Speaking of the application of snow, the writer says:

If the snow which is applied be colder than the frozen flesh it will still further abstract the heat and freeze it worse than before. But if the snow is of the same temperature it will keep the flesh from thawing till the heat from the rest of the body shall have effected it, thus preventing gangrene. Water, in which snow or ice has been placed, so as to keep its temperature at thirty-two degrees Fahrenheit, is probably better than snow.

VENTILATION IN BEE HIVES.

Bees in winter do not apparently suffer from cold even when many degrees below the freezing point. Their great enemy is damp. I have known hives from which the bottom board had fallen and which were fully exposed to the air, winter well, while others carefully tended lost thousands of bees, and yet both had sufficient stores. Hives made of thin boards are bad quarters for bees, unless well ventilated, and for the simple reason that when such are exposed to weather, they part rapidly with their warmth in cold weather, and unless carried off by currents of air, the moisture from the bees condenses on the inside and then congeals, and this process will go on until the comb next the sides is involved, and the bees are consequently huddled together in an ice house. When combs are thus frozen or kept steadily exposed to an atmosphere of moisture for some time, they will mould whenever the weather becomes warm. It often happens that the principal portion of the honey is laid up in the outer combs, and if these are frozen, the bees cannot get their food and may thus starve with food abundant, but locked up by frost.—*Ohio Farmer*.

MIXING GRAIN IN SEEDING.—I take the liberty to write you a few lines for publication, if you think it worth while. What I recommend is this: For the farmer to mix his seed half and half with strange seed of same kind from his neighbor's,—wheat, rye, corn, barley, oats, buckwheat, &c. I do not wish to be understood to recommend mixing varieties, except the best white wheat and rye. Then sow a small piece for bread or feed, especially in localities that are troubled with the midge. Put on plenty of seed—nearly as much of each as though the other was not sown.

Several farmers about here who mixed their corn say their crops can't be beat. Two mixed wheat, one white the other red; both got near three-sevenths more than expected, the berry being so large.

At the same time, let farmers change the males of their poultry every year—such as geese, ducks, turkeys, hens, &c., they will have larger kinds and healthier, better layers.

Lewance Co., Mich., 1863.

L. TAYLOR.

We find the above in the *Rural New Yorker*. Some of our readers may not agree with Mr. Taylor, in his recommendations, but there may be truth enough in them to provoke a response from some other thinking farmer.

LETTER FROM MR. BROWN.

State House, Columbus, Ohio, Jan. 5, 1864.

GENTLEMEN:—I wrote you from Buffalo, on the 2d inst., in the midst of the great storm. I was fearful that you might think my account of it overwrought, but the papers of this morning show that I did not then appreciate its magnitude. The farther west I go the more terrible I find its effects.

I arrived here on Tuesday morning, at 2 o'clock, in the midst of a snow storm which has kept along with us most of the way from Buffalo. My object in coming at so unpropitious a season, was to attend a *Wool Growers' Convention*, in order to keep myself and your readers informed as to what might transpire in regard to this great interest.

The Legislature and the *Ohio State Board of Agriculture* were in session, and I had the pleasure of an introduction to the Governors of the outgoing and in-coming administrations, to the officers and members of the State Board, and of a seat for half an hour with the Speaker, while the House was in session.

The Wool-Growers' Convention.

The object of the *Wool Growers' Convention* was two-fold.

1. To bring as many persons together as possible, who are engaged in the culture of sheep, to discuss the advantages and disadvantages under which they labor, and to devise some means whereby a compact and intelligent power might be established, that could be made influential whenever their interests demanded it,—and, also, that by a comparison of opinions as to the best breeds, and practices in culture, each party might be benefited by knowledge gained from the other.

2. To petition Congress so to amend the Internal Revenue Laws, as to impose a tax upon dogs; with a view of protecting sheep, by the destruction of dogs.

Discussion on Dogs.

A long and spirited discussion took place upon this proposition. It is not necessary for me to give the names of all the speakers, or their precise language, although I took quite full notes. Your *Vermont, N. Hampshire, Maine and Massachusetts* readers, who are interested in the subject, will be especially desirous to know the opinions of their western friends, who are so largely interested in wool-growing. I shall aim, therefore, to give those opinions, and if I can, something of the spirit with which they were advanced. The first speaker, Mr. MONTGOMERY, stated that the annual loss to wool-growers in the State, in the destruction of sheep by dogs, is \$100,000. But this is not the only loss. Hundreds of persons whose farms are especially adapted to the culture of sheep, cannot enter upon it on account of dogs, and are obliged

to resort to crops unsuited to their lands. He thought the loss in this particular \$100,000 more—making the annual loss to wool-growers \$200,000 at least! He had no doubt there were half a million dogs in the State, while the returns required by law, show only about 175,000. Under this state of things, the efforts of the wool-grower are constantly checked, and this great national interest retarded. Another speaker said that each dog cost what would be required to raise a pig worth \$15, which would make an annual loss of \$2,625,000; and if the number of dogs were half a million, as Mr. Montgomery thought there were, the loss by dogs to the State, annually, would be *one hundred and thirty-five millions of dollars!* [It seems to me that the speaker set the cost per dog, \$15, too high; but if he had taken into account the loss of human life and property by mad dogs, his estimate would have been far too low.]

Mr. McCLEEN, Jr., of Miami Co., said, dogs are outlawed by the statute; we have law enough, but it is not enforced; wool-growers are too modest; they do not protect themselves under the law. He thought a tax imposed by the general government would prove totally inoperative. We must change public opinion. The wool interest must exceed the dog interest, and this will be our only remedy.

Mr. DEFORE stated something of his experience and observation in sheep culture: said the vast prairies of the West, under proper protection, are destined to be covered with immense flocks and to become the seat of a happy and prosperous industry. He thought this branch of enterprise involved as many interests of mankind as any other in our pursuits. We import 50,000,000 pounds of wool annually. We have every facility for producing ten times this amount, but for the destruction caused by dogs. He did not blame the animals, but their owners; they train them wrong; starve them into attacks upon sheep in order to sustain life.

Mr. E. H. GRISWOLD, of Vermont, said that dogs had been the great stumbling block to success in growing the Spanish Merino Sheep. He had travelled all through the great North-western States, and even beyond the Mississippi, looking into the condition of this interest, and this fact holds good everywhere. Dogs are the bane of the wool-grower. The remedy is to form a "*canine association*," with the most stringent rules, binding every man to *act up to the very letter and spirit of the law* which is intended to protect them.

Your correspondent, being called upon by the President of the Convention, spoke in general terms of the magnitude of the interest, of the attention necessary to successful culture in the modes of housing and feeding, of the great im-

portance of a better understanding of the true principles of breeding, so that we may not only *expect*, but *certainly get*, what growth of body and quantity and quality of wool we desire. Complaint is made that wool of merinos is too oily, or gummy. This can be obviated with as much certainty as that the scion will produce the fruit of its parent tree. The change can only be reached by slow degrees, and may require considerable time, but the objectionable feature,—whatever it may be,—can be increased or diminished by a thorough *knowledge of the true principles of breeding*. SAMUEL JAQUES, of Massachusetts, an intelligent pioneer in the art, once told him that he would breed “to order,” if desired; he would enlarge or diminish the muscles of a bull or a horse and change the color of their progeny, or deliver a Dorking Cock with a *single black feather in his tail*, if sufficient time were allowed him. His success with his “Cream Pot” cows and other animals was certainly wonderful, and perhaps justifies his declarations. Mr. Brown also spoke of the probable future demand for wool, caused by the great exhaustion in clothing a vast army, in a rapidly increasing population, and in the change of machinery from a cotton to a woolen spinning power. He spoke of the industry and patriotism of the great State of Ohio, with her *eighty-eight Counties, two and a half million of people, and five million of sheep*, and predicted for her a glorious career in her central position in the cluster of States.

Mr. STEVENS, of Delaware County, said, we have Ohio law enough. There is no necessity for applying to Congress for relief. Most of those who own dogs are *irresponsible persons*, and when their dogs have done the mischief no redress can be obtained. No dogs should be kept. The next speaker said that a national tax would be equivalent to a *license to keep dogs*, and then the evil would be increased instead of abridged.

Judge LAWRENCE said there were 200,000 dogs at large, and it is certain that they almost destroy the leading interest of the State. Voluntary associations will amount to nothing. After some further discussion, he offered the following resolution:—

Resolved, That a memorial be presented to the General Assembly, asking the enactment of a law providing:—

1st. That when any person shall own or harbor more than one dog he shall give bond with surety in \$1,000, for all damages done by *all* dogs he may keep or harbor.

2d. The owner or harbinger shall furnish the proper stamp for the bond; the bond shall be taken by the Assessor, and in default of giving the bond, the Assessor shall kill the dog.

3d. The Assessor shall receive no pay until he makes oath that he has performed all his duties under this law.

4th. In all actions to recover damages for the

sheep killed or injured, the Court shall, in addition to the damages recovered by the owner, render judgment for an equal sum to be paid into the County Treasury, to be appropriated by some just mode in paying for sheep killed or injured, and in prosecuting actions against the owners of dogs for damages to sheep.

5th. That when the owner of sheep killed or injured by any dog fails to sue for damages for three months, it shall be the duty of the Prosecuting Attorney to sue in the name of the State when like damages shall be recovered as in cases where the owner prosecutes, including the double damages—and the money recovered shall be paid into the County Treasury.

This drew out a spicy debate which woke all the late storm-tossed travellers, and gave the Convention a lively appearance. The debate was arrested by the following more conservative proposition of the Hon. COLUMBUS DELANO, late member of Congress from Ohio, viz:—“That a Committee of three be appointed to prepare a bill to be submitted to the legislature for promoting the interests of wool-growers, and for protection against dogs; and that said Committee memorialize the General Assembly in favor of passing said bill.” This resolution was finally adopted as an amendment to, and took the place of Judge LAWRENCE’S resolution. In his remarks urging the passage of this resolution, Mr. DELANO said the power of the legislature had not been exhausted, and excellent results might be obtained by further appeal to it.

Foreign Competition.

Mr. MONTGOMERY offered a resolution, “That a Committee of three be appointed by the Chair to draft a petition to be presented to Congress, in accordance with the resolution passed on the subject of taxing dogs.” While this was under discussion, Gov. STANTON, late member of Congress from Ohio, was called for by the President. He said he had always been in favor of a general system of protection. Whilst in Congress, he had interested himself in this subject and investigated it with all the care with which he was able. The American wool-grower needs protection on several accounts, but the principal one is, because wool can be grown in South America, at the Cape of Good Hope, in Australia, and other warm countries, cheaper than it possibly can be by our agriculturists. Wool costs nothing in those countries but what is incurred in collecting the sheep and shearing them. They roam at large, require no feeding or shelter, and multiply with marvellous rapidity, while our growers are obliged to erect barns and sheds to protect them from the inclemencies of both summer and winter storms. The season is also so long during which they are kept from the succulent pasture food, and fed upon dry hay, that roots and grain are required to carry them safely through our long and severe winters.

He was inclined to think that sufficient national law had been enacted to give the wool-grower all the protection he could desire, if it were justly observed. The evil lies in the *evasion of the law*, under one pretence or another, or by a wilful infraction of it by designing men,—and producers will never reap the benefits which law is intended to confer, until this evil is remedied. In his capacity as a national legislator, he had proposed and urged legal remedies, but they had been defeated by the *compact and intelligent power which the manufacturer had always been able to bring to bear directly upon the legislation of the country*. The *manufacturer* has been uniformly able to accomplish this, while the isolated condition of *producers*, their want of means and concert of action—for concert of action on an extended scale cannot be had without money—has kept them scattered, divided and powerless.

A resolution submitted by Mr. GREEN at an early stage of the session, was called up and adopted, as follows:—

Resolved, That this Convention recommend to the Wool-Growers of Ohio, that they form themselves into Associations for the purpose of pledging themselves to put in force the present laws now upon the Statutes of Ohio, for the protection of sheep.

Sheep Washing.

Another subject presented to the Convention by the Committee appointed for the purpose, is expressed as follows:—

Resolved, That *washing sheep* is in itself injurious to sheep—and is no advantage to wool—and is only made necessary by the present custom of wool-buyers—and it is highly desirable that a reform be affected.

It was argued on one side that the wool of Ohio is of too unequal quality to be sent to market without washing, and that until there is more uniformity in the breed of sheep, as well as in tending them, and handling their wool, the practice of washing *should not be abandoned*. It was quite evident that the manufacturer had his friends in the Convention, to check any radical change that should affect his particular interests. Much feeling was manifested in this discussion. Mr. GRISWOLD argued strenuously that washing was injurious both to sheep and wool, and denounced the practice—if it ever existed—of applying any oily matter to sheep beyond their natural secretions, in order to give the fleece more weight. This subject was discussed at different times during the sittings of the Convention, with much animation and ability. What conclusions were reached, I do not know, as I was not present when it received its last touch.

Col. Needham's Address.

On Tuesday evening, an address was delivered in the Senate Chamber to a large audience of

ladies and gentlemen, by the Hon. DANIEL NEEDHAM, of Vermont. It was an off-hand, animated, instructive effort, just such as will gratify an intelligent audience. After speaking of the productive capacities of the farther West, and of the industry and thrift of the people of Ohio, he gave a rapid account of his late visit to the *International Exhibition, or World's Fair*, at Hamburg, to which he was accredited as the Commissioner from the State of Vermont. He briefly related the whole matter—the design of the exhibition, the nobles and counts and republicans and shepherds, mechanics, plowmen, artists and scholars that were there,—the agricultural implements, the sheep, horses and horned cattle, and the manner in which the judges were elected or appointed, and how they went to work to make up their decisions. It appears that the award of *three premiums* to American sheep gave great dissatisfaction which found tongue not only among competitors, but in the public press. This induced Mr. Campbell, the owner, through the Commissioner, to make the proposition to shear as many other sheep as there were of the American, and of the same class, and if they did not then excel in weight of carcass and quantity of wool, any of their competitors, then they would yield the palm and relinquish the prizes! This proposition was so evidently fair and honorable that it disarmed all opposition and the American Sheep and the American men became “the cynosure of all eyes.”

Honor to Mr. George Campbell.

In alluding to this result, Col. NEEDHAM said: “The honor of triumph belongs alone to GEORGE CAMPBELL, of Vermont. All America was invited to the exhibition, and all Americans to contribute of the wealth of their agricultural industry. Ohio, with her two millions and a half of people, and her five million of sheep, all the great East and the greater West, of their treasures of mechanical skill and agricultural production, were invited to bring their best specimens and compare them with those gathered from Great Britain and France, and Germany, and all the world! One man alone, of all the Americans, dared to venture with live stock—and that man, GEORGE CAMPBELL, of Vermont, took of his own breeding, the result of his own care and skill, *twelve little sheep*, and those little American sheep took the prizes from the sheep gathered from every other country, and gave to America an honor that had been denied her by all the rest of the world, and an honor that America did not even know belonged to her.”

In speaking of the *samples* of wool presented at the Exhibition, Col. NEEDHAM said: “There were none from America but those sent by NATHAN CUSHING, Esq., of Woodstock, Vt., and that they elicited a great deal of surprise on account of the

extreme length of staple, combined with great fineness. They were the best samples on exhibition, and would have received a medal had they been in sufficient quantity to come within the limits of the premiums."

He closed his Address by a well-merited tribute of praise to the people of the State of Ohio, and those of the great Northwest, many of the latter being in attendance.

Ohio State Board of Agriculture.

On Wednesday, I attended a session of the *State Board of Agriculture*, and listened to a discussion upon the question, whether the State should accept the proffered aid of the government towards the establishment of a State Agricultural College. In the evening, Dr. H. S. RANDALL, the author of the recent work on *Sheep Husbandry*, delivered an Address on this subject to a large audience, and including ladies. It abounded in valuable statistics, and was replete with sound teachings and a condensed, but clear survey of many collateral matters which affect this great interest. The Dr. was listened to with profound attention and evident gratification. This exercise closed the proceedings of the first *Wool-Growers' Convention* of the great State of Ohio. It was attended, however, by gentlemen from nearly all the loyal States of the Union.

City of Columbus.

Columbus is a beautiful city. It lies partly on the banks of the Scioto river, and originally was a broadly-swelling mound, or hill, which the people were unwise enough to cut down. The streets are very broad, but seemed to me to have no end. Broad street has four rows of trees, for a great distance, and is embellished by rich dwellings of the latest styles of architecture, with highly cultivated and extensive landscape gardens. The "*Central Lunatic Asylum, of Ohio*," is on this street, and stands as a monument of honor to the good people of the State. Dr. HILLS, the long-trying, faithful, and efficient Superintendent, is entitled to my cordial thanks and respect, not only for the affable manner in which he conducted me through the Institution, but for the exercise of his skill in restoring my frozen hand to life and action. A ride to "*Camp Chase*," four miles out, a look at the barracks and the rebel prisoners, the return to the city and thence to the Asylum in the intense cold, had sent the blood out of some parts of one hand and left them as white as snow and as "stiff as a stake." Fortunately, the Doctor's restoratives, the cold snow, and gentle rubbing, brought back color and circulation in about half an hour, so that I attended him in his round of the halls and rooms.

Columbus has about 18,000 inhabitants, and is the Capital of the State. The great national road

—not a rail, but Henry Clay's road—passes through the city, commencing at Cincinnati and extending to Indianapolis. I visited the Penitentiary, but did not see John Morgan's men. It has puzzled people to know what his *diggers* did with the earth which they excavated, so that none of it could tell the tale of their doings. In the first place, they began to pick away the cement floor and brick work under their beds. When they got through this, they came to a *large, arched air-chamber*, constructed of brick, which passes under all the cells, and is a part of the system of ventilation. Into this, all the excavated earth and stone were carefully placed, and it was capacious enough to hold ten times as much more. They dug under *seven* different cells at the same time. John's cell was on the second story. Just before the time for locking up came, he exchanged with his brother and took a lower cell. Seven crept out during the night, two of whom were re-captured, and the other five, if not dead with hunger and cold, have probably found their way back to the charming abodes of rebeldom. The Penitentiary is a fine building, overlooking a large extent of rich champaign country, bounded by a magnificent belt of forest trees. It is said that at sunset, the scene from the West is one of unsurpassed loveliness. The soil is a sandy loam, and quite rich. I saw a field of 300 acres, *with the corn standing in shocks upon it*, which I was told by a native of the place, has been planted for more than fifty years in succession, in corn, *without any manure* having been applied to the field!

Want of Thrift.

One might suppose, that in such a prolific soil, abundantly supplied, with several species of the finest timber, such as, hickory, rock maple, oaks of several kinds, white wood, or poplar, elms, and here and there tracts of hemlock, and watered by frequent and ever-flowing streams, the country would present the most attractive aspect, and abound in those minor graces of fruit and flower, which adorn as well as sustain rural life. But it is not so. For hundreds of miles as I passed along, I saw very little orcharding, or fruit trees of any kind, or gardens. The houses for nearly the entire length of Lake Erie, are little fifteen feet by twenty things, with one to five small, toppling, patched-up sheds, for a pig, cow, or horse, and generally without a barn! I did not see half a dozen wood-sheds filled with dry wood, in the whole distance! A great many of the houses are of logs, plastered between, the posts not more than eight feet high, and unpainted. They are rarely enclosed, and are generally surrounded with old stumps, rotten logs, fence rails, a dilapidated wagon, and one or two dogs! No garden—no little smooth lawn before the door,—

no palings—no shed crammed with dry fuel for such a season as this—no, nothing, whatever, indicating that the people possessing this generous soil are an intelligent, industrious and thrifty people. Cattle all along the way were roaming the barren fields, browsing on dry weeds or decaying wheat stubble, and shivering in the cutting blast. Many of them were standing, gradually contracting their limbs as if to make the last plunge to mother earth. How they are sustained is a mystery. I saw few stacks either of hay or straw. The corn-fodder is generally left in the field. Sometimes the cattle were there, overturning the shocks and trampling upon what they did not eat.

I am aware that the portions of country over which I passed, on the rail road, may not be of so good soil, or so highly cultivated, as they are on the county roads,—that is generally the case,—but the *indications*, all along, even in the villages, did not suggest a considerable degree of refinement, intelligence, or thrift. This cannot be the fact, however, in many portions of the State of Ohio; for underlying all this, is a colossal power, which is making itself felt more and more every day. It has had a Legislature but fifty-six years, and yet has 2,500,000 people!

Among the timber the Black Walnut abounds, and is frequently found seven to ten feet in diameter. The Elm is a forest tree, and runs up as straight as an arrow to a great height. The white, or yellow pine, is rarely found in this region. Beech is plentiful. The cultivation of pear trees has scarcely found its way here yet. Some persons have introduced the dwarfs into their gardens, and with such success as to encourage further effort. Apples seemed to be plenty—at least they were in the baskets of all the “hucksters” about the streets, and in those of the boys who came into the cars to sell.

I have greatly enjoyed my visit here, although under such *benumbing* circumstances. The cold is intense. Thermometer 12° below zero. The storm that came in with the New Year, still continues to rage. Trains are everywhere delayed, and passengers farther west are suffering terribly.

But I ought not to close my letter without expressing my warmest thanks to our mutual friend, JOHN G. NEIL, Esq., of this city, for the kindest attentions, from himself and his interesting family during my entire stay here. He is the proprietor of a large property here, in which is included a farm of six hundred acres, a portion of which lies within the city limits. I could not go over it at such a season, but hope to at some future time. With a warm heart, but awful cold everywhere else, I am, Truly Yours,

SIMON BROWN.

BAD EFFECTS OF IRRIGATION.

In consequence of the long season during which no rain falls in California, it was supposed that irrigation would prove to be the one thing needful in that State. For this purpose artesian wells were dug, and, in connection with mining, expensive canals were built, and water was very extensively used by farmers and gardeners. At first the result was quite satisfactory, and much was published in the papers of that State of the almost miraculous effects of irrigation on the varied productions of the soil, from garden vegetables to fruit trees. We read these statements with much interest, and must acknowledge that it is with feelings of regret and disappointment that we now find the practice generally condemned by the best cultivators of California, where, it will be remembered, the seasons are divided into wet and dry, and consequently but little or no rain falls there for several months in succession.

In a late article upon this subject, the editor of the *California Farmer* states that fever and ague and kindred diseases are this year unusually prevalent, and do not yield as formerly to medicines, and expresses the belief that irrigation is prominent among the causes of the present wide-spread sickness in that State. Innumerable ditches, reservoirs and canals, he says, have flooded great extents of the surface, for both mining and irrigation, leaving the soil in a fit condition to yield its malarious influences to the action of sun and air upon its superabundant moisture and vegetable matter. We copy the following from a late number of the *California Farmer*:

We are also confident that the fruit and vegetables raised on irrigated lands are not only not as good and nutritious as those otherwise grown, but that they are absolutely unhealthy, and the eating them tends to produce the very disease which we now lament.

Any one who has given that careful attention that we have done, in noting the quality of fruit and vegetables, grown with or without irrigation, cannot but have found that there is a vast difference in the two classes; that grown without irrigation being fully ripe, rich, luscious and beautiful, while that grown by irrigation is seldom fully ripe, and the juices being cold and watery, without flavor, and the effect upon the stomach not satisfactory.

There can be no question in our mind of the injurious effect of such fruit and vegetables upon health. We would call attention of all persons who buy and sell fruits, and those who buy for use, to the fact that all fruits grown on irrigated orchards are the first to decay. They seem to melt away, a mass of watery substance, while fruit not irrigated keeps for weeks, and when they do decay, it is by a slow process, or dry rot.

Vegetables, too, raised by irrigation, will not keep. Cabbages hastily grown, as hastily perish. They mold and melt away a mass of jelly, and so with squashes, and other garden stuff thus grown.

This is not the case with produce raised in an intelligent manner, by careful, constant cultivation, that will always give to the articles the nutrition of the soil, needed for the development of their several juices and properties, to make them not only palatable but healthful.

Irrigation is one of the most serious mistakes that are now prevalent among the tillers of the soil in California, and this mistake arises from sheer ignorance of the nature of the soil and climate, and many injurious effects of irrigation, both upon the soil and the products raised by irrigation.

Could those who believe in and now practice the erroneous system of irrigation, but give a little of their waste time to visiting their neighboring cultivators who are non-irrigators, or visit other counties, where orchards and vineyards are in the highest state of cultivation and prosperity *without* irrigation, we should hope they might be led to correct their mistake.

KNOWLEDGE--ITS BENEFITS TO THE FARMER.

The field of knowledge is infinite. Whether it be of professional knowledge, or of that which has no immediate application to the professional or industrial pursuits of man, it is so vast and varied that no man is competent, and no life sufficient, but for the attainment of a small portion of it. So much as is attained by the most learned is only as a sand on the shore, or a drop in the ocean, compared to the whole field of knowledge.

Mr. Preston, one of the most eminent lawyers in England of our day, devoted himself, as the lawyers of that country do, exclusively to the study and practice of one department of the law,—that relating to real estate, or the branch of law called by the lawyers the “real law.” He was the author of several treatises on that part of law, considered the most accurate and learned among those written in that department. Yet, after thirty years’ practice, and having won an enviable reputation as a jurist by the publication of his works, he said that he did not comprehend fully the real law of England.

The man is not living in Massachusetts,—he has never lived there,—who has fully comprehended the whole volume of the knowledge that is contained in a blade of grass, or in a small piece of stone, or lump of earth. Yet are there many among our farmers who consider a suggestion that there are things in their art to be learned by them, as entitled merely to derision. So it is with other men in all the walks of life. Lawyers who have not a tithe of the knowledge to which Mr. Preston had attained in the “real law,” would not speak so humble of their knowledge as he did,—nor would they think so disparagingly of it.

The first step in the acquisition of knowledge is to lay aside this delusive idea that there is nothing to be learned—and in no art or pursuit is

it so necessary as in agriculture; for the reasons, *first*, that the area of knowledge and science involved in that art is more extensive, varied and vast than in any other,—and, *second*, that the store of knowledge is of recent collection, and that vast accessions have been made to it since the birth of farmers now in life. Among these are the structures of the various organs of plants, their functions, the secretions, modes of germination, vegetation and annual increase and decadence, the elements of which they are composed, the fact that all these elements exist in the earth, that they are absorbed by the plant for its sustenance, and that inorganic mineral matter is thereby converted into organized vegetable substance,—that such vegetable substance has life and is subject, like the animals, to disease, and endowed with the faculty of reproduction by a mode similar to the continuation of the animal races.

THE AGRICULTURAL REPORT.

The Agricultural Department will soon issue the report for the month of November, 1863. As the interval between these reports has been too short to allow correspondents to properly gather the information desired, they will hereafter be issued every two months only. This will also allow mature consideration of the statistical information embodied in the returns, and thus add still further to their value. We have as yet seen only a brief synopsis of the report, as follows:

This report contains an article from the Commissioner of Agriculture, stating the matters essential to perfecting the plan of these reports. These are, first, procuring a sufficient basis on which estimates of the crops from year to year can be made, and to determine the progress of the other industrial pursuits. This basis must be a well systematized census every fifth year. On such a basis he is satisfied that correct estimates can be made through the information of correspondents in every country. Secondly, he asks power to extend this correspondence, so as to embrace statistics appertaining to manufactures and commerce, as well as to agriculture, on the ground that these industrial pursuits are so intertwined as to be inseparable. The value of agricultural products depends on the home market created by manufactures and commerce, and a knowledge of these is essential to determining the demand for these products. As the foreign market also materially influences this value, a knowledge of the condition of the English crops, from time to time, and of those countries which supply the markets of Great Britain with breadstuffs, is necessary, and hence he asks to be placed in communication with our Consuls, that through them this information may be obtained.

In connection with these subjects, the Commissioner advocates the necessity of hereafter establishing a Bureau of Statistics, as a part of the Agricultural Department, for the reason that, having a regular monthly correspondence in every county of the Union, it can command the services of persons well trained in collecting statistics,

and who appreciate their objects; that hence, neither the delay, nor errors, nor expenses, will be attendant on a census taken by this Department, which has characterized the decade census; and that, as this Department alone has special cognizance of the interest of the industrial pursuits, all matters, such as the census, which almost exclusively belong to these pursuits, should come under the jurisdiction of the Department of Agriculture.

The tables of this report refer more to sustaining the soil by the use of proper manures and deep plowing than to the condition of the crops; but in this connection is stated the amount of the clover seed crop for 1863, in nine of the principal clover seed producing States—the omitted States raising but little. The crop is as follows:

Clover Seed Crop for 1863 in Nine States.

1859.....	337,109 bushels.
1862.....	1,034,790 “
1863.....	806,458 “

Being a decrease in the last year's crop of 228,332 bushels, or 28 per cent. This decrease was caused by drought, the scarcity of fodder and hay, and the severity of the fall frosts.

The report shows the great utility of plaster as a manure, sown on clover in June, and the entire growth turned under for wheat in the fall. The necessity of establishing manufactories of bone charcoal at slaughtering-houses, for refining sorghum molasses, and using it afterwards as manure, is also shown.

The reliability of the information obtained by the Department through its correspondents, is referred to in the present condition of the pork trade, and as predicted by the Department. The exports of breadstuffs and provisions are given, with their prices in New York on the first instant: also, the general imports and exports; the proper mode of stating these, by taking from the amount of exports of produce the difference between gold and currency; the perplexity arising from a want of a uniform system of weights and measures in England, and the necessity of Congressional action on this subject in the United States.

Congress prints 120,000 copies of the Annual Agricultural Report, and 15,000 copies of the monthly report, yet these inadequately supply the public wants, and hence the Commissioner advises a trial of the English plan of distributing public documents—to sell them at cost. The present cost of the Annual Agricultural Report is sixty cents. Collections and orders could be sent from every county through the regular correspondent of the department.

The Meteorological part of the Report is more full and interesting than heretofore given. The same severity that has marked the climate of the Mississippi since July still continues, although, generally, the weather has been favorable on all the fall sown crops and for farm stock and labor.

THE HOP CROP.—The Inspector General of hops reports the following, as the amount of hops inspected in the State during the past year: First sort, 518 bales, 97,800 lbs.; second sort, 32 bales, 5,756 lbs.; refuse, 30 bales, 5,749 lbs.; total, 580 bales, 109,303 lbs. In 1862, the amount inspected was 319 bales, 57,410 lbs.

WAR AND AGRICULTURE.

BY JUDGE FRENCH.

Retrospect of the Year 1863.

The changes affecting the interests of agriculture and kindred pursuits during the past year are worthy of the careful study of all who are making or intend to make the culture of the earth, or the growth of live stock the business of life. The war and its results are as much the business of the farmer as of the soldier. The great questions of the demand and supply of provisions, of horses, of clothing, all immediately affect the producer. The withdrawal and diversion of labor from the soil, by the employment of our sons and brothers in the army or in service connected with the army, comes home at once to our farms and our firesides. The breaking up of the great system of involuntary service at the South, the sale of estates for taxes, the desolation of large portions of the States which have been the scenes of active army operations, all are opening new fields for the ambition of our young northern farmers, and offering problems difficult of solution to the land owners of the whole country. Of these great changes it is our duty to take thought, early and carefully, that we may so direct our agricultural engines as to produce the best results both for ourselves and our country.

Agriculture our Strength.

When the rebellion broke out, and without even waiting for the arrival in England of our new minister, Mr. Adams, the British government at once joined with France in acknowledging the Confederates as belligerents, and there is no doubt that throughout the first two years of the war, both the governments referred to expected, if they did not also intend, that the rebellion would be successful. The Southern idea that cotton was king, and that, in some way, cotton must be supplied from America to Europe, took possession of the leading minds of the British government, and of the only mind of any importance in France, that of the emperor. Much, however, as France and England needed cotton to employ their laborers, they needed bread far more to feed them.

The parliamentary returns of Great Britain for the year 1861, show that in that year she imported of wheat, flour, and Indian corn, alone, one hundred and six millions of bushels, 48 per cent. of which, or nearly one-half, came from this country.

The New York trade tables show that for the year ending Sept. 1, 1862, we exported to Europe more than fifty-two million bushels of wheat, flour and Indian corn, equal to one hundred and forty-two thousand bushels every day in the year!

Again, the British board of trade reports, that in the ten months ending October 31, 1862, Great Britain received of the United States, produce amounting in value to eighty-seven and a half million dollars, which is more than \$290,000 per day for all that time, and the amount for the same period in 1861 was not six millions less.

Our contributions of food to England were not charity, but merely trade, but in 1861 and 1862, there was really no market in the world where England could have procured her supply of food, had war suddenly broke out between that country and America. Her statesmen are wise and farsighted, and it seems manifest, when we remem-

ber the feeling existing in that government in favor of the South, that nothing but the apprehension of a want of food, occasioned by a rupture with the United States, prevented England from interfering with the blockade, and so producing war, for the sake of obtaining cotton. Now, better counsels prevail there, and it is sincerely hoped that the peace which was preserved through motives of policy, may ever in future be maintained through mutual recognition of the rights of nations and the rights of man.

Cotton.

Prior to 1861, of all the cotton manufactured in England, it was for several years found that 75 per cent. came from the United States. It is estimated that in 1860 only 12½ per cent. of the vast quantity of a thousand million pounds of cotton used in England was supplied from all other countries, 87½ per cent. being imported from the United States.

This enormous supply was suddenly almost entirely cut off by our civil war, and the blockade of the Southern ports. No statement of the importations of cotton into England in 1861 is at hand, but it is estimated that the whole amount from all sources, in 1862, was but four-tenths of the usual quantity, and of this only 4½ per cent., instead of 85 per cent. as formerly, came from this country. The effect of the sudden failure of the supply of cotton to English manufacturers, may be imagined from the foregoing statement. There is no doubt that more real distress has been produced in England by our civil war, so far as regards the necessities of life, than anywhere in the Northern States. By the reports of the Central Executive Relief Committee of Manchester, England, it appears that about 300,000 of the best work-people of that country, were in April, 1863, after sixteen months illness, still out of employment. These were cotton operatives.

The number receiving relief from communities and parishes at that time, was a little above 360,000, with no reasonable prospect of immediate reduction. That the British nation should have been roused almost to desperation at such a condition of affairs, coming upon its people with no fault of their own, is not strange. That the suffering class, the operatives themselves, should instinctively have sympathised with the North, while their government sympathised with the South, is both strange and true.

Leaving England to take care of her own troubles, and test the various plans of relief for her starving people, of which the most prominent are employment on public works, emigration and charitable support till cotton is again supplied, let us return to our inquiry into the effect of these changes in the cotton trade and culture upon American agriculture. At 60 cents a pound, which cotton has of late commanded, and which is about five times its price in the years preceding the war, and by great exertions of British capitalists the supply of cotton from other countries has greatly increased, and no doubt a sufficient quantity may be produced at present prices to supply the world. But some day, we trust not far distant, peace will return to our shores, and the best cotton growing country in the world will again be open to cultivation. Most of us believe that slavery has already received at the hands of its friends, its death wound, but whether it live or die, the Southern

country must be open to cultivation by somebody. Under sales for taxes, as in the Sea Island; by confiscation, as in Louisiana; by the death of the former owners in battle, and by the dissipation of their property, which was principally in slaves and lands, and burdened with debt, it is plain that to a large extent the cotton lands must come under a new ownership. Whether free labor can at once be organized so as to produce cotton at old prices, is not the question; but that at double or triple those prices, northern men with white free labor even, can make fortunes in cotton growing, cannot be doubtful.

Already Massachusetts men and Massachusetts capital are going to the Sea Islands, purchasing at nominal prices the most valuable cotton lands in the world, organizing the freedmen into families and villages, and paying in the first year's experiment all expenses, and the price of their land. They who believe our government can protect its citizens in their occupation there, may consider those lands open to them to enter upon. They who believe that Mr. Jefferson Davis and his friends will soon establish their dominion with its peculiar institution, over the South, had much better remain under such vines and fig trees as at present shelter them at the North.—*Country Gentleman.*

CLOVER HAY FOR HORSES.

We have somehow grown up into the belief that clover hay is not a good feed for horses, mostly because it takes a large quantity to supply the requisite nutriment and consequently distends the bowels of the horse to an uncomfortable size for a working animal, while the concentrated nutriment of clean timothy hay and oats is not liable to this objection. As a diet for invalid horses, clover hay may be well enough. Dr. R. McClure, of Philadelphia, a veterinary surgeon of good repute, takes ground in favor of clover hay for horses in the following article, which he has contributed to the *Culturist*. We shall not now dispute with the doctor, but look the matter over and see if we can be convinced of the truth of his positions.—*Ohio Cultivator.*

There is at present an endemic disease in the horses in this city, [Philadelphia,] one of its chief characteristics being an almost complete loss of appetite, at least so far as partaking of the ordinary timothy hay, oats and corn are concerned. But the sick horse *will eat* clover hay, and unfortunately that cannot be had in any stable in Philadelphia, if it be not where cows are kept. Why is this the case? Simply because there is a prejudice existing among all classes of horsemen, and from them communicated to the owners of horses, against feeding this kind of hay. First, because it is said that clover hay produces heaves, and secondly, because it is said that it is not respectable to be seen feeding with clover hay, as it looks parsimonious. These opinions concerning this article of food are so widely and firmly fixed in the mind of almost every groom and stableman, as well as horse owner, in Philadelphia, that I believe it has been the cause why most farmers are not found giving it cultivation to the extent that it ought to be, or as its superiority as an article of provender demands. Let us now examine, in brief, the objections that are laid against it. It is said it will

produce heaves in horses. The idea is false as well as preposterous. It possesses no greater agency in producing such an effect upon horses, or any other animal, than is possessed in common by any other article of food. If broken wind is produced by an article of food, it certainly is not from the food, but from the *quantity* that is given. In like manner heaves may be caused by too great a quantity of water, oats, corn, or any kind of hay whatever, given at an improper time, as when the animal has a journey to perform. In a word, it is the person's fault in giving too much food at an improper time, and not the character of the food that thus produces heaves in the horse. The man who, when feeding a horse, would fill its manger with oats and corn, would not be considered a very fit man to feed and care for horses, neither is that man who would fill a large rack full of clover hay; as the animal will not stop eating until it has hurt itself, or has eaten every blade of clover before it; as every horse is fond of it, and as before stated, sick horses will eat it when they will not eat anything else. Without another word the argument is complete.

Good clover hay contains forty-five per cent. more fattening matter than timothy hay, and about forty per cent. more than the English rye grass hay; about ten per cent. less than dried lupins or vetches, which are now extensively used in Europe for the feeding of both horses and cattle. Such is a brief statement of the peculiar, profitable, and I may as well say palatable advantages accruing from the feeding of horses, as well as other animals, on clover hay in preference to any other hay in use in feeding and fattening.

For the New England Farmer.

THE SCHOOL.

How can time be saved, in the Common School, for the introduction of studies which shall expressly prepare for the labors and duties of active life?

The most important thing done in any school is learning to read. He who learns to read and to love reading opens a path to all knowledge, all philosophy, all wisdom, and an inexhaustible fountain of delight and improvement for the whole of his life. Learning to read is, at the same time, the most difficult thing that is ever attempted; so difficult that good reading, in the pulpit, in the lecture room, or in the parlor, is one of the rarest as it is one of the most delightful of all accomplishments. This ought not to surprise us, when we consider that, to make a perfectly good reader are required, as gifts from nature, a quick eye, a clear, strong, sweet, flexible and melodious voice, and strong sense, together with good judgment, taste and feeling. To these must be added, by the care of the teacher, delicate and exact enunciation, full utterance, correct pronunciation, and a knowledge of accent and emphasis; in short, the perfect management and modulation of the voice, and the power of giving full and natural expression to the various emotions. To this end, the good sense and power of judging must be highly educated, improved by thought and knowledge, and the taste must be rendered delicate and refined by long-continued and careful cultivation.

With all these attainments, to read, with propriety, any particular passage, there are necessarily required a complete understanding of the subject, the circumstances and the occasion to which

it relates, sympathy with the purpose of the writer, and a delicate sense, at once of the pathetic and the ludicrous, the humorous and the witty.

It is with reason, therefore, that for the attainment of an end so desirable, a costly apparatus should be employed and a vast deal of time expended. The cost of reading books is, in many cases, one of the largest items in the expense of the common school,—and the time devoted to this branch is much longer than that spent in any other exercise.

If the end were attained, this expenditure would be well made. If the time devoted to reading gave the knowledge, the maturity of judgment, the cultivation and refinement of taste of which I have spoken, the time would be most profitably spent. It is notorious that it does not. The end is not attained. In the circumstances of the pupil, it is usually unattainable.

These powers can be highly educated only by resolute, long-continued, voluntary study; by the study of subjects which require close attention, severe thought, careful comparison, and by extensive reading, and giving a great variety of knowledge. It is commonly found that the best readers in school are among those who are most highly educated at home, by those in whom the love of reading has been most successfully cultivated, and who are, in consequence, eager devourers of poetry, romance, biography, travels, history. Such readers raise themselves to the power of comprehending and appreciating the beautiful selections in which our school reading books abound. For many of the text-books for reading, prepared for our common schools, are admirable as selections of the finest things in the language. The objections to them are that they are not suited to the object aimed at, they are far too high for the average attainments of the pupils, and the volumes are two or three times too numerous. For the mere art of reading, one or two volumes, made completely familiar, would do more than the five or six or seven volumes now do.

As it now is, a boy reads, in his class, a few of the lessons in a volume, and looks over, without perfectly understanding, other pieces. He goes into another class, and gives up his old book and gets a new one, to be abandoned, at the end of the year, in the same manner.—If the old book were continued until each pupil could read very well each lesson it contains, much better reading would be attained than can be by the present practice of giving up, year after year, volumes *very imperfectly* understood and learned, and going to new ones.

It is true that an accomplished teacher, who has the knowledge and *can give the time* necessary for it, may, by diligent instruction, qualify his class to understand and to read any of the choice passages in the selections contained in his reading book. And this is sometimes done very satisfactorily and with beautiful effect.

But it is a sad fact that many of our teachers have not the requisite knowledge, nor the books which would supply it. And it is certain that very few of the teachers of the country schools can, in the press of many pupils and many lessons, find the time to consult the books, if they have them, or can often manage to make the opportunity to give the necessary instruction, if they have the knowledge. If they can do this

for a very few of the most valuable selections, they deserve great credit. And when it has been thoroughly done for a rich and beautiful passage or selection, how much better would it be for the class to be exercised upon it, until each individual were able to read it naturally, with feeling and with power, then to leave it, after one or two readings, and hasten on to new lessons, which the teacher has no time to make the class understand and feel, and which can only by accident be read well.

I say nothing of the effect, upon the mind, of reading without understanding, and, therefore, without inquiry or thought; of the risk of getting false impressions, instead of correct opinions and an exact knowledge of facts; or of the danger of forming the pernicious habit of superficial and desultory reading. I can only intimate some of the considerations which belong to this important subject. But have I not said enough to make it probable that the power of reading well may be better attained from often reading a few passages perfectly understood and felt, than from volumes hurried over and very imperfectly learned?

Let whoever wishes to form opinions for himself upon this matter, visit, without previous notice, any of the schools nearest him, and listen to the reading. He will have to conclude, I fear, that, in at least two cases out of three, the children are allowed to read with so little true comprehension and feeling of the passages read, that any amount of such reading can do very little towards enlarging and maturing the mind, and thus making good, thoughtful readers; and that at least one-half of the time now spent, in reading would be better employed in something else.

G. B. E.

EXTRACTS AND REPLIES.

MOWING MACHINES.

Will you or some one of your numerous subscribers have the kindness to inform me, through the *Farmer*, if you know of a better mowing machine than the Buckeye, made at Worcester? A SUBSCRIBER.
Charlton, Jan., 1864.

ECONOMY OF STEAMING FODDER.

I write to gain information through the columns of your paper, in regard to steaming fodder for a herd of cattle. We all very well know that hay, straw or corn-fodder run through a hay cutter, wet, and then sprinkled over with meal, improves it very much. But we do not all know how much better steamed fodder is for our herds than dry. I am interested to know how much per cent. is added to the value of hay or fodder by steaming it and feeding it without meal. Perhaps some of the readers of the *Farmer* steam the fodder for their stock of cattle this winter, and can give the desired information; also, the expense of putting in steam works capable of steaming 1000 pounds at a time, and the cost per day, of running the same. If steam works can be used at an advantage by farmers here in New England, I hope some one who has tried the operation will enlighten the rest of us, who are now in the dark, as to whether it is profitable to steam the fodder for a stock of cattle or not. M. W.

North Leominster, Jan. 5, 1864.

REMARKS.—Boiling or steaming food for hogs is generally practiced by the best farmers throughout the country; but to a limited extent only, either in this country or England, do they cook the fodder for cattle, horses and sheep. In the agricultural books and journals of Europe, and in the articles of writers in our own country who take their ideas from them, we have accounts of extensive operations for steaming

or boiling the hay, and straw, and roots, and grain which make up the food of the farm stock. In "Stephens' Book of the Farm" we find cuts and descriptions of two sets of "steamers," one costing \$47 to \$63, and the other from \$50 to \$100. But a Mr. Horsfall, of England, whose statement of his own success in steaming food for milch cows, has been extensively copied by editors of books and papers in this country, may, in the language of the day, be denominated, "the father of steaming." In the *Monthly Farmer* of January, 1857, (Vol. IX., p. 12,) we gave a brief synopsis of his system. It is published at length in Flint's "Treatise on Milch Cows and Dairy Farming." To these we would refer our correspondent. We may, however, remark that one of the leading objects with Mr. Horsfall, in steaming food, is to make his stock eat straw, rape-cake, &c., which they will not do when offered alone. It is a deserved compliment to the grain for which our country is distinguished, that Mr. Horsfall considers Indian meal the most fattening food he can get. Nearly thirty years ago we called, one cold winter's evening, at the log cabin of a Michigan pioneer, and while warming ourselves at the blazing fire of logs piled against one side of the room, of course, a wall of rough stones, we noticed that something was covered by the hot embers, and were told that they found it economical to bake bread for their hard-working oxen, which they were then doing in loaves of corn meal about as large as a "half bushel." In conclusion we will say that we do not suppose that a large per cent. is added by steaming, to the value of fodder; although its nutritive substance may be made more available by cooking. But whether enough more so to pay, is the question not yet decided in the affirmative by the practice of our best farmers.

SAVE YOUR COAL ASHES.

It has been my custom to get all the coal ashes that I could and put it around my trees. In the first place, it keeps the mice from eating the bark, or girdling them, in the winter, when snow is on the ground; in the next place, it saves me the trouble of digging around my trees; and in the third place, it keeps the ground free from weeds and grass, and loose. I have used coal ashes several years and by putting a wheelbarrow load to a tree, my trees thus treated do better than others do by digging around and manuring them. It keeps off vermin, borers and other injurious insects.

Spring Grove, Jan., 1864. S. A. SHURTLEFF.

REMARKS.—A friend of ours who has had much experience in the cultivation of grapes, puts a high value on coal ashes, as an ingredient in his compost for the soil in which his grapes are planted.

BUMP'S PATENT ATMOSPHERIC CHURN.

Since publishing the expose, by "Viator," of this humbug, we have received several communications from victims of the swindle, which agree so fully with his statements, as to make their publication unnecessary. Not only the manner of its introduction, but the churn itself is represented as a fraud and an imposition.

A MONSTER HOG.—John W. Copenan, of Cayuga county, State of New York, has a cross-bred hog, stated to have weighed in May last 1120 pounds, in September 1249 pounds, in October 1276 pounds, and in December he weighed 1340 pounds, and has been growing rapidly since, and will probably now weigh 1400 pounds. His breed is said to be Leicester and Suffolk with a slight cross of Berkshire.

For the New England Farmer.

STRAY HINTS FROM MY KITCHEN.

Being in season, or more properly *not* being in season, is one of the greatest trials a woman has. Now, young wife, allow me to give you a few hints about this matter. Hurry your work, but don't let your work hurry you. Do to-day's work to-day—don't let it go until to-morrow. Commence getting dinner half an hour too early rather than five minutes too late—for what woman wants her "better half" and all the hired men sitting round, while she is dishing up the dinner, and wondering what makes her so flushed and nervous?

Who would not be nervous to know a scowl was on the brow of the lord of the house and no sentiment of pity lurked in his heart for the poor tired wife, just because she was belated. Man never will pity a woman who is behindhand—so let me say again, be in season. Do things right. Some wives seem to act as though they thought if a thing was done, no matter *how* it was done. Remember the old adage, "Whatever is *worth doing*, is worth doing well." Let your meals be always nicely prepared, and your food well cooked, even if your husband is an "easy man," as I have heard wives say, and never "finds fault." If a man never complains, it need not be taken for granted that he is suited with anything, no matter how poor. Man has much penetration, and knows even better than some women suppose when things are done in "apple pie order." He may not openly complain, but he feels more for saying less.

If soup is the order for dinner, let it *be* soup, not a mixed mass of meat, bones, potatoes and water. Don't throw the ingredients into a pot, boil them up a spell and pour them out expecting to find a dish worthy the taste of an epicure. To cook well, and make palatable food, great pains must be taken, and strict attention paid to the work. We cannot stand in the street door and gossip half an hour and expect all things to work right in the kitchen. We cannot sit down to read a fascinating book an hour and find the soup all seasoned for the table, when the monitorial clock rings out the hour of noon. No, no; we must attend patiently to our work, and little by little find it to be right. The proper way of making soup is thus:

Put the meat into cold water and set it over a slow fire that it may boil gradually; by that means the goodness is extracted. Pare your potatoes and *half* or *quarter* them—not slice them. Slice onions, if they are used, and put in when you do the potatoes. Season the soup before you put in the potatoes, by putting in pepper and salt and tasting till found right. After the potatoes and onions begin to boil, lightly drop the dumplings upon the top, and cover the pot closely that the steam may cook them. The nicest way to make them is to take one pint of flour, one teaspoonful of cream tartar, one-half teaspoonful soda dissolved in hot water, a little salt, and milk enough to wet them up. Make them stiff; divide them into about four dumplings, and if good they will be plenty for a family of four or five. Don't cook them more than twenty or twenty-five minutes.

Make a soup exactly according to these directions and you will have the satisfaction of *knowing it is good*—if no one else speaks of it. Thus

it is with all our labors; if we do well, we know it ourselves, if others do not seem to. Have a rule for doing everything, which rule you can obtain by marking how you do a thing one time when wrong and doing different till perfect, *remembering* only the perfect trial. There is a monotony about woman's work that is very tiring and discouraging. Day after day and week after week, she must go over the same routine of duty, and she must indeed be a poor pupil who cannot learn to do well. SARAH.

REMARKS.—Excellent. It is wonderful how smoothly and pleasantly life passes along when a proper regard is paid to all the little details of our business, whether it be in the construction of an oration, the building of a house or a ship, or making a good soup or loaf of bread. Read this brief article, girls, as it may tend to secure a life-time of domestic happiness. The comforts of a life have often hung on a more slender thread than this. When our correspondent speaks of the special duties of *men*, we may take the liberty to speak as freely of them.

For the New England Farmer.

CARE OF SHEEP---CURE FOR DISEASES.

MR. EDITOR:—Being engaged in sheep husbandry, I am interested in everything that pertains to the health of the flock as being the foundation, the grand secret of success and profit.

If the flock is diseased, in vain does the shepherd bestow care, and attention, and good keeping, for surely the enterprise will prove a failure.

To the inquiry of "Constant Reader," as to the cause of his sheep having sore eyes and sore mouths, I think the first cause is humors in the blood. The past season has been one unsuited to the constitution and habits of the sheep; they do best when the season is dry and warm.

Their tastes leading them to browse, and the almost continual wet weather of the past fall, and exposure, produce irritation of the eyes and lips, consequently inflammation and a bad state of the blood ensue, causing the eruption or scab on the lips which resemble warts.

I would give them salt, regularly, once a week. Good Turk's Island salt, two quarts to the hundred, and more if they will eat it. Once in two weeks add half a pint of sulphur to the hundred to cleanse the blood.

For the sore eyes wash with a weak solution of copperas water. It is also the best remedy to allay inflammation on horses I ever tried.

For the sore lips tar and sulphur is a sure cure. At this season the tar will need to be warmed; then mix in the sulphur; not so much but that you can apply it to the affected parts with a stick. One thorough application usually cures. Besmearing liberally with the tar the noses and lips of the entire flock at shearing and again in August, will prevent the disorder. Salting regularly once a week, summer and winter, with an occasional dose of sulphur, will make sure the health of sheep, with plenty of good keeping and not exposed to diseased flocks.

GARDNER HERRICK.

South Reading, Vt., 1864.

For the New England Farmer.

ABOUT NEW YORK FRUIT TREES.

In the *Farmer* of January 2d, C. F. Lincoln, of Woodstock, Vt., inquires whether apple trees from the New York nurseries are as good for setting in the Eastern States as those raised near home. My observations on the subject have not been extensive enough, perhaps, to warrant general statements, but for the benefit of Mr. L. and others who may be about planting an orchard, I will communicate what I know respecting the fate of Western trees planted in this vicinity. Two years since, a number of hundred apple trees and some pear trees were set in the writer's immediate neighborhood from the Rochester nurseries. They arrived about the second week of November, properly packed and neatly labeled, and were set by different persons, on different farms, and thus subjected to different exposures. The first winter the trees were all more or less winter-killed; some merely had the extremities of the branches killed for a few inches to a foot or more; others were killed half way down, and not a few entirely to the ground. All were thus much injured, and during the following summer, in some orchards more than in others, the bark on the limbs and bodies turned black in spots, the outer bark curled up and came off, and many trees that survived the winter did not live out the summer. At the end of the second summer fully half were dead entirely, or worse than dead, (in some orchards more than half, in others less,) and the survivors were a hard looking set,—an eyesore to their purchasers. The pear trees seem to have lived better, and in one case where the apple trees were protected from the north winds by woodland, they have been less injured, and show more signs of thrift. Trees grown at home and set with those that have turned out worst, were not at all injured by the winter, and have grown well under the same treatment given the Western trees.

These farmers have been regretting for two years that they did not buy their trees at home, where they could have bought larger and better trees of the same varieties for the same money; and long since declared they wanted nothing more to do with Western trees. But last summer two polished, smooth-tongued agents of the Syracuse nurseries were here trying to induce the farmers to buy some of their trees. They were sorry the farmers here had been so imposed on with such trees. It was too bad, certainly, they said; but they ought not to let this prejudice them against other nurseries, &c. They would like to have them buy a *few trees of them*; they only cared to sell a *few* to each man, so they could try them, and in a few years they would want to buy large quantities of these trees, when they should be around again. The farmers were very reluctant, but the agents were importunate, in a *very gentlemanly way*, of course, and they generally took a few, agreeing for some choice variety. The trees were to be much larger and nicer than the Rochester trees, and the price for them a little higher. The trees came in due time, but were not better in size or appearance than were the Rochester trees; and instead of all being neatly labeled, as they were to be, and of the variety specified, only two or three trees in a dozen were labeled at all, and those were *not* of the variety agreed for. The disgust of these buyers, with Western trees, is ex-

tremely great, and with the agents who sell them. How the trees will grow remains to be seen.

Some years since, some trees from the Western New York nurseries that were set in an adjoining town, turned out very badly, a large proportion dying off soon after setting, while the others did not grow much for several years. In some portions of Central Vermont, where many Rochester trees have been set within a few years, the trees have turned out so badly, I have been informed, that no more are likely to be sold in that vicinity. In Connecticut I have learned (by way of the agent who sold them,) that the Rochester trees are doing quite well.

In conclusion, by way of counsel to the interested, I cannot do better than advise a very careful reading of the excellent article by "VIATOR," in the *Farmer* of Jan. 9th, entitled "Bump's Patent Atmospheric Attempering Churn," so full of just strictures upon agricultural imposters and loquacious vendors of marvellous inventions and products at wonderfully cheap rates. In connection with this subject I would especially commend his remarks about purchasing fruit trees. Trees already acclimated to your locality are far more likely to do well than those brought from a distance, especially if the change of climate be from a warmer to a colder, or if there is much difference in the relative humidity of the two regions.

Springfield, Mass., Jan. 20, 1864.

For the New England Farmer.

CURE FOR SORE EYES IN SHEEP.

MR. EDITOR:—I notice in the *Farmer* of Jan. 2d, an article headed "Sore Eyes and Sore Mouths in Sheep," with a request from you for a reply, &c. My lambs the past fall had a similar disease of the lips, which I readily cured with two applications, one about a week after the other, of an ointment made of tallow one-quarter pound, fresh butter one quarter of a pound, tar a half-teacupful, sulphur, one tablespoonful. Melt the tallow, butter and tar, and stir until well mixed; when nearly cold add the sulphur. The sores should be well smeared with the ointment. I should choose a warm or mild day for the application.

I presume washing the eyes with tepid water every day for some days would cure them; but if not, I should dissolve about one ounce of white vitriol in a pint of warm water, and apply thoroughly to the inflamed eyes after gently washing them clean. It might need repeating a few times.

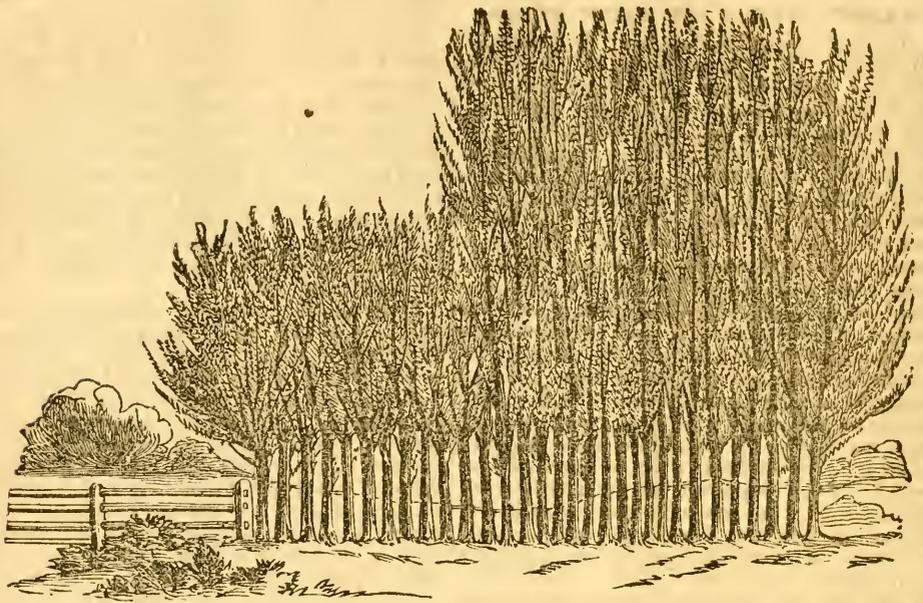
Give the sheep pure, clean water to drink, and plenty of good herdsgrass hay, cut in good season, to eat, with a warm, well ventilated barn or shed for shelter, well littered.

The disease of the eyes is probably catarrhal inflammation, and may be caused by keeping them on low, wet pasture in the summer; or by keeping them exposed to the strong odors arising from their manure in close barns, or by drinking impure water from a well in the barnyard. With us, the eyes of woolly-faced sheep are sometimes injured or inflamed by feeding foul meadow hay in narrow racks,—the seeds and chaff adhering to the wool and working in'o and irritating the eye.

Yours, W. P. WRIGHT.

Whiting, Vt.

NEGLECTANCE is the rust of the soul that corrodes her best resolutions.



THE WHITE HEDGE WILLOW.

There are few subjects of more importance to the farmer than those of *fencing* and *shelter*. The first demands a vast amount of material, either of wood or stone, and a great expenditure of labor, before such divisions of land are secured as will answer the purposes desired. Fencing a farm well, even though it be only around its limits, is a slow and costly operation. A great deal of thought and money have been expended to devise something that would be cheaper than posts and rails, or stone wall, while it should be effectual. In some older countries, hedges of buckthorn, privet, or something else, have been in use for a long period, but it is said cultivators are displacing them in consequence of their habit of extending themselves so freely into their neighboring fields, and exhausting them of the nutriment that ought to go to the cultivated crops. Experiments have been made in New England, and in some instances have succeeded well in the use of certain plants as hedge,—among the best of which was the *Three-pronged Acacia* or *Honey Locust*. But its growth is slow, and it is liable to be attacked and ruined by the borer.

The cut which we present herewith represents a new material for this purpose,—the **WHITE, OR HEDGE WILLOW**, *Salix Alba*, which is spoken of by those who profess to know about it as follows :

The varieties that are grown most for basket willows are worthless for fence, as they never grow large enough, and other varieties that grow into trees, will not grow close enough. The white willow is the most hardy and thrifty growing, and will flourish in a greater variety of soil than any other. It will grow into large trees when planted but one foot apart in a row, which no other tree

will do. When it was discovered that this species of willow possessed these qualities which make it so valuable for live fences, there was but very little of it to be found in this country, as it is a native of England, and but few had been imported. Within a few years, however, it has been propagated as fast as possible, until last season over *twenty millions of cuttings* were sold in the State of Illinois; enough to plant over four thousand miles of hedge. There is not a farm but has more or less land on which such a fence can be grown to advantage. As a protection to river banks nothing is equal to the white willow. Wherever meadow is wearing away, stick the bank full of cuttings, from the water's edge up, and there will soon be a mass of live brush and roots, that will effectually break the current and stop the wearing.

The growth of this willow is said to be very rapid. We have a piece before us of a single summer's growth which is two inches in diameter! We are informed that *it does not throw up sprouts*, and that where the land is cultivated, the roots of the willow strike deep and do not interfere with common farm crops.

In planting, it is usual to plow a strip, six or eight feet wide, harrow it, and then draw a line and set the cuttings in a straight line one foot apart, and not leave more than one or two inches out of the ground. If it is not convenient to plow, make holes with an iron, leave the cuttings three inches out of the ground and mulch with the best material at hand. If shade is not desirable, cut them down every year to about four feet.

If they do not throw up sprouts, as is stated, we know of nothing so desirable for fence, where stones are not plenty, or for *shelter* for hop yards, near orchards and gardens.

READING.

In an article upon another page, by "G. B. E.," entitled "The School," is a single paragraph to which we call the especial attention of the reader. We believe that very many of those who read the *Farmer*, both men and women, are persons who have no doubt that a *good education* is essential to *good farming*. That the person who brings a thoughtful, investigating mind to his business, in connection with a strong and healthy system, is altogether more likely to succeed than he who has great power of muscle and but little of the mind. The paragraph to which we refer is the first one in the article and is as follows:

"How can time be saved, in the common school, for the introduction of studies which shall expressly prepare for the labors and duties of life?"

A more important question, concerning our temporal interests, it seems to us, was never asked. It reaches the source of progress, civilization and success in all that is ennobling and good. It is the important point to which attention should be turned,—one where a vast amount of time and money may be saved and much of that human wretchedness which so frequently follows a want of success in the business of life.

We earnestly ask the thousands who read the *New England Farmer*, and who are in some way connected with the management of our schools, to receive this question and let it suggest some searching process whereby it may be answered. It is the great problem of life to be solved. All arts, trades, sciences, professions, and even philosophy and religion, cannot be seen by thousands in their beautifully attractive light, for the want of that early preparation which our schools should impart. We suggest that the article from which we quote the sentence above,—and the other articles by the same writer which have preceded it—be handed to teachers, and that they be read aloud, by some one of the pupils, in the schools.

THE SEASONS.

The "backbone of the winter is broken," as the weather-wise say. The absence of high winds, with bright suns and lengthening days, are all wearing it pleasantly away. The year was ushered in with an unusual pomp of wind and snow and cold, through all the region, but it bore itself gently here in comparison with its intensity in some of the Northwestern States. In Indiana and Illinois its effects upon travellers were terribly disastrous and fatal. Many persons were frozen to death, and carloads of swine and cattle also perished, the sweeping winds driving the snow into the cars, where it froze upon the animals and caused their death.

Ice of the best quality has formed in abundance, and dealers in it have gathered an abundant har-

vest. With the exception of a week or two, the weather has been mild, so that there has been little suffering among the poor in cities, either for fuel or food. Every body can have employment if they will, and at fair wages, so that in New England, and in the West, the horrors of war are only known by our thinned households, by advanced prices, or the reports which occasionally pain the ear, of the fall of our beloved ones on the field of battle, dying in hospitals, or half-starving in the miserable prisons of a deluded and wicked people.

The mild weather is also favorable to farm stock and to the winter labors of the farmer himself. Indeed in New England, we live so compactly and enjoy so many means of securing comfort, that we know little of the inconveniences and trials incident to those who live in sparsely-settled districts.

Let not this, then, be a "winter of discontent," but one of grateful progress in every thing that elevates man.

PEAR TREES FROM SEED.

We think the following account of experiments made in the Museum of Natural History of France from 1853 to 1862, by M. Decaisne, translated by L. V. Dovilliers for the *Horticulturist*, will be interesting to the readers of the *Farmer*:

In 1853 I sowed a large number of pear seeds, chosen the preceding year from well known and distinct varieties, viz.: our old English pear, known to everybody, the Bosc pear, shaped like a long gourd and of a cinnamon color; the Belle Alliance pear, rounded in form, of a red and yellowish color; and the Sanger pear, a wild variety, or nearly so, and thus named because its leaves recall, by their whitish, velvet-like appearance, that of the common sage. For this last sowing, I have used all the crop of a tree which grows isolated from all others.

Only a small number of these trees have begun to bear, otherwise the results might have been still more satisfactory.

Thus, in the variety of the Sanger pear, the only trees that have borne fruit have given four distinct varieties; one ovoid in form, quite green in color; the second less elongated, and almost maliform, partly red, partly green; a third still more rounded; finally, a fourth, regularly pyriform, more than twice as large as the preceding, and entirely yellow.

From La Belle Alliance pear have come nine new varieties, none of which resemble the parent fruit, either in size, color or time of maturity. There are two especially that I will notice, one for its size, more than double that of La Alliance pear; the other, by its rounded form, resembles maliform pears.

The Bosc pear gave equally three new fruits different from the type, one of the three being so similar to one of the fruits obtained from the Sanger pear, that it is hardly to be distinguished from it. The varieties are quite as numerous as in those of the English pear, the six trees that have

so far given fruit having produced six new forms, as different from each other as from the parent stock. One of them gave winter fruit not unlike the St. Germain pear.

A great many horticulturists believed, and Van Mons among them, that the seed of good fruit produced wild trees with sour fruit, thus going back, as it is supposed, to original types. I do not hesitate to affirm to the contrary; and I defy them to cite a single example of a fruit of good quality, fecundated by the pollen of its own flower, whose seed has given birth to a wild tree. Should a good variety, artificially or by insect, be fecundated by a wild one with sour fruit, there will certainly come from these seeds new varieties which will mostly, if not all, be inferior to it. It is equally certain that any good variety of the pear tree, or even of all our fruit trees, self fecundated, will produce good fruit. They will probably differ in some feature or other from the parent variety, but none will take the type of the wild specie.

AT HOME AGAIN.

A journey of a thousand miles or two West, with an observing eye and open ear, gives one some new ideas of the magnitude of our country, and of its resources and industrial energy. It is really bewildering to stand in some of the freight depots at certain points and see the vast accumulation of all sorts of earthly goods, and listen to the Babel tongues that are mixed up with them. One is impressed, also, with the "magnificent distances" which one passes over, and the rapidity with which they are accomplished, as well as the great numbers that are travelling, and the hurry and confusion often attendant upon it. One wonders what all this running away from home can be for, forgetting, perhaps, that

"Their aims are as various as the roads they take,"

and that it is this restless energy that peoples our new lands and extends the area of civilization.

We saw much in our late journey to admire, to increase our love of country and to urge us to new efforts to develop its riches, sustain its free institutions and perpetuate human liberty. We found a patriotic people everywhere; a people determined that our country shall be an undivided country, and that our laws shall bear alike upon all. Industry and economy were characteristic features everywhere, though the results of these virtues are not all that might be gained under better systems of preparing the young for the special duties of life in which they are to engage.

It gave us especial gratification to meet several brethren of the "type and quill," who have travelled in the harness with us for many long years, and whose labors have scattered blessings over the land. Among these was the excellent friend of our youth, LUTHER TUCKER, Esq., one of the editors of the *Country Gentleman*, at Albany, and the pioneer of agricultural literature in the coun-

try. He has labored long and successfully to "improve the soil and the mind," and certainly with much advantage to the public. He has been firm in his opinions, conservative and practical, and has always had the good judgment to call to his aid as writers, persons of ability and of well-established character. Of late years he has been greatly relieved in his labors by the intelligent and earnest efforts of his son, whose ability and zeal promise a life of great usefulness to the world. We also had the pleasure of taking by the hand, Mr. HARRIS, the affable editor of the *Genesee Farmer*, and Mr. D. D. T. MOORE, of the *Rural New Yorker*, both of Rochester. Col. L. D. HARRIS, editor of the *Ohio Farmer*, was the presiding officer of the Convention at Columbus, and we had repeated opportunities of conversation with him there. We also made the acquaintance of Dr. RANDALL, author of the "Practical Shepherd," and also of many distinguished farmers and manufacturers of the Northwestern States.

Some of the things we heard and saw may yet be transferred from "memory's page" to these columns.

MUTTON AND WOOL-GROWING IN THE UNITED STATES.

The London *Mark Lane Express*, the leading English market and agricultural journal, says that the consumption of mutton in North America has rapidly increased. The supply now as rarely exceeds the demand as with any other meat, and the best qualities out-sell beef in the principal markets. No country is better adapted by nature, and on the whole by artificial condition to the production of wool, than the United States. Australia and South America contain the only very extensive regions of the earth now capable of competing with equal areas of North America in the production of this great staple. The price of land in Australia is much higher than in the United States. Its distance from the wool market of Europe equals nearly half the circumference of the globe; yet its exports of wool rose between 1810 and 1862, from 167 lbs. to 68,000,000 lbs. South America is also becoming an extensive producer of this staple; there were imported into Great Britain alone, in 1861, 6,000,000 pounds. Yet South America has no natural condition over North America for sheep farming, while there are political and moral ones which undeniably are hostile to the security and permanence of so exposed a branch of industry. Apart from the mere question of the cheap production of wool, the experience of the most advanced agricultural nations—like England, Germany and France—goes to show that sheep are a necessity of a good general system of husbandry, on even the highest priced lands and amidst the densest population. They afford as much food to man, in proportion to their own consumption, as any other domestic animals. They are believed to return more fertilizing matter to the soil. In addition, they alone furnish wool. England is estimated to have about 590 sheep to one square mile, while the United States proper (exclusive of territories) has only 48.

For the New England Farmer.

VARIOUS MODES OF CULTIVATING CORN.

During the past summer I have had an opportunity of observing the methods, or rather practices, (as I do not think there is much *method* about it,) of the farmers in the section of Orange county, New York, comprised in Cornwall, near Windsor and Newburgh, especially in reference to the corn crop.

Our New England farmers would regard the rough usage the corn is subject to in the places referred to, as suicidal of all hopes of a requiring harvest. On two contiguous farms, I watched the culture of a field of corn upon each. One of these fields was well plowed, well planted, and, according to the usage of this section, well tended in its after growth; the other poorly plowed and poorly planted and roughly worked in its after culture—in fact, the very opposite of the former in this respect. The weeds flourished and the corn did not; and both went to seed together. The first field was kept clear from weeds, and I thought unusual care was taken in this respect. The hoe was used but little, if any, in either field. The plow had to do the work principally. I did not see a cultivator used in a corn field during the summer. The furrow is turned from the corn the first plowing, and towards it the second, which comprises all the cultivation it generally gets. In the case of the first field I have spoken of the weeds were pulled up from the hills. The second they were not. I judged there was but small difference in the quality of the soil. At the time for shocking the corn, I thought the first field would yield from ten to fifteen bushels more than the second, solely from the better care that had been given it through the whole process up to that time.

Here, at this point, the contrast in the two changed very materially. Rather too late, some will say, to be of any account. Wait a moment, my friend, and I will show you that *care* is requisite and of *great* importance until the corn is housed and the fodder secured. The shocks were about of a size in each of the fields, but in the poorest they were put up in the very best order, so that I could not see one down any time previous to harvesting, on a field of ten to twelve acres. This I thought remarkable, as we had much heavy wind. The other field had a large number blown down, and they remained down until harvested. When that occurred, the men threw the corn upon the ground, left the fodder unbound, husked in wet as well as dry weather, and some heavy rains before it was finally secured. Of course it was almost ruined. The corn, being sound, was not materially injured, although somewhat dirty. In the field where the shocks were well put up, the wagons went in with the men—all but the refuse corn put in them as husked, and the fodder bound and set up again carefully, and when a storm threatened was taken to the barn.

Now, my fellow-farmers, go to work and cypher out the difference in the profits of the two fields of corn, and see if you can tell me which was the gainer. I am sure I cannot. If the best *cultivated* field had been the best shocked and the best harvested, or even as well as the other, the question would be soon settled. This was not the case. Hay was worth twenty dollars per ton on these

farms, and it was of no small moment to secure the corn fodder in good condition, as each acre of it was worth to the owner when thus saved ten dollars, if not more.

I think both of these farmers, and all whose practice I noticed, put the corn in too small shocks. I had some put up in shocks three, if not four, times as large as any I saw, and the corn and fodder cured nicely. I apprehend this mistake is often made. I never suffered from putting up in large shocks. As to the practice of plowing among corn, I do not like it, especially after corn gets well started, say a foot or so high. I have often traced the roots farther from the hills than the extremity of the stalk and leaves would reach if laid upon the ground. Who can believe it is any advantage to cut off these roots with a plow? Work the soil thoroughly while the plants are small, but not deep, after the roots extend beyond the immediate vicinity of the hill, especially if the weather has been uniformly wet, which will cause the roots to run almost upon the surface of the soil.

I have been betrayed into greater length than I intended. Can we not learn something from the practice of the two farmers I have instanced above? May we not see that it is not only necessary to begin well, but to go on well to the end. Let this be our motto in all farm operations, "That what is worth doing at all, is worth doing well."

Rochester, Mass., Jan. 12, 1864.

O. K.

For the New England Farmer.

WINTERING BEES--STRAW HIVES.

After an experience of thirty years, I have found no way to winter bees so satisfactorily as in the straw hive described and recommended in the *Farmer*, some two years since. One year ago, over fifty colonies stood in the open air throughout the winter, without the loss of one, and in the spring were in the best possible condition. There were no accumulations of frost and ice; all moisture appeared to have passed off through the straw, while the warmth necessary for the bees was retained. The bees, at all times, even the coldest weather, seemed to enjoy a comfortable and complete repose. The warmth of the sun, in a moderate day, did not penetrate the walls of this hive, as it does one of wood, and call out the bees by hundreds, to perish. When the weather was mild enough to entice them out from such quarters, it was usually warm enough for them to fly. Bees that are housed in winter, are quite apt—without much care—to get mixed together when brought out; some hives getting many more than belongs to them, others short a corresponding number. The weak ones induce robbing, chilled brood, &c. The straw hive obviates these difficulties; the bees all mark their locality without confusion. I consider it "well worthy of future trial."

M. QUINBY.

St. Johnsville, N. Y., 1864.

POISON of almost any kind swallowed will be instantly thrown from the stomach by drinking half a glass of water (warm is best,) in which has been stirred a tablespoon of ground mustard; as soon as vomiting ceases, drink a cup of strong coffee, into which has been stirred the white of an egg; this nullifies any remnant which the mustard might have left.

CATECHISM

— OF —

AGRICULTURAL CHEMISTRY AND GEOLOGY.

BY JAMES F. W. JOHNSTON, M. A.

[CONTINUED.]

Q. *Woody fibre, starch, gum, and sugar consist of carbon and water only; of what does water itself consist?*

A. Water consists of oxygen and hydrogen.

Q. *How much of each of these elements is contained in water?*

A. Every 9 lbs. of water contain about 8 lbs. of oxygen, and 1 lb. of hydrogen.

Q. *Is it not a very extraordinary thing that liquid water, which puts out all fire, should consist of two gases, one of which (hydrogen) burns readily, while in the other (oxygen) bodies burn with great brilliancy?*

A. Yes, it is very wonderful; but there are many other substances the composition of which is almost equally extraordinary.

Q. *Can you name any such substances?*

A. Yes, it is almost equally extraordinary that white starch should consist of black charcoal and water only,—and that sugar and gum should consist of the same elements as starch and woody fibre.

Q. *Of what elements, then, do these substances consist?*

A. They all consist of carbon, hydrogen and oxygen.

Q. *Of what does gluten consist?*

A. Gluten consists of all the four elements—carbon, hydrogen, oxygen and nitrogen—united together.

Q. *Does the plant derive from the air all the elements of which gluten consists?*

A. No, it may obtain carbon, hydrogen and oxygen, as we have seen, from the air, but the nitrogen it obtains almost solely from the soil.

IV.—Of the Soil on which Plants Grow.

Q. *What does the soil consist of?*

A. The soil consists of an organic or combustible, and of an inorganic or incombustible part.

Q. *How do you show this?*

A. By heating a portion of soil to redness on a bit of sheet iron, or on the end of a knife, either in the fire or over a lamp. The soil will first turn black, showing the presence of carbonaceous matter, and will afterwards assume a grey brown or reddish color as this black organic matter burns away.

Q. *Whence is the organic part of the soil derived?*

A. It is derived from the roots and stems of decayed plants, and from the dung and remains of animals and insects of various kinds.

Q. *Does this organic part form a large proportion of the soil?*

A. Of peaty soils it forms sometimes three-fourths of the whole weight; but of rich and fertile soils it does not usually form more than from a twentieth to a tenth of the whole weight.

Q. *Can a soil bear good crops which does not contain a considerable proportion of organic matter?*

A. Not in our climate. A rich soil generally contains at least one-twentieth of its weight (5 per cent) of organic matter.

Q. *Does the organic matter increase or diminish in the soil, according to the way in which it is cultivated?*

A. Yes, it diminishes when the land is frequently plowed and cropped, or badly manured; and it increases when the land is planted, when it is laid down to permanent pasture, or when large doses of farm-yard manure or of peat compost are given to it.

Q. *What purpose does this organic matter serve in the soil?*

A. It supplies the organic food which plants draw from the soil through their roots.

Q. *Do plants draw much of their organic food from the soil?*

A. The quantity they draw from the soil varies with the kind of plant, with the kind of soil, and with the season; but it is always considerable, and is necessary to the healthy growth of the plant.

Q. *If plants always draw this organic matter from the soil, will the soil not become gradually poorer and less productive?*

A. It will, if badly managed and constantly cropped.

Q. *Then how can you keep up the supply?*

A. By plowing in green crops,—by growing clovers and other plants which leave long roots in the soils,—by restoring all the hay and straw to the land in the form of manure,—or by laying down to pasture.

Q. *Whence is the inorganic part of the soil derived?*

A. The inorganic part of the soil is derived from the crumbling of the solid rocks.

Q. *Of what do these rocks principally consist?*

A. They consist of more or less hardened sandstones, limestones and clays.

Q. *Do soils consist principally of the same substances?*

A. Yes, soils consist principally of sand, clay and lime.

Q. *How would you name a soil which contained one of these substances in large quantity?*

A. If it contained very much sand, I would call it a sandy soil; if much clay, a more or less stiff clay soil; if much lime, a calcareous soil.

Q. *But if the soil contained two or more of them in large proportions how would you name it?*

A. A mixture of sand and clay with a little lime, I would call a loam; if much lime was present, I would call it a calcareous loam; and if it were a clay with much lime, I would call it a calcareous clay.

A USEFUL HINT TO HORSE-KEEPERS.—A gentleman who has tried the plan successfully for five years, communicates the annexed method of preventing horses from chafing under the collar. He says he gets a piece of leather, and has what he terms a false collar made, which is simply a piece of leather cut in such a shape as to lie snugly between the shoulders of the horse and the collar. This feeds off all the friction, as the collar slips and moves on the leather, and not on the shoulders of the horse. Chafing is caused by the friction, hence you see the thing is entirely plausible. Some put pads or sheepskins under the collar, but these do as much harm as good, for they augment the heat. A single piece of leather, like that composing the outside of a collar, is sufficient

For the New England Farmer.
CLOTHES-WRINGER.

The Universal Clothes Wringer is manufactured by the Metropolitan Washing Machine Company, Middleford, Conn., and sold by Julius Ives & Co., 317 Broadway, New York.

Every one, almost, has realized the horrors of washing day, the lifting and tugging and wringing and twisting and contortions of muscles it has introduced, and in many instances the severe headaches and rheumatic pains that have followed. Among the labors of the day there has probably been no manipulation more trying to the strength and patience than "wringing out the clothes." This has called for "bone and muscle" operation, necessarily performed over the wash tub, when, by opening the pores of the system, and afterwards going into a cool place, usually out of doors, the operator was very liable to take cold. The introduction of clothes-wringers, of which there are now several patents, all good for aught I know, has the effect to do away with all this hard, servile labor, in addition to other advantages.

The Universal Clothes Wringer appears to be built for the greatest durability. It can be gauged in a moment to wring any article from the size of a strip of lace to a bed blanket, and removes the water more thoroughly than can be done by hands. It wrings frail articles without injuring their texture, and leaves every article smooth and in good condition of drying. In addition to its labor-saving merits, it is cloth-saving, and I have no doubt but that more than twice the cost of the machine may be saved in the wear of cloth over the old hand-wringing, before the machine needs repairs.

In making the foregoing remarks I have no interests to promote, and no object in view other than speaking the merits of what all will find to be a great improvement. WILLIAM BACON.

Richmond, Jan. 20, 1864.

For the New England Farmer.
CUTTING FEED FOR HORSES.

MESSRS. EDITORS:—I am a subscriber to the *New England Farmer*, and take great interest in reading the communications of many of your able correspondents. The only fault I have to find with them is, that many of their views suggested are beautiful in theory, but not practical enough to suit the purse of those of your readers who "earn their living by the sweat of their brow;" although I admit not visionary to that extent which we find in many other agricultural papers. I have in my mind one agricultural paper from a New England press, which might circulate among the merchant-princes who have retired to Brookline and vicinity to spend their money, but which should be excluded by law from the household of every man not worth fifty thousand dollars, and from those men, even, if inclined to be at all visionary. But I leave this subject here to ask your subscribers a practical question, which I hope some who have experimented in the matter may answer, with their reasons in favor of their position.

The question upon which I want information is this:

Is it of advantage to a horse to cut his feed, and is it a more economical way for his owner to support him, than by feeding his hay and grain separately?

This, certainly, is an important question to be considered *now*, if never *before*, from the fact of the high price of hay and grain; and if there is economy in preparing feed for horses by this method, myself, in common with other New England farmers, would be glad to know it. I have never used a cutter, and, therefore, cannot speak of their advantage; but I do know that I find in almost every stable a cutter, generally in a retired corner, where it has stood for years unused.

I have noticed some good farmers, who have bought a cutter, spoke highly of its benefits, but seldom used it after the first winter. Now, Messrs. Editors, do these men find feeding chopped feed profitable? Is there sufficient saving to balance the extra labor of chopping and preparing such feed, and is the horse in better condition for work, or travel, than when kept by the usual method? I hope through your columns, some "who know whereof they affirm," may give us the results of their experiments in this matter, and also the best kind of cutter in use, with its price. J. F. L.

Lee, N. H., Jan. 4, 1864.

REMARKS.—This is an important *practical* question, and we hope some of our correspondents will answer the query. Our opinions upon it are decided, and have been gained by long experience. We waive them for the present, hoping to hear from others.

For the New England Farmer.
VALUE OF ROOTS IN FATTENING HOGS.

MR. EDITOR:—Allow me a word in reference to an article published in your columns several weeks since, relating to the value of roots for fattening hogs.

I have fattened the past season eight hogs, whose average weight was 452 pounds. The five heaviest averaging 539, and the heaviest one weighing 612 pounds. These hogs were fed largely upon boiled vegetables, pumpkins, potatoes, carrots, and sometimes turnips mixed with provender, consisting of three parts rye, buckwheat or barley, and one part corn, till within three weeks of their slaughtering; after which they were fed with five to six quarts of corn meal daily, all their food being thoroughly scalded and salted. From this single trial I am satisfied that the opinion of your correspondent in this matter is correct, and that if farmers would generally apply *his* theory to their practice, we should hear less grumbling over the cost of making pork. A SUBSCRIBER.

State Farm, N. Meriden, Ct., Jan. 9th.

SORGHUM SUGAR.—The *Washington Republican* says: "An experiment was made in the Department of Agriculture before a large number of persons, clearly demonstrating the practicability of every man in the North making his own sugar. A gentleman from Nebraska, Mr. J. F. Riggs, who is about taking out a patent for his process, was the operator. From sorghum syrup, sent to the department for exhibition, in the course of a few moments he produced a clean sugar equal in all respects to the best coffee sugar, the residue of the syrup proving to be an excellently-flavored article, strongly resembling amber or golden syrup of the shops, and entirely free from sorghum taste."

"POETRY, MUSIC, AND HEALTH."

The leading article in Dr. *Hall's Journal of Health*, for January, has the title which is the caption of this article. We take the title and the sentiments which follow it, and should be glad to lay every one of them before the reader if it would leave room for that *variety* which a newspaper must have. They begin by showing the *mood* and the *manner* in which many persons come to their meals at the table. Of all places, there is none where it is more important that the mind should be genial and overflowing with kindly feeling, than when we take our meals. If affliction of mind, body, or estate, be upon us, all our powers should be exerted to banish it from the mind while we are eating. Among ancient customs it was usual to have music during the meal, and may be now for aught we know, among some people. At any rate, the conversation at such times should be of a cheerful and hopeful character. It is not a good time to discuss the costliness of articles of food, the death or absence of relatives or friends, or reverses in business. These tend to cast a gloom over the mind, check the natural energies of the system, and induce disease and discontent. After speaking of the mutual duties of each member of the household, Dr. Hall says:—

"The 'music' then, which the wife should 'practice,' in order to have a healthful influence over the physical, moral, and mental nature of a man, restraining him from vice, and crime, and gluttony, and late hours, and drunkenness, and the poetry which she should recite to him every day, are the music and poetry of a tidy home, of cleanly and well-behaved children, of quiet and respectful servants, of a table spread so invitingly that if only bread and milk and butter were there, they would taste like nectar and honey just from the hive; while the all-pervading and happy influence of a quiet, loving, and lady-like wife, sanctifies the whole household, and makes it a community of love, of enjoyment, of domestic beatitude.

There must be music and poetry too in the husband; he must strive daily to deport himself toward the woman who has borne him children, with a like respect and deference and consideration and gentleness, to that which he was accustomed to exhibit shortly before the marriage ceremony had made them one. We say 'strive,' for many a time it will require an effort, a moral power akin to the heroic, for there is much in the life of almost every man of business, so wearying, depressing, and often harrowing to the whole nature, that he would be more than mortal, if under their influences, when the physical nature is tired with labor, he could exhibit the beautiful amenities of an elevated domesticity, without some summoning up to his aid, all the latent power within him, to recall the feelings and affections and deportment of the happy days of courtship.

Let the dutiful and loving daughter 'practice' that other 'music-lesson' for her mother's sake, *the willingness to learn*; to practice it so diligently, that there need never be a repetition of a moth-

er's counsel, or direction or advice. Said a mother to me once: 'I never recollect the time when I found it necessary to repeat a wish to any child of mine: I have only to half tell it when it is done.' Happy mother! dear loving children! How I wish there were more such! I know there are too many daughters who are directly the reverse; who seem to think that a mother's advice is out of date; her counsel old fogyish, and all her pains to show her how to do things, are not only disregarded, but are listened to or witnessed with the utmost impatience, as evidenced by the surly look, the unsightly frown, or some disrespectful exclamation. Poor child! every one of these will be a dagger to your heart; the more painful as you grow older; striking deeper and deeper as years roll on, causing many an hour of sadness by day, and of remorse, oh! how grinding! in the sleepless hours of midnight, so many of which are the lot of old age."

The truth is, as farmers, we have given almost exclusive attention to whatever we have thought would improve our physical condition, and greatly neglected those higher moral efforts which would elevate, ennoble and make happy our whole being. We have too little imagination—too little poetry—too little music—too little health! These are not wanting because they are not within our reach, but *because we do not receive them when they are offered*. God's bounty spreads them in our paths as daisies deck the fields in July, but they fall upon indifferent hearts and die there, as the flower withers and perishes at our feet for want of culture and care.

Let us change in this particular. While we will not neglect to improve the *soil*, let us determine to improve the mind. How many cheap ways there are in which we can do this, and call up new pleasurable scenes and emotions without trenching upon what are deemed the absolute duties of life. How much the garden might do, with its flowers, its beds of vegetables, its climbing plants, and trees, birds. How much the Sabbath morning, or evening song, where both music and poetry breathe their hallowing influences into the soul, and inspire and strengthen it for the trials of life. How much good books,—narrative, poetry, philosophy, scientific, horticultural pictures of nature and art, books of the imagination, and books like Prof. DICK'S "Christian Philosopher, or Sidereal Heavens," would fill our hearts with glowing imagery, and content with life, and really open to us the gateway to heaven!

O, how a deeper, holier sentiment,—a sentiment that embraces the pure, lovely and beautiful in all animate and inanimate things,—that yearns for every human being because that being is God's child,—O, how such a sentiment in our rural population would transform our farms, and homes, and hearts!

These things are "moral music and moral poetry; these promote the health of the heart. They

will many a time lighten the load which burdens poor humanity, and at other times will lift it up, and elevate, and waken it to nobler purposes and higher resolves." Do not check, then, the promptings for more imaginative feelings, or the desire for more *Poetry, Music and Health*.

Whoever labors to this end is a public benefactor. He pleases and purifies at the same time. He fills the mind with kindly and healthful reflections, which come into the family circles like streams of sunshine in a cloudy day. He who writes a good book, or scrap of poetry, and sends it into the world, makes the world better for his effort. And so it is with works of art, statuary, painting, bridges or ships. MESSRS. PRANG & Co., Lithographers, of this city, have exerted an influence through their charming *pictures*, that a lifetime of talking would have failed to secure. It is not by bread alone that we live, in more senses than that in which our Saviour uttered it.

EXTRACTS AND REPLIES.

APPLE TREES—ROOTS FROM LIMBS—TOPS FROM ROOTS —MAPLE SAP.

On page 321 of the *New England Farmer*, monthly, for 1863, I find the following. "It is a fact that apple trees raised from the seed of grafted fruit do not bear." In reply I would say that I planted the seeds of Pound-sweet apples, (taken from scions that my father set, about twenty years ago,) in the fall of 1849. I have three trees from them that bear apples. They are a very pleasant sour. Two of the trees have been transplanted, and one stands where it came up. Facts are stubborn things.

Will you or some of your correspondents tell me how to have roots grow from the limb of an apple tree? I can take a root and grow a handsome top. Also, who first made the discovery that the sap of the maple tree would make sugar? In what year, and what place?
ORRIN HAGER.

Wallingford, Jan., 1864.

APPLES EVERY YEAR.

On page 30, in the January number of the *New England Farmer*, I read with pleasure the remarks of "R. C.," of Joppa. It is a well known fact that if you graft part of a tree one year and the other part the next year, your trees will bear fruit every year. I have tried it, and recommended it to the late Messrs. Jones, and in almost every trial it was successful. The fact is, that the branch put in is *put back* one year. If the graft is vigorous it will make leaf buds the first year, fruit buds the second year, and bear fruit the third year; at any rate, if you graft or take scions from the same trees and insert them two years in succession, you will be pretty sure of having fruit every summer. Farmer Jones' Baldwin apple trees bear every year, about one-half on odd years, and the other half on even years. Farmers, try it.

Spring Grove, Jan., 1864. S. A. SHURTLEFF.

INDIAN CORN—POP CORN—HUNGARIAN GRASS—WORKING COWS.

I see by the January number of the Monthly that you think very favorably of Indian corn as a crop for our New England farms. It has always been a favorite crop on my farm for several generations.

I propose in the spring to plant a little "pop corn." Will "E. C. P." give some directions for planting it? How far apart should it stand, and what kind should be selected? I planted a small field of red rice corn a few years since, but I found it was too thick to do well, and too late to ripen before the early frosts of September. In other respects it fully met my expecta-

tations. I planted three rows much nearer together than common field corn, say three feet apart.

I wish to make some inquiries about Hungarian grass. Has it given good satisfaction in New England, and how much seed is required, and how much hay is expected per acre?

I see in an old number of the *Farmer* a working team of cows recommended. Are they ever used in New England, and is there any law to prevent people from stoning the driver should they appear on the street or public road?
c. c.

North Blackstone, Jan., 1864.

REMARKS.—We believe the Hungarian grass crop has given satisfaction to those who have cultivated it. Eight quarts of seed per acre is the amount commonly used for seed. It yields bountifully on a good gravelly or sandy loam; perhaps would average two tons to the acre, on an average soil. Some persons report a much larger crop, and it is, undoubtedly, obtained in many instances. We have raised it *in drills*, and hoed the crops as they do wheat in England, and produced four or five tons per acre. It is an annual plant, and of course, the land must be plowed and the seed sown each spring.

The subject of *working cows* is occasionally discussed in agricultural papers, and in many cases writers approve the plan. We can see no objection to it, when properly managed. There are many farms that are devoted to milk-raising, and the stock upon which is cows, with the exception, perhaps, of one or two horses, quite often only one. This team is not sufficient to perform all the work of plowing, harvesting, &c., which a farm feeding fifteen or twenty head of stock requires. In such a case a couple of five or six years old cows, broken to the yoke by a skilful and merciful master, would plow two or three hours each day, not only without injury, but with decided benefit to the health and growth of the animals. Of course, they must be taken when not approaching the maturity of gestation, or when yielding a full flow of milk. It would afford them exercise in the open air, give them the breath of the sweet fields and the freshly-turned furrow, and perhaps not exhaust any more of their power than they would voluntarily exhaust in frolicsome rambles if they were occasionally let loose.

Why not work them, moderately and tenderly? What are the objections? Does not the farmer plow with his mare, drive her upon the road, and use her carefully in all sorts of work until quite near the period of casting her foal? Is it not the common opinion of farmers, breeders and surgeons, that such labor is healthful, and should always be observed? The same rule holds good with regard to a higher type of animals. In our own race, constant, but moderate exercise, and especially in the open air, is uniformly recommended by physicians.

On such farms as we have referred to, there is no barn room or pasturage for oxen, and not half labor enough to keep them employed, if other things were convenient. In such cases cows might be profitably employed and not suffer the least *injustice, degradation or hardship*.

HOW SHALL I CARRY SAP IN SUGAR ORCHARD?—GUTTA PERCHA PIPE.

Having a large sugar orchard situated on a side hill, and help being scarce, I wish to economize in time and labor, and desire some of your many readers to inform me of the best and most economical method of conveying my sap to the camp, which is at the foot of the hill? I also wish to ascertain if there is not gutta percha pipe of small size, say half-inch, that would

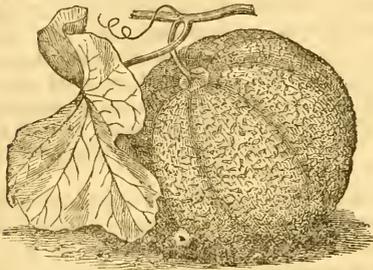
work well, and if so, where can it be obtained, and at what price per rod?
 BACKWOODS.
 Vermont, Jan., 1864.

REMARKS.—Charles Stoddard, 75 Kilby Street, Boston, sells the pipe you inquire for. We do not know at what price.

THE MUSK MELON.

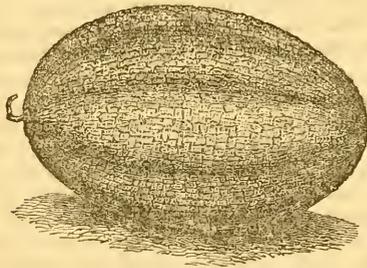
For the accompanying descriptions and engravings of two of the best of the family of melons, we are indebted to Burr's "Field and Garden Vegetables of America:"

Green Citron Melon.



Fruit nearly round, but flattened slightly at the ends,—deeply and very regularly ribbed; size medium, or rather small,—average specimens measuring about six inches in diameter, and five inches and a half in depth; skin green, and thickly netted,—when fully mature, the green becomes more soft and yellow, or of a yellowish shade; flesh green, quite thick, very juicy, and of the richest and most sugary flavor. It is an abundant bearer, quite hardy, and remarkably uniform in its quality. It is deservedly the most popular as a market sort; and for cultivation for family use, every thing considered, has few superiors.

Large-ribbed Netted.—Common Musk-Melon.



Fruit very large, oval, strongly ribbed; skin yellow, very thickly netted, sometimes so closely as to cover nearly the entire surface; flesh salmon-yellow, remarkably thick and sweet, but not finely-grained or melting, when compared with the more recent and improved varieties.

Hardy and productive. In good soil and favorable seasons, the fruit sometimes attains a length of fifteen inches, and weighs upwards of twenty pounds.

TO CORRESPONDENTS.—Many excellent articles have been lately received from our correspondents which will be given in due time. We hope to hear from many more of them before the pressing work of spring comes on.

EARLY POTATOES.

There is a large class of persons who value good, well-ripened *early* potatoes, more than any other vegetable. The potato is a universal favorite. We have never met more than half a dozen people who did not like it. It is easily raised, cheap, and has just about the proper proportions of *bulk* and *nutritious* properties to make it one of the most wholesome articles of diet that comes upon the table. In cases of sickness, where the patient is convalescent, a roasted potato that is mealy, and eaten as soon as cooked, is highly relished, and is as harmless, perhaps, as any food that can be taken.

As the common, every-day food of the table, the potato stands next to bread. When well-cooked, most children will take half their entire food of the potato, especially if they can have a little milk or cream with the mash, and will become vigorous and free from humors after a year's use of them, cooked in various forms.

Every family,—in the country at least,—should have them plentifully by the first of August, and by taking some pains may begin to use them by the fourth of July. The first thing to be considered is the soil. It should be a comparatively dry and sandy soil, rather than a wet, black loam. A *fresh*, or *new* soil is greatly preferable—one recently covered with grass, or what is still better, scrub oaks, sweet fern, blackberry and huckleberry bushes. Such a soil, when well plowed and harrowed, will be light and will abound with the alkalies and alkaline earths that the potato requires. The situation selected should be an open, but a warm, one—along the side of an old fence or wall, where bushes have been growing for half a century, or less, and exposed to the morning sun. On such a soil, and in such a situation, the plants will start early and come to maturity rapidly; and if the variety planted be a good one, the tubers grown will have a sweet and agreeable flavor. Some of the varieties used for early planting are the *Jackson White*, *White Chenango*, which come quite early, the *Early Blue*, and others. BURR says the *Ash-Leaved Kidney* is one of the earliest varieties, and that the *Early Blue* is one of the earliest of the garden potatoes, of fine quality, and one of the best for forcing for early crops. If the ground was not prepared last fall, it should be made ready as soon as the frost is out, so that it can be plowed six inches deep, and the potatoes planted.

In order to facilitate the crop, some persons set a barrel of seed by the kitchen stove about the middle of March, where they remain until sprouts have started half an inch in length. In this case the top of the potatoes must be covered with loam or a cloth to keep out the light. Others lay a

bushel or two of seed upon grass ground, in some warm spot, and cover them with horse manure sufficiently deep to keep them warm. They will sprout readily in this condition if they are kept moist and warm, and can be got at to plant more easily than from a barrel. Others, still, who only require a few start them in hot beds.

Planting should take place just as soon as the soil is dry enough to admit of working it. Plant, if there is a dry surface sufficient to cover with, even if the frost is a foot deep below. Before planting, prepare liberal holes and fill them with a shovelful of horse stable manure. Cover this with a sprinkling of fresh, damp mold, and place the "set" or seed on this and cover three inches deep. Mr. J. KNIGHT says that if the "sets" are placed with their leading buds upward, a few and very strong early stems will be produced; but if the position be reversed, many weak and later shoots will arise, and not only the earliness, but the quality of the produce be depreciated.

By putting the above suggestions in practice, every person may expect a fine dish of nearly ripened potatoes for his Fourth of July dinner, with his roasted lamb and green peas, and an abundant supply after the 20th of the same month. How can the farmer add to the comfort and health of his family in a better way?

ESSEX COUNTY TRANSACTIONS.

We have before us the Transactions of this old and energetic society for the year 1863, sent us by its attentive Secretary, CHARLES P. PRESTON, Esq., of Danvers. It is made up mainly, with the address, by Hon. DANIEL SAUNDERS, Jr., of Lawrence, and the reports of the various committees.

"It is a mistaken idea that, for successful labor, merely physical training is required. Our farmers require a much higher mental culture than has heretofore been thought necessary. They know altogether too little of agriculture, as a science, and agricultural economy. . . . Agriculture has been too much left to the unaided efforts of nature to compete successfully with other branches of industry, upon which scientific labors have been abundantly bestowed. . . . What is wanted by our farmers is an education that shall not only accumulate facts, but which shall enlarge the mind, develop the powers of the brain, widen and deepen the channels of information, and bring into operation the latent elements of mental perception and concentration." It contains many excellent sentiments and suggestions which we should be glad to copy, had we space.

The report on Coarse Woolled Sheep we intend to notice hereafter. That on Bread and Honey is poetical and interesting; on Root Crops and Farms excellent. The Hon. RICHARD S. FAY has presented the Treadwell Farm, belonging to the so-

ciety, a flock of forty two and three years old ewes, (long woolled mutton sheep) under certain conditions, with the view of making sheep raising a primary object of culture on the farm. Mr. Fay is one of the warmest and most judicious friends of agriculture in the State, and is constantly devoting a portion of his ample means to promote its objects. The volume also contains an interesting essay upon Open Grape Culture, by JOHN M. IVES, Esq.

PRUNING APPLE TREES.

Mr. L. G. BROWN, in the Boston *Cultivator*, says, "That spring, when the buds are swelling and the sap in full flow, is a very bad time. Yet there are many who prune more or less every spring." He is right. More apple trees are destroyed by such injudicious pruning than by all the canker worms and caterpillars combined. Prune in June, when the sap is comparatively at rest; or in October, soon after the fall of the leaf, and so on for a month or two. This will depend much upon the state of the weather. A few bright, warm days in succession, even in the first part of February, would be quite likely to cause considerable activity in the sap, and make it unsafe to prune. The rule should be to *prune when there is the least flow of sap*. This occurs between the first and second growth of the tree, and after the fall of the leaf in October. We are speaking of limbs that have attained a diameter of half an inch. Smaller "suckers" may be cut at any time, though not without some danger of bleeding.

CULTURE OF INDIAN CORN.—By the committee on crops, of the *Hingham Agricultural and Horticultural Society*, for the last season, *seventeen* fields of corn were reported, the average of which was 86 bushels per acre; the average cost of labor was \$20.49; of manure, \$50.19; total, \$70.68 per acre; average cost per bushel, including all the manure, 82 cents 2 mills; average cost per bushel deducting one-quarter manure, 67 cents 6 mills." It would be fair, we think, to deduct *one-half* the cost of the manure, for the effects of a well manured field of corn are decidedly apparent in the grass crop for several years after the corn crop is taken off. Our Hingham friends are doing a noble work. We doubt whether their example can be matched in any other town in the Commonwealth.

WHITEWASH.—White fences and outbuildings indicate the thrifty farmer and a tidy household. Put half a bushel of unslacked lime in a clean, tight barrel, pour over it boiling water until it is covered five inches, stir briskly until the lime is thoroughly slacked, then add more water until it is as thin as desired, next add two pounds of sulphate of zinc and one of common salt; then apply with a common whitewash brush, giving a good coat in April and October, or at least once a year.

PLEURO-PNEUMONIA IN CATTLE.

We have before us an exceedingly interesting letter from Mr. Secretary FLINT to Gov. ANDREW, in relation to this disease among the cattle in Europe, together with some reference to our State laws in regard to it, and the opinion of the Secretary, sustained by indubitable facts, that the disease is strictly a contagious one. We have never doubted this fact, since our examination of the cattle smitten with the disease at North Brookfield, where it was first permanently developed. We should be glad to publish the whole letter, had we room, but give all the leading points below. The Secretary is entitled to the thanks of the community for the open and bold avowal of his opinions on the subject.

Is it not time that something were done by our people to call the instant and earnest attention of the legislature to a matter of such vast moment? How long shall we slumber on, and allow this "pestilence that walketh by noonday," to fasten itself upon one of the leading industrial interests of the country, paralyzing and poisoning it, and at the same time introducing a festering corruption and death into our midst! Will the farmer of Massachusetts, the *Farmers' Clubs*, take no note of these warnings, until the glaring eyes and haggard appearance of their stock notify them that disease is running riot in their stalls and that death stands at the door. Now is the time to pour in petitions for further action by the Legislature.

AGRICULTURAL DEPARTMENT, STATE HOUSE, }
BOSTON, December 24th, 1863.

To His Excellency JOHN A. ANDREW:—DEAR SIR,—The disease commonly called pleuro-pneumonia still exists among the herds of some twelve or fifteen towns of this Commonwealth. The most moderate estimates fix the loss by pleuro-pneumonia alone, in the British Isles, at ten millions of dollars a year. The value of cattle lost by that disease amounts to two or three times the value of all the cattle imported. More than a million head of horned cattle died of pleuro-pneumonia in the six years ending with 1860, of a value of at least sixty millions of dollars.

Prof. Gamgee, a man of high scientific attainments as a veterinarian, and having the confidence of the British Government as such, says:

"The traffic in diseased animals is impoverishing stockholders and the country at large. My calculations, made under the most favorable circumstances, show that the United Kingdom never loses less than forty millions of dollars annually by disease among cattle, sheep and pigs. Half that loss is annually due to foreign contagious diseases."

"The contamination of the animal food supplies has affected the health of the people to an extent becoming more and more appreciated the more the subject is investigated."

"The tens of thousands of carcasses of diseased animals, sold in large towns, are stealing life from human beings when and where we least expect it."

"Last year," says Gamgee, employed in extensive investigations under the authority and direction of the government, "my opinion became confirmed that the flesh of cattle affected with pleuro-pneumonia, when eaten by man, induces boils and carbuncles to an incredible extent."

After speaking of the immense losses in Europe, and the inadequacy of our laws to protect the community, the Secretary says:

There would seem to be no longer any reasonable doubt that the disease is contagious and dangerous to a very high degree. Every step of its history in this State has shown this to be the case, even if it had not already been well known before, from its history abroad.

We know it is contagious. We knew it on its first introduction, four or five years ago. The evidence then, as now, was so conclusive and overwhelming that it would seem that any one, who could doubt, with only a limited knowledge of the facts, would doubt all human testimony, even that of his own senses. I could fill many pages with the opinions of the most competent and learned veterinarians as well as practical men, all going to show its purely contagious origin.

I have before me now the written opinions on this point of nearly all the veterinary surgeons in Great Britain, several hundred in number, and, so far as I am aware, not one of them expresses a doubt upon the point.

On the 1st of February, 1863, Prof. Gamgee sent a circular to all the veterinary surgeons in the United Kingdom, making inquiries on this very point of contagion, among others. He got answers from about three hundred, and he says: "I find that all the best veterinary surgeons in this country, whose opportunities are most favorable to arrive at a sound conclusion, attributed these diseases (foot-and-mouth and pleuro-pneumonia) to contagion and infection." "Ninety-nine per cent. of the dead cows carted from the town dairy die of contagious pleuro-pneumonia."

And again. "Whatever county I select as an illustration, it will furnish you with the most unmistakable evidence that *our cattle, our soil, our food and climate have nothing to do with the generation of pleuro-pneumonia*; but travelling, buying and selling, transporting by steamers and railways, are the causes which lead to the approximation of diseased and healthy, and thus tend to the decimation of our stock."

The *Italics* are mine, and I wish to call especial attention to this point, because some have attempted to lull the public mind into a false and dangerous security, by trying to have it believed that local causes, as want of ventilation, &c., have generated the disease here among us. It is a most dangerous fallacy. There is not the slightest ground for belief that a single case ever arose in this country from any such causes. It is clearly and unquestionably an imported disease, and if the whole truth were known, every link in the chain would appear, as most of them, in fact, do now. I might go farther and say that it is not generated spontaneously, according to the opinions of those best capable of knowing, in any part of Western Europe. It is probably brought from hotter climates.

In what I have said I have no personal interest, either direct or indirect, to subserve, and in urg-

ing the facts in regard to this disease upon the public attention during the last four or five years, I have only attempted to do what I conceived to be a public duty. So far from having anything to regret, to retract, or alter, from what I stated at first, subsequent events and a more extended observation have corroborated those statements in the strongest manner. If the community still sleep over this danger, I shall have the melancholy satisfaction of finding, at last, a unanimous public sentiment on this subject. But it will be too late. The result is inevitable. Neglect will and can only lead to unmitigated evil.

If the people are willing to drink the milk of cows, rotten with disease, and give it to their children, as they have done in Boston; if they are ready to accept the alternative of having the beef of diseased animals brought upon their tables, as has been the case, I have no more to say. But if they desire to avoid this alternative, they will have to act promptly and strenuously for the eradication and stop of pleuro-pneumonia.

If necessary, let a competent inspector be stationed at the principal markets for live stock, with full power to exclude any diseased animal, or to prevent its being entered and sold there. The last able Board of Commissioners had full power to do this, as well as to put men under oath to elicit facts which will otherwise remain concealed, and this contributed more than any thing to keep the disease in check.

The honest dealer could not object to this course. It would be his own protection as well as that of the community. The unprincipled dealer alone would be discommoded, and from him the community has a right to protect itself.

Very respectfully,

Your Excellency's obedient servant,
CHARLES L. FLINT,

Secretary of the State Board of Agriculture.

HOW THE REBELLION WORKS.

Only three years ago, no man, or combination of men, had sufficient comprehension, or penetrative power, to devise a scheme which should not only destroy the institution of slavery in our country, but which should open the splendid South to free labor, to schools, and churches, and Yankee enterprise, generally! All this seems to have been done. We learn that small companies of our most energetic business men are preparing to leave the snow of New England for the sunny South, to engage in sugar-making, cotton planting, or any other honest labor that promises to redeem the land and secure a profit. They will carry with them, of course, the modern implements and machinery for agricultural purposes that have been found profitable here, and along with them the Yankee thrift, economy, habits and manners, that have been so hated and contemned by the "holier than thou" chivalry of the South.

So the great work goes on. The leaven is already in the lump, and insinuating itself into every ramification of Southern labor and society. The days of their power are numbered and the most unrelenting and cruel power on earth is fast

crumbling away. The introduction of our people, with their painting and poetry, their books, and machines, and churches, and schools, and workshops, and psalm-singing, will finish the days of intolerance and oppression in that beautiful and fertile land.

THE CANADA THISTLE.

This is probably one of the most troublesome plants with which the farmers of New England have to contend. Owing to its almost universal dissemination and wonderfully prolific character, the quantity of seed annually produced is so immense that no region can reasonably be expected long to escape its presence. The only remedy, indeed, which can, under the circumstances, be even partially successful, is to watch its first appearance and carefully eradicate the roots. Where this is done, the thistle soon disappears, and if not perpetuated by the dissemination of fresh seeds from neighboring or distant plantations, will cease to give annoyance. Where lands have already become foul with this production, the best method is to cut them about the time the seed begins to fly. At this period the large stalks are hollow, and if the tops are removed just before a rain the water will assist the work by filling the tubes and causing rot at the roots. Some prefer cutting while the plants are in full bloom, and after sowing on fine salt, turn in sheep or other animals, whose partiality for that mineral induces them to gnaw down the stumps, into which it has entered, till the injury caused to the roots, produces death, and prevents further trouble.

On the subject of mowing, a writer says: "Let the thistle grow in all its luxuriance till about the time seed begins to scatter with the down. At this time it will be found on examination that the stalk is hollow. Mow the thistles just before a rain, if possible, and the wet, by entering the hollow stalk, descends to the root and effectually destroys it. I have known large fields of thistles almost entirely killed in this way by one cutting. The effect depends on the decomposition which takes place in the root, effected by the admission of moisture through the stalk. The experiment can easily be tried by cutting part of a plat of thistles just before they bloom and the remainder after the seed has become hard and the stalk hollow."

It is frequently the case that no efforts whatever are made to curtail the spread of this pest when it has once obtained a foothold upon the soil, and it is permitted to spread and mature its myriad seeds with as much indifference to the results as though its influence upon the soil were harmless, rather than the reverse.

When soils are to be laid down to grass, the presence of thistles should be considered as an

important drawback upon their fertility, and no effort should be spared to render them at once and thoroughly free from the pollution. Hay, fouled by thistles, is never marketable, and is, indeed, nearly worthless as feed, unless when the animals are compelled to eat it by the impulse of hunger.

ASSOCIATED DAIRIES.

A correspondent of the *Prairie Farmer* gives the following as the usual way of organizing associations for the establishment of "cheese factories," in neighborhoods of ten or a dozen farmers :

When it is proposed to start a factory, several persons who are neighbors to each other get together and talk over the matter among themselves. If enough are found willing to turn in their dairies together, so as to make a fair start, (say 300 cows,) a committee is appointed to look further into the matter, to visit factories, and get all the information on the subject that can be had. A favorable report from the committee being had, they organize, choose directors, and adopt some general rules or plan for the guidance of the association. The next step will be the selection of some experienced cheese maker as superintendent, and the place for the erection of the factory building.

Generally some person proposes to put up the buildings on his own account, and to manufacture and take care of the cheese at a fixed price per pound, demanding a contract of the farmers to furnish the milk of the requisite number of cows, for a certain number of years.

The milk of about 400 cows, it is believed, is the smallest quantity that can be employed by the manufacturer, (when cheese making is his sole business,) in order to obtain a fair living compensation for services, while the milk of a thousand cows can be manufactured at but little extra expense comparatively.

Against this factory system, several objections are urged by the same writer, the most obvious of which are : difficulty of detecting adulterated milk ; the labor and expense of carrying the milk to the factory ; the liability of souring, and of disagreement between the farmer and the agent at factory as to whether the milk is "changed ;" difference in quality of milk arising from the manner in which the cows are fed and managed ; the loss of the whey, so important an item in the way of pork making ; and the necessity, after all, of manufacturing "the early and late made cheese" in the family, as for a time in fall and spring, the supply is too small to run the factory, and too large to be wasted.

LIVE AND DEAD WEIGHT OF SHEEP.—The English rule is to weigh sheep when fasted, and divide the weight by 7 and call it quarters. Thus, a sheep weighing 140 pounds, would give 20 pounds a quarter as the dead weight. If the sheep are in good condition this rule is sufficiently accurate for all purposes. Poor sheep will fall below the mark, and extra fat ones go over it.

NEW YORK STATE AGRICULTURAL SOCIETY.

Through the polite attention of its Secretary, the Hon. B. P. JOHNSON, we have received the Transactions of the New York State Agricultural Society, for the year 1862. It is the *twenty-second* annual volume of the society, and like many of its predecessors, is crowded with valuable information to most farmers. In the great number of articles and numerous topics which it embraces, it would be strange if there were not some specially adapted to the wants of every reader. Its articles are eminently practical. They seem to have grown out of the actual manipulations, personal observations and scrutiny of the writers and frequently elucidate in clear and terse language some of the more scientific bearings of the great art.

By attentively reading these Transactions, any young farmer of the State may find sufficient direction for the structure of his farm buildings, the cultivation of any of the crops that are adapted to the soil of the State, or for rearing any breed of farm stock. In the ample pages of these Transactions, the agricultural resources of the State are developed, the outlet and demand made clear, and the progress of the art recorded from year to year,—so that all who are really desirous to be informed of the actual condition of the leading industrial pursuit of the people, have access to it in these volumes. The work is especially valuable because it grows up, like the crops of the field, day by day, under the hands of those who are directly engaged in the things of which it treats. It is, therefore, practical, fresh, and instructive. Not that every opinion advanced must be received as a dictum, but that, generally, the practices recommended grow out of actual experiences, and whether they are failures or successes, may safely be shunned or adopted.

We congratulate the society upon its prosperous condition. It has many able and ardent co-workers, and we wish for them the widest influences and perpetual prosperity in the noble labor before them.

PISCICULTURE IN ENGLAND.—The *London Times* says the attempts to create an interest in the cultivation of fish in England have completely failed, except in the matter of salmon, which is now furnished in comparative abundance. The *Times* attributes this failure to the popular dislike to fresh water fish as an article of diet. There is scarcely a fish in the streams which any man would care to eat who had the means of purchasing a bit of meat. Trout are but little eaten and eels are getting scarce ; chub, roach, dace, &c., are considered worthless, and the finer varieties, such as pike, perch, tench, and gudgeon, are treated merely as accessories to a dinner and not as a substantial article of food.

For the New England Farmer.

MODEL FARM AND GARDEN.

MR. BROWN:—It would do you good to take a look at Col. PIERCE's farm in Greenland, in this State. He cut about five hundred tons of hay and picked thirteen hundred barrels of apples last year, though not the bearing year. He winters fifty-five head of horned cattle and thirteen horses, and usually employs about twenty hands in the summer. This is a model farm, being mostly walled on all sides but that which skirts the salt water. There I find all the improvements of the age which do away with manual labor. With money enough to farm to advantage, he makes his improvements with a view by the future, as well as present gains. I noticed that his fruit trees were trained to limb near the ground, that the fruit might be picked with greater facility, and that they might not be exposed to heavy winds. I saw no tools exposed to the weather; all were in their places. No rawny-boned porkers, but small-boned ones. Slab-sided oxen he does not keep, but those which look sleek and fat. Marshes and bogs which are so well adapted to the raising of frogs, mosquitoes and snakes have been drained and now produce heavy crops of hay. Those waste places which will not pay to cultivate nor are fit for grass bear the stately oak. The garden shows that he has other thoughts than his farm. Besides those vegetables which are for the cook, one finds those fruits which tempt the palate.

I would suggest to those farmers who buy hay in the spring, that they would look at his fields, and if they copy his modes in cultivating grass, raise two tons to the acre instead of one, and not have to buy.

S. P. M.

Newcastle, N. H., January, 1864.

For the New England Farmer.

COMMON SCHOOLS.

Some Studies which Should be Introduced into the Common Schools.

I have shown that a great deal of time now devoted to arithmetic and reading is wasted, and might be saved, without any loss, but with great gain to the power of ready reckoning, and to the art of good reading. It would be easy to show that the same is true of the time devoted to spelling, and to the study of geography. What shall be done with the time thus saved?

Every child, by the time he finishes his school education, ought to know *what the air is* which he breathes, how essential it is, and why it is essential, to man and all other animals, and to all plants. He ought to know the conditions of the air, and how it carries moisture to all parts of the earth, and equalizes, or constantly tends to equalize, the heat received from the sun; and how it affects the heat and light of the sun.

He ought to know *what water is*, what it is made of, how it is affected by heat, and what forms it takes, what influence it has upon the air and the earth, and upon everything that lives and grows. He ought to know something of its motions and its powers.

He ought to know something about *heat* and its effects upon everything in creation; how essential it is to every form of life, and that it is, and how it is, the most mighty of all forces; that fire, flame, blaze, are only some of its numerous forms.

He ought to know something about *light*, and

how essential it is to the health of all animal and vegetable living things, and what effects it has upon all colors and upon all surfaces, upon everything that it falls upon.

He ought to know what *thunder and lightning are*, what *storms are*, their causes and beneficial effects; what *rain is*, what the *rainbow is*, what *dew is* and what *frost*. About all these things, little children, as well as grown children, are continually asking questions, till that sad time when this beautiful and instinctive curiosity is repressed by the ignorance or perversity of their teachers.

This universal curiosity should be gratified. It is not foolish; it is not accidental. It is the prompting of nature. It is the gracious call of their Maker to all his children to study His works, made for their examination, their use, their unailing gratification.

These perpetual questions; What is it? What is it for? Who made it? How is it? are suggested by One who would lead them up from cause and through cause, to the First Great Cause; lead them up by this delightful, pleasant path.

All these things may be introduced very early into any school. They are easier, pleasanter and more interesting than anything which is in the schools now.

Every child ought to be taught what the common metals are; Iron, Copper, Lead, Silver, Gold, Tin, Mercury, Zinc, Platinum, where and what they come from, and what are their uses. These need not be talked about all in one day, but only one in one day; and every teacher fit to take charge of a child of six would easily find out what to tell about these things and how to tell it.

In speaking about air, the teacher would have to talk about oxygen and nitrogen. In speaking about water, he would have to talk of hydrogen. These things the child cannot see, nor feel. Let it not be imagined that he cannot therefore understand about them. If you tell a child, in plain, simple language, what these gases are, what they do and how they act, he will understand the differences between them as perfectly, at least, as he can understand the difference between genius and talent, between luxury and extravagance, between wit and humor; things which he is continually hearing and reading about. He will be able to comprehend far more easily the qualities and character of all the simple substances, than he can what relates to the religion, the character, the laws, the government, the institutions of foreign nations, which he has to learn about in his lessons in geography; with incomparably more ease than he can the contests, the stratagems, the ambuscades, the councils, the conspiracies, the dissensions, the revolutions, of which he has to learn in his history. What carbon, sulphur and phosphorus are, lime, and potash, and soda, and flint, is as easy for a child to understand, and to learn, and remember, and talk about, as the subjects of any of his reading lessons.

So, nothing can be more easy than for a child to learn what sand, and clay, and limestone are, and what loam is—garden soil or the soil of the field. Yet these are the elements of agriculture.

Why should not every child learn the names of the common stones and rocks, and the minerals of which they are composed? They are nowhere very numerous, and never very difficult to learn. Why should he not learn what slate is, what

granite and greenstone, porphyry and pudding-stone? Why should he not learn the names and characters of mica, quartz and felspar? Children are always delighted with these things, and when they have learned to know and distinguish them, their ideas about common things are thenceforward always more exact, and their language more accurate all the days of their life. To know them enhances the beauty of the world and improves the value of existence.

I had, many years ago, opportunities of conversing with thousands of intelligent people within, and on the borders of, the forests in every part of Massachusetts. I found but one person who knew accurately the differences between the various trees growing in his neighborhood; and even he did not know their names. I found not one who could distinguish, with any approach to accuracy, the shades of color of the bark and leaves. This would not have been, if the simple colors and their combinations had been taught in the schools.

All these things may be and should be taught in the schools. They would be far pleasanter, more intelligible and more useful than most of the things which are now attempted there. They are important elements for the thoughts which are of necessity to occupy men through their lives. They would give new significance to the language which they will be obliged to use.

G. B. E.

For the New England Farmer.

PASTURE LANDS OF NEW ENGLAND.

What shall we do for the pasture lands of New England—they are running out? The consideration of this question calls up philosophy, theory, soil analysis, and all the paraphernalia of vegetable economy within the reach of human vision. They only make argument in the case, and forbear conclusions. Johnston and Liebig have studied carefully, thought profoundly, and in almost every instance where they have attempted conclusions as to the results in the restoration of exhausted soils based upon the hypothesis of soil analysis, they never run aground. By wisely studying the laws, and carefully weighing all the circumstances attending our operations upon the soil, we may obtain valuable results. How the husbandman can so apply his labor and capital in raising grass and grain, and transform them into beef, pork, butter, cheese, bone and muscle, is a question that neither science or labor alone can solve.

Wood ashes stands as a valuable fertilizer, containing no less than twelve simple elements that enter into all cultivated plants. The hard excrements of a hog, when highly fed for the purpose of fattening, contain earthy phosphates and nicely organized mineral matter in a greater degree than those of any animal that have yet come under the test of chemicals. If these nicely prepared minerals be associated with decaying vegetable matter in sufficient quantity to hold them in store as food for plants it cannot but prove a powerful fertilizer. More depends upon the *organization* of elements than in the *quantity* used. Witness the rich Sciota bottoms at Columbus, Ohio, where corn has been successively raised on the same field for thirty years, with no diminishing of crop, kept up to the highest state of fertility by the large deposits of *finely decomposed* vegetable matter by the annual floods. The same may be said

of the Mohawk, and other river bottoms. Irrigation is the agent at work. Science has taught all this, and more.

But what's the state of the question? "The consideration of the renovation of the pasture lands of New England." Well, if the soil is light and sandy, and you determine to plow, spread on clay bountifully, after plowing, with a liberal supply of wood ashes, harrow lightly and seed to red top and clover. Roll up a piece for experiment into ridges, or swells, with a large plow, sow on ashes or plaster, with salt, and seed as above. Try a piece by spreading on the following preparation:

Take five bushels of caustic lime and mix with ten of vegetable mould. Add two bushels of common salt, two of plaster of paris, and five of clay; moisten till the mass is like damp earth. The plaster furnishes the sulphur, the salt both soda and chlorine. The chlorine parts with the sodium, and unites with the caustic lime, forming a valuable salt, known as chloride of calcium. The sodium being converted into soda, then combines with the carbonic acid of the atmosphere and organized matter in the vegetable mould, and forms a well organized salt that will dissolve common sand. This composition still requires phosphorus and iron. Ground bones will furnish phosphorus—copperas the iron.

If thrown up into ridges, the area will be enlarged, and the hollows will furnish feed in time of drought, when a flat surface will be scorched to dryness. Long or fibrous animal manures can not be spread without great loss. *Pulverize fine* all manures, whether animal, mineral, or vegetable, is the touchstone of vegetable physiology. Mark the powerful effect of the finely pulverized dirt from a much travelled road, with hardly a perceptible amount of manure upon an adjoining field! Top dressing, for grass lands, is the rule—deep plowing the exception. Where pastures lie in swells, or knolls, I would set maple groves on all the swells—grass will always grow under rock maples—cattle will stay under them much of the time—leave their droppings there, and fertilize portions below.

L. L. PIERCE.

East Jaffrey, N. H., Jan. 1864.

A YANKEE FARMER.

The New York correspondent of the London *Spectator* thus expresses his opinion of the farmers of this country:

"Let me tell you a little about one of these Yankees whom I know well, and in whose house I have lived weeks at a time. He is a small farmer, tilling less than one hundred acres, which have been owned and tilled by his family for generations, and living upon that and a little money out at interest. He not only goes to the fields with his men, but works with them there. I have many a time seen him riding home on a load of hay, a good part of which had fallen before his own well-swung scythe. Now, what do you think that man's recreations are? Chiefly astronomy. A fine observing telescope is his hobby. He is up with it in the middle of the night, and before the dawn, upon all good opportunity. His library, not large, but well chosen, is so thoroughly and intelligently read by him, that some of the soundest and most pungent opinions I have ever heard upon literature have come from his lips in English, than which no better, according to the

standard of Oxford and Cambridge, is spoken anywhere. His brother, the rector of the parish, the pretty stone church of which was built in a large measure by the contributions of their forefathers, was offered and refused the bishopric of his diocese. The word 'farmer' conveys to you a certain idea or image. Does it convey the idea of such a man as this? From my observation, I should judge decidedly not. And yet this man is only a farmer, and the son and grandson of Yankee farmers on both sides. But you will say that this man is a very rare and marked exception. But in that you will be wrong. Somewhat exceptional he is. But he represents a class very numerous and widely diffused; and he springs from and is in direct affinity with a class which is numbered by hundreds of thousands of men, besides women and children. I have heard from his cousin, the miller, (a working miller, mind you, although he owns his mill,) as sensible and as well-expressed opinions upon all matters (literature included) as I have from him."

LADIES' DEPARTMENT.

THE ROSEBUD.

We wandered out in the garden,
The linnet sang in the tree,
My love she spied a rosebud,
And plucked and gave it to me.
I kissed the beautiful rosebud,
Dear love, that thou gavest to me,
And that summer-day in the garden
I gave my heart to thee.

Three days in a vase in my chamber
I cherished my flower with pride,
And watched with a sweet and boyish delight
Its petals opening wide,
Until it had blossomed a queenly rose,
And then my flower I took,
And carefully laid it between the leaves
Of an old and saintly book.

Three years the maid did hold my heart
In the casket of her own,
'Till the beautiful bud of passion had grown
A fragrant rose full-blown;
She drained its tender fragrance,
And then, ah, woe the day!
Unlocked the casket of her heart,
And flung my flower away.

In the saintly book I was reading to-day,
Forgetful awhile of my woes,
When I turned o'er a leaf, and there beheld
A faded—withered rose;
It breathed of the past—of that summer-day
In the garden where it grew;
And sorely I wept o'er my withered flower,
And my heart-love withered too.

GARDENING BY THE LADIES.

A correspondent of the London *Cottage Gardener*, describing the residence of Mr. Justice Haliburton, the "Sam Slick" of literary notoriety says:

I paid a visit to these gardens about a year since, on the occasion of a fancy fair given for some charitable purpose, and never do I remember to have seen bedding done so well, or so choice a collection of plants brought together in a place of so limited an extent. I was given to understand by a florist of some celebrity who was present, that the arrangement of the beds and the selection of the plants were in the hands of the lady occupier herself. The taste for the harmonizing of colors I consider natural in all women of refined

education, only unfortunately many of them display their taste in decorating themselves more than ornamenting their gardens. But if ladies were to follow gardening more usually than they are apt to do, how much oftener we should see the cheek resemble the rose in place of the lily; and how soon, also, we should perceive the lighter tints made use of in decorating the inside of the bonnets. They would soon be aware that glaring coloring was not suited to their complexions so well as the more subdued shades. Moreover, God has given us health that we may enjoy the blessings He sends, and depend upon it that where a lady gardener resides, it is there the physician's carriage seldom stops.

ROSES A LUXURY TO THE ANCIENTS.—To enjoy the scent of roses, at meals, an abundance of rose leaves were shaken on the table, so that the dishes were completely surrounded. By an artificial contrivance, roses, during meals, descended on the guests from above. Heliogabalus, in his folly, caused roses to be showered down upon the guests in such quantities that a number of them, being unable to extricate themselves, were suffocated in flowers. During meal times they reclined upon cushions stuffed with rose leaves, or made a couch of the leaves themselves. The floor, too, was strewn with roses, and in this custom great luxury was displayed. Cleopatra, at an enormous expense, procured roses for a feast which she gave to Antony, had them laid two cubits thick on the floor of the banquet room, and then caused nets to be spread over the flowers, in order to render the footing elastic. Heliogabalus caused not only the banquet rooms, but also the colonnades that led to them, to be covered with roses, interspersed with lilies, violets, hyacinths and narcissi, and walked about upon this flower platform.

HOW TO DRAW TEA.—A few years since the writer took tea with a relative, and was delighted with the quality of the beverage. Upon inquiry, it proved that the article was from the same package used by another friend, whose tea always tasted miserably, and the difference was wholly owing to the methods used in its preparation. The last-named person followed the usual plan of pouring boiling water upon the tea, which causes the most of the aroma to escape with the steam. The other friend adopted the following process, which I have since practiced, and would recommend: "Pour tepid or cold water enough on the tea to cover it, place it on the stove hearth, top of a kettle, or any place where it will be warm, but not enough so as to cause the aroma to escape in steam. Let it remain about half an hour, then pour on boiling water and bring to the table."

OUR BEST PARLORS.—Don't keep a solitary parlor, into which you go but once a month, with your parson or sewing society. Hang round your walls pictures which shall tell stories of mercy, hope, courage, faith and charity. Make your living-room the house. Let the place be such that when your boy has gone to distant lands, or even when, perhaps, he clings to a single plank in the waters of the wide ocean, the thought of the old homestead shall come to him in his desolation, bringing always light, hope and love. Have no dungeon about your house—no room you never open—no blinds that are always shut.

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CATTLE MARKETS FOR FEBRUARY.

The following is a summary of the reports for the four weeks ending February 10, 1864:

	NUMBER AT MARKET.			
	Catt'le.	Sheep.	Shotes.	Fat Hogs.
Jan. 20.....	2336	6236	—	—
" 27.....	1040	3015	—	—
Feb. 3.....	2119	4316	150	—
" 10.....	1266	6281	50	—
Total.....	6,761	19,848	200	—

The following table exhibits the number of cattle and sheep from each State for the last four weeks, and for the corresponding four weeks last year; also the total number since the first of January, of each year:

	THIS YEAR.		LAST YEAR.	
	Catt'le.	Sheep.	Catt'le.	Sheep.
Maine.....	582	1001	1089	443
New Hampshire.....	781	2942	1056	1937
Vermont.....	1624	4543	2275	2318
Massachusetts.....	460	4072	516	3056
Rhode Island.....	47	—	—	—
Northern New York.....	277	1164	182	424
Western States.....	2903	6110	1549	3771
Canada.....	87	16	31	6
Total, last four weeks.....	6,761	19,843	6,698	12,255
Total, since Jan. 1, (6 weeks),.....	9,375	26,017	9,027	17,617

PRICES.

	Jan. 20.	Jan. 27.	Feb. 3.	Feb. 10.
Beef, 1st, 2d, 3d qual.....	6 @9	6½ @9½	6½ @9½	7 @9½
" ex. and premium.....	9½ @9½	9½ @10	9½ @10	10 @10½
Sheep and lambs, ½ lb.....	6½ @8	6½ @8	6½ @8	6 @7½
" extra.....	— @—	8½ @9½	8½ @9½	8 @9
Shotes, retail.....	7 @8½	7 @8½	7 @8½	7 @9
Beef hides, ½ lb.....	9 @9½	9 @9½	9 @9½	9½ @—
Pelts, sheep & lambs.....	\$— @3	\$3 @3½	\$3 @3½	\$3 @4

REMARKS.—From the foregoing statements it appears that the number of both cattle and sheep from the West is almost twice

as large this year as it was last year for the corresponding four weeks, while the State of Maine has sent up to Brighton only about one-half as many cattle this year as it did last year, during these four weeks. But this is not all. Maine comes into the market as a buyer—as a buyer of Western cattle, too! Her drovers, for the two last weeks at least, have loaded both ways—bringing their best cattle to Brighton, and carrying back to Portland for barrelling and canning the lighter grades of the Western. The whole supply of cattle has been hardly up to the demand, while the market is largely overstocked with sheep. Consequently while the prices for beef have increased, as is usual at this season, those for mutton have declined, as will be seen by our quotations.

The trade in store hogs at Brighton has dwindled into a mere retail traffic.

Aside from a few milch cows, and now and then a pair of working oxen, all cattle at market, fat or lean, are slaughtered and sold as beef.

Sales of Cattle and Sheep.

The following is from our report of sales, February 10:

Bela Hastings sold 10 good oxen to C. Richardson, 8 at about 9c ½ lb, and one pair of extra oxen fed by Sylvanus Owen, of St. Johnsbury, Vt., sold by dollars at 9½c, on estimate of seller, and at about 10c ½ lb, on the estimate of buyer. Noticed four other oxen sold by Mr. Hastings to J. F. Taylor, laid to dress 1100 lbs, for 9½c ½ lb.

C. T. Houghton sold his best pair of oxen at 9½c, 2 other pairs at 9c ½ lb, and 13 smaller cattle on drift, to cost about 8c ½ lb.

J. Lyman sold 4 oxen laid at 1100 lbs. each, for 9½c ½ lb. D. Rice sold 4 New York oxen at 9c ½ lb, and one, laid to dress 700 lbs, for \$46, or 6½c ½ lb.

G. W. Barker sold 4 oxen at 9c, 5 fat cows at 8½c, 3 young cattle at 8c, and was selling 8 others at less than 8c ½ lb.

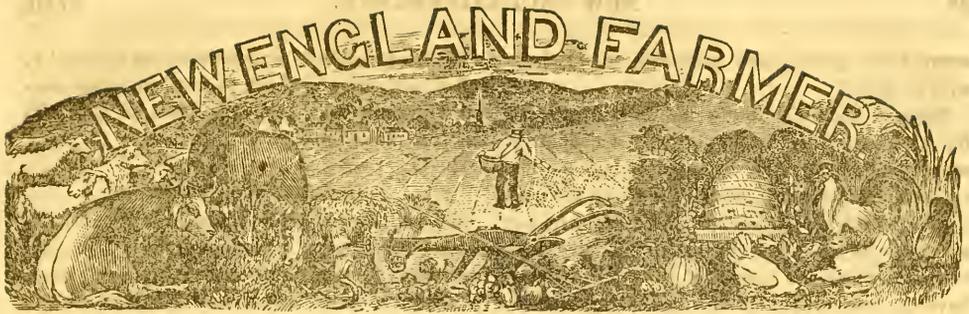
N. G. Batehelder sold four pairs of well fed, extra Vermont oxen to J. F. Taylor for 10½c ½ lb. One pair weighed 3955 and another pair 3560.

WESTFIELD PREMIUMS.—Hezekiah Taylor sold to N. & S. Jackson 12 extra good oxen, fed by himself in Westfield, Mass., 10 of which he estimated to weigh 4400 lbs. at home. The whole 12 he laid to dress 1 00 ½ bullock, and the buyers said they would gladly compound at 1400 lbs. each. At these weights, and with some 10½c ½ lb., a dozen such oxen sell for money enough to buy a comfortable farm, with all the privileges and appurtenances thereunto belonging.

A. N. Monroe sold 26 Western steers, average live weight 1286 lbs, for 8c, 35 sk; of a better lot as follows: 3 average live weight 1113 lbs, at 10c, 30 sk; 6 averaging 1331 lbs. at same price; 11 weighing 1567 lbs, at 10½c dressed weight; 25 of 1384 lbs, for 10c, 23 sk. Mr. Monroe also sold 20 thin Western cows, 19 of an average live weight of 819 lbs, for 5c, 40 sk, and one weighing 785 lbs, for 5½c, 40 sk; 14 of 1640 lbs. each, at 10c, 35 sk; 7 of 1230 lbs, at 9½c, ½ sk; of some 1100 lbs. steers, as follows: 4 at 8c, 35 sk; 7 at 7½c, 36 sk; 21 at 7½c, 40 sk.

C. H. Potter delivered a carload of 70 fine well fed sheep, which averaged 119 lbs. on a previous contract at 9c ½ lb; J. Lyman reports sales of lots at 6c, 6½c, 7c and 7½c ½ lb; Wilcox & Long sold 85 New York sheep, 98 lbs. each, at 7½c; D. Rice sold 85 sheep, 90 lbs. each, for 7½c ½ lb; Geo. W. Jones sold 50 fat River-fed sheep, 110 lbs, each, for 8½c; F. Bartlett sold 40 other "River-feds" for 6½c ½ lb; Geo. Rust sold 88 sheep, gross live weight 6910 lbs, or about 78½ lbs. ½ head, for 6c ½ lb, and 95 others, gross live weight 8780 lbs, or 88½ lbs. ½ head, after seeing how sheep lost weight between the farm and the market scales, and after hearing the price ½ lb, which the butchers offered. P. F. Aldrich sold 19 cossets which averaged 120 lbs. each, for 7½c ½ lb, 9 of them to C. F. Swift, and 10 to Mr. Shaw; J. W. Warner sold 94 sheep from the rich and fertile intervals of the Connecticut valley, which weighed on the scales at Cambridge, 6320 lbs, or nearly 67½ lbs. ½ head, for 5½c ½ lb.

WINDOW GARDENING IN DENMARK.—Graves' recent "Cruise in the Baltic," tells us: "In Copenhagen every window is filled with pretty flower-pots, in which roses, pinks and fuchsias seem to thrive to perfection. These beautiful plants give a neat effect to the fronts of the houses, and tell the passing stranger of the deeply-rooted love of flowers, which forms part of the national character of the Danes, as well as of the Swedes."



DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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BOSTON, APRIL, 1864.

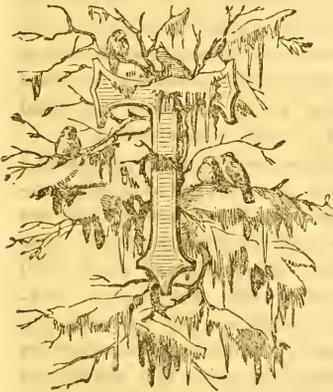
NO. 4.

NOURSE, EATON & TOLMAN, PROPRIETORS.
OFFICE...102 WASHINGTON STREET.

SIMON BROWN, EDITOR.

THOUGHTS SUGGESTED BY APRIL.

"A flowery crown will I compose—
I'll weave the Crocus, weave the Rose;
I'll weave Narcissus, newly wet,
The Hyacinth and Violet;
The Myrtle shall supply me green,
And Lilies laugh in light between;
That the rich tendrils of my beauty's hair
May burst into their crowning flowers, and light the painted air."



THE first day of April! We wonder how it came to be selected from the three hundred and sixty-five days in the year, as a day on which sensible people might be privileged to make fools of each

other? This custom has never been very satisfactorily accounted for, but certain it is, that it dates back many centuries, and prevails throughout Europe as well as America. Did you ever spend fifteen minutes in a vain attempt to light a parsnip instead of a candle? Did you ever have a plate of dough-nuts passed you, and while you were tugging manfully to break one asunder, and to conceal the severity of your efforts under the mask of politeness, discover that it was stuffed with cotton? Did you ever receive a package which you thought must contain a gold watch at least, and find only an infinite series of brown paper wrappers? Then you know how such things are done in New England.

The following is a jest of a different kind and proves that its perpetrator, at least, was no fool. It is related of Rabelais, who, wishing to go from

pay his fare, filled some phial with "brick dust or ashes, labeled them as containing poison for the royal family of France, and put them where he knew they would be discovered." The consequence was he was carried to Paris as a traitor, before the joke was found out! It certainly was an ingenious artifice for travelling at the public expense, but might in some cases prove a dangerous one.

Something similar to *April Fool's Day* is said to exist in the East Indies. It is curious to trace by indications of this sort, man's common brotherhood. At the first glance they may seem of no particular importance, but take this single example, and perhaps it illustrates the point all the better for being a trifling one—for such a custom certainly could arise out of no necessity of our nature, nor is it likely to be a coincidence, it must, therefore, have had a single origin, and have been carried over the world by the descendants of its originators—north, south, east and west.

When we look up to the heavens of a starry night, we see a constellation which everybody knows by the name of the *Great Bear*. It certainly has little resemblance to that animal, and we wonder by what flight of imagination the "wise men of the East," ever fixed upon such a name for it, but when we are told that American Indians and the earliest Arabs of Asia have called that constellation the "Great Bear," what can we infer, but that centuries and centuries ago, these divers nations were all one people? Equally striking is the well known fact that various nations have a record of the Deluge, answering very well to the Mosaic account, and that our Indians have a tradition of the same.

We should like to follow this train of thought still farther, but our limits scarcely permit, and we must leave it for each one to pursue it at his leisure.

APRIL, named as some suppose from *Aperire*,

seems to be opening, and preparing to enrich us with its gifts."

Now we may bid winter farewell, in earnest, for although April is proverbially a coquettish month, and we are not to suppose because she smiles on us one hour she will not frown the next—still there is an onward progress. Slowly, but surely the way is being prepared for the fair things of summer, and the harvest of autumn. Not yet have the trees all put on their beautiful garments, but the maple down by the meadow is "clothed in scarlet," the willow droops with its burden of tender blossoms, (we called it *pussy* willow in our school-days,) and the fresh green grass is springing in all sunny and sheltered places. It is true that the "return of spring" on paper, is commonplace enough, and everything that can be said of its "beauties," &c., &c., has been said a thousand times, but the return of spring in *reality*, is always new. Though one may have seen threescore and ten of them, he never loses the feeling of fresh young life which it brings. And yet, perhaps, we all look at it from a different point of view. The invalid rejoices in the prospect of a season better adapted to his enfeebled frame; the farmer regards it with an eye to his plow and broad fields of waving grain—his flocks and herds; the little child thinks of the checkerberries—(he probably calls them ivy plums)—which look so bright and cheerful under their broad, thick leaves—of the bird's nests, which he knows very well where to look for,—and of all the grand rambles he is going to have in the woods now that the snow that has lain so long—it seems to him a year—is melting away. The old man looks out upon the reviving world and thinks how *his* winter will soon pass, and spring will come to him in another, and more congenial world!

The young lady, (is it not so?) puts by her skates with a sigh, and can only find consolation in the lovely shape of her new spring hat! We are glad, by the way, that any form of out-door exercise should have found so much favor in the eyes of the fair sex, and we hope that the prevailing mania of the past winter will extend itself still farther, and that walking, riding horseback, &c., &c., will come in fashion,—for if you can only make a thing *fashionable*, it is safe.

Of all the "rights" that have been withheld from our countrywomen, that of a hardy physical development is the most important, and the reformers who are bold enough to break down the ancient barriers in the way, are deserving of public thanks. Our own creed on the subject of "women's rights" is very brief. Let her be thoroughly educated, morally, intellectually, and physically, and she will fall into her own sphere, whatever that may be, as naturally as the earth revolves on its axis, or water runs down the hill.

Well, we shall find our compensation by-and-by, and if our spring is short, so much the more reason why we should make the most of it. Isn't this true philosophy?

HORSE TRAINING.

We had the pleasure, a few days ago, of witnessing Mr. ROCKWELL'S power over the horse, in a series of experiments made at Concord, Mass. In the first place, he drove a splendid stallion through the streets, without bridle, reins, or harness of any kind, except a surcingle passed around the body of the horse and attached to the shafts by a loop. At another time he drove a pair of stallions in the same manner. On both occasions the horses were driven through a crowd of people, sharp corners, among numerous other horses and vehicles, and were guided with more exactness than most of the lookers-on could have managed their teams with bits and reins. He controlled the animals, evidently, through their fears. There was a magic power in the long whip which he held in his hand. The eyes and ears of the horses were all attention; no motion of the whip, however slight, escaped their notice. If the whip leaned right or left, they instantly followed its inclination, or if its pliable extremity went entirely round, they gracefully swept about and described the circle, bearing gently off when the wheel pressed too hard upon the protecting iron.

Mr. Rockwell experimented upon more than a dozen horses in our presence, and with entire success in every case. We have space for only one which will well enough illustrate the whole. This was the case of a mare, weighing about 1050 pounds and eight years old. She was not "broken," as the term is, until she was six years old. There was no special difficulty in handling her then, with the single exception that she did not like to have her feet touched, either before or behind. The habit of resisting when she was shod grew upon her, so that the last time that work was needed, previous to the exhibition, it took four men two hours to accomplish it, and then the work was unsatisfactorily performed.

The mare was led into the ring, and Mr. Rockwell took a cord of the size of a common clothes line, and ten or twelve feet long, made a loop in one end, put it into her mouth, then threw the other end over her neck and brought it back through the loop, and held it in his hand. A headstall, without winkers, was upon her head. In this position he stood two or three minutes, speaking to the crowd, and then gave a sudden and powerful jerk upon the cord at right angle with her body, bringing the mare's head nearly round to her side. Then he caressed her a little, when two or three other, tiger-like springs followed in quick succession, evidently to the great

surprise of the animal. In less than fifteen minutes from the time he took her in hand, he took up her feet, hammered upon them and handled them just as he pleased! The result was equally satisfactory with a horse that was usually terror-stricken when an open umbrella came near him, and with others, vicious in various ways.

Mr. Rockwell's art lies in convincing the horse, at once, that he has lost his power; that man is an overmatch for him. Under his management, it is wonderful how quickly the animal seems to come to this conclusion. There is no secret in this. With the same energy and tact that Mr. R. employs, any other person can produce the same results. The exhibition was gratifying and highly instructive.

For the New England Farmer.

ASIATIC FOWLS.

MESSRS. EDITORS:—In obedience to your request, asking me to give your readers my opinion of the difference between the White or Grey Shanghai and the Brahma Pootra fowl, I will state my experience in regard to the different varieties. I have kept the Grey Shanghai and now keep the Brahma. I believe it is admitted by all poulterers, that these large Asiatic varieties were all produced, originally, from one species, and that they have descended from a large bird in the Islands of Sumatra and Java, known as the Great Malay Fowl. The difference between these varieties is due to the influence of crossing and domestication. Our American stock of these fowls came from Asia in the vicinity of Shanghai. The first were brought to this country about 40 years ago, since which time permanent crosses have been made, and thus the Brahma, and other varieties, have been produced. I have found the pure Grey Shanghai to be a very coarse, large-boned, awkward fowl, quite unfit for the market, and "with the exception of the Buff Shanghai," the most inactive of all the Asiatic varieties. The pure Brahma fowls are more compact in form, shorter legs, much shorter tail feathers, and a superior market fowl. They are small-boned, in comparison with the size of the fowl, small feeders, and very hardy. If fed properly, they will thrive well where common fowls will suffer, or freeze. A very beneficial characteristic of the Brahmas is, that when old their flesh is both tender and juicy, which is quite the contrary with any other breed I have ever seen.

The Brahmas and the Shanghai are quite unlike in their general appearance to the eye of a fowl fancier. The thorough-bred Morgan horse may, to the inexperienced eye, closely resemble the common native farm horse, but by the horseman the difference will immediately be observed. With fowls, as with all other animals, those who breed them with care will observe a very slight imperfection that would pass unheeded by those who have not turned their attention to careful breeding.

I think every New England farmer who has given the Brahma fowls a fair trial, is convinced that they excel all others in every desirable quality, especially as winter layers. Any breed of fowls will lay in the summer season.

part, I prefer to have eggs in winter when they command a much higher price. I have forty Brahma pullets that have averaged twenty-three eggs per day during the past two months, which have been sold at thirty-five cents per dozen. I wish to keep the breed of fowls, and if any one has a better variety I am willing to give them a fair trial; but after keeping upwards of thirty different kinds, I have found none to compare with the Brahmas for every desirable purpose to the farmer.

J. S. IVES.

Salem, Feb. 24, 1864.

FOOT-ROT IN SHEEP.

John Johnston writes us that he believes he can manage this disease as well as M. Bauchiere, and that his method has, besides, the advantage of being no secret. He describes it as follows:—Take finely pulverized blue vitriol—the finer the better—make it into a salve with lard, butter, or honey. After cutting away every particle of the hoof that has become detached by suppuration,—if some blood is drawn no injury will result from it,—apply the salve freely, and I will warrant that in less than five days the sheep will be sound, provided the detached hoof has all been cut off. But it is safer to apply the salve at different times, say two or three, at intervals of four or six days, examining carefully at each application to see that none of the detached hoof is left on the foot. To cut this entirely away is indispensable. The best way I have found to pulverize the vitriol, is to hang up an iron pot by a rope or chain, put in half a pound of vitriol; then put in a cannon ball, and take hold of the pot with both hands, and give it such a motion as will cause the ball to roll on the vitriol, and it soon becomes pulverized. The vitriol will require to be loosened up from the bottom of the pot once or twice. No better cure for foot-rot need be desired than this, provided the application be thorough; but if the land is wet, or foot-rotten sheep have been pastured on it long, it will be safer to remove the sheep as fast as they are cured, because the foul land will again inoculate them.—*Cultivator.*

VALUE OF MANURE.—In a bushel of Indian corn, for instance, there are fifty-eight pounds of grain, which will make, according to circumstances and conditions of animals, from three to twelve pounds of flesh and fat. Now what becomes of the remainder of the fifty-eight pounds? A portion of it is consumed—burnt up as fire burns wood—in sustaining the necessary warmth of the animal. But the greater proportion is cast out in the droppings.

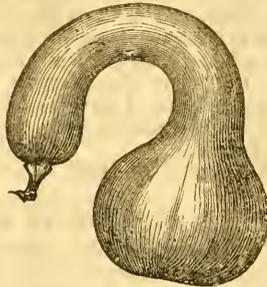
This rule holds good in fattening neat cattle, sheep, swine, and all other domestic animals. And herein, to a great extent, lies the real profit of feeding animals grain. The profit is in the manure. If that is lost or wasted, the profit is often very small, or there is no profit at all.—*Country Gentleman.*

TO PREVENT A HORSE FROM PULLING AT THE HALTER.—Tie a rope around the neck, put it through a hole in the edge of the manger, and tie it around the fore leg below the knee, and when the horse pulls, the rope will slip through the hole and pull up the fore leg, and he will soon

—*Country Gentleman.*

THE WINTER CROOKNECK SQUASH.

Among all the varieties of the squash perhaps there is none so easily raised and preserved through the winter as the Crookneck Squash here figured. It is, also, an excellent variety boiled or for pies. We copy cut and description from BURR'S new work on the Field and Garden Vegetables of America.



This is one of the oldest and most familiar of the varieties. Plant hardy and vigorous; fruit somewhat irregular in form, the neck solid and nearly cylindrical, and the blossom end more or less swollen. In some specimens the neck is nearly straight; in others, sweeping, or circular; and sometimes the extremities nearly or quite approach each other. Size very variable, being affected greatly both by soil and season; the weight ranging from six pounds to forty pounds and upwards. A specimen was raised by Capt. Joseph Lovett, of Beverly, Mass., and exhibited before the Massachusetts Horticultural Society, the weight of which was nearly seventy pounds. Color sometimes green; but, when fully mature, often cream-yellow. The color, like that of the Canada Crookneck, frequently changes after being harvested. If green when plucked, it gradually becomes paler; or, if yellow when taken from the vines, it becomes, during the winter, of a reddish cream-color. Flesh salmon-yellow, not uniform in texture or solidity, sometimes close-grained, sweet, and fine-flavored, and sometimes very coarse, stringy, and nearly worthless for the table; seeds of medium size, grayish-white. The border darker, or brownish. About two hundred are contained in an ounce.

It is a very hardy and productive variety; ripens its crop with great certainty; suffers less from the depredations of the insects than most of the winter sorts; and, if protected from cold and dampness during the winter months, will keep the entire year.

PRODUCT OF A DAIRY.—J. L. R., Jefferson Co., N. Y., in the *Country Gentleman*, says that during the year 1863 he made from seven cows 1,643 pounds 7 ounces of butter. Average per cow 234 pounds 12 ounces. Net proceeds of dairy stands thus:

1,643 7-16ths pounds butter, average price 24 $\frac{1}{4}$ cts.	\$398 55
Milk sold	8 67
Calf raised worth	5 00
Calf fattened	4 00
Deacon and veal skins	5 25
Value of milk fed to 3 hogs, doubtful, but say	15 60
	\$436 47

Average per cow

No account being made for milk and cream used in the family.

The cows were soiled in the summer, and were kept on hay, corn fodder and straw, with three quarts of shorts and a peck of roots per day in

CARE OF ASPARAGUS BEDS.

Early last spring we prepared and published an article in the *N. E. Farmer* upon the culture of *asparagus*, and its importance to the family in an *economical* and *moral* point of view. We have reason to believe that the suggestions then made drew attention to the subject, and that many a liberal bed of roots has been planted in consequence. Something more, however, remains to be done, and the next important step is to attend to the

Spring Dressing of the Beds.

This should be done as early as the weather and the condition of the soil will permit. If the spring is late and the soil wet and heavy the work must be deferred until there is a change. When this takes place, even if it is as early as the latter part of March or the first of April, clear away all the old stems and litter of every kind. This is frequently done by burning it on the bed, and does no harm to the plants, while the ashes left from it are decidedly beneficial. Care must be taken not to wound the crowns of the roots with the tines of the fork. Forking the beds should not be neglected, as the admission of the sun and rain into the ground, induces the plants to throw up buds of superior size; in order to ensure this the ground should be kept clear of weeds at all seasons, as these greatly impoverish, and frequently smother the plants.

If one has but little land and desires to make the most of it, he may plant the ground between the rows of asparagus with potatoes, beans, or other crop, which will do no harm to the asparagus, if the soil is liberally manured and cleanly cultivated.

For the New England Farmer.

EXPERIMENTS WITH MANURES.

MR. EDITOR:—Having read much in the *Farm-er* about the good qualities of various kinds of manures, I thought I would give you some of my experiments:

1. In the spring of 1861 I laid down a piece of land to grass and sowed with wheat. Nearly in the middle of the piece, on one rod square, I sowed two and a half bushels of ashes. The first and second seasons no difference was perceivable; the third season, while all around was herdsgrass, the square rod was all clover. The conclusion, therefore, must be that the ashes might as well have been somewhere else.

2. In the spring of 1862, having forty bushels of ashes, and ten or twelve bushels of hen manure, I mixed them together well, and added twelve bushels of loam. After preparing a piece of land for corn planting, by first harrowing thoroughly, (it being sward land plowed the fall before,) then plowing with a heavy plow, harrowing again, spreading on six cords of stable manure to the acre, plowing in lightly, levelling, and marking both ways, I put about a pint of the compost in each hill, with the exception of two rows

obliged to keep them a year before realizing any profit from them. Maine can compete with Vermont in her valuable English sheep, and, take the mutton and wool together, will leave her in the rear.

The underdraining theory was all the rage with farmers a few years since, and agricultural lecturers, not content with the fact patent to any discriminating farmer, that some lands well paid the expense of underdraining, such as wet and boggy lands where nothing but wild and comparatively worthless grasses grew, went to the extreme, and advocated that *all* lands should be drained, or that any land, however dry, would retain the moisture longer if drained,—hence be more prolific, and more than repay the expense of draining. Even the clear-headed Mr. Horace Greeley, advocated in his agricultural addresses through the country, that if *any* land was worth cultivating it would pay back enough more to cover the expense of draining. He run draining theory so much, so long, and so thoroughly underground, as to set everybody to digging rifle pits even to the top of the highest sand hills, in this section of the country, as my neighbor over the way to his sorrow, or his sorrowful pocket will testify. There are miles of this folly perpetrated in sight of my door, and you cannot tell by the crops which part of the field can claim this distinguished honor—the honor of being Greeleyized. Because *some* lands are benefited by draining, it is no proof that *all* land may be so improved.

Some farmers reason like the celebrated Doctor Esculapius. The doctor visited one of his patients, a blacksmith, and found him convalescent and lurching on codfish. The doctor immediately noted in his book, "*Codfish good for blacksmith.*" He was subsequently called to prescribe for a shoemaker, and of course ordered him to eat nothing but codfish. The sequel was that the poor shoemaker died under the codfish regimen. The doctor enters in his notebook, "*Codfish good for blacksmith, but death to a shoemaker.*" Now I recommend the unfortunate man above to enter in his sheep book, in large capitals, "*Merino wool good for the broadcloth maker, but death to mutton chops.*" And so, Mr. Editor, the farmers at large read the agricultural papers, and the moment they find something recommended by somebody that never, perhaps, had a hill of potatoes, or planted a hill of corn in their lives, immediately proceed to put the hint into practice, because they find it in their papers, and find too late to save their pockets, that theory and practice do not always agree.

My neighbor went to great expense to set out an orchard of grafted apple trees, and was anxious that they should have the benefit of all the scientific help he could find in the papers brought to bear on his promising fruit trees. He reads in the papers that, to promote their growth and to kill all noxious parasites, it is recommended to wash them in alkali. So he procures ashes from elm and maple wood, and makes the strongest decoction of alkali he could make, and gives the trunks, the limbs and the leaves a generous baptism, when, *presto! mirabile dictu!* the next day found his precious fruit trees—the leaves burnt, the trunks drying up—his orchard destroyed, that cost so much money and careful planting. Killed. Horticultural quackery had done its perfect work.

My other neighbor is ripe for all the patent rights' pedlers that swarm along the road, promising to annihilate muscular labor and usher in the Millennium. He comes to me all converted to the belief that the "Atmospheric Churn" is to supersede all other churns, and not content to buy one and prove it, or rather to prove one and then buy it, but must needs buy the right for all the adjoining towns. His fortune is made in the perspective; "for, see," said he, "the water is all on foam; the churn worked admirably when churning water, (the pedler was careful to use water instead of cream to test its merits,) it is logical to suppose that it will make the cream foam with equal beauty." "But," said I, "perhaps it won't." I failed to reconvert him until the duped man had parted with his money and he had manufactured a dozen or more Atmospheric Churns that were useful only to churn water.

My other neighbor had been very prosperous in bee culture, but the indefatigable, omnipresent patent right pedler found him out, too, and converted him to believe that he was behind the age—that honey might be abstracted *ad infinitum* with his patent bee hive. The patent right theory could divide the compartments and subdivide these by boxes, so as to remove the old comb at will, and hence give the bees the advantage of always living in a new house, providing they could build a new one as often as they were robbed of the old one! This was a charming theory, provided the bees were satisfied that they were able to build up as fast as you could tear down. The sequel was, that at the end of the second year the bees were *non est*, only empty boxes remained. A subdivision with a vengeance. The bees froze to death for want of a parlor large enough to hold the family!

I promised you a year ago I would try the top-dressing theory, and advise you of the result. I think more might be learned from publishing in your paper *experimental failures*, than doubtful experimental successes. I have no mammoth pumpkins, big squashes, or huge pigs for you to chronicle, but I have simply thrown away the use (certainly for one year) of the dressing obtained from feeding out thirty tons of English hay. You advised me about one year ago to compost this dressing with muck or loam, and spread it on my grass ground broadcast, as early as possible after the snow left. I did compost this dressing with sandy loam, used to bank up my house the previous winter. This dressing was mostly from the sheep yard, and, therefore, very fine and easily composted. It proved like the Doctor Esculapius theory, good for moist land, or any land in a wet season, but death to the dressing in a dry season. My dressing of a hundred sheep and half-dozen head of neat cattle, I consider more than half wasted. It was spread on high, sandy loam grass land. The winds in May dried up the moisture of the dressing quickly, little rain falling before the grass was to cut. No perceptible difference could be seen in that part of the field where the land was topdressed, other than where it was not so dressed. What may be seen another season remains to be developed. But the experiment was a failure last year; and I think that more than one-half of the virtue of the dressing must have evaporated, and so will be a total loss. And this experiment teaches me that it is not good

husbandry to dress high or dry land.

C. S. WELD.

Penobscot County, Maine, 1864.

REMARKS.—Notwithstanding the apparent dissatisfaction of our correspondent with the world, we believe it is gaining in intelligence and virtue every day. It is not all right yet, certainly, so far as human duty is concerned,—but the progress is Heaven-directed and encouraging. The criticism upon the "Vermont Speculator" we do not think it best to suppress, but to let the Vermont gentleman reply to it himself, if he chooses. If we have a man in the community who is distinguished for fair dealing, for integrity and manliness, it is the person to whom this allusion is probably made.

With regard to the advice we gave "about one year ago in relation to composting," we have referred to it, and only say that the opinions given were the common opinions of our best farmers. We have never advised any one to topdress "high, sandy loam grass land," with SAND compost, but with *muck* compost; and our opinions, over and over again expressed, have been to topdress naturally moist lands, and, as a general rule, to plow and cultivate to restore gravelly and sandy loams. But we are not arbiters of the weather. An unusually dry season might greatly reduce, if not destroy, the crop on "a *high, sandy loam*," especially if aided by the hot sheep droppings used. No advice can be given to a farmer which it is safe to follow without taking attending circumstances into account. If a single early, drenching rain fell upon the manure spoken of, we cannot see how it could fail of benefiting the grass, *provided it had any roots to work upon*. Manure is often applied where there are few roots left, and the farmer is astonished that it does not increase his crop!

HIGH PRICES OF WOOL.—The high prices to which wool has attained, have greatly stimulated the production, especially in the more remote Western States. For the past two years large numbers of sheep have been sent from Ohio, Michigan, &c., to Iowa, Minnesota and Nebraska, where the climate and ranges are rarely excelled for sheep husbandry. The clip of 1864 will no doubt be largely in excess of that of any previous year, and it will all be needed at remunerative prices. The increased production of wool in California is remarkable. In 1857, the quantity shipped from that State was fifty-five bales of very inferior quality—worth from 6 to 10 cts. The clip of 1863—only six years later—was over 50,000 bales. According to this ratio of increase, the clip of 1869 will reach 200,000 bales; and in 1875, 1,250,000. The quality and condition of California wool coming forward, is much better now than formerly, and meets with increasing favor among manufacturers. Staple kinds in good order command 40 and 50 cts.

EXTRACTS AND REPLIES.

Sap Troughs for Sugar Makers.

In answer to "Mr. Backwood's" inquiry in the *Farmer* for Feb. 6th, I would say that he can get a sawed wooden spout for about 12 or 14 cents a rod, to carry sap down the hill to the place for boiling, of Moses Sheldon, of Calais, Washington County, Vt. Mr. S. was presented with a diploma and premium at the Vermont State Fair, last fall, at Rutland, for the above invention.

A. C. POWERS.

Sutherland Falls, Jan., 1864.

Cut Feed for Horses.

A correspondent in the *Farmer* for Feb. 6, 1864, wishes to know whether cut feed for horses is any advantage. I presume I can answer the question to his satisfaction.

We have an old horse, some twenty years of age, which we used to feed as your correspondent described his. But since we commenced feeding him with cut hay, mixed with about three or four quarts of meal per day, it not only makes the horse look better, but enables him to perform as much labor as two horses fed on the old system.

M. H. H.

Fall River, 1864.

Coal Ashes as a Fertilizer.

I was informed that coal ashes are a fertilizer, which would pay to cart a few miles; but I learned from a neighbor, who was induced to try them, to the contrary. Buy gas lime, said an agent of a gas company. I demurred. He said, I will make you a present of a barrel. I tried it and found it wanting; but he lost nothing, for many of my neighbors were induced to try it on his saying that I tried it.

Substitutes for Coffee.

Substitutes in lieu of coffee meet the eye at every grocery store. Beware of them. Many are the deleterious component parts. Illness was the result of using that which was recommended to me as pure ground coffee. Hundreds are the cases of ill health brought on by its use, which are ascribed to other causes.

Increase the Manure.

Every farmer on the sea coast need not have a leisure day in the winter. Haul up the treasures of the deep, seaweed. I took a look at a farm with the view of purchasing; the owner's mind ran on thorough cultivation, rather than driving a fine horse; his barn, storehouse, and cellars were full, and his fields had that color which predominates with the slaves.

Setting an Orchard.

If the young man who is about to set out an orchard has noticed those trees which produce the best, he will find that it is better to set one in a situation which is protected from high winds.

Newcastle, N. H., Jan., 1864.

S. P. M.

Sore Mouth in Sheep.

A sure remedy for this complaint is to bathe the parts affected with a strong decoction of sage, mixed with an equal quantity of vinegar and add one half ounce of blue vitriol to one quart of the mixture; sweeten it with honey, and bathe every third day until the disease disappears. I have used the above remedy for a number of years, and never knew it to fail. May it save others as many dollars as it has me.

Hillsboro', N. H., Jan., 1864.

G. G. R.

Salt for Horses.

I would like to inquire of you, or some of your correspondents, whether salt is good for horses or not? I have heard some good farmers say it was not, and they reason something in this way—that the horse has no gall, and the food is not digested by gastric juice, but by a sort of gas which salt destroys; they say that it is not natural for the horse to love salt and he only learns to do so by having it placed temptingly before him. My horses love salt and express as much uneasiness to do without it three or four weeks, as do

cattle or sheep. It seems to me as though it would be as hard for them to do without it, as it would be for a man who is in the habit of using tobacco to do without that.

A subscriber wishes me to inquire if you cannot give the price of gold in the *Farmer*?

Cabot, Vt., Feb., 1864.

C. M. FISHER.

REMARKS.—We have no doubt that salt is good for horses, and never have heard it doubted before.

Poultry Book---Cutting Fodder---Horse Power.

Do you know of a book on fowls that is authentic, where it can be obtained and at what price?

Please give your opinion whether it will pay to cut cornstalks and other fodder for cattle, and whether it ought to be steamed?

Which is the best machine for horse power?

Vergennes, Vt., 1864.

W. S. ALLEN.

REMARKS.—The *American Poulterer's Companion*, by C. N. BEMENT, is the best work among us, at present. The book is written in a moderate tone, having grown out of his own experiences, in a great measure. It is a reliable book—well printed and illustrated with 120 engravings on wood and stone. It may be found at the bookstore of A. Williams & Co., 100 Washington Street, Boston. Price \$1.50.

Cutting Fodder. Whether it "will pay" to cut fodder for stock, depends upon circumstances. Whether it would be economical to hire a man at common wages, purposely to cut fodder for stock, we cannot say, because there are no well attested experiments upon the subject. But that it would be profitable for every farmer having a stock of a dozen cattle or more to feed, to purchase a cutter worth \$16 or \$18, and use it, we have no doubt whatever. This opinion has been formed after many years' experience in feeding out cut and uncut fodder. We intend to speak more fully upon this matter hereafter.

Steaming Fodder. This cannot be done profitably with small stock of cattle, we think. No cheap and effectual means of doing it have yet been devised, to our knowledge. With a stock of forty head, or more, we have no doubt it can be done economically.

Horse Power. We do not know which are the best.

To Clear Oats from Seed Wheat.

I noticed in your paper an inquiry how to cleanse oats from wheat. Washing the wheat in brine as strong as it can be made will take the oats all out.

So. Malden, Vt., 1864.

D. G. FARRINGTON.

Saving Manure---Wolf Teeth---Maple Sugar.

Most farmers keep their cows in the barnyard during the night, in summer time, their droppings to be turned and overturned by the hens until they are as "dry as a chip." In this condition they are almost worthless.

I have astonished myself for several years in finding such a large and nice pile of manure saved from this source. After the cows are let out to pasture, we put their droppings in a pile and cover with dirt. Sometimes we have kept the cows in the stables nights and used dirt enough to absorb the urine, which is a good way.

What is the cause of wolf teeth in colts? Do they affect the eyes? What is the reason our fathers did not know of such a thing years ago?

Some one inquires in your paper, "Who first manufactured maple sugar?" I think it was first made in the town of Northfield, Frankln Co., in this State. By whom, and when, I have forgotten. QUILL.

Shelburne, 1864.

REMARKS.—We quote below what we think will answer one or two of the questions of our correspondent about Wolf Teeth in Horses. The word "wolf" has a meaning beyond that of being applied to an animal

that is, it means, a tubercle, an ulcer; so that a "wolf tooth," probably means an ulcerated tooth.

Mr. John Pettibone, of Manchester, Vt., in the *Albany Cultivator*, says that "Wolf teeth are quite common, and many good horses are made blind by them. I had two horses or colts, which had them last season. The cure is simple and easy. Take a piece of iron with a square end, one-fourth of an inch in size. Let one hold the horse and open the lip so as to enable the one with the iron to place it against the tooth, and with a small mallet knock the tooth out. There is no root to the wolf teeth. The best way is to take the horse to a blacksmith shop, and the smith with his punch will knock them out in two minutes. When you see the horse's eye begins to run and look glassy, look for the wolf teeth. It is a small sharp tooth just forward of the grinders of the upper jaw."

In the same volume, we find Mr. P.'s opinions corroborated by Mr. A. M. Williams, who says, "I have had some experience in this matter, and here offer you the result of my observations. I had a valuable young horse who exhibited evidence of disease in one eye. My first impression was he had got some hay seed or something of the kind in his eye. The main symptom was running at the eye, and while affected in this way, he was unusually restless. I consulted with my neighbors, and was told that he had a wolf tooth, and unless removed it would make him blind; I then consulted several authors on the subject of horses, only one of whom mentioned this disease, and he mentioned it merely to ridicule the idea that a wolf tooth would affect the sight of the horse. I accordingly neglected to do anything about it until it was too late. I had it taken out at last, but the horse lost his eye. On another horse taken in the same manner, I had the tooth removed in season, when the running at the eye ceased, and the sight became perfect as before. These are facts that ought to be known. A large proportion of the blindness among our horses is, in my opinion, owing to the presence of wolf teeth, which could have been removed with very little trouble, and the eye saved."

The new *Encyclopedia* says that the manufacture of maple sugar is stated to have originated in New England about the year 1752, but by whom or in what town, is not stated.

EARLY TURNIPS.

Among the great variety of wholesome vegetables which can be grown favorably in this climate, many esteem the common flat turnip as among the best. When crisp, tender and juicy, it certainly is entitled to considerable merit. In this condition it will cook readily, and dressed with a little salt, pepper and sweet butter, is an acceptable and nutritious food. To secure the qualities mentioned, it should be sown early,—that is, as soon as the soil is in a favorable condition,—on *new ground* if possible, and as fast as the plants appear sprinkle them with ashes, plaster, snuff, or anything else that will tend to keep the little black turnip fly from destroying them. If they escape this ordeal, keep all weeds away from them, and if the season is favorable they will make a surprising growth, and perhaps become fit for the table in the early part of July.

The ground should be hoed occasionally, and the plants thinned so as to stand nine or ten inches apart. In this position they will not grow so large as though farther apart, but will be more tender, crisp and juicy. We have raised a flat, purple-top variety which is excellent, which has recently been introduced in England.

CULTURE OF ONIONS.

In the last *Farmer*, we called the attention of the reader to the importance of producing a plentiful supply of *ripe, early potatoes*, and spoke of their value to the family. We said nothing of them then, however, in a *commercial* point of view. Since preparing that article, a friend, living within eighteen miles of Boston, informs us that he recently raised some two or three hundred bushels of potatoes, and sold the first *forty* barrels for \$4.00 per barrel, the price decreasing on the balance as the season advanced.

Our present object is to call attention to the culture of *onions*, and we do this, now because it is one of those crops which scarcely afford any prospect of success, unless it is got into the ground as early as the condition of the soil will permit. Mr. BURR, in his excellent work on the "Field and Garden Vegetables of America," says the onion requires a light, loamy, mellow soil; and, unlike most kinds of garden vegetables, succeeds well when cultivated on the same land for successive years." The soil certainly should be light and mellow, but if the seed is sown in a soil that is *very light*, as it often is left when thoroughly raked, it will not come so well, nor will the onion assume so just and fair proportions as though the ground were *rolled* before sowing the seed.

The seed should be in drills, the rows from 14 to 18 inches apart, and the seed covered about half an inch deep,—but this depth must depend upon the condition of the soil. BURR says again, "When the plants are three or four inches high thin them to two inches asunder, and, in the process of culture, be careful not to stir the soil too deeply, or to collect it about the growing bulbs. The onions will ripen in August, or early in September, and their maturity will be indicated by the perfect decay of the leaves, or tops. The bulbs may be drawn from the drill by the hand, or by the use of a common garden-rake. After being exposed for a few days to the sun for drying, they will be ready for storing or for the market."

When housed, they should be kept in an even temperature, and as cold as they can be without danger of frost. A room that can be thoroughly ventilated is essential: one that may be readily closed during damp weather, and opened when there is a drying breeze.

The soil should be prepared by digging in rich

manure. If green manure is well mingled with the soil the fall previous to sowing the seed, it will be in excellent condition to feed the growing plants.

There are not many varieties of the onion. The one introduced here is well known among large cultivators as the *Danvers Onion*.

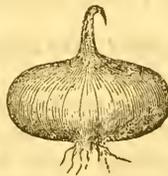


It takes its name from the town where it is largely cultivated, is very productive, "white flesh, sugary, comparatively mild, and well flavored."

The *Large Red Onion* is a popular variety. It is very productive, and one of the best to bear transportation. We have sometimes seen it measuring 4 or 5 inches in diameter.

The *Potato Onion* is sometimes preferred by those who wish for a few only, for family use. It does not produce seed, as other onions, but it increases by the root. One single onion of the size of a marble, or a walnut, slightly covered, will produce six or seven in a clump, partly under ground. The bulbs should be planted early in the spring, 10 or 12 inches apart, and kept free from weeds, but the bulb itself not moved after it is set. It is hardy, grows rapidly, and is easy of cultivation.

The onion, however, that is probably better known in New England than any other, and which has all the good flesh qualities that are desirable, is the *Yellow Onion*, or the *Silver-skin* of New England, a cut of which is here given. Its size is above medium, skin yellowish brown, or copper-color. Flesh white, fine-grained and excellent. It keeps well, and for the vegetable garden, as well as for field culture, is a standard variety.



Our principal suggestions are, to *sow as early as possible*, and mingle *wood ashes leached, or unleached, with and upon the soil*. The principal hindrance to onion-growing is the ravages made by the onion-worm. Nothing has yet been discovered which is a perfect preventive. One experienced grower states that the common *yellow snuff* mingled with the seed at the time of sowing will do it, and others that wood ashes scattered upon the young plants will stop the operations of the maggot. We believe, however, that the Danvers growers have not yet found any certain remedy for the inroads of this little destructive creature.

Cows in milk require more food in proportion to their size and weight, than either oxen or young cattle. Cows eat less, however, thrive better, and give more milk, when housed all the time, than when exposed to the cold.

ROASTED LAMB AND GREEN PEAS.

Roasted lamb without green peas is as incongruous as roasted turkey or pork, without cranberry sauce. Still, there may be something in the custom, or in the name, more than there is in the reality. Either would be good, separately, to a hungry man,—the lamb as an occasional dish, and the peas as an every day one during their proper season.

Few things tend more to health, harmony and economy, than a plentiful supply of fresh, well-grown vegetables, fruits and salads, through all the spring and summer months, and among these *green peas* take a foremost place. Boiled with a piece of sweet, corn-fed pork, or without the pork, and seasoned with butter, they serve for an excellent meal, even without the roasted lamb, if aided by good bread and butter, or an apple or Indian pudding. With such vegetables, the butcher's bill may be kept within moderate limits, the table always supplied with nutritious and healthful food, and the family gathered around the social board, be cheerful and happy. The *moral* influences of green peas, are by no means to be overlooked. In connection with other seasonable and wholesome diet, they have undoubtedly given a good bias to thousands, which has gone along through life with them to the end. Let us have, then, the *green peas*, lamb or no lamb, and have them early, and enough of them to fill the plate of every hungry boy and girl, whether they come romping from school, field or forest!

What variety shall we plant first? The *Early Dan O'Rourke*, of course.

Just as soon as the frost has left the ground, and the tempering suns of April have evaporated the superabundant moisture, prepare a place in some sheltered spot, if you can, and plant. Make the ground mellow, moderately rich, open trenches and strew in a little wood ashes or old composted manure, sow the peas upon it, and cover them *three* inches deep. If it is still more, no matter. Now take birch, or any other brush and stick them. The sticks should be branchy, and branching along the rows, rather than into the paths, and their length should be according to the variety of pea planted,—as some kinds like to run much farther than others. If preferred, the sticking may be omitted till the peas come up.

No weeds should be allowed to grow among them. As they progress, they require frequent hoeing, and the earth should be drawn about the stems a little each time. If the season is a dry one, straw, hay, or any litter spread about the plants will keep the ground moist, and greatly increase the amount of crop, and extend the time of bearing one or two weeks.

They should be planted pretty thickly. Bridg-

man says one quart will plant from one hundred and fifty to two hundred feet of row, allowing the largest kinds to average one inch apart, and the smallest two peas to the inch. Deep covering is essential, as they will then root low in the ground and better withstand drought, should it occur.

The next best pea is the *Champion of England*, and a splendid pea it is, following on after the Dan O'Rourke. In cultivating, treat it the same as the first described. It is a large, light green, shrivelled pea, mild in flavor, rich, sugary and tender. It is a good grower and continues to bear well under good care and in a moderately rich soil.

ON BUTTER MAKING.—The attention of the reader—and especially of every man or woman engaged in making butter—is called to an article on another page, entitled "*Butter Making not a Mystery.*" We know, from a long experience, that the opinions advanced by the writer are correct. If his suggestions were followed by all, there would be little difficulty in producing good butter at any season of the year. The proportion now of miserable butter, is fearfully large, and the loss to our farmers is consequently large,—for they cannot command a high price for poor butter. We have no doubt that the reading of the article referred to will result in the production of many tons of excellent butter.

For the New England Farmer.

SHALL WE PRODUCE OUR OWN SWEETENING?

Does not this question awaken serious consideration at this time in the mind of every reflecting farmer, who feels most seriously in his pocket (if no where else) that *sweetening* is very expensive, and that behooves him to decide the question with greater care than heretofore, whether the substitutes for its production, which a few years since were discussed, and to a very limited extent experimented with, may not anon be resorted to with good prospect of success?

At a convention recently held at Columbus, Ohio, of *sorgho* cultivators it was the prevailing opinion of the members that it would soon rank among the important interests of the country; that its permanency will not depend upon the question of peace or war with the South. In short, that the most active competition of Southern cane will not seriously affect the culture of *sorgho* as the North. It is a well established fact that in many sections of the Western States for a number of years past the farmers have raised sufficient *sorgho* to supply themselves with syrup, while others have had a surplus to sell! Some have even converted it into sugar, as they thought, at paying cost.

In the manufacture of the *sorgho* into syrup and sugar, each producer of the cane is not expected to own the machinery requisite for the purpose, but some one makes it a speciality to work up the cane in his vicinity on shares or by purchase. So far as I am acquainted it is gener-

ally done on shares, the manufacturer retaining one-half for his trouble and expense. As to the reliance to be placed upon the production of this plant. I found most of those I inquired of respecting it were of the opinion that it was upon a par with Indian corn, subject to no greater vicissitudes, and requiring no better soil or greater care. The early frosts of the past season throughout the West cut off the sorgho as well as the corn crop. This is an evil not to be looked for as liable to occur in the future, any more than it has in the past. As to the *quality* of the syrup. I think when properly manufactured it equals most of the syrups made from the sugar cane. At first using it some might not like it, but use soon overcomes this, and would it not be well for you, Mr. Editor, to gather and publish some of the necessary facts bearing upon this subject that the past year's experience have demonstrated? By doing this very many of your readers would be truly gratified, I have no doubt. It would enable them to decide whether it would answer for them to attempt its culture. I am persuaded that if it *paid* when prices of sugar and molasses were selling for one-third the present prices, and the tariff very much less, the manufacture of sorgho must now be a very profitable operation.

A price current by my side quotes brown sugar, at wholesale in New York, last week, at 11¼ a 15½ cents per lb., and loaf at 17 cents per lb.—molasses at 45 a 70 cents per gallon, according to quality. These prices are enormous, and of course fifty per cent. higher than the specie basis; still, making all due allowance for the inflation of the currency and the present high price of labor, the margin for a profit is still large. We are not, however, confined to sorgho exclusively for an article to obtain our sweetening from, neither am I fully satisfied that it should hold the most important place in this respect with us in the Northern States, where our soil must be well manured in order to produce whatever crop we desire to cultivate. The leaves alone of the sorgho are of any value for stock, if the plant is matured sufficiently for sugar and syrup. Not so the beet. From this root, which will grow well on most any soil, we can not only extract the saccharine properties and distil alcohol, but the refuse, or pomace, is of about as much value for feeding stock as before the still has operated upon it. In France, we all know, the beet has been fostered by the government until it has become so well established that it is regarded as one of the permanent products of the country from which it obtains a large portion of its sweetening, and derives a large revenue. A few years since a company was organized in England for the manufacture of the beet into sugar, syrup and alcohol. They not only cultivate the beet extensively themselves, but encourage the cultivation by others, paying them remunerative prices, and doing a prosperous business. I think it has been found, by analysis, that beets grown in our soil and *climate* are better than those grown in Europe, abounding in a greater per cent. of saccharine material. It seems to me that the advantages are all in our favor for producing our own sweetening.

K. O.

Rochester, Jan. 18, 1864.

For the New England Farmer.
DISEASES OF FARM STOCK.

Let any one talk with most farmers about the diseases that occur among their cattle, horses and hogs, and he will be surprised at the vague and indefinite notions they express. They have certain general terms for groups of symptoms, which they observe. But they have no definite ideas with respect to the organs or tissues affected, or of the cause or nature of the affection, or the course it will run if left to itself, or the change which must be wrought by remedies in the system, or in the affected organ, in order to arrest the disease. They give remedies—and often harsh and violent remedies—without any definite ideas with respect to the effects which those remedies will produce.

A cow is sick. She stands with her back curled up, her head drooping, her nose dry, her eyes dull, and taking no notice of anything around her, and refuses to eat. What is the matter? Her owner feels of her horns, and says they are cold, and he thinks she has the horn ail. Well, what is the horn ail? What action is taking place in the horns? Why, I don't know. Probably some inflammation and pain. But you say the horns are cold. If inflammation was going on within them, would they not be hot rather than cold? Yes, I should think so; but I don't know. She acts as neighbor A's did, and she had the horn ail. So he bores a hole in the horn, cuts off the end of her tail, rubs some spirits of turpentine upon the roots of her horns, and gives her a drench of thoroughwort tea, with a quantity of rum, molasses and melted lard added to it. Now the gimlet wounds the bony tissue within the horn and lets in the air, and inflammation ensues, just as it would if a gimlet were thrust into the bone of the leg. The cutting off the tail causes soreness and pain in that organ, so essential to the comfort of the animal. The turpentine causes smarting and inflammation of the skin about the top of the head, and the drench sickens the poor beast, and she dies. Well, I am sorry, but it can't be helped; cattle are apt to die of horn ail. So she is dragged away to some by-place and buried. No examination is made to find out what is really the matter; even the horns are not cut open to find out whether inflammation was present there. The lungs, the heart, the different stomachs, the intestines, the kidneys, are not searched to find the seat of the disease. But, says the owner, if I should cut up the animal I could not tell what was diseased and what not so. Then get some physician or farrier or some butcher to assist you who is familiar with the appearance of the tissues in health. But most farmers, especially if they have been in the habit of having their animals slaughtered upon their own premises, can tell the difference between diseased and healthy organs, even if they cannot tell the precise nature of the disease. If a lung is inflamed, enlarged or hardened, they can distinguish it from one in a natural state. Every man who has the care of animals ought to be able to do as much as this; if he is conscious that he cannot, he should go to the nearest slaughter house and make himself familiar with the size, consistence and general appearance of the healthy organs.

It is by the dissection of the bodies of those who have died of disease, and by comparing these

IN fruits, a pleasant sour is generally thought better than sweet; in disposition and temper never.

with the appearance of those in health, that physicians have acquired all the really valuable knowledge of disease that they possess. This knowledge they have acquired under many difficulties. There has always existed a prejudice against the use of dead bodies for anatomical purposes. There is something revolting about it to the feelings of most people. So strong has this feeling been, that many eminent medical men have directed in their wills that their own bodies should be dissected, in order that their own example might tend to remove it from the public mind. It was with great difficulty that a sufficient number of subjects could be obtained for the use of medical students, until enlightened legislation removed the obstacles. But none of these difficulties exist with respect to the dissection of the bodies of animals. There are no prejudices in the public mind to be overcome. Certainly it is for the interest of every farmer, as well as of the public in general, that the bodies of animals that die of disease, should be examined, that the seat and nature of the disease may be ascertained. A farmer who has carefully watched the symptoms exhibited by a sick animal, and then, after its death, traced carefully the effects produced by disease on one or several organs, will be better prepared, when he observes similar symptoms in another case, to decide what the disease is. A knowledge of the seat and nature of disease is the only safe basis for the application of remedies. The haphazard, promiscuous use of remedies now so much practiced, is much worse than nothing. There can be no doubt that thousands of sick animals would have recovered if they had been let alone, and the sufferings, which they were enduring from disease, had not been aggravated by violent and inappropriate remedies. Now that Pleuro-Pneumonia is among us it becomes doubly important that every animal which dies or is killed, about whose disease there is any doubt, should be examined, for it is only by an early knowledge of the existence of this disease in a neighborhood, that our herds can be guarded against its destructive contagion. When a farmer knows or suspects the presence of this disease in his herd, if he is an honest man, he will isolate his whole stock at once, that the cattle of his neighbors may not be exposed; and if he regards his own interest, he will abstain from bringing other cattle on to his own premises. Let me illustrate what I have said by an instance; I have a neighbor, who lost a cow last September; he did not know what was the matter with her, but called it the horn ail. He buried her without any examination. Since that he has bought a large number of cattle at Brighton, and is wintering them to turn into his pasture in the spring. He has recently lost one ox, and now has at least four others sick; and there is not the shadow of a doubt that the disease is the true Pleuro-Pneumonia, and from comparing the symptoms, which the cow exhibited last September, with those presented by the oxen at the present time, he has no doubt that the cow had the same disease. Now if he had examined the cow, and ascertained the nature of her disease, would he have bought some twenty oxen within a few weeks, and brought them into his herd? He certainly would have had too much regard for his own interest to run any such risk. There may be some unbelievers in the contagious

nature of this disease stupid enough to do it, as there may be some reckless and wicked enough to purchase herds that have been exposed to the contagion, if they can get them cheap, and sell them in the public market. But I have too much confidence in the shrewdness and honesty of Yankee farmers to believe that many of them, if they had been forewarned by the proofs that would have been presented on the examination of this cow, would have brought other cattle on to their premises during the present winter. They would have preferred to sell their hay and purchase manure for the coming season.

R.

For the New England Farmer.

BUTTER-MAKING NOT A MYSTERY.

MR. EDITOR:—"How do you make such nice, sweet butter in winter?" is a question often asked by my customers, as I carry them their usual allowance of fresh butter for the week. Sometimes I answer, "I will tell you when you go to farming."

For me, it seems a very simple thing to make butter that is good and uniform through the whole year. But, were it simple to all, butter would hardly command the present high prices.

Some one asked, through your columns not long since, how to make good butter in winter. I would answer, "Make it just as it should be made in summer." Yet as you may not think that a very definite explanation of the process, I will tell you how good butter can be made in summer.

A butter dealer said to me, the other day, that were he engaging a dairy for the season, he only wished to see a sample of the August or dog-day butter. If that were satisfactory, he would take his chance with the other two ends of the season.

There are about five or six weeks in spring and fall when, I suppose, every farmer's wife can make a fair article of butter. It will almost "make itself," with good June or September feed, in a clear, dry, June or September atmosphere, with the mercury indicating an average of 60°.

What else causes butter made in June, September and a part of October, to bring better prices than that made at any other time of the year? But for the dairy to yield a generous profit through the whole year, a fair article must proceed therefrom every week. Everybody cannot be supplied through dog-days with June butter; nor can every family have their tubs for winter filled in September.

Now if you can bring the dairy under the same conditions in August or December, that prevail in June and September, why should you not realize the same results? Doubtless you would. But this it seems impossible, at present, fully to do. Yet I think the secret of success in butter-making is to bring about these conditions as nearly as may be.

In the first place, you must, of course, have good cows. Some cows will make a large amount of high colored butter, but it is too soft to handle well in any weather, especially when very warm; others yield an article too white to be attractive, though I consider color of much less importance than solidity. As far as my observation has extended, very yellow butter is not as good as that which is lighter colored. It is apt to be oily, caused, I think, first, by being naturally soft, and

second, by the consequent over-working it usually receives; the buttermilk being less readily expelled from soft butter.

Good cows obtained, the next requisite is good feed. And what can be better than June honey-suckle "up to the eyes," or clover aftermath in September? Probably nothing. I prefer, however, as a matter of health, to give a feeding of dry hay every day through the season. I can thus keep them more uniformly, and not subject them to sudden changes from green to dry food.

But what for feed the remainder of the year? Why, get the next best thing—which is the same, cut and cured, for feeding in the stall. During the third week of last June I cut four or five acres of clover and red-top, the clover just coming into flower, the red-top showing its flower stalk. Sixty days after, I cut the same field again. This winter, the cows, to which both lots are fed, seem to know no difference between the first and second crop. It is all rowen to them. I am fully of the opinion that very little of the hay in New England is cut as early as it should be. For dairy cows, I would prefer it all cut before blossoming, rather than after.

A large butter dealer and a good judge, tells me that he has known his mother to make just as good and just as yellow butter in winter, while her cow was being fed solely on rowen, as she could ever make in summer, from the same animal. I think he came very near the truth.

But to supply yourself with a stock of *June atmosphere*, in which to set your milk and do your churning, through dog-days, is not so easy a thing as to cut your hay early and afterward a crop of rowen. The thermometer does not usually stand at 66° from July to Sept. 1st, nor do you generally have a clear, dry air at that season.

Hence I do not expect you can make your best butter, or that which will keep longest, during this period, unless you can secure these two requisite conditions, viz., moderate temperature and dryness of the atmosphere. But the nearer you can contrive to approach these conditions the better your success.

I keep my milk, during the extreme hot weather, in my house cellar, a large, light, airy room, clear of all boards and wooden utensils not used for milk; the whole room thoroughly whitewashed. The windows—a north, south and west one—are open or shut, darkened or not, just as may be needed to keep the air of the room as pure, as dry, and at the same time as cool as it can be under the circumstances. I consider a damp atmosphere worse than a very warm one for milk. It makes the cream thin and watery, requiring much more care and a longer time in churning.

I need not say that I do, or that you should, set your milk in the pans two or three inches in depth, and skim it up at twenty-four or thirty-six hours old, putting the cream in a tin pail or stone jar, stirring it occasionally; for that almost all dairymen and women do. But when I say you should never commence a churning unless your cream is known to be at a temperature not any below 60° nor higher than three or four above that point, I cannot, at the same time, say everybody does that, for I do not know of one dairyman or woman, except through the books, who is exact in this respect.

warm it will come too quickly, be soft and white, and not pleasant stuff to manage, and if too cold it will swell and foam, and not come at all—one some one asserting that "it did almost come, but went back to cream again." One dairyman, who usually has good luck, told me this winter, that he churned all one day and then gave his cream over to the pigs, only wishing he had done it sooner.

Up to last April I occasionally, and not very unfrequently, had just such "luck." Since that time I have used a common fifty cent thermometer—selecting one that would slide easily in the case, or that I could dip the bulb into the cream without the case.

When I have gathered a sufficient quantity of cream I try it by the thermometer, and if the temperature be from 60° to 64°, I churn it immediately. If not within those limits, I bring it there, by some means, before it goes into the churn. I keep my cream in a large tin pail that can be hung in the well the night before churning—not *in* the water, but just far enough down to have the cream at 60°, when churning is commenced. Placing it *in* the water makes it too cold: and cold cream is addicted to the same freaks in summer as in winter.

In Spring and Fall 62° does well; in winter, 64°; but in summer the temperature will rise rapidly enough if you commence at 60°. I never want butter to reach a higher temperature than 66° at the time it separates from the buttermilk.

Following this method, I have not had the shadow of a failure for ten months. My summer and winter butter have come about equally well, varying from fifteen to forty-five minutes, according to the ripeness of the cream. I think it does no harm to run a bucket of cold water through the churn after the milk is drawn off. If the butter is a little too soft, as it almost always will be in summer, it does much good by hardening it before salting. My butter is taken from the churn to a butter worker, like the small, simple one figured in Flint's work on Dairy Farming—a book, by the way, that every man or woman who expects ever to make a hundred pounds of butter should read through twice, as a preliminary step. In this worker the butter is salted, then returned to the well for twelve hours, after which it is thoroughly worked. And here I find a great advantage in the worker over the hands. If butter a little too cold is worked in summer, by hand, it will grow much too warm before the buttermilk is expelled; while the worker will do it quickly, thoroughly, and without causing the oily taste so commonly found in hard-worked butter.

So much for summer butter. And now, to make good, sweet, yellow butter in winter, you have only to secure the same conditions that are best for making summer butter, namely, good cows, rich feed, a dry air in which to raise the cream, and a temperature as near 60° as it is possible to preserve. The latter condition is much more easily obtained in winter than in summer; for by artificial heat the air can be kept at the proper temperature in the milk-room without being made damp, while the same result cannot as readily be obtained in summer with ice, on account of the dampness accompanying it. Indeed, I believe more butter, and that of a good quality, can be made from a given number of quarts of milk, in winter, than can be through the warmest

Finally, in butter-making, as in ship-building, or surveying, strike the word "luck" from your vocabulary. Learn your trade. Learn the laws that govern your work and obey them. Be not outwitted by heat or cold, by wet or dry, but press them all into your service, and be master, not slave, of the fluid forces of nature.

Sheldonville, Feb. 12, 1864.

A. W. C.

For the New England Farmer.

MORE ACCURATE FARMING NEEDED.

At the close of the year it is generally customary with business men to scrutinize their business affairs, strike the balance between profit and loss, and if the former is in excess exult over the result, and with renewed confidence enter upon the new year's duties. But if the latter, a careful investigation of its causes ensues, irresponsible customers are dropt, new ones sought, all needless expenses stopt, more devoted attention to their duties required of their employees, and greater diligence in attending to all the details of their affairs, that the like may not occur again so far as their agency is concerned.

This course of conduct is ever regarded as highly commendable in all men in mercantile pursuits. If this is so in reference to them, how much more so it is necessary for the farmer! Our New England farmers generally do a comparatively small business; the profits of their products are also small, even at the best prices, and often barely pay the expenses of producing. This is so often the case that many farmers in our poorest districts positively affirm that no man can afford to hire labor. If their health fails them, and no sons to succeed them and go the rounds of drudging toil as they and those who have preceded them have done, why the farm must be sold,—and the paternal associations forever severed, that had been fostered with the fond hope that they might be perpetuated through a long line of sires and sons. This fact of selling because disqualified from vigorous labor is abundantly evidenced by the numerous advertisements we see in the newspapers. This is the class of farmers who contend that farming with us is unprofitable. It does not pay, they verily believe. We yield to the allegation so far as they are concerned, but must contend that it is not necessarily so with good, skilful management, for various reasons. How many of these men keep as exact an account of their business matters as the merchant does? What do they know of the cost of their several crops, the profit of their pigs, poultry, or other farm stock? I will venture they know comparatively nothing. It is with them all guess work, with not the least approach to accuracy. If men are employed, they cannot, with any degree of certainty, tell whether they were the gainers or losers by the outlay.

Contrast this picture of real and too common facts, with an individual case I am familiar with, and see which commends itself to the candid, discerning mind. The case I refer to was that of a young man who commenced farming at twenty-one years of age. When he purchased his farm he had each lot surveyed, numbered and marked; a regular entry of each lot made in his books; each lot was debited with every day's work, or fraction of a day, done upon it, as well as all other expense thereon. Nothing was omitted in this respect. Credits from crops on pasturage were

faithfully kept, and at the end of the year the balance was struck and the result with a certainty, known. If any lot did not come up to a paying point, or a handsome profit, that lot was taken in hand until that was the result. I may as well here state that each lot was appraised according to its relative value with the other positions of the farm, and interest charged according to appraisal. This man employed three and four men on a small place of eighty-five acres, and could tell almost to a certainty, on Sunday morning, what would be the progress of the week's operations. He could tell you at the end of a year what per cent. profit his laborers netted him. No guess work with him. His balance sheet was struck, and the new year was entered upon with the confident assurance that he *knew* just what he was about. His year's plans were all matured and mapped out at the beginning of the year, and the force requisite to carry them out secured beyond contingency, so far as depends on mortal care.

Who cannot see in this example, in contrast with the previous described one, an enviable difference, and a most decisive reason why the systematic, carefully-calculating, and account-keeping man, should succeed, and the others fail? I know of a young man, the past season, who moved into a neighborhood of farmers, where, for years, they had plodded on in the same rut their fathers were, without a thought of change or improvement upon the past. He leased a small farm that had, what was regarded then, as a full supply of manure for all ordinary purposes; not so thought our man. He purchased nearly as much more in value as was upon the farm, to the astonishment of the lookers-on, who predicted a coming out at the little end of the horn.

The result of it is, our young man has made two dollars to their one, they all concede; not that this is owing to the increased quantity of manure entirely, but the mind that seizes hold of an advantage of this kind is ever ready to act in all other details of farm management to great advantage. If from any cause one crop fails, another and later one appears to take its place, and it may be, pay better than the first, had it succeeded.

The fact is, we should not find the question so often discussed in our agricultural papers as to the profitableness or unprofitableness of farming, if our farmers would bring the same amount of business brains to bear upon their business, that the merchant or manufacturer does upon his. It is the *habits of the men* that ensure success or failure. In my opinion, here lies the whole secret. How can a man succeed if he has a farm of large extent and does not know how to work men to profit? His own labor is insufficient for the task, if he attempts it. Things soon get dilapidated and go to decay. He cannot but *make shifts* that eventually result in debt, despondency and final ruin of his prospects.

I have prolonged this subject beyond my intention. It is an expansive theme, that requires an abler pen than mine to exhaust, or perfectly elucidate. I trust we may all profit by the hints here thrown out, and commence this new year's farm operations upon a more systematic account keeping plan and forethought than any that have preceded it, with the full assurance that our profit will be found therein.

K. O.

Rochester, Jan. 1, 1864.

EXTRACTS AND REPLIES.

Culture of White Beans.

I would like to inquire of you or your correspondents what success may be expected in raising white beans as an entire crop? Are they any more likely to blast when planted alone, than when planted with corn? How many bushels may be expected from an acre of land, suitable for a crop of corn? Four years ago I raised twelve bushels on less than one acre, by planting them between my corn at an equal distance from each hill. The corn was planted at the usual distance apart, but only two or three stalks came up in a hill, owing to guano put in the hill. G.

Westboro', Feb., 1864.

REMARKS.—This crop has been considerably neglected by our farmers, and we are glad to find attention directed to it. We look upon it as a profitable crop when judiciously conducted. There is no good reason why they should not be cultivated as an entire crop, and several why they should *not* be crowded in with corn. We have just been looking over the transactions of the Little Falls Farmers' Club, and find the following, by Mr. A. WILCOX, a member of the club:

"Alternate hills of corn and beans were dropt about twenty inches apart, in rows; distance between the rows three and one-half feet. The ordinary cultivator was used before hilling and hoeing. Two acres produced thirty-five bushels, while there was no perceptible difference in the yield of the corn from the rest of the field. The next year I raised 115 bushels from a little less than seven acres, managed in the same way. The seed planted was of the small, white variety. I have raised more than thirty bushels of the same kind, on a single acre, when sown in drills, about two feet between the rows, *without the corn*. The quantity of seed required to the acre, when beans is to be the only crop, should be from twenty-eight to thirty-two quarts; when planted with corn, sixteen to eighteen quarts per acre. Any soil that is well adapted to corn will produce beans, if the tillage is thorough. When convenient, plant on land where corn or potatoes grew the year before."

Beans are cultivated as an entire crop by some of our friends, and with good success. Sixteen to twenty-five bushels per acre is considered a good yield, from good land and good care.

Salting Hay and Stock.

In the *Farmer* of February 13, I find the matter of Salting Hay discussed by your able correspondent, "More Anon," who, no doubt tells the experience of nearly all who salt their hay. Most of the farmers in this part of Vermont salt their hay more or less, but do so more to preserve the hay than to make the stock eat it better. As stock will not eat as much salt in winter as in summer, I think that as much salt as some of the writers in the *Farmer* put upon their hay, would be more than the stock would naturally eat. I have lately used the rock or mineral salt, as our dealers call it, which comes in large pieces, one or more of which I put in the racks or feeding boxes of my cattle and sheep, where they can lick from them at will. I think in that way they get what salt they need much better than mixed with their fodder. My sheep seem to enjoy this method of salting better than any other. I give my sheep a foddering of hemlock boughs once or twice a week, which, with a daily meal of sliced turnips, serves to keep them in health and gives them a better appetite for their other food. J. L.

St. Johnsbury.

Sheep Pulling and Eating Wool.

I have a flock of about 30 native breed sheep, and they pull and eat each other's wool, eating one-third part of the wool off of some sheep. One has died of cold for want of its natural covering. I have given

them salt, wood ashes, earth, hemlock boughs, sulphur and tar, and they seem to do no good, and I would inquire through the medium of your excellent paper, if you, or others, know a remedy for this complaint? I give my sheep an average quality of hay and two quarts of corn daily. By giving a remedy in your paper as soon as possible, you will much oblige an inquiring

FARMER.

Bristol, N. H., Feb., 1864.

REMARKS.—The habit which sheep form of pulling wool from each other, and eating it, is probably induced by some want that is not supplied, or by some disease which has not yet been discovered. We have had considerable personal experience in sheep husbandry, but have never seen a flock where this mania prevailed. We are glad to publish this notice of our correspondent, and hope some of the flock-masters who read this will throw light upon the matter.

A. Mr. Lewis Clark, in the *Wisconsin Farmer*, says the best plan to keep the wool on sheep is to keep them *fat*, and that if sheep are "run down" from any cause, and are fed high at once, their wool will start. Even a change of pasturage, from a poor to a Timothy and clover pasture, will start the wool from a lean sheep. But the feeding of corn, beans, wheat rye, barley, oats, vegetables, or anything that sheep will eat that makes *fat*, avoiding sudden changes, will not only cause the wool to stick, but will increase it more than enough to pay the additional cost. Our correspondent's sheep seem to be fed and cared for well.

Manure for Early Vegetables.

Will you, or some of your numerous correspondents inform me what kind of manure is best to promote the early growth of corn and garden vegetables? Early growth being of the greatest importance. The soil is a rich, fine, sandy loam, bordering somewhat on the quicksand. Location, Burlington, Vt.

The land has been in pasturage for several years, until last spring, when it was plowed and corn planted on the sod, with no manure, except a small quantity of plaster in each hill. I had a good crop.

Burlington, Vt., 1864.

INQUIRER.

REMARKS.—Manure from the horse stables is undoubtedly the best for such a special purposes. If the soil is somewhat sandy, some means should be provided to keep it sufficiently moist, as the horse manure is too heating for a decidedly sandy soil. A little guano, superphosphate of lime, or some other specific manure would stimulate an early growth. Wood ashes is excellent to carry out the plants.

SPRUNG KNEES IN THE HORSE.—The trouble does not always result from an injury of the leg, or strain of the tendons; it is more often found in horses that have bad corns in the feet, or troubled with navicular disease, than any other. The animal raising his heels to prevent pressure upon the tender parts bends the knee, which bending becomes finally, from the altered position of the limb, a permanent deformity. Horses with sprung knees are unsafe for saddle purposes, owing to their consequent liability to stumble. Respecting the treatment, it may be said that six out of every ten sprung-kneed horses will be found to have corns. If these be of recent growth, there is a fair prospect of straightening the limbs by removing the corns as directed under the head of that disease; by the removing of these the heels are brought to the ground, and the limb becomes straight. Under any other circumstances all treatment proves useless.—*Jennings on the Horse*.

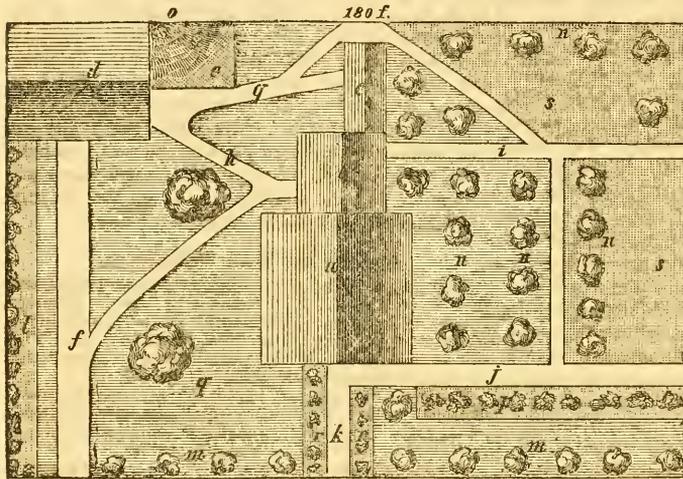
OUR HOUSES AND GROUNDS ABOUT THEM.

The first grand requisite in this mortal existence is a *good conscience*. Without this, all is "vanity and vexation" of spirit,—for a viper is constantly gnawing at the very fountain of life. The next thing is *good health*,—though some say that uninterrupted health is not desirable. If we had ever enjoyed the latter for five consecutive years, we could judge better. When we do, our opinion shall not be withheld.

Having then, the conscience and the health,—the next important thing to our convenience and happiness is the *house in which we live, and the things which surround it*. Parental example and

instruction must establish the first, but the latter, the *house and its surroundings*, will so thoroughly map themselves upon the minds of children that no influences of after life will be able to efface them. This map will reproduce pleasant scenes and memories, that will make the heart cheerful and elastic, or they will be scenes and utterances from which will spring a morbid spirit full of murmurings and discontent.

How important, then, it is, that every thing that is to fill and mould the young mind shall be of an agreeable and instructive character. Let us see how much we are doing, in this direction, to secure this result. The cut which we present below is the



REFERENCES.

- a. House.
- b. Kitchen.
- c. Woodshed.
- d. Barn.
- e. Pig-sty.
- f. Main Carriage Road.
- g. Path from Shed to Barn.
- h. Path from the Kitchen to Barn.
- i. Path from Kitchen to Garden.
- j. Path from the front door to Garden.
- k. Path to Front Door.
- l. Border of Currant Bushes.
- m. Dilapidated elms in front.
- n. Rows of Apple Trees.
- o. Manure Heap.
- p. Gooseberry Border.
- q. Grass.
- r. Flower Border.

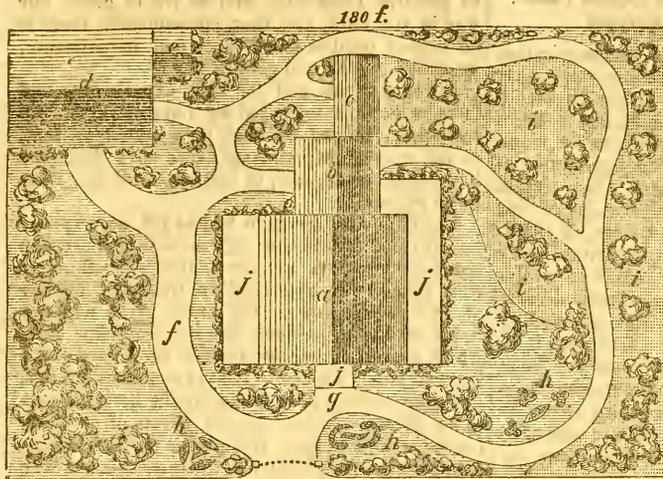
Village Homestead as it is--Unimproved.

This engraving represents one of the hundreds of homesteads in New England of about the same size and shape, or only slightly differing, and must be familiar to all. The land is half an acre in size, on which is a house forty feet square, with L and wood-shed. There is also a barn, 40 X 30; at one corner of the barn, o, is a pile of manure exposed to the washing and beating of wind and rain; this pile is surrounded by the hog-pen, whose squealing inhabitants are plainly perceivable by all.

The buildings are all more or less painted; probably white in front, and bright red on the back and sides; in some cases there are blinds, but in more none. Every path is straight, and if it is inconvenient to go around the corners, another path is worn across the grass. F, is the road up to the barn; this road is shut from the main street, by either a pair of bars, or a three-barred gate generally halting on one hinge. K, is the path to the front door, which also is closed by a gate, commonly composed of pickets, one or more of which are askew, or broken out. H, g, i,

and j, are paths through the garden and grass, to and from the house and barn; in every case it is necessary to go around a long and awkward corner, or cross grass or plowed land. M, is a row of half-starved elms from the woods, or, perhaps, of overgrown and neglected apple trees. S, represents the tillage by dotted lines. Q, grass, by straight lines. At n, n, there are fruit trees, all of which indicate the absence of horticultural skill. On the west side is a long picket fence, out of which many slats have been lost, thus accommodating the neighbor's or the proprietor's pigs and hens in their friendly visits. Against the fence on the west, north, and east, there may be a row of moss-covered currant, raspberry or gooseberry bushes. On either side of the front walk, k, are two borders, r, r, for flowers, which in some cases will have a few stunted roses and pinks, and a few roots of phlox or other perennials. The border, p, is filled with some berry fruit, and the tilled surface more or less covered with fruits, vegetables, and most of all, weeds!

Now let us look at the other side, the



Village Homestead as it should be---Improved.

REFERENCES.

- f. Main Carriage Road.
- g. Path to Front Door.
- h. Flower Beds.
- i. Kitchen Garden.
- j. Verandahs.
- a. House.
- b. Kitchen.
- c. Woodshed.
- d. Barn and Cellar.
- e. Pig-sty.

How the scene is changed! How pleasantly it strikes us, and at once fills us with agreeable emotions! We love to linger near it, and contemplate the forms of beauty which everywhere meet the eye, and listen to the cheerful sounds that mingle in the perfumed air. Everything conspires to fill the mind with grateful feelings, and to impress upon it such a charming landscape view and harmony of sounds, as will come back in pleasant memories in all after life, whatever our employment may be, or wherever in the wide world our lot may be cast.

As will be seen by this sketch, the curved road, *f*, does away with the necessity of going to the barn to get into the carriage, or to roll a barrel of flour across the grass to get it into the house. So, too, the paths through the garden all bend in such a manner as to offer the readiest means for exit and entrance, without leaving sharp corners to be cut across. The flower-beds, *h*, offer a pleasing object to the eye, and the porch and verandahs added to the house, *j*, afford a cool promenade morning, evening and mid-day, and screen the windows from the hot sun, and when festooned with vines furnish more beauty than any other possible ornament. Flower beds, *h*, are cut out of the grass, and should be kept well filled with flowers.

Finally, neatness, order and beauty, outside, indicate neatness within. A beautiful writer says, "The care of flowers and cultivation of plants, do not merely contribute to the maintenance of health, they soften the passions and elevate the taste above the affairs of every day life. In the home around which we see a well-kept garden, internal order almost always prevails; and where there is a flower-stand outside, there is almost always a book-shelf within."

that whatever the business of the occupants may be, *more money will be made* under the influences of the neatness, order and beauty of the Improved Homestead, than there can be with the same business talent unimproved.

SOIL FOR FLOWERS.—Soil for flowers may be looked up during the winter season. Very few understand that an occasional change of soil is very beneficial to flowers in beds, though all know how important it is to flowers in pots. There is nothing better than surface soil from an old pasture, taken off about two inches deep, and thrown into a heap with about one-sixth part of old hot-bed dung, to partially decay. In addition to this "staple" item, a smaller quantity of different matters should be gathered together for peculiar cases, or particular plants. Peat, for instance, will be found very useful for many kinds of plants. This is not, as is often supposed, mere black sand; but a spongy, fibrous substance from the surface of bogs and boggy wastes. Sand should be collected sharp and clean; the washings from turnpike ditches are as good as anything. Leaf-mould is best got already well decayed from the woods. A load or so of well-decayed cow-manure is a good thing for the gardener to have by him, as all those plants that dislike our hot summers, and want a cool soil to grow in, prefer it to any other manure. A small pile of hot-bed manure is almost indispensable to a garden.—*Gardener's Monthly*.

FARMERS, BE ON YOUR GUARD!—The Pleuro-Pneumonia is among us still, without doubt. We advise every farmer to keep his cattle as closely as possible, as, by this caution, he may keep this pestilence from his stalls. We learn that it now exists in some twenty towns in this State.

A CORRESPONDENT of the Mark Lane *Express*, who highly extols the cabbage for feeding milch cows, store cattle, sheep and swine, and more especially for spring feeding of lambing ewes, says that the average product per acre in England

For the New England Farmer.

RETROSPECTIVE NOTES.

SALTING HAY.—In a previous communication upon this subject which appeared in the weekly *N. E. Farmer* of Nov. 7th, and in the December number of the Monthly, after noticing some of the various opinions and practices to be found among farmers in relation to the application of salt to hay, I proceeded to remark that certain articles which had appeared in the issues of this journal of Sept. 12th and Oct. 3d, were, of themselves, a sufficient specimen of the contradictory opinions which prevail as to the effect of applying salt to hay, and that, though these diverse opinions were often advocated with a *positiveness* which was *amusing* no less than surprising, it is, nevertheless, true that there is *no room for positiveness* as to *any* of the opinions, inasmuch as there is nothing *known with certainty* upon the subject. There have been no accurate observations or experiments sufficient to support *any one* of the various opinions, or strictly speaking, mere suppositions, which are found to be entertained upon this subject; none, at least, that have been reported to the public. It would, indeed, very obviously be a difficult matter to determine by experience or observations *of sufficient accuracy*, what are the effects upon hay of applying this or that quantity of salt to it, when mowed away or put into stack in a condition of more or less dampness, as also what are, or would be, the usual effects of applying this or that amount of salt to a ton or other quantity of hay upon the appetite, the thriving, the general health and good condition of animals fed, either regularly or occasionally, upon such hay.

When this difficulty of making any very accurate experiments or observations, such as we have named, is duly considered, it need not surprise any one that none such have been made, or, at least, that none such have been reported to the public. But whether it has been this difficulty or something else which has prevented our being in possession of any such facts as would be quite desirable in reference to the effect of the application of salt to hay in a rather too damp condition, the important fact remains that the public is not in possession of any knowledge as to the points named which can strictly be called *positive* knowledge, and towards carrying us out of the region of guess-work and uncertain opinion. But no one has ever, so far as we have been able to learn, made any such accurately conducted experiment; and of course we are still in the region of twilight or darkness which surrounds the region which has the benefit of the sun of positive knowledge. Without the facts or results which such experiments might furnish, we have no basis on which to build any valid belief or proposition upon the subject and there is nothing that can be done but to form suppositions, that is, in other words, opinions based on *probability*, not on positive knowledge. Accordingly, we have upon the subject of applying salt to hay quite a variety of opinions—suppositions which seem probable to those who have adopted them; but as there can be *no certainty* it is obvious that we very much need facts and experiments upon this subject.

Having shown that until we shall obtain accurately conducted experiments and facts that are reliable we must remain in our present destitution

of positive knowledge, and be left to grope our way in the dark, and that, consequently, there is an urgent need of such facts and experiments, we asked, "Who will give us any?"

In reply to this call for *such* experiments and facts as we then indicated we have as yet had no response. Indeed, we feel very confident that, as yet, no such experiments as we have described have been made, and, of course, there are none to be reported.

In saying that we have had as yet, no response to our call for accurate experiments and facts to the point, we have not overlooked a communication headed "Salting Hay" in the *N. E. Farmer* of Dec. 12th, in which the writer gives us a few items of his experience, but not anything from which we can gather any *positive knowledge* of the kind so much needed. His experiences are not, however, without some value, as the first one narrated shows some of the evil effects of applying too much salt to hay; though the writer has neglected to inform us *how much* was used in the case he mentions, and, of course, left us quite in the dark as to what would be "too much." His other case amounts to this, that he put a peck of salt, say 20 lbs., on a large load of northern clover which was in a state of decay here and there from being lodged, and which he put into a shed while yet the hay was only about half-dry. Afraid, probably, that a peck of salt, say 20 lbs., to a large load of clover, say 1500 lbs., or three-fourths of a ton, would be "too much" to be fed out continuously, he fed out only one foddering of it about twice a week, the craving for salt leading his stock to eat it up clean, butts, decayed portions and all; indeed, as he says, there was not 5 lbs. of the load not eaten. If the decayed portions of the lodged clover were eaten up for the sake of the salt we would question the policy of the proceeding on the same grounds on which we have often condemned the practice of putting brine on musty or otherwise injured hay for the purpose of making cattle eat what could be little short of poison for the sake of the salt left on it by the brine.

Finding myself near the end of my sheet in my former communication I briefly indicated the practice I had adopted, after more than thirty years of trying this and that mode of management as to salting hay and stock, as the only way my limits would allow of answering a natural curiosity of some of my readers. I had practiced putting salt upon all my hay—from about one quart and a half up to four quarts to a ton according to the dryness or dampness thereof—for several years, always having a boy or third hand to put a sprinkling of salt upon each forkful of hay as it was mowed away. At length the boy had better employment at schools and other nurseries of mind, and the difficulty of getting a third hand always at the busy time of haying, which seemed an absolute necessity for getting the salt *properly* distributed, (as putting the whole quantity of salt on at once after the whole was mowed away never seemed a *proper* way,) led me to consider what plan I should adopt next as a substitute for that one I had practiced while I had boys' help convenient. I had become pretty well satisfied that salt applied in the way described did very little, if anything, towards preventing heating, musting, &c., and I had continued it mainly because it was the most convenient way I had yet

thought of for supplying my stock with a little salt at every meal, as human beings prefer to have it. About ten or more years ago, and after having for a year or two employed frequent bringings of hay as I fed it out, as the substitute for applying salt to the hay as it was put into the mow, I met with a statement to the effect that Judge COLBURN had tried the plan of salting his stock in winter by salting their hay and that he had given it up, and adopted the plan of having salt always accessible to all his animals, so they could get it as often and in such quantity as instinct—the almost always unerring guide—should direct them. In the circumstances I should have adopted this method, upon trial at least, whether the proposer of it, or the farmer practicing it, were a judge or a clod-hopper. But knowing that Judge C. was well known in New England as a man of superior intelligence, I named him as the briefest and most effectual way, then at my command, to recommend that mode of managing.

Whether the writer of the article on "Salting Hay" in the issue of December 12th, in his little spiteful fling at my reference to Judge Colburn, has done himself any honor and whether such personalities should be admitted into a paper of this kind, I leave its readers to determine.

MORE ANON.

For the New England Farmer.

CHOPPING FEED FOR HORSES.

MR. EDITOR:—As your correspondent from "Lee, N. H.," suggests, in times like these, when everything edible for the support of the quadruped race (to say nothing of the biped) is so very high it is important to know how to feed animals the most economically. It has been said by writers, with some plausibility, that hay cut finer affords considerable more nutriment than when fed in its natural state. The philosophy of this they say is, that hay contains a large portion of woody substance, which, if only made soluble is nearly equal to starch, and is very nutritious. They say further, in support of their theory, that if hay is cut fine, it is better masticated, absorbs more saliva, and of course becomes more soluble in the animal's stomach.

Some writers say to make it still more nutritive and easy of digestion, it should be steamed, or wet with boiling water. But considerable depends, I think, upon the ripeness of the hay to be used; if it is quite ripe, more is gained by chopping; besides horses will eat hay much better. But if hay is early cut, and the juices remain in it, I can't conceive how much virtue is imparted by chopping. What is true of hay will, I think, hold good with straw, &c. After all, I am satisfied that one great secret in feeding horses is, that we feed *too much hay* when we feed meal and hay separately. Take a healthy, hearty horse, and he will eat just about all of the time, comparatively speaking, to our own detriment and the horse's also. I know whereof I speak, for I used to feed at least one-third more hay (not chopped) to my horse than I now feed, which, I am satisfied was not only a useless expenditure, but an *injury to the horse*. I would not be understood as saying that all feed more than is necessary—for there are some people so stingy that they will barely feed enough to keep their animals living skeletons—but refer to those, more particularly, that grain their horses, and

those that feed their animals about as much as they will eat. It is generally conceded that many horses, as a penalty for their owners continually stuffing them on hay, have become heavy and wind-broken.

When corn meal is used I think it very essential to wet it, especially when used in warm weather and in considerable quantities, as there is a good deal of heat in it, more particularly when made of northern corn.

After all, much depends upon circumstances, I believe, about the economy of chopping feed, such, for instance, as the quality of hay and the spare time, &c.; so one must use his own judgment in the matter. Some stable-keepers contend that a driving horse will wear longer fed upon uncut feed, from the fact that it lays lighter in the stomach, and hence the digestive organs become impaired later.

B. F. C.

Sanbornton, Bridge, N. H., 1864.

REMARKS.—We like the common sense views of our correspondent, and hope he will continue to write further upon this or any other subject.

For the New England Farmer.

WASH FOR FRUIT TREES.

DEAR SIR:—Much has been said on the subject of wash for fruit trees, but I think long experience is the best test. I have for twenty years used potash. When I purchased my place the trees were all eaten and covered by the bark scale and white scale; the ends of the limbs and small wood were completely covered. I used potash dissolved in water, one pound to four gallons of water. I put it on with an old broom for the trunk, and a large sponge on a rake-handle for the branches. I found that it not only killed both kinds of scales, but destroyed all of the patches of moss, and made the bark clean. I put the wash on in February or March, and then scrape off the loose bark soon after. I propose washing first, because it kills all the worms or insects in and under the bark, and loosens the bark that ought to come off; if you scrape first, many worms will fall to the ground and escape death. For young trees I use a weaker wash—a quarter of a pound to a pail or a gallon of water. This year I had a quantity of lamp oil that would not burn well, and I put four gallons of oil, ten gallons of water and ten pounds of potash together and made a soap of it. When I used it I put four quarts of it to a pail of water for my old trees, and four pints to a pail of water for my young trees. It has killed the scales and turned the moss all black, but does not injure the trees. I think it will be an improvement on my old way.

The idea that potash injures trees is ridiculous; I have used it for twenty years without the least injury. It should be put on early, before the trunk is tender by the running of the sap. As to pruning, the fall is decidedly the best time, when the bark is hard and no sap under the bark to make it peel or bruise when you step on it, or put your ladder on the branches—as is often done in spring or summer pruning. S. A. SHURTLEFF.

REMARKS.—In the careful and guarded manner in which Dr. SHURTLEFF uses potash, we confess that there is little or no danger to trees. But

most persons are not so careful, and sometimes destroy the labor of many years by the rash use of potash. We knew an orchard of a hundred trees *destroyed in less than one week* by the use of potash water, one pound to a gallon of water! Potash is an alkali in a very concentrated form, and must always be used with care. Through the indiscreet teachings of some who have gone before us, we have no doubt but thousands of apple trees have been greatly injured or utterly ruined by the use of potash in a too concentrated form. The reader will observe how exact our correspondent is in the quantities he employs.

REMEDY FOR "GRUB IN THE HEAD" OF SHEEP.

MR. EDITOR:—Having noticed an article in the September number of the *Farmer* on worms in the head of sheep, and their treatment, and as I have had quite an experience for twenty or thirty years in the Eastern States upon said treatment, I thought I might, perhaps, confer a favor on wool growers by giving my mode to the public. It is natural for the sheep fly to propagate its species by depositing its larvæ in the nostrils of sheep at what is called the "bridge of the nose." As the weather begins to moderate towards spring, they become a maggot, or grub, and seek to crawl about. If the spring should turn out to be late, so as to prevent their seeking the open air, they will follow up the outside cavity of the skull to the brain, and thus destroy the sheep.

About the first of March, make a mixture of one quart of tar, one pint of spirits of turpentine, one pint of linseed oil: simmer well, and when cool mix two ounces of black pepper ground fine. Make a small swab by winding tow or flax on a small, tough stick, dip it in the mixture and gently slip it up the nostril to the bridge of the nose. Go through the flock in this manner. If on the barn floor, you will find grubs there in a little while. The turpentine kills, the oil loosens, the pepper makes the sheep sneeze them out, tar is healing. I never knew a sheep to die of grub in the head after being treated as above, that season.

Preventive.—Take the above mixture without the pepper, and go through the flock as above in October, or prior to putting them into winter quarters, as it will destroy all the parasites, and the sheep will do well through the winter.

Truly yours,
—Wisconsin Farmer. GILBERT ALLARD.

COAL ASHES ON GRASS.—I have experimented with coal ashes and find them well worth applying, although it is doubtful whether they will pay for a long cartage. I staked out a piece in an old meadow and spread coal ashes on quite thick, early in spring. The influence was quite as apparent as a coat of manure or of plaster would have been. It started clover, and the grass was much higher and thicker. There is in most coal ashes from stoves, a small quantity of wood ashes, but not enough to account for the effect produced on my meadow. I agree with you that it is better to spread coal ashes on the soil than

THE MUSKRAT.

When our river overflows its banks in the spring, the wind from the meadows is laden with a strong scent of musk, and by its freshness advertises me of an unexplored wildness. Those backwoods are not far off then. I am affected by the sight of the cabins of the muskrat, made of mud and grass, and raised three or four feet along the river, as when I read of the barrows of Asia. The muskrat is the beaver of the settled States. Their number has even increased within a few years in this vicinity. Among the rivers which empty into the Merrimack, the Concord is known to the boatmen as a dead stream. The Indians are said to have called it Musketaquid, or Prairie river. Its current being much more sluggish, and its water more muddy than the rest, it abounds more in fish and game of every kind. According to the history of the town, "The fur trade was here once very important. As early as 1641, a company was formed in the colony, of which Major Willard, of Concord, was superintendent, and had the exclusive right to trade with the Indians in furs and other articles; and for this right they were obliged to pay into the public treasury one-twentieth of all the furs they obtained." There are trappers in our midst still, as well as on the streams of the far West, who night and morning go the rounds of their traps, without fear of the Indian. One of these takes from one hundred and fifty to two hundred muskrats in a year, and even thirty-six have been shot by one man in a day. Their fur, which is not nearly as valuable as formerly, is in good condition in the winter and spring only; and upon the breaking up of the ice, when they are driven out of their holes by the water, the greatest number are shot from boats, either swimming or resting on their stools, or slight supports of grass and reeds, by the side of the stream. Though they exhibit considerable cunning at other times, they are easily taken in a trap, which has only to be placed in their holes, or wherever they frequent, without any bait being used, though it is sometimes rubbed with their musk. In the winter the hunter cuts holes in the ice, and shoots them when they come to the surface. Their burrows are usually in the high banks of the river, with the entrance under water, and rising within to above the level of high water. Sometimes their nests composed of dried meadow grass and flags, may be discovered where the bank is low and spongy, by the yielding of the ground under the feet. They have from three to seven or eight young in the spring.

Frequently, in the morning or evening, a long ripple is seen in the still water, where a muskrat is crossing the stream, with only its nose above the surface, and sometimes a green bough in its mouth to build its house with. When it finds itself observed, it will dive and swim five or six rods under water, and at length conceal itself in its hole, or the weeds. It will remain under water for ten minutes at a time, and on one occasion has been seen, when undisturbed, to form an air-bubble under the ice, which contracted and expanded as it breathed at leisure. When it suspects danger on shore, it will stand erect like a squirrel, and survey its neighborhood for several minutes without moving.

In the fall, if a meadow intervene between their

and grass, three or four feet high, near its edge. These are not their breeding-places, though young are sometimes found in them in late freshets, but rather their hunting-lodges, to which they resort in the winter with their food, and for shelter. Their food consists chiefly of flags and fresh-water muscels, the shells of the latter being left in large quantities around their lodges in the spring.

The Penobscot Indian wears the entire skin of a muskrat, with the legs and tail dangling, and the head caught under his girdle, for a pouch, into which he puts his fishing-tackle, and essences to scent his traps with.—*Thoreau.*

BARK-LOUSE PARASITES.

The editor of the *Wisconsin Farmer* wrote to the Entomologist of the United States Agricultural Department inquiring if there were any parasites of the bark-louse of apple trees known to naturalists, and suggesting, if there were in any other countries any insects that preyed upon these destructive scales, that they be imported. The following is the reply, dated Department of Agriculture, Washington, D. C., 11th Dec., 1863.

DEAR SIR:—In answer to your query as to whether there is any parasitic insect which destroys the apple bark-louse or scale insects, I can merely state that I have seen scales perforated by some parasite, but have not as yet found the perfect fly. Dr. Fitch, however, in his valuable report (see first report, p. 36,) states that under the scales he has repeatedly met with a small maggot, feeding upon the eggs, which are deposited underneath the case or shell, and supposes it to be the larva of some minute Hymenopterous insect, which, when fully developed, eats its way out of the empty shell. You most probably have seen the same parasite in your neighborhood, and can readily find out by examining the coccus with a magnifying glass. If there are any with a small round perforation on the upper side, you may rest assured that there will be no necessity to import.

TOWNSEND GLOVER.

DEPTH OF COAL BEDS.—Heath's mine in Virginia, is represented to contain a coal bed fifty feet in thickness; a coal bed near Wilkesbarre, Pa., is said to be twenty-five feet thick; at Mauch Chunk is a coal bed forty to fifty feet deep; and in the basin of the Schuylkill are fifty alternate seams of coal, twenty-five of which are more than three feet in thickness. In Nova Scotia is a coal formation fourteen hundred feet deep, and containing seventy-five alternate layers of coal. The Whitehaven coal mine, in England, has been worked twelve hundred feet deep, and extends a mile under the sea; and the Newcastle coal mine, in the same country, has been worked to the depth of fifteen hundred feet and bored to a similar additional depth, without finding the bottom of the coal measure.—*Miners' Journal.*

POULTRY.—Give poultry warm, dry, sunny, well whitewashed quarters, clean straw in their nests, and a good feed of grain, once a day; scraps from the frying-pot, and unchilled water, or trough of running water; keep an ash-box in one corner, always dry and dusty, and throw in fresh ashes or lime occasionally.

SINGULAR ACCIDENT TO A HORSE.

While Col. J. S. KEYES, U. S. Marshal of the Boston District, was riding through one of the streets in Concord, on Saturday, Feb. 13, his mare stepped upon the end of a stick, about four feet long, with one of her forward feet, which brought the other end up against her side, near the flank, penetrating through the skin and thin layers of muscles lying under it, and cutting a place about six inches long in the delicate membrane that covers the intestines. The mare reared, plunged and kicked fearfully for a time, and fell to the ground, a mass of the intestines as large as a man's hat protruding from the wound. She was taken as quickly as possible to the stable, put under the influence of chloroform, and the wound properly cleansed and sewed up. She continued to eat and drink pretty well until the following Tuesday, when spasms ensued and she died.

This mare was one of the finest roadsters in Middlesex county, and was valued almost beyond price by the Marshal. She was elegant, mild in temper, courageous, enduring and splendid in style and action.

We notice this as a caution to persons *not to drive horses over loose sticks that lie in the path.* It is always dangerous, though such serious accidents as this do not often occur.

IS POULTRY PROFITABLE?—The Springfield *Republican* of Friday discusses this subject and cites the experience of a gentleman of that city, who, from a lot of fifty-two hens and five ducks, netted a total profit in six months, from January to July, of \$21.96. We have a friend who has kept, during the past three or four years, an average of twelve or fourteen hens. His yard is small, and the hens are kept shut up nearly the whole year round, and with the exception of what comes from the table he has bought all their food. The result of his experience for the three years has been as follows: Cost of keeping, \$49.67. Eggs—crediting them at the market price—\$79.37. The Springfield man credited his eggs at from 22 to 36 cents; our Boston friend credited his at from 20 to 25. There is no doubt but a few hens, well cared for, will pay well and keep a family constantly supplied with what is a real luxury—fresh eggs.

TO CURE SHEEP FROM JUMPING.—A correspondent of the *Ohio Farmer* gives the following curious account of the method adopted by him to prevent his sheep from jumping the fences of his pasture: "I want to tell you about my jumping sheep, and how I broke them. I got them in a pen built sufficiently to hold them; I then caught the ringleaders one at a time, and made a small hole in each ear. I then took a cord or string and run through the holes in the ears together close enough to keep them from working the ears; I then let them out and they are as quiet as any sheep."

The cranberry crop of Cape Cod amounts to 3,899 barrels, valued at \$38,660 25.

ACTION OF ROOTS OF PLANTS.

At a recent agricultural discussion, one of the speakers thought the interest of farmers might be greatly promoted by a more thorough analysis of soils than has ever yet been made. This idea was once a favorite one with some of the best English and American writers, but we believe that little importance is now attached to it. There are so many reasons why the soil of a single acre, even, should vary in its component parts, and it is so difficult for the most skilful chemist to state with certainty what the homogeneous character of that acre would be, that very little confidence is now placed in any analysis of the soil.

Again, if we actually *possessed* that character, we know so little of the laws of supply and growth, that it would be quite doubtful whether we should derive much benefit, from an accurate analysis, were we so happy as to secure one. With regard to the food that nourishes and sustains the plants we cultivate, we know but little more than this general truth, *that the liberal application of a mixed mass of vegetable, animal and mineral matter*, will greatly promote the growth of plants, and when other essentials are properly supplied, such as heat, moisture, and careful culture, the crop will generally result in a profit to the cultivator. Farmers must therefore act upon this broad and safe rule, and *not rely* upon any specific fertilizers for success.

The roots of plants have an *elective* power. That is, if a bone is buried in the soil near a young tree, the roots of that tree will leave the direction in which they started, find the bone and encircle it with numerous little feeders or fibrous roots. On partly digging about a young peach tree, and then pulling upon it, a friend informs us that the tree came up and brought with it a good sized bone, completely surrounded by a network of fine roots! The same person has a splendid elm near his house which is 18 feet in circumference, 20 feet to the first limbs, and the branches extend 96 feet. Two rods from the stem of this tree, an ox load of manure was dropt for a special purpose, but was not used for four months. On attempting to take it away it could not be shoveled, the implement being obstructed as though hay or straw were mixed with the manure. Upon removing it with a fork, it was found penetrated in every direction with a mass of roots which had sprung from the roots of the elm tree and come up through the sward into the manure heap to feed upon it. Was not that *choosing for themselves* the best path to take to find the food they wanted. So it is with the *branches* of trees. A white birch springing up under an oak, will turn its twigs away from the tree, towards the sun and light, long before they are likely to come in con-

tact with the branches of the oak. On a country highway, some of the smaller trees may often be seen leaning over the road from *both sides*, in order to get away from larger trees, and get a proper share of sun and light.

We once had occasion to remove a row of young apple trees which were about three years from the bud. They were set along the edge of a well cultivated garden, and two feet beyond them was a mowing field of several acres. In taking up the whole row of some dozen trees, not a single root, on the grass side, was found a foot in length, and but few of any length or size. On the garden side they were numerous, and some of them three feet long! Did they not *choose* where to go? There was a clean, rich strip of soil, two feet wide between the trees and the grass. Why did not their roots run and feed there? Who notified them that the grass is a *usurper*—that it would seize and hold the soil, rob it of its fertilizing properties, and leave the apple tree roots to starve and die, if they went there? How little we know of the operation of the laws that govern vegetable growth. How gratifying and instructive to explore them with all the powers we possess.

HOW TO GET GOOD CELERY.

Sow the seed in a hotbed in March, or as early as the weather will permit. Some prefer a cold bed, starting it in some warm place as soon as the soil is sufficiently dry to work it. As soon as the season will permit, and the plants have attained a proper size, transplant them into a rich, warm spot. Set them four inches apart, give them a liberal watering, and shelter them from the sun until they have taken root. Here let them grow until about the first of July, when they must be planted where they are to grow through the season.

In preparing for this, some dig trenches to set the plants in, and others do not. We have cultivated in both ways with about equal success. If a trench is decided upon, dig it eight or ten inches deep, spade the bottom and make it fine, add a coat of composted manure, then rich mould and set the plants. The plants must be taken up with care, and with all the earth adhering to them that is possible. Set them six or eight inches apart, after trimming off all the straggling leaves, then give them a good watering, and let them be shaded with boards until they strike root and begin to grow. The trenches should be four feet apart. If the weather is dry, water freely morning and evening.

After the plants have attained considerable size, and when they are dry, the earth must be drawn around them a little at a time, as they progress, taking care always that the leaves be held together so as to prevent the soil from getting in among

them. By earthing up gradually, the stems are bleached and become tender and crisp.

It should stand out doors until there is danger of frost, which ought not to touch it. There are various modes of keeping it. Ours is, to take it up with as much of the soil as we can save about the roots, and set it out in a cool cellar, in a plenty of the earth in which it grew. If the plants are set a little apart, and the temperature of the cellar is cool and even, they will keep fresh and ready for use until April or May.

If the plants are set on the surface of the ground, as cabbage plants are usually set, the same process of earthing up must be observed.

No weeds should be allowed to grow among the plant, and the ground should be frequently stirred with the hoe or some other implement.

Celery is easily cultivated. There is no mystery about it, whatever. Any farmer's son or daughter may do it that will try. If one prefers, he can purchase the plants ready for transplanting.

Fifty to a hundred of them might be enough for a family.

It is a convenient and healthful salad, and should be more common on the tables of our farmers.

NEW BOOKS.

FLOWERS FOR THE PARLOR AND GARDEN. By EDWARD SPRAGUE RAND, JR. Illustrations by John Andrew, and A. C. Warren. J. E. Tilton & Co., Washington St., Boston.

It is one thing to write a book and make it barely interesting, so that it shall have a place in the memory for a month or a year, and then pass away and be forgotten like a summer cloud or our dinner of yesterday. It is quite another matter to write a book that shall not only attract and charm the reader while perusing it, but which, when perused, shall leave such an impression on the mind as will reproduce that charm whenever the subjects of which it treated are again introduced. The book before us is of the latter class. It is a teacher. The subjects which it discusses are so clearly and wisely stated, that the most inexperienced in them may feel courage and safety in following the details given. They are full, yet brief, and always include those minor points without which the whole would be valueless. An example of what we mean may be found on page 94, in describing the methods of propagating the charming Verbena. There is nothing omitted here, it seems to us, that the merest novice would desire to know. It is a model description.

The general subjects of the book are, *The Green House and Conservatory; Window Gardening; Plants for Window Gardening; Cape Bulbs; Dutch Bulbs; The Culture of the Tube Rose; The Gladiolus and its Culture; How to Force Flowers to Bloom in Winter; Balcony Gardening; The Ward-*

ian Case; Stocking and Managing the Wardian Case; Hanging Baskets and Plants; The Waltonian Case; The Aquarium and Water Plants; How to Grow Specimen Plants; Out-Door Gardening—Hot Beds; The Garden; Small Trees and Shrubs; Hardy Herbaceous Plants; Hardy Annuals; Bedding Plants; Hardy and Half-Hardy Garden Bulbs; Spring Flowers, and Where to find Them.

The very titles of the chapters are enough to inspire one to rush from the house to the garden, even in mid-winter! The chapter on *Spring Flowers, and Where to find Them*, is a gem. Who that reads it will not anticipate the spring with quicker pulses and more impatience than ever!

The book is a civilizer. It abounds with beautiful, refreshing thoughts, clothed in such simple and expressive language, that they cannot fail to reach every feeling heart. The artist, printer and binder have so come to the aid of the author, that there is a nice blending of thought and art that is rarely equalled. We cannot but feel under personal obligations to the writer for such a work, as we always do to those who confer blessings upon the race.

We trust the pen of the author will still be active in this flowery field.

CULTURE OF LETTUCE.

Everybody, we believe, likes lettuce. It is considered healthful, has a slight narcotic influence on the system, and, perhaps, may be especially useful to such nervous temperaments as find it difficult to secure a *nap after dinner!*

It thrives best in a light, rich soil; a soil that is rich from prior cultivation, rather than from the immediate application of manure.

If it is wanted quite early—and that seems desirable—the seeds must be sown in a hot bed in March, and transplanted in April, in a spot favorably protected from cold winds; and even here, it may need occasional covering. It only requires proper cultivation after this to secure a crop. Allow sufficient room between the plants for them to head out without crowding each other, and an occasional evening watering if the weather is dry.

Those who keep poultry will find it worth cultivating for their use. They are excessively fond of it. A dozen hens will eat two large heads each day if they can get them. The store pigs like it equally as well. We have been in the habit of growing it along the sides of the paths in the vegetable garden, and on any little vacant spots, where it appears well, and gives us a cart load or two each summer for the pigs and the hens!

There are many varieties of lettuce, among which, four excellent kinds are the Early White Butter, or Cabbage, the Early Curled Silesia, Early Tennis Ball, or Rose, and the Imperial Head, or Sugar Loaf.

For the New England Farmer.
GRAPES.

The grape is a native of Asia, but is also indigenous to America. Though it is better adapted to a milder climate and to a soil more impregnated with sulphur and limestone than that of New England, yet the fact that it is found in a wild state in our forests, by the side of small streams, stone walls and large rocks, proves that it is not entirely unnatural to this part of the country. High cultivation also shows that grapes can be raised here with considerable success, though always "under difficulties." New England will probably never be a wine-producing country to any considerable extent, but if, with any reasonable amount of labor and expense, grapes can be cultivated sufficient for the table, they are worthy of much more attention than farmers have yet given them. The encouragement is certainly sufficient to incite us all to much greater attention to this branch of horticulture.

Grape vines, properly attended to, attain to a great age and a great size. In Italy, vineyards have continued in bearing 300 years, and a vineyard of 100 years is still considered young. Pliny mentions a vine which had lived 600 years. A vine which was trained against a row of houses in Yorkshire, England, covered a space of 137 square yards, and the stem was three feet and eleven inches in circumference. The celebrated vine in Hampton Court, was planted in 1769. Its stem is fourteen inches in girth, and one of its branches extends nearly 200 feet. George the Third directed his gardener to cut from it one hundred dozen bunches of grapes for the players in Drury Lane Theatre, and the gardener sent him word that he could cut as many more without stripping the vine. In California and New Jersey, vines have attained a size and have borne quantities of fruit, which would astonish New Englanders.

There is another circumstance which is unfavorable to the cultivation of the grape in this immediate vicinity. We are too near the ocean. Humboldt says "grapes do the best in the interior, away from the seaboard, not only because it is warmer, but on account of the clearer state of the heavens."

But let us inquire what is the best we can do, in the unfavorable conditions in which we are placed, in the out-of-door cultivation of grapes; for I suppose that farmers generally will never cultivate them under glass, either in hot houses or in cold graperies.

What, then, is the best site for grape vines?

A southerly, or a southeastern exposure on a hill, is probably the best position. Not on the top of a hill, for that would be too much exposed to the winds, nor at the bottom, for that would be too much exposed to excessive dampness, unless the ground is thoroughly underdrained, but about the middle of the hill, where both these evils will be comparatively avoided. When a person proposes to cultivate a very few vines only, it can be done to great advantage on the southerly side of buildings and of large rocks or boulders; and even in cities, where only a few feet of land are at command, grapes can be raised with success, if they have a southern exposure. The best fruit is produced where the vine receives the most sun, not, as many suppose, upon the fruit, but,

upon the foliage. It is the leaves which elaborate the nourishment for the fruit, and not the fruit for itself. It is a great mistake to take off the leaves, for the purpose of exposing the fruit more directly to the rays of the sun, until, at least, a few days before it is gathered. Some of the best fruit is that which is almost covered up by the leaves, and which hangs partly behind the slats of the trellis, and is never exposed to the direct action of the sun. Removing the leaves around the fruit before the ripening process commences, is as injurious as removing the suckers from corn, and for the same reason. They are needed as the breathing apparatus for the vine, for the protection of the canes from the fierce action of the sun, and for elaborating from the atmosphere and the soil, in due proportions and in proper combinations, the sustenance necessary for the growth and perfection of the fruit. The French call the leaves the "parasols" to protect the vine.

How should the border of the vines be prepared?

Inexperienced cultivators are apt to make the border too rich. "Good, rich soils," says Redding, "never produce even tolerable fruit." The richest vines in France, and Italy, and on the banks of the Rhine are grown on the *debris* of volcanoes and on the sides of mountains, as if the cultivators left everything to nature. At any rate, the ground should not be highly manured with unfermented barnyard manure. Though grapes will grow well where the land is deeply plowed, yet, as the vine is expected to stand many years in the same place, it is better that the ground be trenched to the depth of two and a half or three feet. The subsoil should be entirely removed, and the bottom so thoroughly drained that water shall never permanently stand under the roots. It is an old maxim with vine-dressers that "grapes will never grow with wet feet." On a side hill, such draining is easy. The space should then be filled in with brickbats, lime rubbish, oyster shells, broken bones, scrapings of the streets, sods from old pastures where cattle have been yarded, with a liberal mixture of decomposed manure, ashes, hair and other refuse from slaughter-houses, and particularly a large percentage of vegetable mould or decayed leaves. The trench should be at least twenty feet in diameter, as the roots of flourishing vines need ample room in which to luxuriate. The greatest growth of wood, perhaps, can be obtained where the vine is planted near a spring of running water, and very highly enriched with coarse, undecomposed manure and night soil; but if the best quality of fruit is desired, a dry location and the fertilizers above mentioned are unquestionably the best.

Where it is proposed to set out grape vines in rows they should run from north to south. Many cultivators make a serious mistake, in my apprehension, by setting the rows east and west. They do so, as they allege, for the purpose of giving the fruit a southern exposure. But a moment's reflection will convince any one that where the trellises run north and south, both sides of the leaves will, in the course of the day, be much more exposed to the rays of the sun, than in any other position.

What are the best grapes for this climate?

The Delaware, I think, stands at the head of the list. It is indeed a small grape, but its smallness is more than counterbalanced by its adapta-

tion to this climate, its early ripening, its numerous clusters, and the remarkably delicate and saccharine character of the fruit. In this latter respect it is unequalled, unless it is by some of the foreign varieties which must be raised under glass. When the fruit is perfectly ripe, it is as nearly translucent as the White Sweet-water, and more sweet, as the Sweet-water has a slight watery taste. It ripens three weeks earlier than the Isabella. In every respect but size, the Delaware is A No. 1, for open air culture. Some have thought it specially liable to mildew, but I do not think they will entertain that opinion after they have given it a fair trial and proper cultivation. Its excellent qualities are as yet but little known in this section of the country. Prince says "it is our highest flavored and most delicious hardy grape."

The Diana originated in Boston, and is of course adapted to this latitude. It is a vigorous grower, a good bearer, and extremely hardy. The bunches are large, the flavor excellent, and the fruit can be kept for use in the winter.

The Hartford Prolific is a hardy and productive variety. The berry is large and round, black and covered with bloom. It ripens at least two weeks before the Isabella, and superior cultivation will quite effectively prevent the fruit from falling from the stem. When thoroughly ripened, it is highly saccharine.

The Concord, though hardy and prolific, is by no means a grape of the first class. The fruit is large and beautiful, but it has a thick skin, and the pulp has considerable toughness and native pungency. It is worthy, however, of a place in our gardens.

The Isabella, so well known among us, is an excellent grape when it is well ripened. It has lost the high standing which it held thirty or forty years ago, before earlier varieties were introduced. It does not usually ripen well oftener than once in three or four years.

The Catawba, the great wine grape of Ohio, does not succeed so well in this climate. I have raised a few specimens of this superior fruit, but it is not equal to the Ohio grapes. Its great excellence, however, demands further trials.

I have also several of Rogers' Hybrids and Allen's Hybrids, which may fruit the present season. They are said to possess many excellent qualities by those who have tested them. Col. Wilder believes that some of Rogers' Hybrids stand in the very first class of hardy native grapes.

What is the best method of pruning grape vines?

This depends very much upon the system which is adopted for the growth of the vine, whether it be the fan, the long cane, or the renewal system. The details of pruning are so numerous and intricate that they cannot be specified in this paper; but they can be found in any of the best books on the culture of grapes. It is proper, however, to say, in general, that the grape attempts more than it can perform. The secret of proper pruning, then, seems to consist in attention to these three points: to keep up a sufficient number of fruit-bearing canes, to keep them all within proper limits and to keep the fruit properly thinned. Peaches always bear fruit, if at all, upon the last year's shoots; pears either upon those formed the last year or upon older wood; but the grape, unlike them both, bears only upon shoots of the current

year, although those shoots may proceed from the last year's wood, or from that which is much older. There is always a contest going on between the fruit and the tendrils. If the growth of the vine is too rampant, many of the fruit blossoms will be converted into tendrils, and long and useless wood will be produced rather than fruit. Pruning, then, should be thoroughly performed, not by using the knife, but by pinching off the ends of the canes at least three times during the months of August and September, that the vital forces of the vine may be concentrated in the fruit. This shortening-in process will also make much sounder wood for use in subsequent years. A fine show of blossom buds, on which the inexperienced cultivator relied in the spring for a large quantity of fruit in the autumn, have often disappointed him, because he was not aware of the fact that fruit buds will often turn into tendrils, if the ambitious canes are allowed to have their own way. Like a great many "fast young men," want of control works their ruin. The philosophy of this is almost self-evident. The farther the canes, in their excessive ambition, are allowed to run, the more tendrils will be required to support them. If they are sufficiently headed in, so many tendrils will not be needed, and the buds from which they proceed, not wanted for tendrils, will turn their attention to fruit-making. This single fact of heading-in several times during the season, makes very much of the difference between the wild and useless vines of our woods, and the fine and delicate grapes of our gardens. In the one case, by neglect, they run from year to year into a knotted and tangled mass of mere vines without fruit, or with a small amount of very indifferent fruit; and in the other, by close pruning, they are kept within reasonable bounds, and the vital forces of the plant are directed to the formation of those delicious grapes which adorn our tables and contribute so largely to our health and enjoyment.

Where there is such a concentration of the forces of the vine in the production of fruit, the fruit itself may require, near the close of the season, to be thinned out several times. If this is not done, the vine will be injured, if not destroyed, by excessive bearing, and the fruit itself will be comparatively insipid. All the defective berries, and all the small grapes on the ends of the clusters which will never come to maturity, should be carefully removed. Sometimes, too, the quantity of fruit is so enormous, that a third part, and even two-thirds of the entire crop should be cut out. It requires a pretty hard heart to destroy so much tempting fruit, but the necessity is imperative, and it must be done. This is one of the few cases where a hard heart is at all useful.

Waltham, Feb., 1864.

C.

REMEDY FOR EARACHE.—M. Duval says he has found relief in severe earache, other means failing, from a mixture of equal parts of chloroform and laudanum, a little being introduced on a piece of cotton. The first effect is a sensation of cold, then numbness, followed by a scarcely perceptible pain and refreshing sleep.—*Brit. Med. Journal.*

HAIL-STONES sometimes fall with a velocity of 113 feet in a second, and rain at 43 feet in a second.

EXTRACTS AND REPLIES.

Cutting Feed for Horses.

I notice in the *New England Farmer* weekly, of Feb. 6, 1864, a communication from "J. F. L.," of Lee, N. H., with the above heading. The question upon which he wants information is this:

Is it of advantage to a horse to cut his feed, and is it a more economical way for his owner to support him than by feeding his hay and grain separately?

I will simply give "J. F. L." my experience for the last ten or twelve years: About twelve or fourteen years ago, (I am not now able to state the exact time,) I was very short of hay, and as cutting feed was highly recommended as being a great saving in fodder, I made up my mind to give it a fair trial. Accordingly I purchased one of Ruggles, Nourse & Mason's Hay Cutters, and commenced operations. I cut three-quarters of all the fodder I fed out that winter, and fed it to horses, oxen, cows and young cattle. My stock came out in the spring all in good heart, and by adding some grain I had hay enough to carry my stock through the winter, without buying hay. I was satisfied that, had I bought fifty dollars' worth of hay, and fed it all without cutting it, that my stock would not have come out in the spring in as good condition as they did; and I have practiced cutting feed more or less for my stock ever since, especially for my horses, and I think with beneficial results. I think that two tons of hay cut, and their grain ground and mixed together, is worth as much as three tons fed without cutting with the same quantity of grain fed whole, to a horse team that works daily. I have used several kinds of cutters, but the one that I now have, (Ruggles, Nourse & Mason's, No. 4,) is the best I ever used. Price at my door, \$9.10, twelve years ago. G. W. PUTNAM.
Andover, Vt., Feb. 19, 1864.

Salting Hay.

Those who adopt this mode of trying to preserve half cured or dampish hay from mouldiness, or other damage should be careful to avoid over-dosing with salt, as it would appear from a communication by S. E. TODD in the *Country Gentleman* of Feb. 4, that scours in sheep are often caused by such over-salting. Mr. Todd says that in doctoring for this or any other complaint, the cause should be discovered if possible and removed; and then remarks, "Some farmers salt their hay in summer very bountifully, so that the entire mow or stack of it, when fed out, is as thoroughly impregnated with saline particles, as salt beef or pork. Such fodder would be a sufficient cause of scours."

MORE ANON.

Ashes with Manures.

Is it good economy to mix ashes with hen manure or any other manure that contains ammonia? I have used hen manure mixed with sand, or scrapings round the buildings, with good results; also superphosphate. One of my neighbors used superphosphate and the effect was observable till the corn was full grown, at the distance of a mile. He told me that on either side of those rows left without the superphosphate, the corn was twice as heavy. W. B. W.

REMARKS.—Wood ashes should not be mixed with any manures. A better way is to use the ashes by itself, or compost it with muck.

There is so little alkali in *coal ashes*, that they make an excellent divider for the droppings of hens.

Disease in Apples.

With regard to the "Disease in Apples" mentioned in the *Farmer* of Feb 20, I would state, that at the time the scarcity of apples commenced the trees, were yielding every other year—and sometimes skipping two years without much yield—only a small quantity and very poor. I think it was about 1850, I noticed those spots mentioned by Mr. McIntire, on greenings, accompanied by a very bitter taste in the part of the apple under the spots. At that time apples were brought from New York State here, the yield having been more plentiful there; and among those we bought were some beautiful sweet ones. I never tasted much better apples; some were badly affected; the spots

were about the size of a pea, singly and in clusters. These were worse than the greenings. In some the bitter taste pervaded the entire apple, although the spots were only in a cluster on one end. Some were so bad we could not use them. The apples were not rotten at all; it had the appearance of a dry, hard scab. I have not seen any similarly affected this year, but thought I would give the preceding facts, as they may recall similar cases to the recollection of other individuals. LUCY A. ADAMS.

East Brookfield, Feb. 20, 1864.

For the New England Farmer.

SEEDING LAND TO GRASS.

The vast importance of the hay crop to the inhabitants of the United States calls for the practical experience of every intelligent farmer. We are apt to look at facts in an isolated point of view. When we take into consideration the failure of one single piece of land that has been laid down to grass, we regard it as unfortunate; but if those failures were all put into one great total the aggregate loss to the whole country would probably astonish us. The hay crop of the free States in 1850 was 12,690,982 tons, worth considerably more in dollars and cents than all the cotton, tobacco, rice, hay, hemp and cane-sugar, annually produced in fifteen slave States; and this at \$11.20 per ton,* amounting to \$142,138,998. Cotton is no longer king. And, again, "the grass crop of the New England States, for the year 1862, was nearly one hundred millions of dollars."†

In asserting two extremes which are open to discussion, the medium track is generally the safest, and often proves true; such is the fact we apprehend with regard to the question at issue, as to whether the shading of land is beneficial or not to the germination of grass seed and the growth of the grass. There can be no question but what, as a matter of economy, it is best to sow some kind of grain with grass seed; at least, no one has ever demonstrated to the contrary, or proved that it is better, or more economical, to sow grass seed alone. I, therefore, must answer in the affirmative, viz: that it is best to sow some kind of grain with grass seed, that is, so far as my experience teaches me at present, but we do not arrive at this conclusion solely from the fact that we think that grass ought to be "shaded," but would it pay to sow it separately, taking into consideration the amount of land expenses?

A rotation of crops is recommended. A farmer turns over say ten acres of sward, and plants it to corn and potatoes; if he plows in the fall, which he ought to do, the sod will become sufficiently pulverized and mellow by the following season, so that he can "lay down" his land to grass; or even if he plows in the spring, on most soils, he can do it. Now what better way is there than to sow a crop of oats, rye, or barley, then his grass seed; and two very important and somewhat expensive results have been accomplished under one operation? But still, let there be a well-pulverized piece of land thoroughly prepared for grass exclusively, and enriched as it should be for clover, herds-grass and red-top, which usually go together, and why should they not? Let this mixture of seed be sown broad-cast, and evenly on the land, then very lightly harrowed, bushed and rolled, and that that grass would not spring as well, grow as well, come to maturity as well, and yield as much as though it had been shaded, we

would be hard to demonstrate.

The writer of this article has had some experience for the last thirty years on the subject in question, and has arrived at one conclusion, demonstrated by facts, which actually occur; it is this: let there be any given amount of land prepared in the spring of the year, say for oats, sow one-half to oats and the other half to rye, or any part to oats and the other to rye, only let them be right side by side; the land shall be prepared just alike, exactly, and seeded alike, exactly, to grass, and there will be at least one-half more grass in the land sown to rye than on the land sown to oats. The land where the rye is will be completely covered like a mat; and where the oats are, extremely spare; we never knew it to fail, and have often tried it, having had occasion to sow spring rye in that way, to save the unnecessary expense of breaking up land elsewhere. Now this proves, 1, that grass will grow well when it is shaded some; 2, that it may be shaded too much, (unless there is some other way to account for the non-appearance of the grass among the oats other than the great amount of loam, which everybody says is the cause.) But it does not prove, in the third place, but what the grass would have grown just as well as if it had not been shaded any. But the question cannot, we think, be fairly answered without being thoroughly experimented upon. It is possible that grass might be made to grow better sown by itself entirely, and yet taking into consideration the extra cost, it might not pay, and would be better to sow grain with it. So that, as we said before, we shall take the medium course and continue to sow grass seed with some kind of grain, until some further developments appear. And hoping that some able pen may discuss this subject more at length, I close.

J. F.

Uxbridge, Jan. 19, 1864.

*See compendium of the "Impending Crisis of the South," page 29-35,
†See *New England Farmer*, last vol., No. 46.

For the New England Farmer.

WHAT ELSE SHOULD BE TAUGHT IN THE SCHOOLS?

Every farmer must, of necessity, be more or less of a mechanic. He has to raise heavy weights; he should know what a lever is, and how power is gained by it. He has to weigh, and does not want to cheat or be cheated. He ought to know how scales and steelyards are constructed, and on what principle. He has to make roads, and to drive heavy loads up hill and down. He ought to know the principles of the inclined plane. Sixty years ago there was a mania for turnpikes. Straight roads were made from Boston to Newburyport,—from Boston to Worcester,—from Boston to Concord,—and various roads connecting other places. These roads, often made at great expense, went, not unfrequently, directly over considerable hills, when a nearly level road might have been made, at far less expense, by a trifling departure from a straight line. There are several remarkable instances of this mistake, to be seen on the three turnpikes I have named, within ten miles of Boston. Even at the present day, with vastly increased intercourse, the hilly parts of these roads are very little used. No loaded wagon, and few heavily laden vehicles of any kind, go over these hills, except in cases of absolute necessity.

If the simple fact had been known, that, to convey a load to the top of a hill, the whole weight must be actually lifted perpendicularly, to a height equal to the perpendicular height of the hill, and made to surmount, in addition, all the inequalities of the road, the greater part of all this useless expense would have been saved. Now, no more instruction is given upon the principles of the inclined plane, in the common schools,—the only schools to which the boys of the greater part of the State have access,—than was given sixty years ago.

Every farmer has frequent occasion to use ropes, and, not seldom, tackles; he ought, therefore, to be acquainted with the principles of the rope machine, the toggle joint and the pulley; and they ought to be taught in the common schools.

Every farmer ought to understand enough of machinery to see into the working of a grist mill, a saw mill, a wind mill, or of any of the mowing machines, threshing machines, or other machines used in agriculture. He will have occasion to use one or more of these mills and machines, and he may wish to construct or superintend the construction of any one of them. He ought, therefore, to study the elements of machinery, elements perfectly simple when taken individually, and yet which may become very complex and difficult to comprehend, when seen combined.

Almost every farmer has occasion to dig ditches, to build dikes, and to dig wells, and employ, and often to repair, pumps. He ought, therefore, to understand the principles of the pressure of water, so as to be able to build wells and dikes effectually to resist that pressure. He ought, then, to study what are called hydrostatics and hydraulics. When he understands them,—and they are more easy to understand than most things in history, arithmetic and grammar, and many things in geography,—when he understands them, he will be able to direct, with very little aid, the building of hydraulic presses and pipes, and other water conveyances of every kind.

The farmer ought to understand on what principles it is that the pressure of air causes water to rise in the pipe of his pump, and thus renders a common pump possible, and how the common lifting pump and the common forcing pump act. That is, he ought to study the elementary principles of pneumatics. These are hard Greek names; but the things themselves and the principles on which they operate are as intelligible, with proper books and tolerable instruction, as anything in the plainest English. In addition to these things, he ought to know something of the action and laws of heat. He ought to know how much heat will convert snow or ice into water; how much additional heat will raise the water to the boiling point, and how much will convert it all into steam; and how much heat will be required to give to this steam, if confined in a close vessel, any certain amount of explosive force.

With this knowledge, and the knowledge of which I have already spoken, any farmer's boy may easily understand the structure of the steam engine, and its mode of acting, and the power with which it acts. And so much knowledge every farmer ought to possess.

And the time which might be saved from that now devoted to arithmetic, spelling, reading and English grammar, without injury to either of those

studies, would be ample to give that knowledge in every grammar school or district school in the State.

G. B. E.

For the New England Farmer.

THE LAW AND MANNERS OF THE ROAD.

All of us have ideas more or less correct, in regard to the law which regulates our use of the highways; and, at any rate, good sense and good nature are usually very safe guides. A few words on the subject, however, may not be amiss.

It is commonly said that every one has a right to half the road. This is practically true, and comes about in this wise: You and I meet upon the road—our legal rights are exactly equal, and both have a right to go our several ways without obstruction, so, popularly, we say I own half and you half. The law steps in to facilitate matters, and directs each to turn towards his right hand. The road should be "worked" wide enough for two teams abreast, then each man has a clear title to a passage on his right hand side of the way: and no one has a right to obstruct another while on his own proper track. This is true whatever the load or the team; for if one can drive such a team that another can pass him but with difficulty or not at all, then their rights are no longer equal. This point becomes very important in winter, for it is no joke to turn your horse and all into the deep snow while your neighbor goes smoothly along in the beaten path. No one has a right so to load his team as not to be able to give up half the track to whoever demands it.

A footman may choose the part which pleases him on any portion of his right hand half the way and the team must yield it to him. This is clearly so in winter, and no man is obliged to step into the snow for one or two horses. This is the law and the Court awards it.

Now for the manners of the road; which, in some instances, vary from the law thereof.

The first requirement of road manners is good nature and an accommodating spirit. Do to others as you would have them do to you. Always be willing to yield more than half the space, then you will be pretty sure to be equally well treated. They who exact inches will have inches exacted of them. If your neighbor has a heavy load, consult his convenience as far as possible; you may sometime be loaded. It has become a practical rule of courtesy to turn out for wood and logs, and for other heavy teams in winter; for, they say, "we often cannot turn out, and never safely, so, if you want wood, accommodate us;" which we are very willing to do. But remember it was a favor, not your right, and you have a reciprocal duty to perform, one which, I am sorry to observe, is not always borne in mind. When you have unloaded and are returning empty, just recollect that you had the whole road in the morning, and it is no more than fair that you should be particularly obliging to those whom you meet now, and give them their full share of the path.

One word in relation to teams going the same way; in which case many seem to think there is neither law nor manners. When a team comes up behind you, which desires to proceed faster than you do, that team has a right to reasonable space and opportunity to pass in—in fact to half the road for that purpose—and your obstructing him in his lawful desire is both bad manners and

bad law. If your load is heavy, do the best you can. In most cases the very least that can be asked is that you should stop. This is particularly so in winter, when it is a heavy tax on any team to force it into a trot in deep snow—made necessary by your continuing at a walk. My remark above in relation to the emptied wood sled applies here, and, if one wishes to pass you, remember that while loaded you had the whole road.

One remark more, to and for the ladies. First, to them. If out walking keep in the path—never step into the snow or mud for any ordinary team. If you meet the team, step into your right-hand track or part of the road and all goes on easily. If the team comes up behind, step into your left-hand track; then, as sleighs are built, the horse goes in the other track, as before. Whereas, if you continue in your right-hand track the horse of the team must travel wholly in the deep snow in order to pass you, and the driver will be tempted to scold his wife as proxy for the female sex generally.

I have this to say for the ladies—always turn out for them. They are entitled to the right-hand half, and will you run over them because, in their confusion at meeting one of the "lords of creation," they happen to take their half out of the wrong side?

I close this somewhat lengthy dissertation with an appropriate aphorism: Wheel grease is a great lubricator, but good manners are a vastly greater one.

VIA.

For the New England Farmer.

MERINO, AND OTHER SHEEP.

MESSRS. EDITORS:—In reading an article in my last *Farmer*, from the pen of C. S. Weld, on "Theory and Experiment," I felt that I could not refrain from exposing his injustice. I do not anticipate, however, that his attack upon Mr. Campbell, Mr. Greeley, or yourself, Mr. Editor, will prove very damaging to either of you. But it is none the less deserving of rebuke. And I was glad, on reading your remarks upon the article, to see that you had nobly defended Mr. Campbell from the unjust epithet of "Vermont speculator." If Mr. C. needs any other defenders of his reputation, they are at hand, and I trust will not fail to command the respect of even Mr. Weld.

Hon. Henry S. Randall, in his late excellent work on sheep—"The Practical Shepherd"—speaks thus in regard to Mr. Campbell at the International Exhibition at Hamburg:

"I cannot here withhold a pleasing fact which strikingly evidences the fairness and the modesty of the victorious exhibitor at Hamburg. Colonel Needham informs me that Mr. Campbell, on all occasions, signified to the breeders of Germany and France, and requested him (Col. Needham) to signify that he was not the founder or leading breeder of the improved family of American Merinos,—which his sheep chiefly represented—but that this honor belonged to Mr. Hammond."

Thus endorsed by Henry S. Randall, LL.D., Corresponding Secretary of the Vermont State Agricultural Society, and by the editors of the *N. E. Farmer*, Mr. Campbell will hardly need to reply to Mr. Weld's ungenerous attack.

But enough in defence of Mr. Campbell! The real blow was not so much aimed at Mr. Camp-

bell as at those three "dwarfish, insignificant, dirty, scrubby merino lambs." And I think it was also intended to prove an extinguisher to the whole race of merinos. But I am happy to say that *some* of them "still live;" and if Mr. Weld wants to see evidence that they *deserve* to live, he must accept this challenge. He is at liberty to select the best and most profitable flock of any of the English breeds within the limits of the United State, and show on undoubted authority the real net profit per head of keeping the same for a year; and if I am not able, on an equally reliable testimony, to prove that merino flocks, equally large, have given their owners *twice* as great profit per head as said mutton sheep, I will write no more in their defence. I do not wish to be understood, in anything I have said, to approve the cross of the merino with the Leicester and South Down. I interpret the article as a sling at the merinos, and hence my challenge. And until finally beaten, I claim for the merino a position second to no other breed of sheep, and perfectly adapted to each and every county of Maine.

A. B. PALMER.

Orfordville, N. H., Feb. 22, 1864.

A NEW REMEDY FOR THE BORER.—In conversation with one of our subscribers the other day, he casually stated that his apple trees were not troubled by that pest, the borer. Upon inquiry we learned that he applied the earth and substance taken from where his sink-spout emptied, to the trunk, or rather around the collars of his apple trees each autumn, and then dug it away or removed it the next summer. He considered this an effectual remedy, as the borer did not trouble them, and further, it was a good dressing for the soil around the tree, after being dug away. Of course the soil where the spout emptied would have to be renewed yearly, by supplying a cart-load of earth, sods, &c., to absorb and hold the refuse liquid. If not used in this manner, the slops from the sink should always be added to the compost heap, or applied to the garden crops during the growing season, as they are too valuable and rich in fertilizing material, to be wasted.

Maine Farmer.

HOW TO GROW PEACHES EVERY YEAR.

The following, by a correspondent of the *Ohio Cultivator*, is worthy a trial by all lovers of delicious fruit: Procure your trees grafted upon the wild plum stock. The tree partakes of the nature of the plum, being hardy, and will never winter kill, and putting out late in the spring, will never be injured by the frost. It is a certain preventive against the workings of the peach grub, while the natural lifetime of the tree is beyond that of our own; so you may depend upon peaches every year, and for a long period of time, without the destructive and discouraging influences attending the growth of the common peach. They can be obtained at from fifty to seventy-five cents per tree, and you had better pay five times the amount than not to obtain them, being certain of peaches every year. Try it, and our word for it, you will be satisfied with the result.

CULTIVATE your own heart aright; remembering that whatsoever a man soweth, that shall he also

For the New England Farmer.

METEOROLOGICAL RECORD FOR JANUARY, 1864.

These observations are taken for and under the direction of the Smithsonian Institution.

The average temperature for January was 22°; average mid-day temperature, 28°. The corresponding figures for January, 1863, were 27° and 32°. Warmest day, the 25th, averaging 39°; coldest day, the 7th, averaging 4° below zero. Highest temperature 43°; lowest do. 8° below zero.

Average height of mercury in the barometer 29.22 inches; do. for January, 1863, 29.35 inches. Highest daily average 29.62 inches; lowest do. 28.72 inches. Range of mercury from 28.54 inches to 29.69 inches.

Rain or snow fell on seven days; amount of snow 14 inches; amount of rain and melted snow, 2.35 inches. Fifteen stormy days with 26.75 inches of snow and 3.66 inches of rain and melted snow, in January, 1863. There were two entirely clear days. On two days the sky was entirely overcast.

The winds have been very light, and but little snow, as will be seen; only about half as much as same month last year.

A. C.

Claremont, N. H., Feb. 22, 1864.

GREEN CHEESE.—The one grand error in American cheese-making, is the want of care in not ripening the cheese before it is sent to market. We all know that there is considerable difference between a green pear and a mellow one; between a Baldwin apple in the fall and after it has been kept a few months to ripen. So there is much difference between curd and cheese. The curd is the green apple, the cheese the ripened fruit. If you were going to send hay to market you would not send the green grass fresh from the field, and yet you often sell your cheese when it is as green as grass.

In the Cheshire dairies of England, so celebrated for cheese—none is ever sold until it is six months old. The cheeses are kept in a moderately warm room until thoroughly ripened and cured, with that outside mold so indicative to a practiced eye of a rich, unflavored, ripe cheese.

Cheshire Farmer.

CURE FOR CONSUMPTION.—Dr. HALL, in the February number of his *Journal of Health*, says the "essential, the fundamental, the all controlling agency in the arrest of any case of consumptive disease, and a return to reasonable health for any considerable time, is an active, courageous, and hopeful out-door life, in all weathers and in any latitude, with some rousing motive, other than regaining the health, beckoning them on, to do and to dare."

PASTE may be made with flour in the usual way, but rather thicker, with a proportion of brown sugar, and a small quantity of corrosive sublimate. A drop or two of the essential oil of lavender, peppermint, anise, or bergamot, is a complete security against moulding. Paste made in this manner, if kept in a close covered pot, may

THE CULTURE OF SPRING WHEAT.

A New Hampshire farmer said to us the other day that, for the first time for twenty years, he had just purchased a barrel of flour! That he had always cultivated spring wheat, sometimes to the amount of two hundred bushels in a season, that his family had been abundantly supplied with flour of their home production, and that it had been as sweet and nice as any that the market afforded. At the table of this gentleman we certainly have eaten bread as good as ever came from wheat.

We have often urged the importance to the farmer of raising, as far as possible, all that his family requires upon the farm itself. Not to reject a crop, entirely, because only a little of it is needed in the family, or because his soil is not perfectly adapted to its culture, but to select the most favorable soil he has, and produce what he requires of any particular thing, rather than depend upon one large main crop. In the latter case, he runs the risk of failure in the large crop, and if he secures it he must go through all the forms of marketing or exchange, for the other smaller article which it needs.

As an illustration:—Every farmer wants two bushels of beans, annually, to supply the family table. Now which of two things shall he do? Plant no beans, and extend his corn or hay crop, go through all the forms of selling the corn in market, and then purchase beans, such as he can get, and pay the profit, beyond their cost, which every seller must have, or raise them himself? There are not many farmers who would entertain the first proposition for a moment.

As a general rule, it is the interest of the farmer to produce all the perishable articles of the farm, which are needed by the family, within himself. His corn, wheat, rye, beans, oats, potatoes, hay, turnips, cabbages, radishes, tomatoes, peas, cucumbers, apples, cherries, &c., &c. A little care in the selection and judicious management of soils, and proper attention to each crop, he may feel pretty sure of securing them all every season. But if he depends upon the sale of any one large crop to get the means of purchasing these lesser, but equally indispensable articles, and that one crop is cut off by drought, frost, insects, or any other calamity, he will certainly find himself in a poor way to furnish his table in a generous and inviting manner.

Spring wheat requires a tolerably rich soil. Not one mostly made up of vegetable matter and filled with rich manures,—as such a soil would excite the plant to a great growth of stem and leaf, with but little seed. But a sandy loam, deep, finely pulverized, and abounding in siliceous and other minerals. The crop usually follows Indian corn in the New England States, without manure

at the time of sowing, and such land, if the corn crop was well manured and tended, will usually carry out the wheat. In some cases, however, a pasture or clover sward is selected. The wheat plant loves such a new soil, where the mineral substances have not been exhausted. An old pasture, not too rocky to prevent plowing it three or four inches deep, turns up light, the sward is tender, its vegetable portions decay just about fast enough to feed the growing plants, and they usually produce a fair crop without much manure beyond a coat of lime or plaster. In such a loose soil the seeds "tiller" freely, frequently throwing out ten to thirty new stems, and growing vigorously through the season.

The grains of spring wheat are usually somewhat smaller than those of winter wheat, and the straw is less when cultivated under the same circumstances. The advantage which it possesses is that of ripening early. It succeeds best in this region when sowed just as early as the soil is sufficiently dry to be crumbly when it is plowed. If the season is favorable it will ripen in about ninety days. In sowing, the seed should be distributed and covered evenly, which will cause the ripening of the whole crop at the same time. In regard to this point, much will depend upon the manner in which the ground is prepared. It should be harrowed quite evenly after being plowed, and again after the seed is sowed.

Three or four pecks per acre are required for seeding, varying a little according to the nature of the soil—rich land requiring less than a poor soil. It is well to soak the seed in a strong brine twenty-four hours, stirring it rapidly occasionally, so as to bring oats and other lighter seeds to the surface, so that they may be skimmed off.

When a crop is well grown, much care should be exercised in harvesting it. A few days too early, or a few days too late, will make an essential difference in the quantity obtained and the quality of the bran, flour and straw. The best indications of the proper time, are the pasty condition of the seed—that is, when it is neither milky nor hard, but at the moment when it has passed the milky state. If cut at this time, the seed draws the juices from the stem, or in some manner becomes plump, hard and perfect, and yields its richest products.

Another indication of the true time of cutting is given by the changed color of the straw immediately below the head. When this changes from green to yellow, which it does before the body of the straw changes, the circulation of the plant is arrested, and the head can receive no more nourishment from the roots. In this condition it probably can derive nothing from the air, and must, therefore, contain within itself all that is necessary for its perfection.

This is the important time to cut it, and this point, in all our grain crops, deserves more consideration than it has usually received. A proper observance of this particular would considerably increase the quantity of our grain crops, and greatly improve their quality.

One other thing we may observe before we close. The last process of Nature's work in maturing grain is supposed to be the perfecting of the seed-coat, or that part which makes the bran, when the grain is ground. This probably takes place, to a great extent, after the circulation of the plant is arrested by the drying of the straw at the neck. For purposes of food, the less bran the better, and this we secure by cutting as soon as we see the changes already spoken of. But if we want the wheat for seed, we are inclined to think it should stand until it is fully ripe.

We have seen an experiment stated where a crop was cut at three different periods, at intervals of ten days. One third was cut twenty days before it was ripe, another portion ten days afterwards, and the rest left until it was dead ripe. The result was :

	20 days.	10 days.	Dead ripe.
Flour.....	74.7	79.1	72.2
Bran.....	17.5	13.2	16.

We hope to resume this subject of cutting just previous to the next grain harvest.

LADIES' DEPARTMENT.

HOW TO KEEP CHILDREN HEALTHY.

The mortality among the children in our cities, as well as in the country, is sad to contemplate. Is there any necessity for this? Are all these children sent into the world to be thus early cut down? Are not nine out of ten of these early deaths the result of ignorance? What parents ever lost a child, except by accident, without thinking: "If I had treated it differently, it would not have died?" The loss of our own three first-born has led us to think much upon this topic, and three almost always healthy living ones are evidences that our studies on the subject have not been in vain. A few hints on the topic may not be without use.

Elsewhere, we have given some hints on the sleep of children. Next to securing plenty of sound sleep, or rather before it, we place the proper preparation of food. The kind of food they eat is not half so much consequence as the manner of its preparation. Give a child a hard apple and let him swallow it in pieces from the size of a large pea upward. The result will be, that the lumps will be partly worn off by the coats of the stomach, and partly dissolved by the gastric juice; but after a time, the remaining portion of the lumps will be forced down into the intestines and go through the whole length of fifteen to twenty feet, producing at least griping and irritation all the way, if not diarrhoea or dysentery. But first scrape or mash the apple to a fine pulp,

and it may then be eaten with impunity, and with benefit, if ripe or nearly so.

Feed a child on boiled potatoes cut up, or on potatoes coarsely mashed and fried in fat, and you will be pretty sure to find more or less of lumps of potatoes remaining undigested. How can it be otherwise than that these lumps must have produced irritation in the intestines? But mash these same potatoes finely before feeding them, and then the fine material will be digested and afford nutriment instead of giving uneasiness and pain "under the apron."

The same holds true of most meats. Cut up fine—as fine as shot almost—they will be digested, and produce nourishment; while if fed in coarse pieces, they will lie in the stomach, like a meat poultice on the outside, the cause of uneasiness if not of partial inflammation. Feed raisins and nuts to children, and unless very strong and vigorous, the chances are that they will induce immediate sickness or a weakened system, liable to be affected by the first change of heat and cold.

Chop these same raisins or nuts finely, reducing them almost to powder, and they may be eaten in moderate quantity with impunity. These remarks apply to all kinds of food, and, in a measure, to grown people as well as to children.

Many persons are over nice or anxious as to what their children eat, and often reduce them to skeletons, or unfit them for a vigorous resistance of colds and malaria diseases, by feeding them on toast or rice, weak gruel, &c. Give them rather a fair supply of hearty food *finely reduced that it will be quickly digested in the stomach*, and they will grow vigorous and be able to withstand the changes of climate, and the exposures to which they are ever liable. Mothers, consider these things, and see if they are not true and in accordance with reason.—*American Agriculturist.*

PICTURES.—A room with pictures in it and a room without pictures, differ about as much as a room with windows and a room without windows. Nothing is more melancholy, particularly to a person who has to pass much time in his room, than bleak walls with nothing on them, for pictures are loopholes of escape to the soul, leading to other scenes and other spheres. It is such an inexpressible relief to a person engaged in writing, or even reading, on looking up, not to have his line of vision cropped off by an odious white wall, but find his soul escaping, as it were, through the frame of an exquisite picture, to other beautiful and perhaps heavenly scenes, where the fancy for a moment may revel, refreshed and delighted. Thus pictures are consolers of loneliness; they are a relief to the imprisoned thought; they are books, they are histories and sermons, which we can read without the trouble of turning the leaves.—*Downing.*

GERANIUM LEAVES.—It is not generally known that the leaves of geraniums are an excellent application for cuts, where the skin is rubbed off, and other wounds of that kind. One or two leaves must be bruised, and applied on linen to the part, and the wound will become cicatrised in a very short time.—*Miss Fry.*

LOOK UP the flower seeds for early planting.

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CATTLE MARKETS FOR MARCH.

The following is a summary of the reports for the five weeks ending March 16, 1864:

NUMBER AT MARKET.						
	Cattle.	Sheep.	Shotes.	Fat Hogs.	Veals.	
Feb. 17.....	1002	4722	25	—	—	
" 24.....	1399	3209	25	—	50	
Mar. 2.....	1902	4703	12	—	50	
" 9.....	1047	5984	20	—	75	
" 16.....	1735	5987	50	50	100	
Total.....	7,135	24,605	102	50	275	

The following table exhibits the number of cattle and sheep from each State for the last five weeks, and for the corresponding five weeks last year; also the total number since the first of January, of each year:

	THIS YEAR.		LAST YEAR.	
	Catt. e.	Sheep.	Catt. e.	Sheep.
Maine.....	608	—	636	88
New Hampshire.....	703	4004	555	2311
Vermont.....	1703	7188	1652	3229
Massachusetts.....	896	7235	699	5020
Rhode Island.....	14	—	—	—
Northern New York.....	171	135	122	247
Western States.....	2978	6043	402	2304
Canada.....	62	—	11	—
Total, last five weeks.....	7,135	24,605	7,677	13,199
Total, since Jan. 1, (11 weeks), 1864.....	16,510	50,622	16,704	30,816

PRICES.

	Feb. 17.	Feb. 24.	Mar. 2.	Mar. 9.	Mar. 16.
Beef, 1, 2, 3 qual.....	7½ @ 10	8 @ 10½	7½ @ 10½	8 @ 10½	8 @ 10½
" ex. and prem. 10 @ 10½	10½ @ 11	10½ @ 11	11 @ 11½	11 @ 11½	11 @ 11½
Sheep & lambs, ½ lb. 6½ @ 8	6½ @ 8	6½ @ 8	6½ @ 8	6½ @ 8	6½ @ 8
" " extra. 8½ @ 9½	8 @ 9½	8½ @ 9½	8½ @ 9½	8½ @ 9½	8½ @ 9
Shotes, retail.....	7 @ 9	7 @ 9	7 @ 9	7 @ 9	7 @ 9
Beef hides, ½ lb.....	9½ @ 10	9½ @ 10	9½ @ 10	9½ @ 10	9½ @ 10
Pelts, sheep & lambs.....	\$3½ @ 4	\$3½ @ 4	\$3½ @ 4	\$3½ @ 4	3½ @ 4

REMARKS.—One of the most noticeable characteristics of the market during the past five weeks is the prices which beef cattle have commanded. The prediction uttered by some of the drovers last Fall, that before the Spring opened the Brighton butchers would pay 12c ½ lb. for beef cattle, has been fully verified. Not only single pairs but small choice lots have been sold at those figures; and the quotations of the retail market are 8 @ 28 cents ½ lb. And yet at these prices all the cattle that are offered for sale find a ready market. For the corresponding five weeks last year, our quotations were from 5½ to 8½ c, and for the year before from 5½ @ 7c; and yet the amount of beef consumed is about the same as last year.

The prices for sheep have declined slowly during this period, and are now but little if any higher than one year ago. It will be noticed that there were only about three-fifths as many in number at market last year as this year, thus far. In consequence of grain being so dear, sheep as well as cattle are sent to market in poor condition.

Working oxen are from \$100 to \$200 ½ pair, and farmers are afraid to buy.

Sales of Cattle and Sheep.

The following is from our report of sales, March 16:

Lemuel Stearns marketed one cow this week, fatted by J. M. Smith, of Sunderland, Mass., of Durlam blood, which was as large and fat as a premium ox. The roots of the tail, instead of forming a ridge, lay in a depression, so thickly was the flesh laid on each side of the back bone. The proof of the pudding is said to be in the eating, and the proof of cattle, after all your puffing, is in the selling. By this test Mr. Smith's cow returns her compliments to her feeder in the form of fifteen ten dollar bills. If one hundred and fifty dollars don't prove her a good cow, then no dictionary words of ours can do it. Mr. Stearns said she would dress over 1200 lbs.

W. F. Sabine sold one pair of oxen to J. Daco, laid at 2300 lbs., for \$250; and another pair for \$150; 4 other oxen, at 9½ c ½ lb., 34 per cent. sk.

E. Robbins sold 4 large oxen to S. S. Learnard. One pair in particular, fed by B. W. Gleason, of Rockbottom, weighed at home, about three weeks since, 5400 lbs. the largest one weighing 2900 lbs. They were not at all overfatted, but in a good healthy state, and were in every respect a noble pair of bullocks. The other pair weighing 4480 lbs. at home, we understood were also fed by Mr. Gleason, were grand good oxen.

C. W. Bailey sold one of those pairs of oxen which bring the big prices which we report, and the drovers say, lead farmers to think their oxen, of much inferior quality, ought to bring the same high figures. These oxen were fatted by Henry Nutt, of East Montpelier, were laid to dress 2500 lbs., and brought \$300. Among a lot of 14 good oxen, sold at 10½ c, ½ sk. Mr. Bailey pointed out a pair, the best of the lot, laid to dress 2100 lbs., which were fed by Mr. Alger, of Stowe, Vt., and which, if sold alone, we thought were good enough for a little more money. Mr. Bailey also sold at Brighton this afternoon one pair of oxen to H. Zoller, laid at 1500 lbs., for \$135; and was dwelling on five or six young cattle, the last of his 52, at 9c, 38 sk.

The best River cattle at Brighton, and Mr. Smith and Mr. Day had some rich ones, 11½ c.

Geo. W. Morrison sold 4 oxen, laid at 3600 lbs., for \$350, one pair, laid at 1850 lbs., for \$187; one pair laid at 1700 lbs., for \$188; one pair, 1700 lbs., for \$170; 2 steers, 900 lbs., for \$72; and one cow for 10c to kill and weigh.

A. N. Monroe sold 29 Western cattle, 1250 lbs., each, live weight, at 10½ c, 34 sk; 29 others 1440 lbs., each, at 11c, 30 sk; 59, average live weight 1123 lbs., at 10½ c, 39 sk; 31 averaging 1200 lbs., at 9½ c, ½ sk; 14 weighing 1448 lbs., each, at 11c, 30 sk; 5 of 1050 lbs., each, at 9c, 35 sk; 6 average live weight 1300 lbs., at 10½ c, 30 sk; and 2 weighing 1170 lbs at 10½ c, 35 shrink.

J. E. Wight sold a good bunch of 75 sheep, 100 lbs. each, at 8½ c; E. Wiggin sold 59 sheep, weighing 390 lbs. together, at 7½ c ½ lb; W. H. Bardwell sold 90 light sheep, at 6½ c, 23 selected cossets—the pick of an extra lot—averaging 150 lbs, at 9½ c ½ lb, and 48 weighing 5600 lbs. almost 117 lbs each, for 8½ c ½ lb.—expected 9c, sure; D. R. Wait sold a flock of 95 well fed sheep, 105 lbs. each, at 8½ c, and 35 at 7½ c; J. Lyman sold 100 at 7c ½ lb; F. Bartlett sold 94 sheep, 6490 lbs., at 6½ c ½ lb; G. W. Barker sold 58 sheep at 8c; J. Fargo, Lord & Co., sold 360 Michigan fine woolled sheep to Bates, Hollis & Giles, weighing 113 lbs. at home, about 93 lbs. from the ears at Cambridge, for ½ c ½ lb.

STORE CATTLE.—We cannot perceive any great change in the sale of working oxen and milch cows,—which are the only kinds of cattle at market now a-days which are regarded as stores. We noticed yesterday a few slim looking cows from Albany, but did not learn where they went to. Most of the Maine cattle are sold as beef—some among the premiums. Of which Henry Day sold some 3 or 4 pairs of 12 cwt. bullocks, at 11½ c ½ lb. and one pair of workers, 6 ft., 3-year-olds, nice and trim, for \$132.

D. G. Stevens one large, rough looking yoke, 6 ft. 7 or 8 in., for \$159, and a pair of 3-year-olds, 6 ft. 2 in., for \$123.



DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

VOL. XVI.

BOSTON, JUNE, 1864.

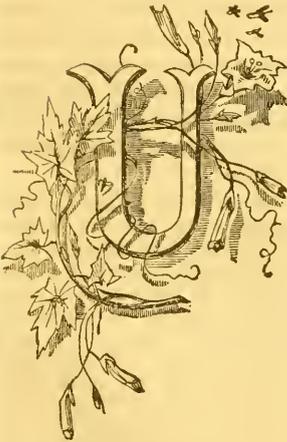
NO. 6.

NOURSE, EATON & TOLMAN, PROPRIETORS.
OFFICE...102 WASHINGTON STREET.

SIMON BROWN, EDITOR.

SUGGESTED BY THE RETURN OF JUNE.

"Bland as the morning breath of June,
The south-west breezes play;
And through its haze, the winter noon
Seems warm as summer's day.
The snow-plumed Angel of the North
Has dropt his icy spear;
Again the mossy earth looks forth,
Again the streams gush clear."



NDoubtedly, there is no month in the whole circle more crowded with important duties than that of JUNE. It is the flush and glory of summer. There is a newness and freshness in all things we see that enhances their value, because most new things that are really agreeable, are quite likely to afford us more pleasure than old ones.

All the foliage is bright and in high color before the month closes, as there is rarely a drought sufficiently sharp to check the growth of plants so early, or to wilt and discolor the foliage.

A world of pleasant care now lies before the farmer. The seeds which he committed to the earth have germinated and sent up their shoots to the sun and air, and they are now exposed to the depredations of insects. Weeds spring up about them and threaten to overrun or starve them out, and they often need a looser soil, and to have the fine, moist particles brought into closer contact with them.

Success, in all crops that need hoeing, depends greatly upon the efforts of this month. If weeds are allowed to gain the ascendancy, in the outset,

the labor will be constant, perplexing and exhaustive—the patience of the most patient will be put to a severe test, and the crop will cost more than if it had been kept clean from the first. The horse and hand cultivator, as well as the common hoe, must be kept in frequent use, so that too much of haying time may not be required to keep the weeds down. Suffering a rank crop of weeds to grow annually is one of the prominent errors of farmers, and more systematic attention should be given to keeping them in proper subjection.

One prolific means of perpetuating weeds is by sowing foul seeds with our grains. It is surprising what quantities of false seeds are brought to market in oats, wheat, barley, and grass seeds. We were not aware of the extent of this evil until we gave some attention to the mode of separating seeds by some of the recently invented machinery. We believe the Legislature of Massachusetts interposed its authority several years since for the destruction of the Canada thistle. By a regulation in France, a farmer may sue his neighbor who neglects to destroy the thistles upon his land at the proper seasons, or may employ people to do so at the other's expense. In Denmark, there is a law to oblige the farmers to root up the corn marigold. A long time ago there was a law in Scotland, under the authority of which a Scottish baron was accustomed to hold courts for the express purpose of fining the farmers in whose growing crops three heads or upwards of that weed were found.

The destruction of weeds ought to be considered one of the most important branches of the agricultural art; for if that is neglected, a crop is often reduced one-fourth or even one-third of a fair average. Let us see what they do:

They prevent the crop from receiving the beneficial influences of the atmosphere.

They exhaust the soil of its moisture and nutritive properties that ought to go to the crop.

They increase the cost of harvesting the crop, and lessen the value of the grain.

They also greatly increase the cost of tending the growing crop.

These are reasons sufficient, brother farmer, why no weeds should be allowed to grow among your crops. We are not sure but some of the transatlantic laws would prove a blessing to farmers here. We are inclined to think that the corn, wheat, barley, and oat crops would be considerably increased, per acre, if no weeds were allowed to grow among them.

Some of the most important items of June work are those of making butter and cheese. This summer, we hope the high prices at which these articles are selling will lead to more care than has usually been observed. A writer pertinently says:

May, June and September are the dairy months. The best butter and the best cheese are usually made in these months. If you are not neat, you do not know how to make cheese or butter. Uncleanliness affects not only the looks, but the quality of butter. Broad, shallow glass pans are the best, but the most expensive. In these milk seldom turns sour in summer thunder storms. Tin pans are good, but unless the dairy woman is scrupulously neat, the seams will be filled with residuum of milk, and become very foul, giving a flavor to each successive panful. The principal requisites for prime butter are good cows, good pasture for them, clean pans, cool, airy cellars, clean churns. Let the cream be churned before it is sour or bitter; and when the butter comes, drive out all the buttermilk.

But every labor now is an important one, as no crop can be brought to perfection without giving it proper care at this period. All must be active and systematic, but not to press so urgently as to injure the body or deprive the mind of its needed food from day to day. We cannot better close our brief essay upon June, than in the glowing language of Dr. Beecher:

June! Rest! This is the year's bower. Sit down within it. Wipe from thy brow the toil. The elements are thy servants. The dews bring thee jewels.

The winds bring perfume. The earth shows thee all her treasures. The forest sings to thee. The air is all sweetness, as if the angels of God had gone through it, bearing spices homeward. The storms are but as flocks of mighty birds that spread their wings and sing in the high heavens! Speak to God, now, and say, "O, Father, where art Thou?" And out of every flower, and tree, and silver pool, and twined thicket, a voice will come, "God is in me." The earth cries to the heavens, "God is here." And the heavens cry to the earth, "God is here." The sea claims Him. The land hath Him. His footsteps are upon the deep! He sitteth upon the circle of the earth!

O, sunny joys of the sunny month, yet soft and temperate, how soon will the eager mouths that come burning from the equator, scorch you!

☞ A cheating grocer should reform his weighs.

SPRING CONCERT.

BY MRS. L. H. SIGOURNEY.

There's a concert, a concert of gladness and glee,
The programme is rich, and the thickets are free,
In a grand, vaulted hall, where there's room and to spare,
With no gas light to eat up the oxygen there.
The musicians excel in their wonderful art,
They have compass of voice, and the gamut by heart;
They have travelled abroad in the winter recess,
And sang to vast crowds with unbounded success,
And now 'tis a favor and privilege rare
Their arrival to hail, and their melodies share.

These exquisite minstrels a fashion have set,
Which they hope you'll comply with and may not regret.

They don't keep late hours, for they've always been told

'Twould injure their voices and make them look old.
They invite you to come if you have a fine ear,
To the garden or grove, their rehearsals to hear;
Their chorus is full ere the sunbeam is born,
Their music the sweetest at breaking of morn—
It was learned at Heaven's gate, with its rapturous lays,

And may teach you, perhaps, its own spirit of praise.

PLANTING AT INTERVALS.

The *Mark Lane Express* has the following upon this subject. Like everything else in farming, a sound judgment must be exercised in this matter. As a general thing, our people plant too close, we think. On rich, moist soils, where the plants reach great luxuriance, there must, of course, be ample room for light and air, in order to secure perfection in the crop. On light, pine plain lands, even though tolerably well manured, the crop will flourish better planted at moderate distances rather than in very wide ones.

The subject of wide intervals between the rows of all sorts of cropping is so extensive that we shall devote a paper to some circumstances bearing upon it. Meanwhile, we record it as our opinion that the drilling of beans at very broad distances, and pursuing a system of tillage between, is not nearly so generally adopted as it might be with very great success. We have seen winter beans in single rows five feet apart yielding fifty imperial bushels per acre; the manuring, of course, being very high, the tillage exceedingly deep, and the hoeing followed up with frequency. And yet there are persons who are sceptical as to the possibility of so few rows being able to contain pods enough for such a magnificent yield.

BONE DUST.

Mr. Cummings, the agricultural editor of the *N. Y. Observer*, says:

When entering upon the cultivation of our present farm, we asked our predecessor what field would give a crop of potatoes without the application of fresh barnyard manure, as we feared the application of such in inducing "the rot." A five-acre field was named. We carefully planted and cultivated it, and found no rot among the potatoes, but the yield of the whole field did not supply the tables of the farm for the year, so exhausted was the land. In the autumn we plowed and sowed the same field with rye, applying twenty-five bushels of bone dust to the acre. Such was the immediate effect of the application, that when

the rye was grown, a man of ordinary stature would be concealed by the crop in walking through the field. Grass seed was sown with the rye. A good crop of hay was taken the first year it was mowed. But the second year, when turf was well established, sixteen tons of hay were taken from the five acres. After mowing it four years, it was plowed and planted to corn, giving a heavy crop without manure. Such is our experience in the use of bone as manure. Bone dust by the quantity costs as to quality from 50 to 70 cents the bushel. Twenty to twenty-five bushels of bone is a good dressing to the acre, and is worth from two to three times the same cost of stable manure brought from the city. Bone dust should be applied to and left as near the surface as may be, and be suitably covered. We usually sow broadcast after the first harrowing. The second course of the harrow will cover near the surface.

SPRING CHICKENS.

Spring chickens are always in active demand from May to September, in the vicinity of all our cities and larger towns. Of course they are profitable to the farmers, and small landholders and cottagers, who breed them. This is a good month to set the hens and hatch them out. For this purpose, a warm henhouse and coops in sunny places are required. Let the eggs be kept in a proper temperature, till the hen is ready to sit on them. Thirteen is the proper number for a clutch of chickens. When hatched, if milk curds can be had, this is their best food. If not, soaked bread for the first few days, and after that, Indian meal well cooked, like mush for your own table. Raw meal, wet up in the usual way, is hard and scouring for their delicate stomachs. When a few weeks old, chopped cabbage, "sives," and other tender vegetables, are to be added, and sour milk is the very best drink they can have.

We would by all means entrust the early spring chickens to woman's care. She seems to possess the necessary instincts—worth all the boys and men in the country. We have known a Scotch, Dutch, or Irish washerwoman's cottage, surrounded by a close wall, alive with early chickens, when the gentleman's and farmer's premises would scarce supply a fowl for the table before September.

Don't keep the "big" breeds for "Spring chickens" either. A close compact, early matured fowl is the thing for this purpose. In most large towns a plump, fat chick, the size of a quail, will sell for as much in May or June as a full grown one will in October; and if they only know you have them, the tavern keepers and pedlars will be after them every day in the week. To the habit these latter people have of confining them in close, filthy coops, for days together, we enter our protest. It is cruel to the chickens. It poisons and defiles the taste of the flesh. It makes them poor. Exercise, good air, and plenty of good food they should have until wanted for the table; and every one who keeps them on hand for immediate use, should be well provided with yard and roosting accommodation. To make chickens edibly perfect, they should come upon the table plump, juicy, and full of their own natural gravy. "Plump as a partridge," is the term which should always be truthfully applied to the early chicken; and if they be not so, half their excellence is lost,

while, if in perfection of flesh, they are a positive luxury.—*Agriculturist.*

For the New England Farmer.

REVIEW OF THE WINTER.

MESSRS. EDITORS:—The following are the results of the meteorological records of the past winter at this place. It shows a great contrast when compared with other parts of the country, particularly the Western States, when that venerable gentleman, "the oldest inhabitant," never saw such a winter before.

December, 1863, had a mean temperature of 23°.93°, being 1.43° warmer than the mean for the past 10 years. The amount of rain and melted snow was 3.02 inches, and of snow 8½ inches. The amount of cloudiness was about 80 per cent. On the 18th, a coat of ice covered everything exposed to the weather. The storm ended with about two inches of snow and ice, making partial sleighing during the rest of the month. Extremes during the month 49° and 1°, having a range of 48°.

January, 1864, had a mean temperature of 24°.23°, being 4.57° warmer than the mean for the past ten years. There have been only three seasons warmer in the past decade. We have had but little cold weather during the month. The 7th was the coldest, with a mean temperature of 3° below zero. In the morning the mercury stood at 11° below zero, during the day it was 1° above, and at night it sank below again. The next morning it was below zero. Aside from these two days we have had no severe cold weather during the month. Extreme range of the thermometer during the month 11° below and 46° above zero, making a total of 57°. The amount of rain and melted snow was 2.04, and of snow 8 inches. The amount of cloudiness was about 77 per cent. The month was ushered in with a tempest and light rain. There were but a few days of good sleighing during the month, which was made by a little snow on the coat of ice formed in December.

February had a mean temperature of 27.03°, being 5.30° above the mean of 11 years. It was the warmest February in the past 11 years, except 1853 and 1857. The amount of rain and melted snow was 0.92; depth of snow 5½ inches, greatest amount of snow on the ground at any one time 3 inches. Lowest mean temperature 7° below zero. Extremes 21° below zero, which was the lowest extreme during the winter, and 46° above, making a range of 67°. Amount of cloudiness 77 per cent. There was a high wind on the first day, and a rough squall on the 14th between 4 and 6 P.M. No sleighing during the month.

March had a mean temperature of 32.53°, being 4.08° above the mean of 11 years, and was the warmest March in the time, except the years 1859 and 1860. The amount of rain and melted snow was 3.22 inches; depth of snow 16½ inches. The greatest snow storm of the season was on the 7th and 8th days, when 13½ inches of snow fell. The roads were muddy, consequently the snow made but poor sleighing and lasted only a few days. The extremes of temperature were 8° and 60°, making a range of 52°. Amount of cloudiness 67 per cent. Whole amount of snow during the winter 38½ inches, and of rain and melted snow 9.20 inches.

D. BUCKLAND,

Brandon, Vt., April 11, 1864.

MEALY POTATOES ALL SUMMER.

We have always found it somewhat difficult to keep potatoes in a crisp, mealy condition after warm weather comes on. Vegetables, like animals, feel the force of nature when the particular season arrives for them to act, in order to perpetuate their kind. Put it where you will, in the dark or in the light, if the potato has a little warmth and moisture, it will send out its bud and shoot and the root will follow if it can find but a little dust on the floor or rock to cling to. The potato then undergoes an important change, the sprouts start, and it becomes a waxy, watery thing, hardly fit to eat.

The following mode of preserving them in good condition has been described by Dr. J. M. Wilson as practiced in Scotland. The experiment is so cheap and easy, that we presume many persons will test it this spring. It is as follows:

Diluted ammoniacal water in the proportion of an ounce of the liquor of ammonia of the druggists to a pint of river or rain water, has of late years been successfully employed for checking the vegetative power of potatoes, and prolonging their suitability for food. Potatoes immersed four or five days in this liquid, retain all their edible properties unimpaired for a twelvemonth, improved in flavor and mealiness. The effect of the liquor is to consolidate their substance and extract their moisture. After immersion, the potatoes should be spread so as to dry, and will then keep good for ten months; contributing in this way not only to the comfort of families, but also to the health of mariners exposed to long voyages at sea.

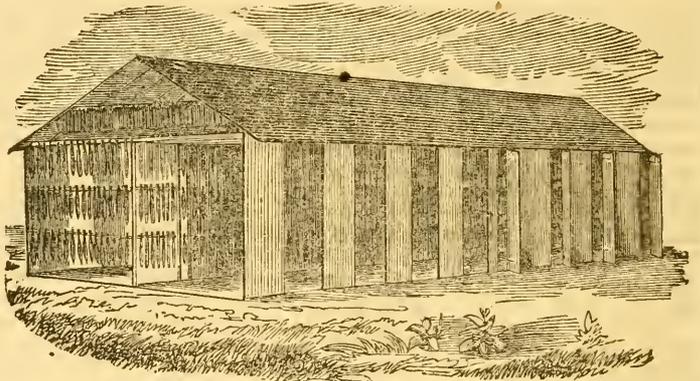
GRAY HAIR.—The change of the hair which we are wont to call "turning gray" is probably, when it does not come prematurely, as natural as any of the changes effected by age, and is neither to be avoided or regretted. In some the change takes place much earlier than in others, and is often hastened by disease and by mental and moral causes; but sooner or later it comes to all, to the healthy as well as the diseased. Grayness is not a diseased condition of the hair, for it continues to grow as luxuriantly, and to be as moist, sleek and glossy after the change as before; in fact, it often grows thicker and stronger. The term gray hair is not strictly proper, since grayness comes from the mixture of the white or colorless hairs with those of the original color. In general the individual hair which we call gray is wholly colorless.

CULTURE OF TOBACCO.

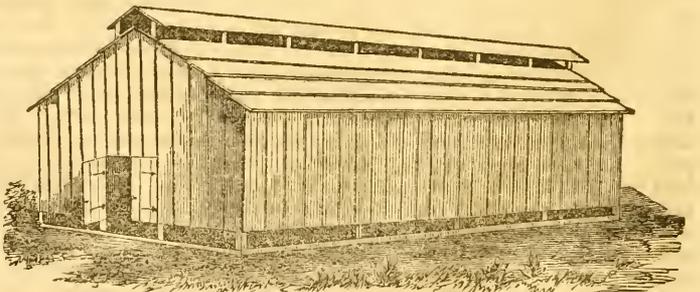
Drying Houses.

We gave, in a recent number of the FARMER, some directions for the cultivation of Tobacco, leaving the subject with the time of harvesting the crop. A very important part of the Tobacco grower's labor and care comes after the crop has been gathered. The process of curing the plant and preparing it for the market is one which requires skill and care, and a little negligence or ignorance at this time may go far towards spoiling the whole season's labor.

A shiftless farmer may let his corn stand till very late in the fall, and the hard grain and the dry stalk will suffer but little from storm and wind. He may let his hay remain out through two or three heavy summer showers, and still coax his half-starved cattle to eat it during the winter months. But the man who would be successful in raising tobacco must pay constant attention to his crop, from the time the seed is put in until the plant is thoroughly cured for the market.

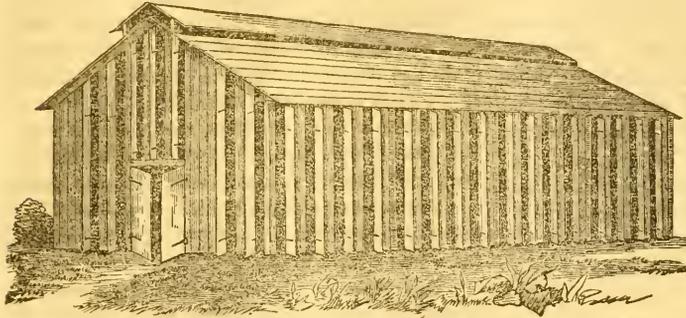


The cut which we first present shows a very common style of drying house. One end and sections of part of the side are removed, to show the manner of hanging the plants to dry. The remainder of the side shows the real construction of the building. The boards run from sill to platé, and every third one is hung on strip hinges so as to be readily opened for the admission of air.



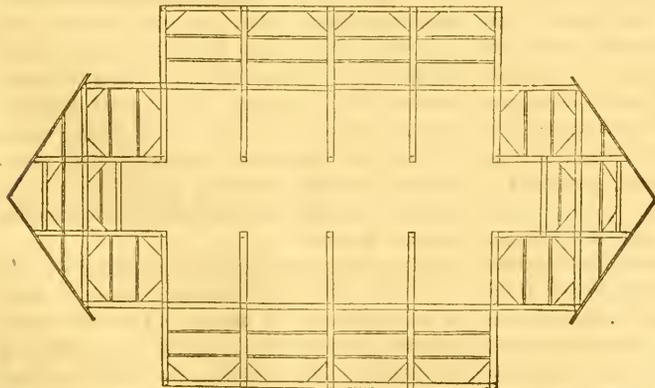
Our second illustration shows another form of securing ventilation. The boards all round do

not reach to the sill by a space of about two feet, and a portion of the roof is raised and left open at the side, so as to secure a constant change of air within the barn.



The next illustration shows an improved plan, which combines the features of the other two; the openings at the sides, extending the whole height of the barn to the eaves, and the raised roof. Of course care must be taken in making this roof to construct it so that water will not drive in during rain. The advantages of this construction are that the amount of ventilation can be easily regulated, neither allowing the tobacco to dry too rapidly, as it might do from the direct action of the sun and light, nor to absorb moisture from the atmosphere, as it would do in a time of continued humidity, endangering its loss from mildew.

The plan shows the frame-work of a barn sixty by thirty-nine feet, which would probably be large enough for the crop of about four acres. The specification for the quantity of lumber required for such a building, including the poles for hang-



ing the drying plants, show that it takes nearly 22,250 feet, two-thirds of which is included in the timber for the frames and the poles.

That Tobacco is a profitable crop, there is no question. Unless the taste of the world changes very materially, there is no danger of the demand ceasing, and we believe that the well tilled land of New

England, and the thrift of her farmers, offer a better prospect of a remunerating crop, than the worn out soil of Virginia, with careless cultivation. Still we should look long at the profit side, before we could ignore that silent monitor within, which would constantly remind us that the fruit of our labor was but smoke and ashes at the last, and that man was neither sustained nor strengthened thereby. But our scruples are individual, and we do not expect to convert the world to our side.

We again acknowledge our indebtedness to Mr. Wm. L.

Bradley, of 24 Broad St., for the use of the cuts we have given, and refer all who wish further information on the subject to his "*Tobacco Grower's Manual*," which can be obtained by sending to him as above. *Of course*, no farmer would do so without enclosing a stamp to pay the return postage.

THE New York Sunday School Union have commissioned four female missionaries for permanent service in missionary labor in the city. These missionaries will donate their time in family visitation, Bible reading and distribution of tracts and Bibles, and gathering the children into Sabbath Schools and the adults into church. It is the design of the Society to employ female missionaries so systematically and numerous, as to reach every family, and bring the young under Bible instruction.

EARS OF THE HORSE.—It is a good sign for a horse to carry one ear forward and the other backward, when on a journey, because this stretching of the ears in contrary directions shows that he is attentive to everything that is taking place around him; and while he is going he cannot be much fatigued, or likely soon to become so. Few horses sleep without pointing their ears as above, that they may receive notice of the approach of objects in every direction. "When horses or mules," says Dr. Arnott, "march in company at night, those in front direct their ears forward, those in the rear direct them back, those in the centre turn them laterally or across; the whole troop seeming thus to be actuated by one feeling, which watches the general safety!"

THE good fortune of the bad bows their heads down to the earth; the bad fortune of the good turns their faces up to heaven.

CULTURE OF ROOTS.

The attention of the reader is called to an article in another column on "Root Crops." Those who are making arrangements for a dairy business, especially, will find it advantageous to look thoroughly into the matter of raising roots as a part of the feed for their milch cows. Experience has convinced us of their great utility for this purpose. Our crop of roots of various kinds has sometimes amounted to fifteen hundred bushels in a season, which have been fed to horses, milch and dry cows, hens and swine,—and to all of them in a raw state excepting the latter.

Their effect upon horses was to keep the hair soft and glossy, and they took the place of grain, entirely, unless in cases where the animals were worked daily. With the dry cows, they saved considerable hay, and at the same time kept the appetite good, and the general condition of the animal excellent. The effect upon the milch cows was to increase the flow of milk and add to its richness, which will be found a matter worthy of consideration at the prices which butter is likely to bring for some time to come. In feeding them to swine, they were boiled, salted, and mixed with corn meal, and several kinds of roots included in the same mess. But perhaps no better use was made of them than feeding them to poultry. Twenty-five fowls will eat one large mangold weighing two or three pounds, daily, if the top is cut off and the remainder made fast so that it will not move about when they peck it off.

The mangold may be raised very cheaply. The soil can be mostly prepared with the plow and harrow, after the first weeding and thinning by some of the improved implements which the genius of the mechanic has provided for us. They should be planted in rows two and a half feet apart at least, so that the rough part of the cultivation may be done with the horse and cultivator, until the leaves have extended so as to be in the way. The plants should stand one foot apart in the rows, if it is desired to have them grow to a large size,—if not, eight inches will answer. Follow the horse cultivator with the common wheel hoe, or what is better than any other implement we have ever seen, "Harrington's Hand Cultivator." A man will soon run over an acre with this Cultivator, and leave it in a most complete and beautiful finish. It is light, durable, and efficient. It is easy to work with, as the person using it stoops very little as he passes along.

The next root crop which we should recommend as prolific and easy of culture would be the *blood turnip beet*. It is thought by those who have cultivated this root quite largely that it will yield as many pounds per acre as the mangold. It is hardy, not particularly subject to attacks by

worms or insects, and when produced is nutritious and highly relished by all the farm stock. In addition to this, if they grow fair, and of regular size, they are as profitable a crop for the market as any that the farmer takes there.

The culture of the *Suedes turnip* is more common and more generally understood. We do not rank it so high as the mangold or the turnip beet. It is a great exhauster of the soil.

The *carrot* is an excellent root,—all the stock like it, and it is especially excellent for horses. For their use, we should prefer 75 lbs. of grain and 25 lbs. of carrots, to 100 lbs. of grain. They not only keep the hair, but the *eyes bright*, and the whole system in excellent condition.

As an offset to the extra amount of labor required to cultivate an acre in roots, the farmer must look at the great increase in value which he receives from that acre over his best crops of English hay. There is, also, another important point to be considered, as it is not the amount of nutriment, alone, that is required. Upon our tables we use a *variety of food*, and consider it essential to health, and it certainly gratifies the palate. Is it not reasonable that the lower animals enjoy variety as well? This variety may not afford more nutriment than as many pounds of hay or grain, and yet be far more serviceable to the animal.

We are quite confident that our farmers can raise and use more root crops than they do, and find it profitable.

SWINE AND MANURE.

It is for the interest of the farmer to raise his own pork, as well as other meats. We believe this should be laid down as a general rule, by a large majority of farmers, not only to raise their own pork and all other meats, but just so far as is possible, everything of the eatable kind that is required for his own use. This course furnishes the table at once, and seasonably, with a supply of fresh and wholesome articles, without going through the long mercantile process of carrying to market, selling and purchasing, or exchanging for what is wanted.

This point, however, is only an incidental one now. Our present purpose is to speak of *swine* as *manufacturers* of manure. The views of a majority of farmers are directly in opposition to our own, in this respect. We prefer to keep swine for the pork they will yield, and not for the work they will perform on the manure heap. We like those medium sized, compact, symmetrical breeds, that will take on flesh and fat rapidly, compared with the amount of food they eat; hogs that are of a quiet disposition, and that, when they have filled themselves, will lie down and sleep, and grow lustily. Others say,—“the

leaner kinds are workers, and, when the manufacture of manure is an object, the working animal, although he may not fat so readily or on so small a quantity of food, will, in the end, prove the most profitable. They, therefore, have no objection to those long-snouted, raw-boned fellows, that are capable of turning a furrow like an old-fashioned plow, and which are as restless and as adverse to sleep in the daytime as a witch is said to be in the moonlight of a night in autumn. By selecting animals of this description, and providing them with plenty of food and materials, they will not only furnish us with a most valuable article of manure, but they will also fill the meat barrels with good and profitable pork."

We do not believe the doctrine, or practice its teachings. It is not economical, or consistent with other practices of the farm. The farmer who half starves his long-legged, raw-boned racer in order to make him work over the manure, does not act upon the same principle with his oxen that he is fattening for the shambles, or his own beef barrel. By no means. He supplies every means of comfort for them in his power. Gives them a dry bed, an agreeable temperature, a variety of nutritious food, and *just enough exercise in the open air* to make their blood flow briskly through their veins. And this is the true course, both with cattle and swine.

Well fed hogs may go upon the common manure heap with perfect propriety. They will turn it over somewhat, but no more than is sufficient to give them a healthful exercise. They should have ample room, *access to the sun*, a perfectly dry bed to go to when they please, and one that can be made dark in hot weather, so that they may escape the annoyance of flies. They should then be supplied, during the whole growing season, with an abundance of fresh, succulent vegetables, both for their own use, to absorb their droppings, and to increase the mass of manure. Sods, swamp muck, forest scrapings, leaves, chip manure, brakes, flags, ferns, weeds, &c., together with every species of spurious or refuse vegetation, should be gathered and thrown to the animals, a little at a time, to feed from and root over as much as they feel inclined to do, after having received two or three hearty meals each day.

The matter formed by the decomposition of these substances, together with the solid excrements of the animals, and the saline and earthy matters contained in the liquid voidings, will constitute one of the most valuable manures that can be applied to the soil, and will produce excellent effects on all descriptions of crops, whether of roots or grains. This mass will, of course, need an occasional turning over, but a man with a good fork, will do more of it in one hour of each week than the lean hog will in seven days. We let the

hog, therefore, exercise as much as his instincts prompt him to in order to preserve health, and sleep away most of the time in the warm sun's rays in cold weather, or in his retired and cool bedroom in the hot days and nights.

During the first six months of his life, he should not be fed to fatness, but with a variety of flesh making food, such as skim milk, vegetables, roots, and plenty of short, fresh grass, cut when not more than an inch or two high, and fed a little of it several times a day through the entire summer. In the cooler weather of October and November, corn and corn meal may be given him, and for six weeks before slaughtering as much of the latter, slightly salted, daily, as he will eat, together with as much pure cold water as he will drink, once each day.

The pork of such a hog, if properly dressed, salted and preserved, will be as sweet as any nut that was ever cracked, and in our opinion, as wholesome and nutritious as beef or any other flesh.

NEW BOOKS.

THE ILLUSTRATED HORSE MANAGEMENT, Containing descriptive remarks upon Anatomy, Medicine, Shoeing, Teeth, Food, Vices, Stables; likewise a plain account of the Situation, Nature and Value of various Points, together with comments on Grooms, Dealers, Breeders, Breakers and Trainers; also on Carriages and Harness. Embellished with more than 400 Engravings, from Original Designs made expressly for this work. By EDWARD MAYHEW, M. R. C. V. S., author of the "Illustrated Horse Doctor," and other works. Philadelphia: J. B. Lippincott & Co., 1864.; Boston: A. Williams & Co.

We yield to few persons in our regard and attachment to the horse. He is one of the most useful servants of man, and, properly treated, is one of the most profitable among them all. The reader of these columns cannot have failed to notice the numerous references we have made during the past year to "*Mayhew's Illustrated Horse Doctor*," and the engravings given, illustrating some of the diseases and malformations of the horse. We consider this the best work extant upon the diseases of the horse. We now have before us another work by the same author upon the management of the horse, and a careful examination of it brings us to the opinion we formed of the former volume, that this, also, is the best work in our knowledge, upon the subjects of which it treats. It is a much needed one, too. It tells all about the proper and improper management of the horse under all circumstances,—about the structure and economy of the animal, his shoes, his food, his stable, his breeding, breaking and training. The chapter on "Points," and where to look for their development, is worth the price of the volume.

Dr. Mayhew has probably had as much actual experience and observation of the horse as any person that lives. This is exhibited on every page of his book. His humanity and kind consideration of the animal are as manifest, also, as the grea

intelligence with which he treats his subject. This we consider one of the prime excellencies of the work. Every feeling person must read his works upon the horse with pain, when he learns how cruelly he is often used, but with admiration, also, for the humane and noble sentiments everywhere expressed in his pages by the author. We hope the work will fall into the hands of a million of horse-owners, and that they will read, ponder and "inwardly digest" the excellent suggestions contained in it.

For the New England Farmer.

ROOT CROPS.

The season is at hand when every judicious husbandman begins to look over his plowed fields for the purpose of ascertaining their adaptedness to different crops, with a desire to appropriate to each such a growth as will not only bring a remunerative return for the labor invested, and leave the soil in an improved condition, but also affect favorably the general interests of the farm. At this season, a word of encouragement in regard to the cultivation of *roots* will not be out of place, and may awaken an interest in the subject which will materially affect the aggregate number of bushels to be harvested the coming autumn.

In the spring of 1855, Solon Robinson wrote an article for the *New York Tribune*, entitled "Plant one acre more," in which he reminded the farmers of the high price of breadstuffs, and of the multitudes in large cities who suffered from the scarcity of provisions, and urged the importance of putting in as much grain as could possibly be attended to. It was estimated that his simple request increased the crops of the United States *one million of acres*. At the present prices of labor it may not be expedient to plant an acre *more*, but it is an important point to ascertain how to plant the ground we have so as to increase the value of our crops.

In 1843, Daniel Webster asserted that the cultivation of the turnip within the last fifty years had revolutionized English Agriculture. It had trebled the number of bullocks and sheep, and he had no doubt it would produce a similar result in this country. The opinion has been expressed in this paper, that by proper attention to the cultivation of roots, the capacity of the farms of New England for keeping stock may be doubled. If this is true, which no one has attempted to deny, the subject deserves more attention than has yet been given to it. That roots are a valuable food for dairy stock no one doubts who has made a trial of them. A careful study of the tables of experiments published in the "Agriculture of Massachusetts," in 1858, will be profitable to any who are skeptical upon this subject. A horse that is driven on the road will thrive better on five quarts of meal and three quarts of carrots than on eight quarts of meal. Every fifty bushels of carrots fed in this way supplies the place of fifty bushels of corn, and can be grown or bought at one-fourth the cost.

In the "Agriculture of Massachusetts" for 1853, (page 223,) the reader will find a tabular statement of twenty crops of carrots raised in Worcester County, and entered for premium from 1846 to 1853 inclusive, giving the name of each

grower, number of rods planted by each, cost and yield. It appears that the average yield was 2066 tons per acre. It is not expected that every farmer will secure a premium crop, but ordinary pains will secure six hundred bushels to the acre, and this will highly pay the cost of cultivation. Most people magnify the labor attending the cultivation of roots, having had no experience, except with the little garden bed which was permitted to mat itself over with weeds before any effort was made to subdue them, and then after one spasmodic effort which resulted in destroying more carrots than weeds, it was given over, and weeds and vegetables struggled hard for the championship. "A stitch in time saves nine."

A neighbor of mine has sold one hundred bushels of French turnips at fifty cents per bushel the past winter. It has been practically demonstrated that, at ordinary prices of labor, turnips can be raised at from twelve to fifteen cents per bushel. Dr. Loring, of Salem, raises 1600 bushels of mangold wurtzel per acre, and at the present prices of meal and scraps, it becomes every farmer who indulges in the luxury of keeping swine to inquire if this root properly cooked cannot be substituted, in part, for more expensive food.

It has been objected that roots leave the soil in bad condition; but every one knows that no crop pulverizes the soil more perfectly than roots, and the heavy hay crops, which have been taken from ground upon which carrots have been previously cultivated, are sufficient evidence that roots improve rather than impoverish the soil. As to the effect of these crops on the general interests of the farm, it is only necessary to add that any system of husbandry that increases the stock on the farm, is sure to increase its fertility.

If the enterprising farmers of this section, who are selling butter at fifty cents per pound, and are anxious to make much more than they now do, would enter into this matter with half the zeal with which the farmers of the Connecticut Valley are engaging in the cultivation of tobacco, I am of the opinion they would reap a more satisfactory harvest, and deserve a higher place in the memory of those who are to come after. VIATOR.

Hopkinton, April, 1864.

PLANT PEAS DEEP.

In an article recently written on the culture of early peas, we recommended that they be planted deep, say as low as four to six inches. We find the following in confirmation of these views:

The theory recently advocated of planting peas very deeply in the earth, in order to prolong the bearing capacity of the vines, has also been well tested and found to be correct. A farmer told me that he ploughed a furrow beam deep; then scattered the seed peas at the bottom after which he turned a deep furrow upon them with his plough, covering them, if possible, to the depth of twelve or fourteen inches. They pushed their way up through the thick mass of earth very soon, and, instead of turning yellow at the bottom and dying after the first gathering, they blossomed and bore until he was tired of picking the pods. If such a result will uniformly be realized from the plan, pea culture may be more profitable than hitherto.

CLOVER HAY FOR HORSES.

We have long urged upon the farmers of New England the importance of raising more clover hay, not only for milch cows and sheep, but for horses also. We have spoken of its nutritive properties compared with other hay, and of the fondness which cattle and sheep and horses always evince for it, and have urged that its highly nutritive qualities and this decided preference ought to be sufficient reasons to induce farmers to cultivate it more extensively.

It is at present *unfashionable* to use clover for horses in city stables, and it is, therefore, unmarketable. But there is a reason for this, in the quality of the clover hay which has too often been presented in the market for sale. It is either greatly damaged or spoiled in curing it. No other hay is injured so rapidly, or so essentially, by neglect and exposure while making it, as clover. It has broad leaves and bulky, juicy stems, so that the plant is succulent and heavy, and when cut soon becomes quite compact. While in this condition it will quickly heat and induce the fermentative process, when its nutritive qualities are rapidly changed and lost as food for animals. At this period it is thrown open, perhaps, and dried, but its fresh, green look has gone, its sweetness departed, most of the leaves have fallen off, and it is little but a mass of blackened, dusty fibre, and just such as should be rejected by both man and beast. No wonder that stable-keepers refuse to purchase such stuff as fodder for their horses.

If a few tons of well-cured clover hay were brought into market and two or three leading stable-keepers should use it, we have no doubt but the demand would be quick for it afterward. It is not, however, we must confess, so well adapted for transportation as timothy and red top, because its leaves are so liable to be broken off in carriage. Our remarks are suggested, mainly, to the farmer who desires to feed his stock upon the most profitable varieties of hay in his own barn,—and this we consider to be well cured clover hay.

Some object to it that it runs out too quickly—that they can get only a single crop from a sowing, and that this is too expensive. This is certainly apt to be the case if the crop that succeeds the first cutting, what is called the aftermath, or second crop, is allowed to go to seed. Those plants that go to seed, having performed their office, that of perpetuation, will not start up again, while those that *do not go to seed* will continue to flourish two or three years, and produce heavy crops.

In this course, the cost of plowing and reseed-
ing is largely more than paid for in the exuberant

crops, and in the decided value of the clover roots which are left in the soil. It is thought that a somewhat thin and poor soil may be permanently fertilized by this course, with only trifling aid from barn manures to start with. If such is the fact, it affords another substantial reason why our farmers should considerably extend their fields of clover.

We hope our correspondents will give their views upon this subject, especially now, when so many persons have engaged in sheep husbandry. The subject is worthy of close attention by all cultivators of grasses. An article on another page, on this subject, will well repay perusal.

EXTRACTS AND REPLIES.

On Pulling Stumps.

I have a lot of stumps in a swamp, to remove, and wish to get them out of the way with as little expense as possible. Will some of your correspondents, who may have worked pulling at stumps, or are acquainted with the business in any way, please give, through the columns of the *Farmer*, a description of the manner in which it is done, and what kind of machines or other power they use?

Any information in regard to the above will be received with pleasure by
A SUBSCRIBER.

In the *Farmer* of April 16, "A Subscriber" says he has a lot of stumps in a swamp, and wants some one acquainted with the business to tell him how to get them out. I have that experience, and have quite a story to tell in the *Farmer* some day, but have not time to shape it now. But I can safely say to "A Subscriber," that it will be money in his pocket, (if he does not live at too great a distance,) to take the Old Colony cars, which stop near my door, and see me and my swamp. He can see stumps enough pulled, and what pulls them, and get a large experience very quick, free gratis.

CALEB BATES.

Kingston, Mass., April 19, 1864.

REMARKS.—We know Mr. Bates very well, and have seen the stump-puller to which he refers, in operation. He has given "A Subscriber" an invitation which we hope he will accept, as seeing for himself will be more satisfactory than any suggestions can be. Mr. Bates is one of our practical, progressive farmers, who always looks into the causes of things, as far as his opportunities will allow him to.

Sicilian Fowls.

In your last letter you wished me to give you a description of the Sicilian Fowls that I have.

In May, 1861, I received the eggs of the above-named fowls, from Mr. Wilson, of Cohasset, Mass., who imported them in the fall of 1860. You wish me to give you a statement of the product of these fowls, but this I am not able to state, as I have not kept my account of the amount of eggs laid from five or ten hens, as I have kept them with my other varieties of fowls until I select them in the spring, for breeding.

I have the White and Speckled Leghorn fowls, which are considered by good judges to be the best, or as good as there are in the country; but I have tested the same number of the Sicilian fowls with the Leghorn, for three months, and the Sicilian fowls laid ten dozen eggs to the Leghorn 8 dozen.

The Sicilian fowl is a very beautiful bird, about the size of the black Spanish fowl, and their color quite near that of a woodcock or snipe; comb and wattles very large, and a large white spot about the ear, similar to that of the white Leghorn fowls.

I think these fowls deserve the highest attention among our poultry breeders. The flesh of the Sicilian fowls is very juicy and of excellent flavor and is much admired by those who have used them for the

table. They were last year tested in the New Haven henneries, and were highly recommended for their laying qualities. JAMES M. CLARK.

Chester, Ct., April 18, 1864.

REMARKS.—We have never seen the Sicilian fowls, and can find no account of them in the books. Our correspondent's account of them is very favorable.

Stretches in Sheep.

I wish to inquire through your paper, of Mr. H. P. GALE, of Washington, Vt., what his medicine is for the scours and stretches in sheep? Mine is, for the stretches, one table spoonful of castor oil mixed with $\frac{1}{2}$ pint of warm milk. Turn down out of a bottle. It seldom fails. If there is any better medicine I should like to know it. The scours I never have had in my flock. C. F. LINCOLN.

Woodstock, Vt., April, 1864.

Reducing Bones---Snow---Sheep.

I should like to have you inform me through the medium of the *N. E. Farmer* how I can prepare several hundred pounds of bones that I have on hand, for a fertilizer, and how long a time it will take. What are they worth per hundred to sell, and where can they be sold at the best advantage?

We have just had the most severe snow storm of the season; there has not been so much snow on the ground before, at any time this winter. Our people are making lots of maple sugar.

Farmers in this section are losing lots of sheep this spring; they came to the barn very poor. On account of the severe rains of last fall, much of the hay was cut late the last season, making it very poor feed for stock. N. W. HARDY.

Nelson, N. H., April 14, 1864.

REMARKS.—The cheapest and easiest way for the farmer to dissolve the bones he collects, is to boil them in strong ley. It will require three or four hours' boiling, probably, to soften them so that they can be reduced to a paste. The alkali in which they are boiled being a good fertilizer, the whole mass will make a manure that can scarcely be excelled.

We are informed that manufacturers are paying from \$20 to \$25 per ton for whole bones.

USE OF POULTRY MANURE.

MESSRS. EDITORS:—I send you my way of preparing and using hen manure on corn.

I have been in the habit for several years of getting together all the clear manure from the hen roost that I could, and a few days before planting, (say three to six,) mix an equal quantity of wood ashes and about half as much plaster thoroughly together, wetting enough to moisten the whole. When my ground is ready marked both ways, drop a small handful to each hill, or one large handful for two, planting the corn as soon as may be, after dividing the compost with a slight motion of the hoe, before dropping the corn and covering up with good mellow dirt.

Wetting the compost helps much to pulverize hen manure, and insure the corn immediately, which it would not be likely to do until after a rain if planted in its dry state.

I have never tested by actual experiment the increase of crop, but am well satisfied that I get enough more corn to keep my hens during the winter and spring, (give them all they will eat,) besides lots of pumpkins in the bargain.

Perhaps something else would do better in the place of ashes. I think I shall try some with muck this year, and note the difference, if any, in the yield.—A SMALL FARMER, in *Country Gentleman*.

EFFECT OF COLD WEATHER ON THE SEPARATION OF CREAM.

Judging from the management of the dairies of many of our farmers, and also in many of the larger ones, where the butter is the chief object, the managers seem little to understand the effect of a low temperature upon the rising of the cream, or at least they do not arrange their milk so as to obtain the greatest amount of cream. There are several conditions which do much to modify the quantity of cream which may be derived from any given quantity of milk; the fatty matter which afterward composes the butter is held in suspension by the water of the milk, and hence, when standing in the udder of the cow, the best and most rich portions rise to the surface, and consequently are last drawn. By the common mode of milking, the poor and richer portions of the milk become mixed together, and the separation of the cream is made far more difficult and slow. In most of the large English dairies, and in some of the best ordered in this country, it is the rule to divide each cow's milk into two portions at the time of milking, and these two portions are kept entirely separate until the cream is all raised, when it is sometimes mixed, but oftener kept separate altogether. In some of the large dairies of Devonshire, each milker has three buckets, and divides each cow's milk into three portions, which, with their cream, are kept entirely separate. It has been stated by eminent English dairymen that if the first two-thirds of the cow's milk is kept separate from the remainder, at least ten per cent. more cream may be obtained. Those who make butter can calculate whether this will pay for the extra labor which is incurred.

Another mistake very often made is that of putting too much milk in the pans; experiment has proven that if we take two equal quantities of milk and place one in pans to the depth of six inches, and the other to the depth of only two and one-half inches, the latter will yield from seven to eight per cent. more cream than the former. This is the case more particularly in cold and damp weather, and at this time the mistake is most commonly committed.

The temperature of the surrounding air has also a great effect upon the time required for the raising of all the cream; experiment has demonstrated that the process is more rapid in warm than in cold weather. With the thermometer at

80 degrees,	all the cream will raise in 10 hours.
77 " " "	" " 12 "
68 " " "	" " 18 "
55 " " "	" " 24 "
50 " " "	" " 36 "
45 " " "	" " 42 "

Sprengel found that if the milk was kept at a temperature as low as 37°, but little cream would raise in three weeks.

In order to avoid the trouble of keeping the cream at the proper temperature, it is customary in some dairies to churn the whole milk. The advantages claimed by those who follow this plan may be briefly stated thus: The proper temperature can be readily obtained both in summer and in winter; five per cent. more butter can be obtained from the same milk; the butter is not only of the best quality while fresh, but if properly managed, will keep much better.

This plan would not work so well in the neighborhood of a good market for skim milk, but when cheese is an object there would be little or no

difference, for the buttermilk will make as good a cheese as skim milk.

In summer it is difficult to reduce the temperature of the cream as low as 55°, but the whole milk need only be reduced to 65°, to which most cellars, without any difficulty, reduce it.

In Brittany, the milk of the previous evening is mixed with the morning's milk, and after standing a few hours, the whole is churned, and is said to produce a larger amount of butter, of a better quality, and will keep longer.—*DAIRYMAN, in Germantown Telegraph.*

CLOVER HAY FOR HORSES.

Dr. McClure is one of the leading veterinary surgeons of Philadelphia, and, we may add, of the United States. His opinion, therefore, on any matter connected with the food and health of the horse can be quoted with confidence. In a recent article in the *Culturist* he advocates the feeding of clover hay to horses, and thinks it would prevent a disease now prevailing among the horses of this city, during which they will not eat timothy hay; so little of it being brought to market. He then proceeds to say:

Why is this the case? Simply because there is a prejudice existing among all classes of horse-men, and from them communicated to the owners of horses, against feeding this kind of hay. First, because it is said that clover hay produces heaves, and secondly, because it is said that it is not respectable to be seen feeding with clover hay, as it looks parsimonious. These opinions concerning this article are so widely and firmly fixed in the mind of almost every groom and stableman, as well as horse owner in Philadelphia, that I believe it has been the cause why most farmers are not found giving clover cultivation to the extent it ought to be, or as its superiority as an article of provender demands. Let us now examine in brief, the objections that are laid against it. It is said it will produce heaves in horses. The idea is as false as it is preposterous. If broken wind is produced by an article of food, it certainly is not from food, but from the quantity given. In like manner, heaves may be caused by a too great quantity of water, oats, or any kind of hay whatever, given at an improper time, as when the animal has a journey to perform. In a word, it is the person's fault in giving too much food at an improper time, and not the character of the food that thus produces heaves in the horse. The man, who, when feeding a horse, would fill its manger with oats and corn, would not be considered a very fit man to feed and care for horses, neither is that man who would fill a large rack full of clover hay; as the animal will not stop eating until it has hurt itself; as every horse is fond of it, and, as before stated, sick horses will eat it when they will not eat anything else. Without another word, the argument is complete.

For argument's sake, let us see what there is in the other objections of clover hay. It savors meanness. Does this opinion arise from the idea that the queenly cow eats and feeds upon it in all our large cities? How much inferior is she to the horse, and which adds most to our domestic happiness as well as health? Is it mean to purchase for horse feed, hay which is superior to any other, and sold forty cents to half a dollar less than the best kinds reported in the market? Or, is it a

generosity in the department or character of any man, to feed his horses upon that which the animals do not seem to relish, trample a large portion of it under their feet, to be carried thence to the dung hill, when another article superior to it, in point of nutriment, and costing from forty to fifty per cent., less may be obtained?

The whole may be summed up in a few words, as follows:

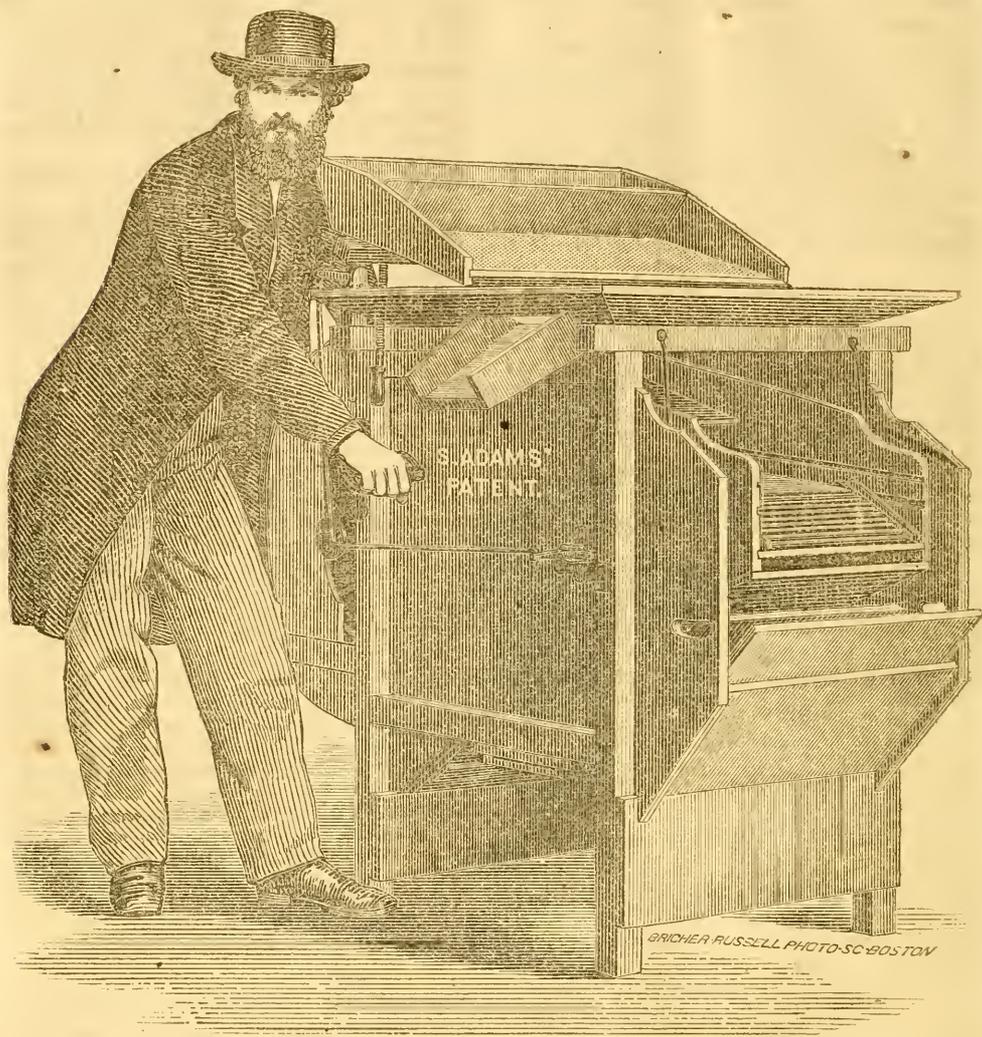
Good clover hay contains forty-five per cent. more fattening matter than timothy hay, and about forty per cent. more than the English rye-grass hay; about ten per cent. less than dried lupins or vetches, which are extensively used in Europe for the feeding of both horses and cattle, and which are second only to the *Trifolium hybridum* or *Alsike* clover, so named from a district in Sweden called *Alsike*. *Alsike* clover contains the properties of both the red and white clover, and was first introduced into Great Britain about 1854. This variety of clover has for the last few years engaged the attention of agriculturists in Scotland and various parts of England to a great extent. Its reputation is now so firmly established, that more of it has been sown the last year than ever before. It is said by many agriculturists that animals will leave any other grass or clover to feed on the *Alsike*, and they say farther that the more it becomes known the greater will be its cultivation.

We may add to the foregoing that thirty years ago farmers never raised timothy for their own use, and upon many farms, even within reach of the Philadelphia market, not a pound of timothy hay was produced. Farmers fed clover exclusively to their horses, with cut straw and shipstuff, and moderately with whole corn. These horses were put to all kinds of work, were ridden and driven at all times; and we venture to say, backed by our recollection, that the horse at that period was not subjected to one-half the diseases that it is now. The truth is we will have to go back to clover, probably of the new variety named, to a considerable extent.—*Germantown Telegraph.*

SALSIFY, OR VEGETABLE OYSTER.

This vegetable has never been extensively cultivated in this country, although it is more frequently met with now than formerly. In its general habits and modes of growth, it resembles the parsnip, though the roots are much smaller, and the yield of course less. It requires a deep, rich and rather warm soil, and should be sown early to secure a good crop. As soon as the plants are fairly up, they should be weeded, and the ground kept clean and light by frequent applications of the hoe. The best manure is that from the hogsty, or stable dung, well decomposed.

This vegetable derives its name from the near resemblance it has, in taste, to the oyster. It is a wholesome edible, and is greatly admired by those who have acquired a taste for it. On suitable soil, it yields well, and so far as our experience enables us to judge, is very little subject to injury from attacks of insects or vermin of any kind. The second year the plants flower, and the seeds may be gathered by hand as they ripen.



A NEW FANNING MILL---ADAMS' PATENT.

Perhaps no one thing has so operated to increase the hard labor of the farmer, and to perpetuate it, as the universal prevalence and immense multiplication of weeds. That labor is like the toil to which Sisyphus was doomed by the gods for betraying some of their plans,—to roll a huge block of marble up a hill, the moment it reached the top it would roll back again, and thus he was tormented by this incessant and never-ending toil. So it is with the farmer and the weeds. He has contrived to sow foul seeds with his grains, and is then tormented with weeding the crop, while his neighbor neglects to weed, and raises a luxuriant growth, to send its seeds over all the adjoining lands!

Now, however, through the genius of the mechanic, a way has been devised to prevent this wide-spread mischief. *Adams' Patent Fanning*

Mill will separate all the various seeds, if the farmer will but press it into his service. We have seen nearly all kinds of seeds, large and small, together with sand, dust, bits of straw and other foul stuff mixed and thrown into the hopper, and in a few minutes all *separately* returned. It cleanses all impurities from wheat, rye, oats, barley, flax seed, millet, rice, coffee, timothy, clover, hemp, canary, garden seeds, mustard, &c. A merchant sent Mr. Adams 611 pounds of gum Arabic, from which he took 27 pounds of sand, probably from the desert, which must have been blown through the sacks while undergoing transportation. It was almost as fine as flour. Out of 16 tons of mustard seed, 868 lbs. of Canada thistle seed and black chaff were taken. From 29 sacks of rice were extracted 67 lbs. of broken rice, 128 lbs. of flour dust and 51 lbs. of lumps of

dirt! From 2738 bushels of Canary seed were obtained 171 bushels of foul, worthless seeds, a portion of which were found to be seeds of poisonous plants.

Among the seeds more common for farm use, from 77 bushels of barley were obtained 61 bushels of pure barley, 9 bushels of oats, 4 bushels of peas, and 3 bushels of tangle-weed and other foul seeds.

From 336 bushels of rye were obtained 306 bushels of pure rye, 21 of oats, 6 of light rye and oats, 1 of tangle-weed, $\frac{1}{2}$ bushel of peas, 8 lbs. of pure ergot, and some other vile stuff!

From 30 bushels seed wheat, $1\frac{1}{2}$ bushels of foul seed were obtained, and from 297 bushels flax seed, 20 bushels of "No-flax" and kale, or wild turnip seed, were obtained. From 28,992 lbs. of foreign mustard seed were obtained 27,829 lbs. so pure that it was shipped to England and sold at 11 cents per lb., leaving 1054 lbs. of chaff, Canada thistles and other foul seeds.

It would be useless for us to spend many words in commending a machine that will accomplish such results as these. Adams' Fanning Mill will accomplish this with *certainty and rapidity*, and *its general use would greatly lessen the present labor of the farm, while it would as certainly increase its profits.*

For further information inquire of J. Nourse, Agent, at 34 Merchants Row, Boston.

For the New England Farmer.

CATERPILLARS AND THEIR NATURAL ENEMIES.

Caterpillars have increased so as to be very destructive in some sections. Neglected apple trees near me the last season had every leaf devoured, while the wild cherry in the woods supplied entertainment for legions. In common with many others I keep them off my trees so that they have done no great injury, but had enough left that escaped to observe their habits, and to find that they have enemies unknown before to me. When a good Providence provides a check to such infestations, it will be well to know our friends, and not in ignorance destroy them. I put my hog-head used for irrigation on end under an apple tree, and on its head the tunnel for filling, which is a pail with a large tin pipe fitted in its bottom. Inside of this the caterpillars found an excellent place in the angle formed by the sides and bottom to make their cocoons, which they improved by filling all around; at the same time it made an excellent place for me to observe them, which I did by lifting the pail from time to time, to study them and to astonish older people than myself with my "larning;" by showing them what had been done every year of their lives under their noses. Surely, "having eyes they see not." After their cocoons were all formed, (and it is surprising how quick a worm two inches long will shorten into a chrysalis three-fourths of an inch long, enveloped in silk,) we continued to look to see when the moths would come out. Instead of

millers, I found one day two of the chrysalides attacked by "grandpa-long-legs," who gnawed into the cocoons a short distance from one end and were feasting upon them.

Being very much pleased to find grandpa making himself useful, even if his teeth were poor, in eating the life out of this pest, I made a visit the next day to note progress, when lo, and behold, young America was there—a worm had pushed aside the silk at the thin end and was going straight through the chrysalis! Filled with new delight and hope, I visited my observatory in the later part of the day, and found two worms at work. I then proposed to take time the next day and get a careful description of those good fellows, and make it known through the *Farmer*," so that no man should lift his hand against them, as we are apt to do with all worms, not knowing friend from foe. Went the next day with this good purpose and was chagrined to find that we, who are all the time on the jump, should be too "slow a catch" for them, for before the grandpas could finish their breakfast, they had swept the board and devoured a baker's dozen, and were away, no doubt for more! Now for the best description I can give.

I could not see their heads—they being out of sight in the insect they were feeding upon—but the rest of the body was very smooth, light brown, long and slim; say $1\frac{1}{4}$ inches long by 3-16 of an inch in diameter; could see that they were span workers, and no doubt quick travellers when in motion, and when still, lying straight along a branch of their own color, and are not easily seen. Wherever I have seen the chrysalides—and that is a large number—amongst hotbed sashes and planks, under window sills and fence rails, every one appears to be destroyed by this worm. On examining my trees to find the nests of eggs, (which all ought to do before the trees leaf out, for they are very easily seen and are generally on low branches,) I have found but very few, which gives me a large hope that we have found a check to the ravages of the caterpillars.

CALEB BATES.

Kingston, Mass., April, 1864.

For the New England Farmer.

PROFIT OF HENS.

Frequent statements and inquiries are made as to the profits of hens, and what kinds are the most so. There is probably a difference in the various breeds, but no certainty to be relied on in the matter. Much depends upon the individuals of whatever breed, whether profitable or not. Many kinds have been tried and got mixed up with the old sort, and this mixed breed is generally kept in this part of the country and give as good satisfaction as any.

To explain what I mean by individuals of the various breeds, I will mention two cases within my knowledge. One of my neighbors, a few years since, was inquiring about the profitableness of keeping hens, and said he had had three hens for two years past, that had not, to his knowledge, laid an egg, and he did not think them profitable. They were on a farm where plenty of corn, wheat and oats were raised, and could never have suffered for want of good fare. The other case occurred last year. In the spring, little Johnny Ames' grand mother gave him a hen which he

carried home. The rooster followed her. She laid many eggs, hatched and brought up three broods of chickens. The surplus eggs were sold. The chickens, except twelve pullets, were killed and sold at the door in November last. The eggs and chickens sold, reckoning the live pullets equal to a like number killed, all amounted to ten dollars and some thirty cents, and the hen was still laying. This she produced besides scratching for most of her living and support of her chickens while under her care.

Now it requires no figuring of the price of corn and other food in these two cases, to decide on the profitableness of Johnny's hen for some eight months, and the unprofitableness of those of his uncle for two years.

Do we not often witness the same difference in the productions of other domestic animals of the same breeds? Are we not too apt to jump at conclusions of the value of a breed, from an experiment with a single individual of the race?

RUFUS MCINTIRE.

Parsonsfeld, Me., 1864.

For the New England Farmer.

VALUE OF BARNYARD MANURE.

With the view of determining the actual value of barnyard manure as found in the enclosures of our New England farmers, I have recently submitted several specimens to chemical analysis. A parcel obtained from the yard of a neighbor, which, under the conditions in which it was produced and preserved, may be regarded as a fair representative of the article as furnished by ordinary farmers, gave the following results:

A portion, weighing 7280 grains, was carefully dried in a porcelain dish over a water bath, and it was found to lose of water 5960 grains, leaving of dry matter 1320 grains. Of the residuum thus freed from moisture, 455 grains were placed in a platinum capsule and carefully ignited, thus removing the combustible or carbonaceous matter made up of the elements, oxygen, hydrogen and carbon. The resultant ash weighed 177 grains, showing a loss of volatile or combustible elements amounting to 278 grains.

In order that the results of the analysis may be clearly understood by agriculturists, it may be desirable to present them without regard to fractional parts, and to estimate by the whole amount experimented with, viz., 7280 grains. This amount gave of water, 5960 grains; combustible or carbonaceous matter, 806; nitrogen, 29; potash and soda, 41; lime, 43; magnesia, 14; phosphoric acid, 15; sulphuric acid, 11; chlorine, 14; silicon or sand, 335; oxide of iron and alumina, 22. The points in this examination which will doubtless appear most striking, are the large amounts of worthless material which constitute the bulk of barnyard manure, the water and sand greatly predominating over everything else. A better idea of this may be obtained, if the results of the analysis are applied to a larger amount of manure, which will give the constituents in pounds.

Assuming that a cord of ordinary barnyard manure will weigh 3000 pounds, its actual value as a fertilizer may be presented as follows: There are contained in it of water, 2456 pounds, common sand, 138 pounds; these added together give 2594 pounds of perfectly worthless substances. Now, if we still further subtract the carbonaceous

matter, 332 pounds, which is of no more value than muck, peat, straw, or chaff, we have left only 74 pounds of active fertilizing material, which has a money value. To obtain this 74 pounds, which really is all that is valuable, the farmer loads and hauls upon his field 3000 pounds, or one and a half tons of a compound in which there is water enough to do the weekly washing of a small neighborhood, and a sufficiency of sand to keep the kitchen floor tidy for a month. The 74 pounds of mineral salts might be taken in an ordinary bushel basket and carried upon the shoulder to any point desired.

In this amount there is the nitrogen, potash, soda, lime, magnesia, phosphoric acid, sulphuric acid, chlorine, iron and alum. In estimating the market value of these substances, we may obtain the nitrogen by the use of crude nitrate of soda or sulphate of ammonia, at a cost of \$1.70; the potash, soda, &c., in 1½ bushels of good wood ashes, at 25 cents; and 15 pounds of common salt, 10 pounds of bone dust, 3 pounds of gypsum, will supply the remaining constituents at a cost of 40 cents. If we estimate the carbonaceous matter at 10 cents, we have, as the actual cash value of all that promotes plant growth, in 3000 pounds of barnyard manure, the sum of \$2.45.

There are but few localities where the farmer can purchase manure at less than five dollars the cord; and when to this we add the expense of hauling and applying to fields, we find there is a wide margin between the cost of the isolated valuable constituents of manure, and the article as furnished in its natural condition.

If bulk in fertilizers is desirable, artificial barnyard manure may be produced by thoroughly composting with a cord of seasoned meadow muck, 65 pounds of crude nitrate of soda, 2 bushels of wood ashes, 1 peck of common salt, 10 pounds of fine bone meal, 2 quarts of plaster, 10 pounds of epsom salts. The cost of this compost ought not to be over \$3.00 the cord, and in fertilizing power it may be found to exceed ordinary animal excrement.

The question has arisen, whether analysis furnishes true data from which to estimate the actual value of barnyard manure; whether there is not some property communicated to mineral salts in their passage through plant and animal organisms, which peculiarly adapts or fits them for again becoming plant fructifiers. This is an interesting question, and one which may be considered in a future communication. In what has been presented, the fact is not overlooked, that manure or animal excrement as found upon the premises of farmers varies greatly in value. Its value is in proportion to the worth or richness of food supplied to animals. A herd of kine fed upon clover hay, and supplied liberally with grain and turnips, will furnish excrement of more than twice the value of that from animals fed upon run hay, with no grain or roots.

The farmer is very apt to look upon the contents of his yard as so much manure—in value equal to any other which it may in physical aspect resemble. This is a very erroneous view of the matter. Lean feed makes lean manure; and the actual value of a parcel may be understood by knowing what kind of hay or grain has been furnished the animals producing it. Whenever, in riding past a farm-house in the winter, we notice

the stock to be particularly lean and weak, we may be sure the heaps of manure under the eavesdroppings of the barn are as lean and weak as the poor animals shivering around them.

In extended chemical examinations of different kinds of excrement during the past winter, several incidental points which are deemed of much importance, have attracted attention. I will at this time bring to notice but one of them, and that relates to the proper preparation of food for animals. In quite all the parcels of excrement submitted to analysis, the evidence of imperfect digestion and assimilation is palpably manifest. Corn, oats and timothy hay have been found in large quantities, entirely unchanged in their passage through the stomach and alimentary canal of horses and horn cattle. It will be safe to say, that, under the prevailing method of feeding, fully twenty per cent. of the hay and grain is lost, the nitrogenous and carbonaceous elements being rejected without assimilation. The vital processes, unaided by any preparation or softening of food before consumption, seem incapable of perfectly dissolving and changing it when deposited in the stomach. The silica in the husks of oats, and stalks of grasses, probably retard these processes, and hence we see how important it is that food should be steamed, or otherwise cooked, before being fed to animals. Oats and corn should certainly be finely ground, and if, in addition, facilities for scalding or steaming are provided, much gain will thereby result to the farmer.

J. R. NICHOLS.

111 Milk Street, April, 1864.

EARLY SEED CORN.

We often see advertisements of early seed corn of different varieties, which are not always to be relied upon to the extent stated. When a particular variety of corn is introduced into any locality, it may come two, three or even four weeks earlier than other kinds which have been cultivated in the same region; but if the seed raised from it in successive years is planted, it will gradually lose its early quality and become as late as any other; and for a very simple reason: because it has adapted itself to the climate in which it is raised. Plants have many of the characteristics of animals, and among them is that of adaptation, or the power of acclimation. Animals often undergo an entire change in the course of a few generations, on being removed from their own appropriate regions, and so do plants. The early corn is usually brought from a more northern latitude where the season for its growth is short and where it is compelled, as it were, to ripen early in order to escape the frosts, being planted late for the same reason. Our late corn, if taken into Canada, would, in the course of a few years become early corn, just as early corn brought from the far North becomes late after several seasons' planting.

The only way to have early corn every season, is to obtain the seed each year from a more northern region—the farther north the better. Among all the varieties that have been tried, many of which are highly extolled, I do not know of any that is more desirable for table use as green corn than the old-fashioned sweet corn. If farmers and gardeners will take the trouble to send to Canada for a supply of seed (and they can do this very

easily and cheaply, by uniting together and having it forwarded by express from some seedsman or gardener in Montreal,) they may then be reasonably sure of having an early luxury. But the same course should be taken every year, as otherwise each year this crop will lag a little behind until it becomes as late as any.—*Maize, in N. Y. Observer.*

RAISING TURKEYS.

In your journal I noticed an inquiry for the best plan to raise turkeys. Permit me to give between sixty and seventy years of my experience.

To take a fair start procure black turkeys, and teach them to be gentle before they commence laying. As soon as they begin to lay, take away their eggs—let their nest egg be a hen's egg. When they have laid out their litter destroy the nest, feed them well, and in ten days or less, they will generally commence laying again. Turn those they have laid once or twice a week. When they have the second lot, and want to set, let them have what eggs they can well cover, and put the balance of the first litter under a hen at the same time, or as near as may be, so that they will hatch nearly together. Take the young chicks from the hen and put them all with the old turkey, she will brood them all.

My first and only feed is curd from sour coagulated milk, scalded, turned on a sieve, or a board will answer, and the whey drained. I do not use any salt or pepper. I keep them in the stable, or on the barn floor, a day or two, and then let them out if the weather is favorable. Put them up every night early, until they are two or three weeks old. By this time they have formed a habit of coming home, and the grasshoppers and insects have become so large they mostly supply their appetites. See that they come up every night, and feed them well in the morning.

By my plan they are about three weeks later, but will go a-head and make up lost time. I would not let them set as soon as they have laid the first litter, if I could have a cart load of eggs given me.—*Cor. Rural New Yorker.*

VENTILATORS FOR BARN.

MESSRS. LUTHER TUCKER & SON:—I am reminded by the figure of a ventilator for the use of barns, in your paper of Feb. 4th, that I am indebted to your "Annual Register of Rural Affairs" of 1862, for my first idea of this plan, which I have already found of sufficient advantage to pay for the "Register" for the next forty years at least.

I have a barn which, with the L attached, is over one hundred and twenty feet long. Until within two years it had no ventilation from the roof, though I had long been aware of its necessity both for the benefit of the stock and the hay stored therein. Having one cupola on an adjoining barn, I was unwilling to incur the expense of building another, as a very ordinary cupola with blinds will cost fifty dollars in stock and labor. On seeing your plan for ventilators I was much struck with its simplicity and apparent efficiency, and immediately had four made, three for the main barn, twenty-two inches square on the inside, and one for the L, sixteen inches. As soon as they were put up, the improvement in the air of the barn was immediately noticeable; the raft-

er and roof boards that were ordinarily damp and sometimes wet from the condensed vapor, were at once dried, and the hay has since been sweeter and more free from must. The expense of these four ventilators, fitted and placed, including the cost of material, was thirty dollars; they are much more efficient in their operation than a cupola, as they take the air from four different parts of the barn, while a cupola operates only thoroughly near the centre. I am just completing a large barn, on which have been placed three ventilators of this description, each measuring two feet square in the clear; they are made of the best of lumber, and cost on the barn complete, at this time of high prices, twelve dollars each. In locating them on the building, I placed one in the centre of the roof, the other two one-fifth of the length of the barn from either end; this equalizes the ventilation throughout the building. These ventilators are rather ornamental than otherwise, giving a completeness of finish, and breaking a long line of roof. I would strongly recommend them to those persons who contemplate putting up buildings for the storage of cattle or hay. I have cupolas on two of my barns that I should be very glad to have replaced by the ventilators.

While on the subject of ventilation, I would remark on the importance of a change of air in the lean-to, or those parts of the barn where animals stand.

I have a barn ninety feet in length, on each side of which cows are tied. I used to be painfully impressed with the unhealthfulness of the atmosphere for man or beast, on going into the barn on a cold winter morning, when all had been tightly closed through the night. Hoping to make an improvement, I caused four boxes, twelve by twenty-four inches, to be carried up on each side of the barn, back of the cattle, against the outside walls. These opened in the floor over the lean-to, and also on the outside of the building just under the eaves; slides fitted to the lower opening regulate the draft. The plan has operated to my entire satisfaction, and with the ventilation in the roof, serves to keep the air always pure,—no easy matter in a modern barn, containing sixty head of cattle.

One suggestion more and I have done. Much complaint is made by those having close sided or clapboarded barns, that the hay laying near the outer walls becomes damp and mouldy. I think this may be avoided by nailing strips of board on the studs a few inches apart, which will prevent the hay touching the outside. In my own case, I have, in addition to the strips, an opening in the outer wall, near the sill in each section, six inches square; this creates ventilation and keeps all dry and sweet.

HENRY H. PETERS.

Southboro', Mass.

GROWING CUCUMBERS.—Take a large barrel, or hogshead; saw it in two in the middle, and bury each half in the ground even with the top. Then take a small keg and bore a small hole in the bottom; place the keg in the centre of the barrel, the top even with the ground, and fill in the barrel around the keg with rich earth, suitable for the growth of cucumbers. Plant your seed midway between the edges of the barrel and the keg, and make a kind of arbor a foot or two high for the vines to run on. When the ground becomes dry, pour water in the keg in the even-

ing—it will pass out at the bottom of the keg into the barrel and rise up to the roots of the vines, and keep them moist and green. Cucumbers cultivated this way will grow to a great size, as they are made independent both of drouth and wet weather. In wet weather the barrel can be covered, and in dry the ground can be kept moist by pouring water in the keg.

THE NATURE OF SCIENCE.

Many persons entertain the most erroneous notions respecting the character of science. They think and speak of it as if it were some mysterious intellectual subtlety, revealed to the few and denied to the many. Such ideas may have come from the olden times when all men believed sincerely in mysterious powers committed through incantations and charms by deities and spirits who had power over "the earth, the water, the air, and fire." The ancient alchemists and astrologers kept what they called "science" secret, as something too sacred to be communicated to the mass of men; hence they taught favorite disciples only. Many of those old plodders in the paths of science were sincere in their peculiar views, but it must be admitted that too many of them employed secret discoveries in chemistry for the purpose of astounding their unlearned fellow-men by their curious experiments, in order to obtain power over them. Astronomy, also, such as a superior knowledge of eclipses and the movements of the heavenly bodies, was employed in a sort of quack manner to obtain power by foretelling events. Many of these impostors were very like the learned Irish prophet set forth in Hibernian verse, who knew every event before it happened after it took place. Science simply means knowledge of any subject—its nature and operation; and whoever knows most of any branch of knowledge, and can apply it in the best manner, is the most scientific in that branch. Knowledge means truth, as there can be no knowledge based upon fiction. A man, however, may perform a mechanical or chemical operation in a very superior manner and yet not be scientific. A parrot can speak, but a parrot is not a linguist, nor has it any knowledge of the science of language. A man, to be scientific, should know "the why and the wherefore of the operations he performs." Mathematics is a science, but great powers of calculation afford no evidence of scientific acquisition. Some individuals, not much above the reach of idiocy, have been great calculators. Yet mathematics as a science requires a high grade of intellect and great persistency of mental effort to master. Science may be said to be a collection of facts and experience accurately arranged and properly understood. Chemistry, for example, is an art and a science, because it is a collection of the results of careful experiments. Geology is simply a collection of facts carefully arranged. A theory is not a science; it is simply the explanation of phenomena. Every science has, according to Max Muller, first an empirical stage, in which facts are gathered and analyzed. After this they are classified or arranged, and according to the inductive method, theory explains the purpose or plan of the whole.—*Scientific American.*

GENERALLY the greatest humbug is he who talks of humbug the most glibly.

NEW BOOKS.

10 ACRES ENOUGH; A Practical Treatise for the Million, Showing how a very small Farm may be made to keep a very large Family. New York: James Miller.

This is an excellent book. It comes directly home to the wants of the family. There is no circumlocution, no fine-spun theories, no fancy sketches—though we like these sometimes—about it. It is rigidly, persistently practical. It is full of *faith* as well as sound teachings. It is a book that applies to in-door duties as well as out,—recognizes the women and children as a portion of the family whose comfort must be considered in everything that is to be done. Every one cultivating land should read it, and especially those who do not believe farming profitable, and have little faith in their own good works on the soil.

The book is printed on large type, with good paper, but sent to us in mean paper covers. We want another copy in a better dress.

Read, below, and see how truly the author points out the first leading error of most cultivators.

The mistaken ambition for owning twice as much land as one can thoroughly manure or profitably cultivate, is the great agricultural sin of this country. Those who commit it, by beginning wrong, too frequently continue wrong. Owning many acres is the sole idea. High cultivation of a small tract, is one of which they have little knowledge. Too many in these several classes think they know enough. They measure a man's knowledge by the number of his acres. Hence, in their eyes the owner of a plot so humble as mine must know so little as to be unable to teach them anything new.

It seems that the writer had been a business man in the city, and that mercantile convulsions and the high cost of living had made it difficult to "make both ends meet" at the close of the year. So after numberless deliberations, mingled with hopes, doubts and fears, they purchased a home in the country. We will let him tell his own story about it.

In a week the house was vacated and cleansed, and we were in full possession. My wife was satisfied, my children were delighted, and I had realized the dream of twenty years! One strong fact forced itself on my attention the first night I passed under my new roof. The drain of three hundred dollars per annum into the pocket of my city landlord had been stopped. My family received as safe a shelter for the interest of a thousand dollars, as he had given them for the interest of five thousand! The feeling of relief from this unappeasable demand was indescribable. Curiously enough, my wife voluntarily suggested that the same feeling of relief had been presented to her. But in addition to this huge equivalent for the investment of a thousand dollars, there was that which might be hereafter realized from the cultivation of eleven acres of land.

This lodgement was effected on the first of April, 1855. When all our household fixings had been snugly arranged, and I took my first walk over my little plantation, on a soft and balmy

morning, my feeling of contentment seemed to be perfect. I knew that I was not rich, but was certain that I was not poor. In contrasting my condition with that of others, both higher and lower upon fortune's ladder, I found a thousand causes for congratulation, but none for regret. With all his wealth, Rothschild must be satisfied with the same sky that was spread over me. He cannot order a private sunrise, that he may enjoy it with a circle of friends, nor add a single glory to the gorgeous spectacle of the setting sun. The millionaire could not have more than his share of the pure atmosphere that I was breathing, while the poorest of all men could have as much. God only can give all these, and to many of the poor he has thus given. All that is most valuable can be had for nothing. They come as presents from the hand of an indulgent Father, and neither air nor sky, nor beauty, genius, health, or strength, can be bought or sold. Whatever may be one's condition in life, the great art is to learn to be content and happy, indulging in no feverish longings for what we have not, but satisfied and thankful for what we have.

Now that our author has got fairly settled on his *ten acre* farm, let us see what he really knows about the garden, and whether he has studied agriculture in a scientific or philosophic point of view. But we must detain the reader a single moment, to call his attention to the pleasant manner in which the writer frequently introduces his wife, and to note the affectionate interest which she took in his farm and garden affairs. See how kindly they drew together in an even yoke! "Kate," too, a partner of their toils, we suppose was a daughter, worthy of such a sire. Now for the garden talk:

The town within half a mile of us contained some five thousand inhabitants, among whom there was a daily demand for vegetables. I took my wife's advice, and from time to time gathered such as she directed, for she and Kate were sole mistresses of the garden, and sent them to the store. They kept a regular book account of these consignments, and when we came to settle up with the storekeeper at the year's end, were surprised to find that he had eighty dollars to our credit. But this was not all from vegetables—a good deal of it came from the fruit trees.

After using in the family great quantities of fine peaches from the ten garden trees, certainly three times as many as we could ever afford to buy when in the city, the rest went to the store. The trees had been so hacked by the worms that they did not bear full crops, yet the yield was considerable. Then there were quantities of spare currants, gooseberries, and several bushels of common blue plums, which the curculio does not sting. When my wife discovered there was so ready a market at our own door, she suffered nothing to go to waste. It was a new feature in her experience—everything seemed to sell. Whenever she needed a new dress for herself or any of the children, all she had to do was to go to the store, get it, and have it charged against her garden fund. I confess that her success greatly exceeded my expectations.

Let me now put in a word as to the cause o

this success with our garden. It was not owing to our knowledge of gardening, for we made many blunders not here recorded, and lost crops of two or three different things in consequence. Neither was it owing to excessive richness of the ground. But I lay it to the unsparing warfare kept up upon the weeds, which thus prevented their running away with the nourishment intended for the plants, and kept the ground constantly stirred up and thoroughly pulverized. I have sometimes thought one good stirring up, whether with the hoe, the rake, or the cultivator, was as beneficial as a good shower.

This result is very easily shown by experiment. Just notice, after a dewy night, the difference between ground lately and often stirred, and that which has lain unmoved for a long time. Or take two cabbage plants under similar circumstances; water one and stir the other just as often, stirring the earth about it carefully and thoroughly, and see which will distance the other in growth.

Who is the writer? We should be glad to "swap" a little with him, at any rate, so much as to visit his 10-acre farm, and receive a visit from him in return—wives included, of course!

ELEVENTH ANNUAL REPORT of the Secretary of the Massachusetts Board of Agriculture, together with Reports of Committees appointed to visit the County Societies, with an Appendix containing an abstract of the Finances of the County Societies, for 1863.

This volume is made up of the Transactions of the Massachusetts Board of Agriculture for the year 1863, directly and indirectly, and contains a report of the visit of the Secretary to Europe, in which are embodied a great many interesting and valuable facts. The history of the pleuro-pneumonia among our cattle is continued, stating what has transpired since the volume of last year was published. A considerable portion of the volume is occupied by the Reports of Delegates to County Societies, and with extracts from the Transactions of these societies. Many of these extracts contain valuable information, show that the spirit of progress is abroad, and that a more enlightened practice in the cultivation of the soil is steadily making its way among our people.

The volume contains a mass of varied and valuable information on almost any subject pertaining to the farm. It will be eagerly sought for, and cannot fail to have a happy influence upon that class for whom it was especially intended.

ACTION OF LIME ON SOILS.

Prof. HARPER, in a series of articles in the *Practical Farmer on Fertilization and Fertilizers*, says hydrate, that is, slaked lime, as well as caustic lime, or quick lime, have no agency with respect to vegetation immediately, but a double one concerning the soil. Both are a most powerful alterative chemically and mechanically.

As a chemical alterative they act as an alkali, and neutralize the acidity of any soil, by attracting the acid and combining with it to form a neutral salt, and free the soil of its acid effect. In

their alkaline and caustic state they destroy both any excess of vegetable remains in the soil and benefit the growing vegetation in that way very much. Decayed vegetable matter is generally beneficial for plants, it contains carbonic acid and all the elements of fertility in an assimilable state. It is especially beneficial for such plants as require a large quantity of carbonic acid, but too much vegetable matter, and especially decaying or putrescent vegetable matter, is injurious for any plant, even for those that require large quantities of carbonic acid. The decaying or putrescent matter rots the small roots of the plants and destroys them, and lime is therefore in this case extremely beneficial—it remedies the evil at once.

Lime must not be applied to poor lands, especially without having been preceded by manuring or without manuring afterwards. Lands of great fertility may be limed any time, and will after lime probably yield a heavier crop than by manuring. Lime should never be applied in wet weather, especially not on a growing crop. Moisture renders its caustic qualities immediately active, and it loses its great combining power quickly; on the other hand if caustic lime is applied in wet weather to a growing crop it will destroy its roots and injure it considerably. The fall is the most suitable season for liming.

NEW DUTIES ON WOOL.

It is quite evident that the action of the Wool Growers' Convention at Columbus last January, together with other movements to the same end, in various portions of the New England and Western States, have at length so attracted the attention of Congress as soon to bring about some change in this highly important subject.

There is now a demand for wool such as has never existed in this country before, and this demand will be likely to continue to its full extent for several years to come, even if the war closes and cotton comes freely to our manufacturers. Sudden and extensive changes can only rarely take place in an interest so vast as that which the manufacture of cotton and woollen goods has now reached in this country.

This great branch of industry directly affects the interests of the farmer all over our land, north, west and south, and these interests demand the most careful consideration of those whose duty it is to legislate for the best good of all.

Under existing circumstances, it would be idle for the farmers of the north and west to enter largely into sheep husbandry, without a protection more adequate than any which at present exists. It would be a competition, with advantages so decidedly on one side, that loss or ruin would certainly ensue to those who engaged in it. It would be a competition with long and severe winters, a hard and rocky soil, and high wages and taxes on one side, with low wages, mere nominal taxes, and a mild climate, and never-ending pasturage, on the other, spontaneously producing through the entire year all the herbage that millions of sheep

could consume. Nearly the whole cost, indeed, of wool, under the latter circumstances, would be the capital originally invested in the stock, shearing and transportation. Under the low wages of the countries where these wools are produced, the transportation to any of the Atlantic cities would be as low as it now is from our wool-producing towns. The water transportation would be very low, so that if the land carriage were considerable, it probably would be no higher than it now is among ourselves.

There is not, then, in any sensible point of view, any such thing as competition by our people with those who supply foreign wools. We *must* have protection through the interference and justice of the general government, or we must yield that branch of industry into the hands of a foreign people. This we ought not to do, because certain large portions of our country are admirably adapted to wool and mutton growing, and would be of little value for other agricultural purposes, unless it were for grazing cattle.

We have noticed with some apprehension that, in certain quarters, an antagonistic feeling is growing up between the producer and the manufacturer. At the Convention at Columbus, the action of the wool-growers was watched with eagle eyes by agents of the manufacturer, and the bearings of every proposition criticised with all that shrewdness which distinguishes that class of our citizens. This should not be so. There is really but *one interest* in this matter, and while the farmer strives to produce just the article the manufacturer wants,—whether it be long wool or short, coarse or fine,—the latter should yield to him a fair share of the accruing profits.

The subject of sheep husbandry, in all its bearings, is one of importance, and we invite our friends to give us their views upon it, whether they relate especially to rearing sheep, the best breeds, or the qualities and value of wool. It is essential to farmers that they unite in some well-defined course of action, make their wants known to the general government, and then press them until they are granted. Let us have, then, the views of our friends from every quarter upon this important branch of rural industry.

EFFECT OF THE EUROPEAN WAR ON OUR FARMERS.—One of our exchange papers argues that the European War is likely to have an important influence on American markets. England depends on Prussia for four or five millions of bushels of wheat. This will be cut off. The blockade is likely to intercept commerce with the Baltic. And from other causes we may look for a still further increase of price. The article alluded to closes with an exhortation to farmers to raise all they can this year.

For the New England Farmer.

TO THE FARMERS.

Farm work is beginning in this region in good earnest. Early potatoes and the early vegetable seeds are now being put in the ground. Have any of your farmers tried the experiment of cutting off the seed end of the long potatoe? The round potatoe shows the same small cluster of eyes, which can be cut out, then cut the large potatoe so as to have but three to five eyes in a hill, say twenty inches apart. Plant the seed ends separately in rows, and at digging time you will find your potatoes all assorted. You will get as many pounds in a row of large ones, as if the whole potatoe were cut and planted. Small potatoes do not pay for raising, excepting for stock, and but little satisfaction at that.

The wheat should be sown early, on high, warm land, two bushels to the acre, well manured. The grain should be soaked in brine, and ashed, and pressed to maturity as early as possible, or before dog days and mildew shall trouble you. Winter wheat bears a strong, rich grass land, and should be sown the last of August. These grains are the most profitable of the grain crops, if properly attended to, even in New England.

It has been said by some of your public lecturers, that as well may you raise the *morus multicaulis* successfully, as wheat in New England. I trust there are too many among you that can give this assertion a flat contradiction. Should you fail in the spring crop, you have the fall wheat to fall back upon. This double advantage is denied you with other grains, excepting spring rye, that is of no account.

I fancy that far less ground will be tilled this year than formerly, for the lack of laborers among you. War has made terrible inroads upon our noble class of farming men. But they are battling for the right, for us, our country, our God. Let every town in New England raise its monument high, inscribing the names in golden letters, of the slain. Let the motto be at its base: These heroic men were slain by the hands of traitors, in the Southern rebellion against the Union, for the perpetuation and extension of slavery in the United States of America.

Mr. Editor, please excuse this divergence from my main subject, although thousands upon thousands are interested in the sad topic.

But the hand of the farmer must not slacken. His great and indispensable work is before him. Labor is dear, but farm products are dear also. Cattle, swine and horses, are selling at unprecedented prices. While paying 56 cents a pound for family butter, (price now reduced to 35,) I did consider fresh pork at 18, beefsteak and veal cutlets very dear at 25 cents. These prices are sustained. But the farmer does not get all these benefits. It is the middle men and retailers that gather the harvest. No article of prime consumption has advanced less than flour, while corn has doubled in price.

On the whole, I see no great necessity of much reduction of your crops. Grass and fruits only require harvesting. Labor applies to the tilled crops. You will apply your manure heaps to one-third or half of the number of acres you formerly did. From these few acres you will gather larger crops than ever before—take a hundred bushels of corn from one acre, instead of three or four

acres—so with all your crops. Spread manure heavily and plow in at once to save the gases. Corn yellows, when put upon strong, heating manure in the hill. It makes slow growth till the roots meet the fresh earth as they range out of the hill, gaining hardiness, nourishment, strength and growth, as they come in contact with the spread manure. Compost will do to put in the hill. If you were setting out fruit trees, you would not think it sufficient to “dung in the hill,” to insure a thrifty orchard. Roots want the good feed as they journey on. Some farmers merely harrow in their manure. It seems to me a fatal error, it being so near the surface, a few weeks must evaporate all its goodness. If I should plow ten inches deep for any crop, I should plow in my manure. Unceasing evaporation brings up all the gases to the surface, leaving its enriching qualities in the soil for vegetable growth. In proof of this, dig a hill of potatoes eight inches or more deep, and you will find no ammoniacal gases in the rotted manure, and the potatoe entirely unimpregnated with it.

The season is late, but late seasons are more safe for fruits and the early crops. Your work becomes more pressing, but if seedtime is late, July and August seldom fails to make your crops. This day of summer heat has brought out the blossoms of my peach tree, that never fails to give me one to two bushels of delicious fruit annually.

The length of this communication is its objection, although I am only half through. But if you think it of any value to your readers, publish it; if not, cast it among the waste paper.

H. POOR.

Brooklyn, L. I., April 24, 1864.

REMARKS.—None too long, friend POOR. Your offerings are always acceptable and timely. Write often.

CULTURE OF THE STRAWBERRY.

Some years since, Mr. Peabody, of Georgia, one of the Editors of the “Soil of the South,” cultivated the strawberry quite extensively, and did undoubtedly meet with great success. He says:

It is a fact too notorious now for any one of respectability to dare to dispute, that we do cultivate *acres* of strawberries without animal manure of any kind; and that we have a constant succession of fruit from March until September; and this, too, in this hot climate of the South.

The Secret.

The whole secret of strawberry culture is to cultivate for fruit, and not for vine or blossom. Much depends upon the locality of the strawberry bed. No tree or plant should be near it; the strawberry loves shade, but not a shade that sucks its very life blood out. The lowest part of the garden, the bank of some little stream of water, are proper localities, and where it is possible select new land. As to the soil, our beds are on as poor pine land as gopher or salamander ever built into pyramids, and we believe it is pretty generally conceded now, within a circle of a few hundred miles, that we do *occasionally* have a strawberry. We do not know but a stiffer land may suit them better, but ours does well enough, and we are not disposed to act like that foolish man who “was

well, wished to be better, took physic, and died.” The strawberry may be transplanted any time from September until March. The plant, properly taken up, is very tenacious of life, and bears transplanting well.

Directions, etc.

The ground designed for the strawberry bed should be plowed or spaded as deep as tools can well make it. If the soil is light and thin, a thick coat of swamp muck or partially decomposed leaves, with leached or unleached ashes, will be fine to turn under. After the ground is pulverized and leveled, mark it off into rows two feet apart. Now plant eight rows of Hovey’s Seedling and one of the Early Scarlet, two feet apart in the rows, and so continue until the bed is finished. We speak particularly of these two varieties, and we should consider it labor lost to cultivate a variety which only gives fruit three or four weeks in the season. And we have never found a finer fruit, in point of size and flavor, than the Hovey, and none finer flavored than the Early Scarlet. Care should be taken that the plants are put into the ground just as they came out of it; that is, with all their laterals spreading, and not all gathered together and crammed into a little hole. Now, if the object be to get a large number of plants for another year, keep them well worked with the hoe, and let the runners take root. The whole ground will be full by fall. But if fruit be the object, cover the whole surface of the ground with partially decomposed leaves or straw, and as the first runners begin to show themselves, take them off. Care must be used in taking off the runners; they should be cut, and not pulled off, as careless servants will ruin many plants. When the vine has once commenced fruiting, it will show but little disposition to run, as its whole effort is to make the fruit—particularly if the vine is not over stimulated. It is not enough that the strawberry bed is in a moist, cool location; for if the ground is moist, the plants want water to set the fruit, and to swell the fruit when set. It is asserted by some English cultivators that the plant should not have water when in bloom, as it washes the pollen away. This may do for England, but it does not do here. We care not how much water they have when in bloom. If the season proves dry, we give them water to set the fruit by artificial rain; and unless it rains twice a week, we give artificial rain to swell the fruit, and then we give artificial rain to form the next fruit stems, and so on. Fear not to give too much water; water morning and evening. If grass and weeds show themselves, use the hoe freely. After it is no longer an object to gather fruit, let the vines run and mat together. In the winter, go through with the hoe, thinning out to twelve or eighteen inches; leaving the cut-up vines to decay where they were cut; then cover the whole bed with leaves, straw, swamp-muck, &c., but *use no animal manure*. Let the proportions of male and female plants remain the same as when first planted.

Let the cultivator remember the four great requisites for a profitable strawberry bed: proper location, vegetable manures, shade to the ground, and water, *water, WATER*.

It not unfrequently happens that manners are best learned from the unmannerly.

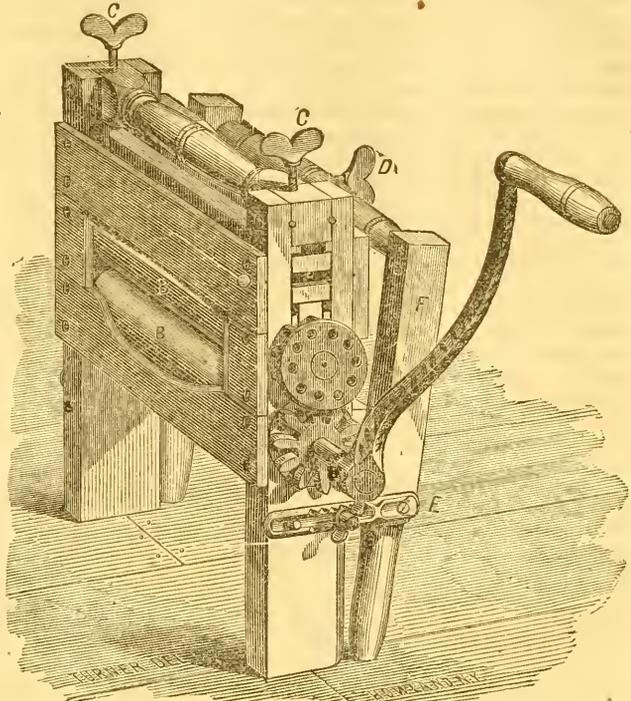
THE UNIVERSAL CLOTHES WRINGER.

Several years ago, a gentleman brought into our office a machine for wringing clothes. We had never seen one before, and hardly supposed a simple arrangement of rubber rollers would squeeze the water out of cloth as well as is done by hand. We mounted the machine on our office water-pail, and commenced a series of experiments with towels, &c., resulting in an opinion that the machine was a good one for the family, and that we would have it tried at home on a larger scale. From that time we have never been without a wringer, and we would not be without one if the present prices were doubled.

Our first machine was a small affair, promising to hold itself on the tub, but really requiring one hand or more for that purpose, and so adding much to the labor of using it. The upper roller was moved by contact with the lower.

We have replaced it with one like the above, which gives much better satisfaction. The peculiar features of the Universal Wringer, are, the manner of attaching it to the tub, and the cog-wheels turning the rollers. By the manner of attaching it, the wringer is held firmly upon a tub of any size. By means of the cog-wheels the rollers are relieved from a great amount of friction. We have never understood the advantages of these cog-wheels until recently, when we have tried a series of careful experiments with a wringer without them and one with them. We can use a wringer without cogs, and have done so for years, but there was a necessity for constant care in preventing the clothes from drawing in too rapidly, preventing the upper roller from revolving and bringing a strain upon the fabric which would tear any light material. In a wringer with cog-wheels, when the crank moves *both* rollers *must* move, and move equally, and no strain can come upon the cloth, because it is acted upon equally from both sides, and experiences only a direct pressure. We should, therefore, not use any wringer not having cog-wheels, if we could obtain one with such an attachment.

In conclusion let us say a few words about the economy of such machines. We hear people say frequently they cannot afford such household conveniences. We cannot afford to be without them. We know many a family where the mother works from early dawn till late into the night, and bare-



ly keeps her house in order and her children's clothes neat and whole. We know other families, where a servant is employed, at good wages, though the work is light, because the mistress of the house lacks a little only of the time and strength she needs to do her own work. In both these cases, introduce a sewing machine, a clothes wringer, and other like labor-saving inventions, and the work becomes easy, the servant is dismissed, *money is saved*, health preserved, and toil turned into enjoyment. Every labor-saving invention benefits directly the laboring class, and it is to persons of small means that these machines are particularly valuable.

For the New England Farmer.

SHEEP---NOTES FROM MAINE.

With an abundance of hay and feed for sheep through the winter and spring, and a desire to have them do well, it is seldom that sheep look and do so poorly as they have the past winter and spring. Early in the winter they began to show symptoms of scours and starting off of the wool, with moping, weakness and a desire for seclusion, and every now and then one would fall out. Flocks of fifteen to twenty-five have had their proportional number of dead to be supplied, as well as those of seventy-five to one or two hundred.

Ask the farmer how his fodder held out, and he will reply with a cheery response, "Shall have hay to spare; do you want to buy?" Ask him how his sheep were wintering and the cheery expression will suddenly change to a downcast, thoughtful one, and after a little reflection you will elicit the fact that his sheep are pulling their wool, los-

ing it, ticky, have the scours and more or less have died, in spite of all the care which could be brought to bear on them; and lately, that they are troubled with grubs in the head, which, with the scours, make much quicker work than the scours did in the winter.

Many experiments and modes of treatment are resorted to, but as yet, none, as far as I am informed, have been of but little use. One man came some miles to get a prescription. The prescription stopped the scours but nevertheless the sheep died. A post mortem showed the midriff to be nearly half decomposed, implicating quite a patch of the stomach and bowels, which came in contact; so here was no cure to be looked for. In another, going the same way, a post mortem examination showed eight large grub worms in one nostril, as far up into the head as they had had time to burrow, with two or three small ones wriggling on after. So they go, to the tune of fifty, and even more, in one flock, where, heretofore, only now and then one would be found to drop out.

Cattle and horses wintered well, and command a very high price in one sense, but in comparison with the great whole, only about an average. Six feet six inch oxen, four and five years old, one hundred and fifty to seventy-five dollars, according to beauty, &c., and larger ones in nearly the same ratio.

O. W. TRUE.

Farmington, Me., April 27, 1864.

REMARKS.—The disease termed by our correspondent "*the scours*," seems to be quite prevalent this spring throughout New England. There is, of course, some special cause of this, and it is reasonable to us that it lies in the quality of the fodder upon which the sheep have been fed through the winter. During the entire haying season, last year, there was such a succession of cloudy and rainy days as almost completely to prevent getting any hay in a perfect condition. Such was the state of the weather in all this region, and we believe it extended to the adjoining States. Comparatively little hay was got in short of three or four days after the grass was cut, and much of it stood a week. On some excellent farms, where the crops are skilfully managed, we often saw hay standing that had been cut a fortnight! Indeed, immense quantities were housed in a blackened and highly damaged condition, and its nutritive qualities greatly diminished. When such hay is thrown from the scaffold in the winter, it gives off none of that delightful aroma so common to well cured English hay, but has a musty, offensive odor and fills the barn with dust. It seems to us that stock fed upon such hay cannot gain in milk or flesh, and are in daily danger of contracting disease. Is it not probable, then, that the unwholesome condition of the fodder upon which sheep have been fed, is the cause of the disease so common among them?

It may be said that cattle have thriven well upon similar fodder. That may be—but they are

of a hardier nature, and not so sensitive to such influences as sheep. Cattle would also be quite likely to have a greater variety of food, such as the tops of corn, and husks, and butts.

FARM ECONOMY.

No single inquiry is more frequently addressed to us, than this,—"*What is the most profitable farming?*" It is impossible for us, or any other person, to answer this question with any sort of satisfaction to the inquirer, because what would be profitable under the circumstances of one farmer, might be ruinous under the circumstances of another. The *economy*, therefore, of which we intend to speak, includes a *provident management of all means by which property is saved or accumulated; a judicious application of time, of labor, and of the instruments of labor.*

In a former article, published some weeks since, we spoke of the *arrangement of farm buildings, of the action of the elements upon them, and the importance of shelter* for their preservation.

We propose now to consider the same subject, in some other particulars; and first, it is poor economy for the farmer to invest too much of his means in buildings, as a certain amount of *cash capital* is as necessary to the business of the farmer as to many other occupations. As a general thing, however, our farmers are not liable to the charge of extravagance in this particular. It is certainly good economy to have buildings compactly and conveniently arranged so as to avoid all unnecessary travel. A certain degree of thoroughness must also be observed in order to make the construction a profitable one.

It is good economy to see that cellars are properly drained and divided, that suitable paths are made to pass upon from one building to another, or from the house to the highway,—that fields and highways are properly subdivided, that *fences* are economically constructed, and that *wood* and *water* are plentiful and convenient wherever they are required. So with regard to the rotation of crops, the preparation and application of manures, the selection of proper vehicles and implements, drainage, the best breeds of stock, and, indeed, the whole economy of the farm. But we pass particulars in these, to touch upon one or two points that lie nearer the heart of the family, and which are vital to its health and happiness.

A gentleman who had been engaged in preparing for publication the *Returns of the Industry of Massachusetts, and the Registration of Births, Deaths and Marriages*, including the diseases of which our people had died, informed us that there were more cases of death from *insanity* among the families of farmers, than in any other occupation! We were surprised at the statement, as it was the reverse of what we had always supposed

to be the fact. Subsequent inquiry and observation, however, have somewhat reconciled us to the unwelcome truth. The prevalence of this terrible malady among *men* engaged in farming, we infer, is often occasioned by *the want of a proper action and development of the brain*,—the disease not assuming a spasmodic and excited form, so much as a gradual sinking into a half-idiotic or imbecile condition, that often ends in a total loss of mental power. But in the case of *women*, the cause of the malady may be traced to intense mental activity, to unceasing care, and to the overtaking of every power, both of mind and body, in the ever-recurring and perpetual duties and responsibilities of the family.

Let us present a brief sketch of actual life, of which thousands have sat for the picture. It is that of a young farmer. He marries, and for a year or two his wife can do very well without help; but by-and-by his work is too much for him alone, and he *must have a hand*; and one, by one, little children increase the family, until the wife's burden is much heavier than when she took it up. But he is just getting a start, and if they want to get rich (as every body does,) they must economize; so she gets along without help. She rises early, gets breakfast, often for several men, dresses the children, washes dishes, skims milk, churns, perhaps, sweeps rooms, makes beds, prepares dinner, "clears up," snatches an hour to sew, keeping a restless baby quiet meanwhile, gets supper, puts children to bed, and after they and husband are asleep, resting from *their* weariness, sits up to sew, that she may save paying a seamstress!

In addition to this daily routine, she does all the washing, ironing, baking, scrubbing, house-cleaning, soap-making, and hog-killing work; it *costs so much* to hire help; and at the same time enacts the part of the lady of the house and entertains the company.

So year after year, she toils and drudges, not allowing herself opportunity for improving her mind, so that she may be a better guide and counsellor for her children. At length, her once fair face is faded and care-worn, and herself now and then prostrated by fits of illness, only to resume her wearying labor as soon as her returning strength permits. And thus she yearly becomes less able to bear the burden of her increasing household duties.

Too many men leave the wife to draw water and carry wood, and as for the baby—they think it a woman's place to tend children,—so it frets and cries, or the mother must work with it on her arm, while they read the paper and talk with the hired men. The farm increases in value and fertility, and the husband's labor becomes lighter,

as he is able to hire more help; but it is still expected of the wife to do all the housework, with what little help the elder children, if they are girls, can give her.

At length—through this ceaseless application—they are ready to build,—and when the comfortable, new house is finished and nicely furnished, and the children are beginning to be a real help to her, the pale, sickly wife and mother lies down to die! She has saved by ceaseless, wearying toil, hundreds of dollars for her husband, and he has *lost what money is powerless to recall*; the companion of his youth, the one who has walked beside him and cheered him through life's most thorny paths! And such untimely deaths are whispered among friends as "*mysterious providences*," instead of the neglect of a proper *household economy*, on the farm!

These views are partly corroborated by statements in a recent report upon the *Insane Asylum at Hartford, Ct.* The Superintendent says—"that of one hundred and eighty-seven female patients, thirty-four per cent. were the *wives of farmers and mechanics*." The consideration of the causes which led to this most natural result, showed that between nursing, the accumulation of household duties and drudgery, and the *miserable, short-sighted economy which often led the husband to refrain from supplying the necessary domestic assistance*, the poor, heart-broken and discouraged wife had lost in turn her appetite, her rest, and her strength, her nervous system had become prostrated, and sinking under her burdens, she had sought refuge in the Asylum. Such is the language of the Report.

This great error has been a common one, and has desolated many a farm-house. It grows out of an overweening desire to *accumulate too fast*. We know men, *now*, with whom this is a passion that overrides everything else. Sometimes it is manifested in a desire to add \$100 more to their railroad or other stock, at others to increase the acres of their land, or again to hold the notes of their neighbors. This passion makes them *mean* to themselves, *mean* to their families, and *mean* to their country; and they habitually cheat all these for the sake of hugging to their sordid souls a little more of that which they must soon leave, and perhaps to be quarrelled about by others. All this is *bad economy*. We do not advocate extravagance in anything,—but only that happy commingling of labor and leisure, of recreation and study with our daily duties, and that sympathetic association which gives life a charm, and which cannot fail to increase our real happiness. Let us listen more frequently to the promptings of a refined taste, and do some things about our homes with reference to *beauty*, as well as utility. These

will have a happy influence upon the mind, habits and character; will light up the home with sweet affections, and shed a fragrance over all its duties. The children will catch these virtues and carry them forth to the world to purify and strengthen man there, and will ever look back to such a homestead as the well-spring that sends out whatever dignifies and ennobles our natures. And this will be true *farm economy*.

For the New England Farmer.

"CLOVER HAY."

MESSRS. EDITORS:—As a subscriber and reader of your valuable paper, I notice your remarks of April 30th, and also the opinion of Dr. McClure, of Philadelphia, on "Clover Hay." Permit me to add, from my limited experience, that your suggestions strike me as worthy of notice. I cut last season, from seven acres and thirty rods, by actual measurement, a larger amount of hay, and of more value to my stock of cattle, than I have from the same number of acres during the past six years. My stock averaged twenty-five head—three yoke of oxen, seven cows, and the remainder two and three-year olds. I commenced feeding out this kind of hay twice a day regularly, together with other kinds of different qualities; and from the time my stock came to the barn in November, up to the first of April, they have generally preferred the clover to other kinds of good hay. This was cut about the first week in July, and when in the blossom, dried one day and part of the next, so that the leaves should not waste before putting it in the barn. When mowed away, it was salted carefully, from two three quarts to the ton. My cattle have gained remarkably well, and added in flesh more than they have in past seasons when I have cut less of this kind of hay.

I think the salting was beneficial, as they did not waste much in feeding it out. Many good farmers are of the opinion that the best way is to put clover hay, as soon as it is wilted, into small tumbles and let it remain a few days; and in that way to be cured.

I am satisfied a little salt added is far better than to have it dried and the best part of the hay wasted by exposure to the heat, and it is certainly less labor in getting it cured.

I have been surprised to notice how far my clover hay has carried out my stock. As I observed, on seven acres and thirty rods, I obtained at least two tons to the acre. The land on which it grew was a deep, loamy, rich soil, descending to the south, and I think the amount of this kind of hay was equal to keeping one-fourth part of my whole stock through the season, from November to April. Many farmers are of opinion that clover hay is of less value than other kinds, but I am convinced, if well cured and cut in a proper time, it will spend and carry out a stock as well as almost any other kinds of hay we have in New England.

REUBEN R. DODGE.

Sutton, May 3, 1864.

REMARKS.—We are glad to find our opinion of the value of clover hay so fully sustained by one of the Worcester county farmers. We hope our correspondent will write often. His practical remarks are valuable. Where, by the way, is the

pen of our old friend HARVEY DODGE? He is a farmer full of sound experiences, and should not suffer the world of facts which he has gained to be lost to his fellow-laborers. He must sharpen up his long dormant pen, and make our columns glow again.

For the New England Farmer.

THE CULTURE OF BEES.

MESSRS. EDITORS:—It is often the case that hives of bees are populous with plenty of bees, and their owner, in the usual time of swarming, looks every sunshiny day for a new colony, but is disappointed; the bees do not swarm, but cluster on the outside, or under the hive, and remain there till the honey season is nearly over, and, consequently, do not make sufficient honey upon which to winter.

Now, for the benefit of your readers and bee-keepers generally, I beg leave to say that there is no difficulty in removing a part of the bees, and putting them into another hive, in season for them to gather honey sufficient upon which to winter themselves, and perhaps with more perfect success when properly done. For several seasons previous to 1863, I had several stocks of bees apparently strong, which did not swarm, or make any surplus honey. In the spring of that year I had a call from Mr. R. S. Torrey, of Bangor, Me., who claimed that he could divide a stock of bees, and putting a portion of them into a new hive, where they must work or starve, and leave a sufficient quantity in the old hive to keep them in a prosperous condition, thus producing two colonies fully equal or superior to an old stock and its increase, which swarm in the natural way, some weeks or days later.

But I was skeptical. I did not believe it could be done, and told him so, and my neighbors, who are bee-keepers, were of my opinion. Torrey persisted in his statement, that it could be done in fifteen minutes. I had six old stocks, and reluctantly consented that he might divide one of them, provided he would warrant both to live and do well. As I did not know Torrey, and concluded that I had lost my bees, I resolved to have some fun out of the trial, and invited my neighbors to share with me the sport of witnessing the pain of the stings upon the operator, and his utter failure in his undertaking. But he had it all his own way—he handled the bees like pets who cared only to do his bidding. They even respected the lookers on, not even offering a sting or showing any signs of disrespect. He put a part of the bees into a new hive, and returned the rest to the old home, where they went immediately to work; and now, April 27, 1864, both colonies are in excellent condition, and bid as fair to prosper as any two hives I know of, with no extra care, except to cover them with a blanket during the chilly nights immediately after they were divided.

Not one of my old stocks swarmed in 1863; consequently, I gained nothing from them, while from the one I divided I obtained a colony much stronger than any that swarmed the usual way in this neighborhood—and most of my neighbors are bee-keepers.

Torrey is called the "Honey King of Maine," "The Bee Tamer," and many other singular titles, by the editors of some of the agricultural papers

of Maine and other States, which I think he richly deserves. His "Maine State Bee-Hives" are getting very popular in this vicinity; not one who uses them but speaks in their praise, and are satisfied that Torrey is the Bee Monarch, and beats the world in the bee-hive business.

If this article shall meet Torrey's eye, and he will call on me this spring with some of his hives, I will, with implicit faith in his ability, employ him to divide more of my old colonies of bees. He is master of his business. J. ALLEN.

Bethlehem, Ct., April 27, 1864.

REMARKS.—From a considerable observation of Mr. Torrey's skill in handling bees, clearing out old hives, dividing swarms, &c., &c., and from an experience of several years' use of his hives, we do not think the commendations of our correspondent any too decided. Mr. Torrey has had a life's experience in his business, having begun it in his boyhood in the woods of his native State, and continued until he has now passed the meridian of life. He has introduced certain *graces* or *embellishments* into his art which are exceedingly attractive, such as inviting bees into curiously shaped glasses, which they filled and finished up with exquisite skill,—or writing their own inscriptions on the glass inside of the hive, so that it became perfectly visible to the beholder. The largest, richest, and most beautiful collection of hives, bees and honey, we ever witnessed, was presented by Mr. T. at the Maine State Fair at Augusta several years since. Tons and tons of honey remain uncollected every year, for want of a better knowledge how to keep and tend bees, who are our interesting and profitable co-workers.

Some persons are deterred from bee culture because they consider them dangerous. There is some ground for this belief, but scarcely so much as there is for declining to keep a horse, because he might kick or run away and do much injury. We have read accounts of serious occurrences, and even loss of life, by attacks from bees, but have never known of such a case in our own region. Like all other stock of the farm, they cannot be profitably reared and controlled without some knowledge of their habits and wants, and when these are understood, they will suggest a proper caution that will make all danger from them of little importance.

The art of bee-keeping is greatly injured by a set of lazy empirics, who have little knowledge of the habits of the bee, but who are full of pretensions, and roam over the country, visiting from house to house and practicing their deceptions upon the people. There has been so much of this that hundreds,—living in regions where there is excellent bee-pasturage, and where the annual income from them might amount to a handsome sum,—are disgusted with the whole thing, and have given up the culture entirely.

But there are good books and good oral teachers on the art. Huber and Langstroth's works, to the real lover of nature, have a charm beyond that of any novel, and their perusal will not only tend to the profit of the purse, but to the head and heart, for they purify and elevate the affections, and lead us to appreciate, more than ever, the wonderful things which are around us on the farm.

Perhaps one cause why so many losses have been realized by bee-keepers, is that they have employed *too much art* in the construction of their hives. They are too complicated, both for the worker and the owner. They have departed too widely from nature, from the habits and wants of the bee. The space above the box in which the bees have deposited their young and stores is generally too small, so that the moisture from them in cold weather does not pass freely off, but is condensed and falls back upon them. We look upon this as the source of more losses than all those occasioned by millers or other causes.

Honey is a wholesome article of food. It may be placed in the class of *luxuries* by some. Sugar used to be, but is now considered among the articles of *necessity*. Why not? It is very nutritious and palatable. For children and sedentary persons we should prefer a dollar's worth of sugar to a dollar's worth of beef. Honey may be made to take the place of sugar, and even that of *butter* in a great many instances, and in so doing we believe would promote the prosperity of the farm, and the health and happiness of the family.

Let us, then, give more attention to this delightful art; we mean a consistent, intelligent attention, eschewing the dogmas and superstitions that surround it. If novices in the art, let us gather our first information from some good book, or the practices of some good neighbor, and gradually increase it by our own constant observation and experience. Under such a course the beehouse will embellish the homestead, yield an annual profit and be a source of pleasure to the family.

A neighbor of ours—a mechanic—who has but a small garden about his house, finds his amusement and great pleasure in the culture of his bees, and, as a reward of his patient care of them, he took from their well stored boxes last summer between *two and three hundred pounds of the best honey*, and left them all they needed for their own use.

GAPES IN CHICKENS.—A writer in the *Rural New Yorker* says that he has found by accident, that dough raised with milk rising is a sure and safe remedy for gapes in chickens, fed while fermenting, but while still sweet. He has tried it for six years, but says that where he seasons the feed of his chickens with salt, as for cooking, they never have the gapes.

For the New England Farmer.

PLANTING THE APPLE TREE.

A SONG, BY THE "PEASANT BARD."

I.

We'll dig the turf, we'll turn the mold,
Tho' nature hard has bound it;
Make deep the bed, and let it hold
The stock, all mellow round it.

Chorus:

We'll set the tree, Donald,—we'll plant it out well,
And we'll have it in care and in keeping;
And mark and remember the words I shall tell:—
'T will be growing when we shall be sleeping.

II.

A lifeless stick it may appear
When wintry blasts are blowing,
But in the spring-time of the year
We'll see it live and growing.

III.

The swelling bud and flushing leaf
Will beautify ere long;
And weary warblers, for relief,
Perch here, and pour a song.

IV.

And years shall come, and years that go
Its boughs to fruit shall wed;
And mellow Autumn fill below
The table we have spread.

Chorus:

So set the tree, Donald,—we'll plant it out well,
And we'll have it in care and in keeping;
And mark and remember the words I shall tell:
'T will be growing when we shall be sleeping.

Gill, Mass.

NEW BOOKS.

THE GRAPE CULTURIST: A Treatise on the Cultivation of the Native Grape. By Andrew S. Fuller, Practical Horticulturist, Brooklyn, N. Y. For sale by A. Williams & Co., Boston.

The subjects discussed in this book are: Growing from Seed; Propagation by single Buds; Cuttings of unripe Wood; Propagating-Houses; Cuttings in open air; Layering the Vine; Grafting the Grape; Hybridizing and Crossing; Transplanting; Soil and Situation; Stem Appendages; Planting the Vine; Grape Trellises; Time to Prune, and Pruning and Training; Garden Culture; Miscellaneous; Insects and Diseases; Description of Varieties and a Review of various systems of Training. These several topics are familiarly discussed, with an ability evidently growing out of a practical acquaintance with the whole subject, and with such a clearness of expression, strengthened by engraved illustrations, as to make the way plain and easy to those who enter upon the culture of the grape for the first time. Theories are well enough in their place, but it is always pleasant and safer to know whether the author of the book is laying down theories or facts. If we know they are theories, we are at once on our guard and shape our operations accordingly; but if well-tested facts, we unhesitatingly proceed as if standing upon a sure basis.

We are glad that the culture of the grape is attracting so much attention, and that so many persons are venturing upon it in a small and careful way. They will not find it a difficult work, unless they attempt to do too much. The grapevine does not require a very rich soil, but a sheltered, wafm, and well drained one, where rude winds will not thrash its foliage to pieces, nor standing water drown its tender and succulent fibrous roots. On a common soil, a little ashes, pounded bone and charcoal added annually, together with occasional watering from the sink spout in dry seasons, will give the vine a wonderful growth in wood and fruit.

Some of the varieties recently introduced are great accessions to the list. Mr. BULL has conferred a signal blessing upon the race in the introduction of his "Concord," which has been thoroughly tested, and stands high in the front ranks of the best varieties in the country. He and others are still striving for better ones than this, and the labors of some will be eventually crowned with success.

If the inexperienced grape grower will call to his aid some person who understands starting the vine on its way for the first five or six feet of its growth, and in pruning it once or twice, he will find little to perplex him elsewhere. In these two particulars a *half how's actual demonstration* would fix the whole thing indelibly in his mind.

Mr. FULLER's book is an excellent one, and will prove of much service to grape cultivators.

NOVEL MODE OF GROWING SQUASHES.

An excellent method of growing squashes, melons and other such vegetables, where a person has but little room, and wishes to make the most of it,—as a small city plat—is to plant them so that they will run on a trellis. Set four upright stakes or small posts, about two feet apart each way, in the centre of which plant the melons, squash or whatever else is wished. As the vines begin to run, support them upon the trellis by nailing across small slats of board, and when the melons set and begin to form fruit, erect a shelf for it by placing short pieces of boards across the slats previously nailed on. Pinch off the running shoots of the vines so as not to have too heavy a growth, and as they run higher, place additional slats for the purpose of supporting them. There are two advantages to this plan, and so far as we are acquainted, no disadvantage; it economizes space in the garden, and the fruit ripens earlier than when upon the ground half covered with leaves. Those of our readers who have small gardens would do well to "make a note" of this plan and give it a trial another season.—*California Farmer.*

NITRATE OF SODA.—It is said that watering strawberries with water in which *nitrate of soda* has been dissolved, to the amount of one ounce of soda to a gallon of water, will help the plants to produce a wonderful crop.

NITRE--SALTPETRE.

The beneficial effect of nitre upon vegetation has been understood from the earliest periods of which we have any account. It is the result of the union of nitric acid with potash, and in many parts of the world it is found in a natural state, and in immense quantities, and requiring only to be dug up and leached, and afterwards crystallized, to be ready for use. It is also frequently produced artificially by means of "nitre beds," and naturally under old buildings, deep cellars, &c.

The principal materials needed in the construction of nitre-beds are potash, which is supplied by vegetable substances in a state of decay, animal matter, which will give out ammonia, and this in turn, part with its nitrogen, and form, with oxygen, the nitric acid, which unites with the potash of the ashes, or decaying vegetable matter, and thus forms NITRE.

Most farmers are acquainted with the very great value of soils taken from beneath tie-ups, stables, and other places of a like description, in which animals have been sheltered for many years, for manurial purposes, and have no doubt been surprised, on applying them to crops, by the sudden and sustained effects which they have produced. This is the result of nitre. The urine of the animals has filtered through the floor, together with a certain portion of the solid voidings, and having been constantly and effectually protected from the wasting influences of atmospheric action, the decompositions and recombinations requisite to the formation of nitre have gone on uninterruptedly year after year, till the soil has become impregnated with richness, surpassing in degree that of the finest compost, or the most energetic stable manure.

It is stated in a European publication of much merit, and as the result of actual experiment, that the solid excrement of about twenty cows and mules, in layers of four inches thick, with alternating layers of chalky soil, of similar thickness, and wet occasionally with the liquid voidings of the same animals, will produce from ten to twelve thousand pounds of saltpetre in four years. The bed, however, must be protected, and occasionally shovelled over. At the end of two years, the heap will be resolved to a fine, rich mould. It is then left for two years more, frequently turned, but not wet with urine during the last few months. In the formation of these beds, the "chalky soil" is not indispensably necessary, for experiment has proved, as well as science, that ashes, unleached, or leached, are better.

The following definite rules are laid down for the formation of beds, where this substitute is to be used:

Take one cord of clean cow dung, one cord of

leached ashes, one cord of loam, or swamp muck. Mix the ashes and loam or muck well together, and having hard rammed the barn cellar floor, or that under a shed, put a layer on it of these mixed materials, four inches thick, then a layer of dung four inches thick, then another layer of mixture, and so on alternately, until the pile is four or five feet high, topping off with loam. Wet it over occasionally with urine, keeping it about as moist as garden loam, and turning it over occasionally.

If the foregoing process be adopted, the contents of the heap will become excellent compost the second year, and may be spread as a top-dressing, or applied like short manure to every description of field crops, with a certainty of the best results. In the vicinity of powder works, in which large quantities of nitre are consumed, we have frequently noticed the bags from which the nitre had been emptied, spread, before showers, or during storms, over the surface of mowing lands. The nitre impregnates the texture of these bags, and the rain washes it out and carries it into the soil, which acknowledges its receipt by a most luxuriant and beautiful crop.

Several years ago, when the potato rot prevailed to its greatest extent, we used saltpetre freely as a dressing and secured fine crops of potatoes both in quantity and quality. Very little rot occurred among them, while directly over the fence, in a neighbor's field, on the same kind of soil, and the use of the same variety of potatoe, the White Chenango, more than three-fourths of the whole crop rotted!

Cannot some of our farmers produce this substance at a cheaper rate, and find better results from it, too, than they can from most of the specific fertilizers now in use? Where wood ashes can be cheaply and readily obtained, we believe they can.

DESTROY THE CATERPILLARS!

Their name is legion, this spring, and they have begun their work early. Our people—we are sorry to say—do not yet appreciate the injury which they inflict upon the crops. This is evident in the culpable neglect which is almost everywhere seen, in the hundreds of filthy nests which are annually left undisturbed on the trees. An apple tree that is despoiled of its leaves this year, not only loses its growth and crop of fruit, but can scarcely recover its vigor again for two or three years to come. HARRIS says, "There are perhaps no insects which are so commonly and so universally destructive as caterpillars; they are inferior only to locusts in voracity, and equal or exceed them on their powers of increase, and in general are far more widely spread over vegetation." They are the young of moths and butterflies, and there are several hundred species in the New England

States. Their principal food is the leaves of plants, and consequently their injuries to vegetation are immense.

If their nests are attacked early in the morning,—or at any time when most of them are in the nest,—and they are young and the nest is not very firmly attached to the tree, it is not a discouraging labor to pass over an orchard of two or three acres. But if left until they are strong and the nest is well woven and tough, the labor will be one requiring much time and patience.

There are various ways of destroying them. A good mode is to take one of the spiral brushes made for the purpose, fix it to a light pole ten or twelve feet in length, dip the brush into a bucket of strong soap suds and twist it about in the nest. This will detach it from the tree, and wherever the suds fairly wets one of the caterpillars it will die. This is the cheapest, easiest and best way of destroying them, in our knowledge.

Some persons blow them off with gunpowder, others burn them,—but these modes are objectionable, as they more or less injure the tree. We hope that a general attack will be made upon the whole race, and that we may see cleaner fruit trees throughout the coming summer.

SHEEP HUSBANDRY.

Upon another page, we have commenced a series of articles on *Sheep Husbandry*, which will be worth the attention of all persons engaged in the culture of sheep, and which will, perhaps, be equally as important to the purchaser and manufacturer of wool. They have been prepared by a gentleman of large and critical observation, who has been familiar for many years with the prices and qualities of wools, and the kinds best adapted to the wants of woollen manufacturers in this country. Some portions of them were formerly published in the *Southbridge Journal*, but they have been re-written by the author and enlarged at our request, expressly for the columns of the *Farmer*. We shall present them from week to week until the series is completed.

In the meantime, if any of our readers desire more full information on any special point under discussion, we have no doubt that our obliging correspondent will give it as far as it lies in his power, as his object is to assist in promoting this important branch of our national industry. It will be observed that, in the course of the series, the writer has touched upon nearly every conceivable point relating to breeds and breeding, to the modes of tending and feeding, to climatic influences, to the effect of food upon the quality of the wool, change of pasturage, prices of wool and mutton, comparisons of profit in raising wool and corn, differences in the cost of transportation, &c.,

&c. Indeed, he seems to have a most intimate and accurate knowledge of the whole subject, in its various bearings of producing the staple, the prices which it has borne for many years, and the qualities demanded in our varied manufactures.

None interested in this important branch of industry can fail to be gratified with the lucid and valuable facts which he will from time to time present.

For the New England Farmer.

THE APPLICATION OF IDEAS TO PRACTICAL USE.

Emerson says, "Some men are better than they know." On the other hand, there are many who know better than they are. The difference between the man who adds to the uses and embellishments of life, and the man who leaves the world as he found it, does not consist in knowledge, but in the reproduction of knowledge—in appropriating, testing and applying the ideas and waifs of ideas, which pass from one mind to another. Have those who ridiculed what they are pleased to call "Book Farming," ever tested in good faith, the ideas and suggestions which they read with so much contempt, because they do not come to them from some practical men? Have they ever seriously inquired what practical use may be made a principle or a fact stated in a book? For the sake of the moral lesson, as well as the practical benefit to be derived from it, I have taken the pains to copy for the readers of the *Farmer*, the following story contained in the essays of Sir E. Bulwer Lytton.

A certain nobleman, very proud of the extent and beauty of his pleasure grounds, chancing one day to call on a small squire, whose garden might cover about half an acre, was greatly struck with the brilliant colors of his neighbor's flowers. "Aye, my lord, the flowers are well enough," said the squire, "but permit me to show you my grapes." Conducted into a little, old-fashioned greenhouse, which served as a vinery, my lord gazed with mortification and envy on grapes twice as fine as his own. "My dear friend, you have a jewel of a gardener; let me see him." The gardener was called—the single gardener, a simple looking young man under thirty: "Accept my compliments on your flower beds and your grapes," said my lord, "and tell me if you can why your flowers are so much brighter, and your grapes so much finer than mine?" "Please, your lordship," said the man, "I have not had the advantage of much education; I ben't no scholar, but as to the flowers and the vines, the secret as to treating them just came to me, you see, by chance."

"By chance? explain," said the peer.

"Well, my lord, three years ago master sent me to Lunnon on business of his'n, and it came on to rain and I took shelter in a mews, you see."

"Yes, you took shelter in a mews, what then?"

"And there were two gentlemen taking shelter, too; and they were talking to each other about charcoal."

"About charcoal? Go on."

"And one said that it had done a deal of good in many cases of sickness, and specially in the first stage of the cholera, and I took note on my mind of that, because we'd had the cholera in our vil-

lage the year afore, and I guessed the two gentlemen were doctors and knew what they were talking about."

"I dare say they did; but flowers and vines don't have the cholera, do they?"

"No, my lord, but they have complaints of their own; and one of the gentlemen went on to say that charcoal had a special good effect upon all vegetable life, and told a story of a vine-dresser in Germany, I think, who had made a very poor, sickly vineyard one of the best in all those parts, simply by charcoal-dressings. So I naturally pricked up my ears at that, for our vines were in so had a way, that master thought of doing away with them altogether. 'Aye,' said the other gentleman, 'and see how a little sprinkling of charcoal will brighten up a flower bed.'

"The rain was now over, and the gentlemen left the mews; and I thought, 'Well, but before I try the charcoal on my plants, I'd best make some inquiry of them as aren't doctors, but gardeners. So I went to our nursery man who has a deal o' book learning, and I asked him if he'd ever heard of charcoal-dressing being good for vines, and he said he'd read in a book that it was so, but had never tried it. He kindly lent me the book, which was translated from some forren one. And after I had picked out of it all I could, I tried the charcoal in the way the book told me to try it; and that's how the flowers and the grapes came to please you, my lord. It was a lucky chance that I ever heard those gentlemen talking in the mews, please your lordship."

"Chance happens to all" said the peer, sententially, "but to turn chance to account is the gift of few."

His lordship returning home gazed gloomily on the hues of his vast parterres; he visited his vineries and scowled at the clusters; he summoned his head gardener, a gentleman of the highest repute for science, and who never spoke of a cow-slip but by its latin name. To this learned personage his lordship communicated what he had heard and seen of the benignant effects of charcoal, and produced in proof, a magnificent bunch of grapes, which he had brought from the squire's. "My lord," said the gardener, scarcely glancing at the grapes, "Squire ——'s gardener must be a poor ignorant creature to fancy he had discovered a secret which is so very well known to every professed horticulturist. Professor Liebig has treated of the good effects of charcoal-dressing to vines especially, and it is to be explained upon these principles"—therewith the learned man entered into a profound dissertation, of which his lordship did not understand a word.

"Well, then," said the peer, cutting short the harrangue, "since you know so well, that charcoal-dressing is good for vines and flowers, have you ever tried it on mine?"

"I can't say that I have," my lord; "it did not come into my head."

"Nay," replied the peer, "chance put it into your head, but thought never took it out of your head."

My lord, who, if he did not know much about horticulture, was a good judge of mankind, dismissed the man of learning, and with many apologies for seeking to rob his neighbor of such a treasure, asked the squire to transfer to his service the man of genius.

The squire, who thought that now the charcoal had been once discovered, that new gardener could apply it just as well as the old one, was too happy to oblige my lord, and advance the fortune of an honest fellow, born in the village. His lordship knew very well that a man who makes good use of the ideas received by chance, will make a still better use of ideas received through study. He took some kind, but not altogether unselfish pains with the training and education of the man of genius, whom he had gained to his service. The man is now my lord's head forester and bailiff. The woods thrive under him, the farm pays largely. He and my lord are both the richer for the connection between them. He is not the less practically pains-taking, though he no longer ascribes a successful experiment to chance. R.

For the New England Farmer.

SHEEP HUSBANDRY--No. 1.

DEAR SIR:—It is a somewhat strange anomaly that while rapid progress has been made in every department of agriculture in this State, that of sheep husbandry has fallen off to a very great extent. And when we consider the important relation which this branch of agriculture bears to manufactures and commerce, it appears still stranger that the political economist, who we should expect would be ever directing his attention to the developing of the resources of the country, should have allowed the important subject to pass unnoticed. We think that had there been as great efforts made to make wool king as there have been to make cotton a sovereign power, the latter could not have reigned without a rival.

An idea of the importance of the subject may be gathered from the following figures. In our manufactories in the United States we are annually consuming about 122,000,000 pounds of wool; that we only produce about half that quantity; that we shall import this year worsted goods and mixed worsted and cottons to the amount of \$17,367,672; that nearly every yard of broadcloth consumed in the country is imported, and a large portion of our fine fancy cassimeres, and a large amount of our coarser woolens, blankets and carpets are also imported. I am not sure that if we consider every article imported, into the composition of which wool enters, we should find that we import as much in a manufactured state as we manufacture. If this is correct, then, in order to supply ourselves with the raw material of what we ought to manufacture, we should require, in addition to what we now raise, about 190,000,000 pounds—making a total of about 250,000,000 pounds—and this, while many of our Western farmers are without a market for their corn, because it will not pay for their transportation, whereas wool is fetching a high price and sheep would consume their corn—and what could be raised with more ease than roots, which are excellent for sheep? They are better than corn, and should either be dispensed with it should be the latter.

The cost of transportation is quite an item in the profits arising from the products of the soil. Wheat and corn are among the heaviest products that seek a distant market. From Central Illinois it costs over fifty cents to deliver a bushel of corn in New York, while less than two cents will deliver a pound of wool in the same place. What

a difference it would make in the profits of the farm between delivering the corn in New York to have it converted into wool there, and converting the corn into wool in Illinois and delivering it in New York. But our American farmers do worse than this—they send, at a heavy transportation cost, their wheat and corn to Europe to have them made into various fabrics and delivered at a still smaller per centage of cost than the cost of transporting wool from the far West to any market in the East. Mr. Grinnell says:—"At any point two hundred miles from Chicago, this ratio of cost in freighting is well established; that to transport your products to the seaboard, on wheat you pay 80 per cent. of its value, on pork 30 per cent., on beef 20 per cent., gross on wool 4 per cent. This is not conjecture, but my own experience, that I give 80 per cent. of the value of my wheat, which impoverishes my farm, to find a market, and 4 per cent. to find the best wool market, the production of which enriches my acres beyond computation."

The United States, as a country, is strictly agricultural, and yet does not produce more than half of the wool which the country requires for its manufactures. This production would enrich the soil which raised it, while we largely export those products which are rendering sterile the fertile soil upon which they grow.

The production of wool has not kept pace with the increased consumption of our manufactures. In 1840 there were 50,808,524 lbs. of wool consumed in this country. Of this, 35,802,114 was the product of the United States, and 15,006,410 was imported. In 1850, there were consumed 71,186,763 lbs. Of this, 52,516,969 lbs. was home production, while 18,669,794 lbs. was imported. In 1860, the consumption were 95,098,000 lbs., of which 60,511,343 were produced at home, and 34,586,657 were the production of foreign soils. But while the United States have increased their production of wool, some of the best wool producing States show a decrease. Ohio had, in 1854, 4,822,171 sheep; in 1858, that number was reduced to 3,307,798; and under the stimulus of the increased demand for wool, on account of the scarcity of cotton, the number increased in 1862 to 4,740,227.

But to come nearer home, our own State is well adapted for growing wool, but during the last twenty years there has been a great falling off. We find by reference to statistics that the number of sheep in this State in 1840, was 378,226; in 1850, 188,651; in 1860, 113,111; being a decrease in twenty years of 265,115. In 1845, the number of pounds of wool grown was 1,026,230; in ten years from that time the decrease in the production of wool was over 600,000 pounds. In the same year, the value of sheep and wool was \$923,000; in 1855 it was \$464,889, showing a falling off of near a half million dollars. In 1850, the wool produced in the State was 585,000 pounds, while the amount consumed was 22,000,000 pounds, exclusive of domestic manufactures. In 1860, while the quantity consumed had greatly increased, the production had fallen to 373,789. Could anything be stranger than this, with a market at their doors and cash on delivery? But there is a cause for everything, and there are a number for this. One, we think, has been removed in the protection afforded the farmer by

what is known as the dog-law, one of its wise provisions being found in Section 64: "Whoever suffers loss by reason of the worrying, maiming, or killing of his sheep or lambs by dogs, may, within thirty days after he knows of such loss, present proof thereof to the mayor or selectmen of the city or town wherein the damage is done, and, thereupon, said officers shall draw an order in favor of the owner upon the treasurer of said city or town for the amount of such loss."

Other causes and their remedies will be pointed out in a series of articles to follow on this subject.

TYRO.

SCOURS IN SHEEP.—In commenting upon an article of a correspondent, recently, in relation to this disease, we suggested that it may have been induced by the bad fodder upon which they have been fed—that is, upon hay that was injured in curing last summer.

A gentleman from Keene informed us yesterday that he had lost fifty sheep out of a flock of two hundred and fifty, although he had fed grain liberally to them, and taken every pains in his power to keep them in health and in good condition. He imputes the cause of the disease to the bad fodder that was harvested last summer. He says the losses by sheep owners are common in all that region, and they are so extensive as to become of a serious character.

REMEDY FOR SCOURS IN SHEEP.—Mr. ALFRED POOR, of Andover, Mass., informs us that in one or two cases of "scours" that came under his personal observation, the sheep were completely cured by eating *common salt*. It had been left where they accidentally came to it. They ate of it freely, soon began to mend, and in a few days thoroughly recovered. The remedy—if remedy it is—is so simple and cheap that any one may prove it.

THE BLACK KNOT.—A friend in Roxbury has handed us two or three branches from different trees or shrubs, that are completely covered with the *black knot* of the very worst type. Neither of them are from the plum tree. This is a startling matter. Is this scourge to visit and gradually destroy our climbing shrubs, hedges, and perhaps apples and pear trees? We hope not; and yet we see it here in its way to them all. The plum crop has been nearly cut off for several years from this pest, which has baffled all attempts to prevent its destructive tendencies, and now it is moving on to blast other common plants. We hope some means may be discovered to arrest its progress.

PRUNING ORCHARDS.—It is a very good rule, and the nearer it is followed the better, that no shoot should be allowed to remain longer than one year on a tree that will require removal at a future time.

ALOES---TO DESTROY INSECTS ON PLANTS.

In your journal for May, 1860, you request your readers to try aloes as a protection of plants from insects, and report. As I have been induced to try it, by an article in the *Southern Cultivator* for February, 1859, page 37, giving a translation from F. V. Raspail, recommending it, I will give you the results of my experiment on cabbage plants.

I was very much annoyed by cut worms, very often not getting more than three-fourths of a stand, even after replanting several times.

When ready to set out the plants last spring, (1859) I put from $\frac{3}{4}$ to 1 pound of aloes in a tin pan and poured hot water over it, and I stirred it until the water could dissolve no more; I then poured off the water into an empty whiskey barrel and repeated the operation until all the aloes was dissolved; I then filled the barrel with cold water, and as I planted the cabbage, I poured the solution on and around it, and did not use it any more for the same crop, and out of from 200 to 250 plants I had but about 15 cut; those I replanted and watered again with the solution and they did not trouble me any more this time.

I tried it again last fall on another piece of ground in the same garden, with about the same result.

This spring I tried it again on the same piece of ground as last year, and I had but five plants cut.

I think if the solution, made much weaker, was used once a week until the cabbage was too hard for them to cut, it would keep them off entirely.

I have not tried it on anything but cabbage.—*Southern Cultivator*.

WATERING HORSES.

The quantity as well as quality of the water given a horse will greatly affect his condition. Perhaps no animal is more distressed by thirst than the horse, a fact not generally known, or if known, not fully appreciated. Horses should be watered *regularly*, when not at work, as well as when at work, provided, in the latter case, that care is taken not to let him have it when overheated by work. Irregularity in the supply of water is often followed by a refusal to partake of solid food, and more frequently by colic and founder, in consequence of his drinking inordinately when an opportunity offers. For horses, when they are not at work, it is perfectly safe to keep a supply of pure water always within their reach; but as before remarked, there is some danger in this plan when they are worked or driven, and are likely to become overheated.

There is a very certain way of determining when a horse has been neglected. If the master, on entering the stable, and lifting the water bucket, finds the animal placing himself in an attitude of expectation, and eagerly gazing upon the vessel, it is point blank evidence that his usual supply of water has been withheld. Whenever it is possible, let the horse have water from a running stream.—*Stock Journal*.

FRANCE is swarming with and devoured by insects because she has gluttonously eaten up her small birds; which were her natural allies against destructive insects.

THE BLACK KNOT.—A friend in Roxbury has handed us two or three branches from different trees or shrubs, that are completely covered with the *black knot* of the very worst type. Neither of them are from the plum tree. This is a startling matter. Is this scourge to visit and gradually destroy our climbing shrubs, hedges, and perhaps apples and pear trees? We hope not; and yet we see it here in its way to them all. The plum crop has been nearly cut off for several years from this pest, which has baffled all attempts to prevent its destructive tendencies, and now it is moving on to blast other common plants. We hope some means may be discovered to arrest its progress.

WILTED POTATOES FOR PLANTING.—Some writers have recommended the planting of dried potatoes as a preventive of the rot. A Pennsylvania correspondent of the *Rural New Yorker* says:

I once overlooked a few rows dropped, which remained unnoticed and consequently uncovered during several days, and not only wilted but considerably dried. These had the advantage in the strong and healthy appearance of the tops throughout the season, and in the tubers at digging, over those covered fresh from the pit. Cut the potatoes and scatter on a little plaster, to prevent bleeding, and allow to wilt if time and circumstances will admit.

COVERED MANURES.—A late number of the *Journal of Agriculture* contains a statement of the result of an experiment made to determine the relative value of manure made under cover, and that exposed in the barnyard. Both manures were applied to potatoes in equal quantities. The yield on equal portions of land was as follows: Manure from barnyard, 252 bushels per acre; manure made under cover, 297 bushels per acre.

CHEAP PAINTS.—The essential part of all good paints properly so called, is linseed oil. Oil, if well boiled, may be applied alone, and affords an excellent protection to hard wood and implements and upon floors. Sundry substances ground very fine are used to mix with the oil, and in proportion as they thicken the oil and form an opaque coating, they are said to possess "body." A pretty good cheap paint for outside work is made by mixing plaster of Paris with white lead or zinc white, and grinding them together in a paint mill with oil. Plaster alone may be used, and it is said to form a durable and cheap paint. Of course any color may be given which is desired.—*American Agriculturist*.

OIL THE NAILS.—If you wish to drive a cut nail into a seasoned oak timber, and not have it break or bend, just have a small quantity of oil near by and dip the nail before driving, and it will never fail to go. In mending carts and ploughs this is of great advantage, for they are generally mostly of oak wood. In straightening old nails before using, let it be done on wood, and with easy blows. If done on iron, they will be sure to break.

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CATTLE MARKETS FOR MAY.

The following is a summary of the reports for the five weeks ending May 18, 1864:

	NUMBER AT MARKET.				
	Cattle.	Sheep.	Shotes.	Fat Hogs.	Veals.
April 20.....	1716	5750	700	1500	1000
" 27.....	1082	2704	800	1500	1000
May 4.....	844	4856	1200	700	1000
" 11.....	1038	1818	1100	1400	900
" 18.....	750	1700	700	900	875
Total.....	5430	16,828	4500	6000	4775

The following table exhibits the number of cattle and sheep from each State for the last five weeks, and for the corresponding five weeks last year; also the total number since the first of January, of each year:

	THIS YEAR.		LAST YEAR.	
	Cattle.	Sheep.	Cattle.	Sheep.
Maine.....	149	—	191	—
New Hampshire.....	416	3858	626	3892
Vermont.....	1080	6186	891	5887
Massachusetts.....	639	2596	719	933
Northern New York.....	16	—	33	—
Western States.....	3120	4188	2872	314
Canada.....	—	—	200	—
Total for the five weeks.....	5,430	16,828	5,532	11,266
Total, since Jan. 1, (20 weeks),	27,330	87,258	28,044	54,065

PRICES.

	April 20.	April 27.	May 4.	May 11.	May 18.
Beef, 1, 2, 3 qual.....	9½@12	9½@12	10 @12	10 @13	11 @13½
" ex. and prem.....	12½@13	12½@13	12½@13	13 @13½	13½@—
Sheep ♀ lb.....	8½@10	8½@10	8½@10½	8½@10½	10 @11
" sheared.....	—@—	—@—	4 @7	4 @7½	6 @9
Shotes, retail.....	8½@9½	8½@10	8½@11	9 @12	9 @11
Beef hides, ♀ lb.....	6½@10	10 @10½	10 @11	10 @11	10 @11
Pelts, wool on.....	\$3½@4	\$3½@4	\$3½@4	\$3½@4	3½@4

REMARKS.—Last month we remarked that live stock had been sold at higher prices during the month of April than ever before at this market. Since then prices have gradually, but not steadily, advanced. What are we coming to? is a question more easily and more often asked than answered. Some solve all mysteries by ascribing high prices to "the speculators." Others believe that the ups and downs of trade, like the ebbing and flowing of the tide, are governed by laws which are as little affected by speculators as the dust of old Esop's coach was by the fly that rested upon one of its wheels. Others again satisfy themselves with the assumption that there is an actual scarcity of cattle and sheep, of pigs and poultry. The statistics of the cattle market do not appear to authorize this conclusion. Our attempt last month to illustrate this was defeated by a mistake in figures. Our last report, (May 18.) is for the twentieth week of the year. Compared with last year and the year before, the number of cattle and sheep stands as follows:

	Cattle.	Sheep.
1864, (first 20 weeks).....	27,330	87,278
1863, " " ".....	28,044	54,065
1862, " " ".....	24,840	53,982

Showing that thus far in the year the whole number of cattle at market is only 714 less than for the same time last year, and that of sheep 33,193 greater; and both cattle and sheep are largely in excess of the year before. It is evident, therefore, that, compared with other years, there is no falling off in the supply, however much it may be exceeded by the demand. The market is said to be unusually well supplied with fresh fish. And yet cattle and sheep, calves and hogs brought high prices, and found a quicker sale at the last market, than we have ever before witnessed.

The following from our report of sales, May 21, will show the state of the market:

J. M. Bean sold 6 oxen to J. S. Allison, by the lump, at what the seller estimated equal to 12½c ♀ lb., and 8 to the Chamberlain Bros., 4 at 12c and 4 at 11c, on seller's estimate of weight.

J. W. Judkins sold 10 cattle to W. E. Gowd, on commission.

G. W. Brownell sold 7 oxen to S. F. Woodbridge, for \$770, or 12c ♀ lb; one pair of steers for \$180, or 12c; one cow to C. Atherton, laid at 625 lbs., for \$70, and a milk cow for \$62.50.

G. W. Barker sold 8 oxen for \$110 ♀ head, or 12c ♀ lb; and 2 beef cows at about 10c ♀ lb.

Geo. Baldwin marketed an extra pair of young oxen, the best at Cambridge, so far as we saw, and as good, he claimed, as your cracked-up River Cattle, fed by Geo. Sleeper, of Corinth, Vt., which weighed 3680 lbs., 13 miles from home, and were laid to dress 2250 lbs. of hide, tallow and dressed beef, at 14c ♀ pound.

D. A. Philbrick had a fine lot of oxen this week, mostly from the Merrimack Valley, which turns out as good oxen, he contends, as the much vaunted Connecticut River. One pair in particular were as good as the best. They were fed by Asa W. Greeley, of Salisbury, Mass. Mr. Greeley bought these oxen last November, paying \$145 for the yoke. After feeding them liberally for about seven months, he sold them to Mr. Philbrick for \$325, more than double the money. Happening to strike the market in a very fortunate week, Mr. Philbrick sold them for \$360. They weighed \$4200 lbs. at home. Mr. Philbrick also sold 14 oxen averaging 3300 lbs. ♀ pair at Brighton for 12½c.

Wm. Scollans & Co. sold 29 to S. S. Larnard, of an average live weight of 1579 lbs., at 13½c, 27 sk; 33 to J. F. Taylor, 1378 lbs. each, at 13½c, 28 sk; 14 to H. W. Jordan, 1237 lbs. each, at 13½c, dressed; 23 to Geo. Wildes, 1226 lbs., at 13c, 29 sk; and 32 to Brooks & Stone, 1274 lbs. each, at 12c, ½ sk.

STORE CATTLE.—Excepting a few milch cows, there are no stores at market at this season. This week we noticed but few milkers. Noted the sales of one cow and young calf for \$45, another for \$68, and another for \$75. Geo. Mann reports the sale of 12 cows and calves at from \$32 to \$50 each. The retail dealers say the market is not as good as it was a few weeks ago.



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SIMON BROWN, EDITOR.

WONDERS OF JULY!



In allusions to the more recondite or hidden things of the farm than has seemed suitable in articles upon the management of the crops and general operations of the month. These operations, however, have frequently had special attention.

Farmers have been too long and too well contented with a partial knowledge of the most common things around them. They have seen their crops grow from year to year, their trees covered with fragrant flowers and luscious fruit, the seasons roll grandly on in their appointed course, and have given little heed to the numberless interesting sources of instruction and pleasure which throng every path in rural life. In preparing those brief Monthly Essays it has been our object gradually to lead the mind of the reader to these sources, where a wise Providence has created and fixed the abode of a peopled world, all unlike that which comes to the eye without especial observation. These sources may be found in every department of nature,—animal, vegetable and min-

At the opening of each new Month, for several years past, we have given an article referring especially to some of the peculiarities of that month as regards the condition of vegetation, insect life, the important offices which each month has to discharge, and with occasional reference to the

special duties of the farmer at such particular period. In these articles we have felt more at liberty to indulge

eral,—and just in proportion as they are investigated and understood, will the happiness of the farmer be increased, as well as his power to protect his crops and increase his annual profits.

Some of the most eminent men of the world have given the best powers of their mind to an investigation of this *inner life on the farm*, and by the glowing descriptions which they have written have charmed and instructed thousands of other minds. The little gnat, so small that it can be seen with the naked eye only in a strong light, was fashioned and launched into existence by the same Almighty Power that gave the elephant his colossal frame and strength, or upheaved the mountains that pierce the skies, and whose heads are covered with eternal snows.

Let us attend, for a few moments, to a look into one of these *inner worlds* by Sir JOHN HILL, an English gentleman who wrote largely on Natural History and Philosophy, and who prepared a system of Botany in twenty-six folio volumes. The world which he explored was a single *carnation*, or *garden pink* of the genus "*Dianthus*," which means "*Flower of God*," or "*Divine Flower*," on account of its pre-eminent beauty. He says:

"The fragrance of a carnation led me to enjoy it frequently and near: While inhaling the powerful sweet, I heard an extremely soft but agreeable murmuring sound. It was easy to know that some animal, within the covert, must be the musician, and that the little noise must come from some little body suited to produce it. I am furnished with apparatuses of a thousand kinds for close observation. I instantly distended the lower part of the flower, and placing it in a full light, could discover troops of little insects frisking and capering with wild jollity among the narrow pedestals that supported its leaves, and the little threads that occupied its centre. I was not cruel enough to pull out any one of them; but adapting a microscope to take in, at one view, the whole base of the flower, I gave myself an opportunity

of contemplating what they were about, and this for many days together, without giving them the least disturbance.

Under the microscope, the base of the flower extended itself to a vast plain; the slender stems of the leaves became trunks of so many stately cedars; the threads in the middle seemed columns of massy structure, supporting at the top their several ornaments; and the narrow spaces between were enlarged into walks, parterres and terraces.

On the polished bottom of these, brighter than Parian marble, walked in pairs, alone, or in larger companies, the winged inhabitants: these, from little dusky flies, for such only the naked eye would have shown them, were raised to glorious, glittering animals, stained with living purple, and with a glossy gold that would have made all the labors of the loom contemptible in the comparison.

I could, at leisure, as they walked together, admire their elegant limbs, their velvet shoulders, and their silken wings; their backs vieing with the empyrean in its hue; and their eyes, each formed of a thousand others, outglittering the little planes in a brilliant. I could observe them here, singling out their favorite females, courting them with the music of their buzzing wings, with little songs formed for their little organs, leading them from walk to walk among the perfumed shades, and pointing out to their taste the drop of liquid nectar just bursting from some vein within the living trunk; here were the perfumed groves, the more than myrtle shades of the poet's fancy realized; here the happy lovers spent their days in joyful dalliance;—in the triumph of their little hearts, skipt after one another from stem to stem among the painted trees, or winged their short flight to the close shadow of some broader leaf, to revel undisturbed in the heights of all felicity.

Nature, the God of nature, has proportioned the period of existence of every creature to the means of its support. Duration, perhaps, is as much a comparative quality as magnitude; and these atoms of being, as they appear to us, may have organs that lengthen minutes, to their perception, into years. In a flower destined to remain but a few days, length of life, according to our ideas, could not be given to its inhabitants; but it may be according to theirs. I saw, in the course of observation of this new world, several succeeding generations of the creatures it was peopled with; they passed, under my eye, through the several successive stages of the egg and the reptile form in a few hours. After these, they burst forth at an instant into full growth and perfection in their wing-form. In this they enjoyed their span of being, as much as we do years—feasted, sported, revelled in delights; fed on the living fragrance that poured itself out at a thousand openings at

once before them; enjoyed their loves, laid the foundation for their succeeding progeny, and after a life thus happily filled up, sunk in an easy dissolution. With what joy in their pleasures did I attend the first and the succeeding broods through the full period of their joyful lives! With what enthusiastic transport did I address to each of these yet happy creatures Anacreon's gratulation to the cicada:

Blissful insect! what can be,
In happiness, compared to thee?
Fed with nourishment divine,
The dewy morning's sweetest wine.
Nature waits upon thee still,
And thy fragrant cup does fill.
All the fields that thou dost see;
All the plants belong to thee;
All that summer hours produce,
Fertile made with ripening juice.
Man for thee does sow and plow,
Farmer he, and landlord thou.
Thee the hinds with gladness bear,
Prophet of the ripen'd year!
To thee alone, of all the earth,
Life is no longer than thy mirth.
Happy creature! happy, thou
Dost neither age nor winter know;
But when thou'st drank, and danc'd, and sung
Thy fill, the flowery leaves among,
Sated with the glorious feast,
Thou retirest to endless rest.

While the pure, contemplative mind thus almost envies what the rude observer would treat unfeelingly, it naturally shrinks into itself on the thought that there may be, in the immense chain of beings, many, though as invisible to us as we to the inhabitants of this little flower—whose organs are not made for comprehending objects larger than a mite, or more distant than a straw's breadth—to whom we may appear as much below regard as they to us.

With what derision should we treat those little reasoners, could we hear them arguing for the unlimited duration of the carnation, destined for the extent of their knowledge, as well as their action! And yet, among ourselves, there are reasoners who argue, on no better foundation, that the earth which we inhabit is eternal."

RAISE THE CALVES.—We have said it before, and say it again, that the common practice of selling our calves to the butcher, is one of the poorest pieces of farm husbandry ever practiced. Not that every small farmer who may have one or two can profitably raise them, but that every farmer who has the keeping, or any legitimate way of getting it, should keep his calves until they are two or three years old. We do not advocate the keeping of any more stock than can be well kept. Very many of our farmers, by selling their calves, have let their stock run out, so does the farm also. Now we want such ones to turn over a new leaf. Commence the raising of your calves. They will gradually increase your stock, and as your stock increases in numbers, so will your fields in fertility.—*Michigan Farmer.*

STATISTICS OF CHEESE FACTORIES.

The following statements are from reports made at the late Cheese Manufacturers' Convention at Rome:

Alfred Buck's Factory, Vernon, Oneida Co.—Number of cows, 470, for six months; 145,695 pounds cheese made; 10 10-100 pounds milk made 1 pound dry cheese; cheese sold for 13 cents per pound; the cost of boxes, bandage, salt, &c., 40½ cents for 100 pounds; price charged by cheese maker (he furnishing his own help) for making cheese, \$1 per 100 pounds—making whole cost \$1.40½.

Williams, Adams & Dewey's Factory, Hampton, Oneida Co.—Number of cows, 350; pounds of milk, 976,378; pounds of cured cheese, 95,959, sold for \$12,279.73; 10 pounds 2 ounces milk made 1 pound cheese; price of making cheese, at \$1 per 100 pounds, \$959.59; incidental expenses, \$386.92; total, \$1,346.51.

Whitesboro' Factory, Oneida Co.—Number of cows, 650; eight months milking; number of pounds of milk was 2,122,855; number of pounds of cheese, 207,313; sold for 12 cents and 88-100 per pound. Thirty cords of wood used, costing \$90; 3 tons of coal, costing \$24. Expense of bandage, salt, boxes, &c., 45 cents per 100 pounds; shrinkage of cheese 4 per cent.

Clark's Factory, Vernon, Oneida Co.—Number of cows (not reported); pounds of milk, 955,915 for four months; number of pounds of cured cheese, 101,694; number of pounds of green cheese, 107,083; 9,399 pounds of milk for 1 pound of cured cheese; expense of boxes, &c., 40 cents per 100 pounds cheese.

Miller's Factory, Constableville, Lewis Co.—290 cows; 971,515 pounds milk; 100,089 pounds cured cheese. Net sales of cheese, \$11,011.64; 9 7-10 pounds of milk for 1 pound of cured cheese—the amount of shrinkage was 6 17-100 per cwt.

Deerfield and Marcy Factory, Oneida Co.—700 cows; 1,949,215 pounds of milk; 193,335 pounds cheese; 10 82-100 pounds of milk, 1 pound of cheese; cheese sold for 13 611-1000 cents per pound, delivered at Utica.

Louville Factory, Lewis Co.—600 cows; 1,763,934 pounds milk; 172,162 pounds dry cheese; shrinkage, 8,754 pounds; cheese sold for 13 7-10 cents per pound; cost of bandage, boxes, &c., 43 cents.

Georgetown Factory, Madison Co.—435 cows; 1,538,201 pounds of milk; 156,911 pounds of cheese; 9 ¾ pounds of milk for 1 pound of cheese; shrinkage, 3½ per cent; cheese sold for 12½ cents per pound.

MOISTURE IN THE AIR.—One of the most curious and interesting of the recent discoveries of science is, that it is to the presence of a very small proportion of a watery vapor in our atmosphere—less than one-half of one per cent.—that much of the beneficent effect of heat is due. The rays of heat sent forth from the earth after it has been warmed by the sun, would soon be lost in space, but for the wonderful absorbent properties of these molecules of aqueous vapor, which act with many thousand times the power of the atoms of the oxygen and nitrogen of which the air is composed. By this means the heat, instead of being transmitted into infinitude as fast as produced, is stopped or dammed up, or held back on

its rapid course, to furnish the necessary conditions of life and growth. Let this moisture be taken from the air but for a single summer night, and the sun would rise next morning upon a "world held fast in the iron grip of frost."

THE BOTTOM OF THE SEA.

Our investigations go to show that the roaring waves and the mightiest billows of the ocean repose, not upon hard and troubled beds, but upon cushions of still water; that every where at the bottom of the deep sea the solid ribs of the earth are protected, as with a garment, from the abrading action of its currents; that the cradle of its restless waves is lined by a stratum of water at rest, or so nearly at rest that it can neither wear nor move the lightest bit of drift that once lodges there. The uniform appearance of those microscopic shells, and the most total absence among them of any sediment from the sea or foreign matter, suggest most forcibly the idea of perfect repose at the bottom of the deep sea. Some of the specimens are as pure and as free from sea-sand as the fresh-fallen snow flake is from the dust of the earth.

Indeed, these soundings almost prove that the sea, like the snow-cloud with its flakes in a calm, is always letting fall upon its bed showers of these minute shells; and we may readily imagine that the wrecks which strew its bottom are, in the process of ages, hidden under this fleecy covering, presenting the rounded appearance which is seen over the body of the traveller who has perished in the snow storm. The ocean, especially within and near the tropics, swarms with life. The remains of its myriads of moving things are conveyed by currents; and scattered and lodged in the course of time all over its bottom. This process continued for ages, has covered the depths of the ocean as with a mantle, consisting of organisms as delicate as hoar frost, and as light in the water as down in the air.—*All the Year Round.*

GRUB IN THE HEAD.—It having been stated in the Brandon, Vt., *Record*, that a disease is making alarming havoc among the large flocks of sheep in Rutland County, insomuch that farmers are unwilling to admit the full extent of its fatality, which in some cases it is said amounted to scores, and even hundreds, on single farms,—the Woodstock *Standard*, of last week, gives the following remedy recommended as almost infallible by a farmer who has used it repeatedly:

Take yellow snuff, in the proportion of one tablespoonful to a tea-cup full of water, and steep till a good strong liquor is produced. Inject a tablespoonful of this liquor into the sheep's nose once a day as long as necessary.

TO CLEAN SILK.—Quarter pound soft soap, one ounce honey, one pint gin. Put on with a flannel, or nail brush, and afterwards brushed with cold water, then dipped in cold water five or six times, and hung out to drain, then ironed (*wet* on the wrong side) with a hot iron.

A JOKER suggests that a photograph album is too often made the receptacle of empty mugs.

PLOWING---DRAINING.

On the 17th instant, we were plowing with a heavy pair of cattle and horse on a side hill, where the footing was firm and good,—but where, four years ago, a man could not walk without wetting his feet and occasionally getting mired. This change was effected by *draining*. Common pipe drains were put down four feet below the surface, and the drains laid twenty feet apart. The grass came in last summer and gave a heavy crop, and now, in the midst of a long storm and generally wet season, the land is in admirable condition to be plowed and planted.

We have practiced draining our wet lands, and believe that we engage in no operation on the farm that is more profitable. It is wonderful, what a change is effected in such land in the course of two years. From a wet, sticky, heavy soil, it becomes porous and friable, dropping into fine grains when stirred, and rendering it light and pleasant to cultivate. The change in its products is also as great as that of its mechanical condition. Water grasses, hassocks and rushes disappear entirely, and sweet timothy, red-top and clover take their places. On a portion of the drained land of which we have spoken, the herds-grass stood more than *four feet high*,—and came without sowing any seed to bring it.

We believe the whole matter of drainage is too much neglected. It will certainly bring money to the pocket of the farmer, but as it comes indirectly, the sources from which it springs are lost sight of, and the work is neglected.

On this subject, we have quoted various authorities to sustain the opinions which we have from time to time advanced, and among others that of Mr. John Johnston, who resides near Seneca Lake, in the State of New York. He says tile draining pays the expense in two seasons, sometimes in one. In 1847, he bought 10 acres of land, a perfect quagmire, to get an outlet, and in 1848 harvested 80 bushels of corn per acre, which paid for the land and drainage. Another piece of 20 acres was drained at an expense of about \$30 an acre, and the first crop was over 83 bushels per acre, where before not more than 10 were harvested. A part of the field averaged 94 bushels per acre, this being 84 bushels over the former yield. One-half of the manure used before draining was found ample, for maximum crops, so beneficial was the removal of water.

Mr. Johnston says he never made money till he drained, and that occupiers of comparatively dry land will find advantage in draining.

His farm comprises about 300 acres. His yield of wheat is from 30 to 40 bushels per acre. He uses salt at the rate of five bushels per acre.

He recommends farmers not to use over 2-inch tiles for lateral drains. He makes his main drains

6 or 8 inches deeper than his laterals. An error he fell into was in having too many drains on low land, and too few on high land. To drain effectively the supply of water above must be cut off, then fewer drains will be needed below. Here is the secret.

These opinions come from one of the most thoroughly practical men in this country; a man who is independent, and who has acquired his means through an intelligent, scientific industry.

TRIAL OF MOWING MACHINES.

It is now some twelve years since the mowing machine was introduced among us, and, somewhat later, became common on New England farms. The prejudice that so long existed against them has been obliged to yield, so that now, when help is scarce and high, the most inveterate advocates for sticking to old "notions" and the old scythe are quite willing to *borrow* a mowing machine for a few days, to say the least. They will condescend to do this, when the practical mower demands two dollars and fifty cents per day, and board, for his labor!

Since the introduction of the first rude and imperfect machine, great improvements have been made in them, and new ones devised of more beautiful and convenient form, more substantial in structure and yet of much lighter draft, and less weight of metal and wood.

We have no means at hand of ascertaining how many different patterns, or patented machines have been introduced and recommended, but the number must be quite large. A manufacturer of them recently informed us that he thought he could enumerate *fifty* different kinds! Out of the ten or twelve kinds that we have tested, or seen under trial, we could not, conscientiously, recommend more than one-half of them, and this comparative number will probably hold good in all that have been made. If such is the case, the loss to the farmer in purchasing machines unfit for the purposes for which they were constructed, must be very large. The money loss is not all. Disappointment, delay, vexation, and want of confidence in all farm-machinery will come in to swell the aggregate loss. This should no longer continue. Some means should be suggested to ascertain for a certainty what really good machines there are,—machines that have stood the test of several years trial,—and when this is done, the fact should be made known to all the farmers in the land.

In order to get at the greatly needed information, we suggest that a grand trial be had of the different mowing machines that can be got together, during the coming haying season, where all interested may attend and judge for themselves which is the best machine among them all, and the one

which they should purchase. We would have no premiums. Let the trial be to ascertain which is the best machine, and let the farmers assembled be the judge of that fact, after having witnessed the trial, unbiassed by the report of committees or judges, who may be swayed by one consideration or another in favor of a machine which is not in reality the best.

In a trial like this, the choice of a large majority of those witnessing it would be quite likely to settle upon a few machines, and this judgment would be of great value to the purchaser, as the fact would be reported to every part of the land.

The trial should take place on the line of some railroad, and not far from it. Perhaps Western New York would be as convenient a locality as could be selected,—near Albany, or beyond, on the line of the New York Central Railroad. Shall it be done?

For the New England Farmer.

SHEEP HUSBANDRY---No. 2.

When we ask the question, "Why has sheep-raising fallen off to such an extent in this State?" we always receive the ready-made answer, "That it does not pay." But when we ask why it does not pay, we do not always receive so ready an answer; but we are frequently told that wool does not bring a price sufficiently remunerative. Yet it is a fact that wool, for a number of years, has averaged a higher price in this country than in England, while the American farmer does not, on the average, pay more purchase money for his land, than the English farmer does annual rent for his, and he makes raising sheep one of the most profitable branches of agriculture.

That it has not paid we do not doubt, and one cause we noticed in our last, and showed that that cause was removed.

Another very important cause is the want of that careful attention which can only ensure success in any business.

In too many instances, the farmer, after obtaining a good flock of sheep, has almost left it to itself; he has not taken the pains to keep up his breed that he takes with his other cattle.

If he has fed them well, and *cared* for them in a proper manner, yet he has sold his lambs year after year, and continued to breed from his old ewes; he has kept his old buck, or others raised from his old flock, and that, too, from degenerated ewes, which practice would, in a few years, not only deteriorate the quality of the wool, but would also reduce the quantity. It would also reduce the size of the lambs, and seriously affect their fattening qualities, and would also reduce the size of his sheep, and this would manifest itself soonest and most seriously in the best breeds.

We may expatiate much on the different breeds, we may grow eloquent in favor of this, that or the other one, but unless proper attention is paid to those principles which produce and perpetuate good breeds, we talk and write in vain.

Much has been said and written on in-and-in breeds; but when this is successfully practiced it is with the very best progeny of the best parents on both sides. This, to be successful, must be

conducted on scientific principles, and none but the skillful should ever attempt it. On the other hand, among our every-day farmers, and with sheep particularly, where the flock is drained of all its vigor by the constant sale of lambs, it is a prolific source of evil; and when we hear persons advocating in-and-in breeding, we always feel like saying, "Please state its limitations," preserve your best lambs, both male and female, and breed from no others.

We noticed a lamb last fall whose fleece resembled hair; it was bought from a flock whose owner has sold his lambs from year to year, keeping only such as the butcher would not buy, and breeding in-and-in. This man could not afford to preserve a good lamb, or buy a good buck. The form of this lamb was in perfect keeping with its fleece, its back sharp instead of broad, its ribs flat and its neck long.

All our different breeds of sheep have their origin from one source—the wild, hairy animal, still found upon the mountains of Asia Minor, Barbary, Greece, &c., which when brought under the fostering care of man, the rank, hairy fibres gradually disappear, while the soft wool around the roots, which is scarcely perceptible at first, becomes singularly developed. The male undergoes this change more rapidly than the female, and always continues to possess far more power in modifying the fleece of the offspring than the female parent. Always bear in mind, however, that the age and vigor of the parents will do much to modify the general law. By paying strict attention to this general principle, changing and crossing of rams, we have obtained such a variety of breeds, and have so far advanced from the parent stock, that the relationship appears almost obliterated. But though there appears such a wide difference between our best domestic breeds and their wild origin, yet there is always a tendency upon the part of the fleece of the domesticated animal to return to that of the wild animal. This is most rapid in the ewe. She will not be neglected by man, if she is, her fleece will suffer, and under the very best of care fleece of both the male and female deteriorates every year. It is finest, strongest and heaviest the first year, and it continues to become lighter and coarser every year, and the more lambs the ewe has the faster the fleece deteriorates, consequently it will be found that it is not the ewe that produces most lambs in a year that is eventually the most profitable.

We have in our possession two fleeces, one black and the other white—their staples measure about twelve inches—the greater portion of both is hair, and when drawn out very much resembles the hair from a cow's tail. We showed this a short time ago to an eminent stock breeder, and he asked if was from Africa? Judge of his surprise when told it was raised in Massachusetts!

The first manifestation we have of deterioration in the fleece is the increase in the long hairy part that grows upon the hind leg. In young, well-bred sheep, this is scarcely perceptible. In the old, degenerate sheep, it extends to the body, and the top of the staple is full of coarse hairs, with a white hair in the bottom called a kemp. When sheep are thus far run out, it is about as easy to produce a good flock from the wild species as from them. The wild ones would have health and vigor on their side, which the *domesticated* would

not have. An old ewe's fleece, not other ways degenerated, is known by its shortness, coarseness and thinness of staple, with a dry, harsh feeling, cotted and felted bottom; or, if this is not the case, the staple is rendered very weak and tender.

TYRO.

For the New England Farmer.

A "NOTE" FROM VERMONT.

Spring-time--What it Demands.

MESSRS. EDITORS:—It is now with the farmer the most important and busy season of the year,—seed-time and harvest. Mid spring-time most of all demands the earnest thought and labor of the husbandman. Such it is with us at the present time. The season thus far is full two weeks in advance of that of last year, sowing is nearly done, potato planting considerably advanced, and the planting of corn will soon be at hand. And, notwithstanding the price of labor consequent on the scarcity of field hands the present season, I think full an average of ground will be tilled,—machinery so far as practicable being employed to supply the deficiency in hand help.

The Weather.

The weather at present date is very favorable for the rapid growth of vegetation. Such copious rains, followed by a warm, genial sun, are enough to give life and animation to every living thing. It is shower and sunshine that make vegetation laugh—laugh and grow fat in an increased fullness of the products of the field.

Thunder Shower.

While I write, the thunders roll in the distant west, foretelling in unmistakable tones an additional showering of Mother Earth, the farmers' bountiful benefactress. Well, we'll welcome it as the "mercy drop" to vegetable growth, and the "elevating" element to its final perfection.

"Later."

It rains and hails, with vivid lightning and heavy thunder. How cool and refreshing! How green the grass! Nature seems renewed.

I. W. SANBORN.

Lyndon, Vt., May 10, 1864.

JUNE THE TIME TO PRUNE FRUIT TREES.—

E. D. Wright, in the *Genesee Farmer*, contends that June is the proper season to prune fruit trees, offering as the ground of his faith the following reasons, which we put in a condensed form:

1. A limb being cut off before the growing season, both wood and bark will dry and die back where the cut is made. What it thus loses while waiting for the growing season must be made up by the growth of new wood when that season arrives. Nature undertakes to heal the wound by growing it over with this new wood, but much time is lost before it will grow up from the point where life still remains, between the bark and the wood, to the place where it would be if the cut were made in May or June, instead of February or March.

2. Where a limb is cut off before the growing season, and before or at the time of the spring flow of sap, the sap must come to the surface where cut, and there be evaporated or fermented, leaving the wood sour and lifeless, and liable soon to rot.

For the New England Farmer.

METEOROLOGICAL RECORD FOR APRIL, 1864.

These observations are taken for and under the direction of the Smithsonian Institution.

The average temperature of April was 42°; average midday temperature 48°. The corresponding figures for April, 1863, were 43° and 52°. Warmest day the 27th, averaging 52°; coldest day the 5th, averaging 27°. Highest temperature, 62°; lowest do., 16°.

Average height of mercury in the barometer, 29.22 inches; do. for April, 1863, 29.23 inches. Highest daily average, 29.47 inches; lowest do., 28.88 inches. Range of mercury from 28.81 inches to 29.48 inches. Rain or snow fell on thirteen days; amount of snow 17 inches; amount of rain and melted snow, 4.10 inches. Nine stormy days, with 2 inches of snow, and 1.92 inches of rain and melted snow, in April, 1863. There were two entirely clear days; on seven days the sky was entirely overcast.

On three different occasions during the month, the winds have run high. The difference of temperature, also of rain and snow, between April this year and last, will be noticed with interest.

Latitude 43° 22' N. Longitude 72° 21' W. Height above the sea 539 feet.

Seeing some meteorological summaries and comparisons in your columns, from a Brandon, Vt., observer, it occurred to me that some few items from my own records would be interesting in themselves, and also as comparing them with those from Brandon.

I shall consider the winter to include November and March.

Winter of	Ar. Temp.	Amt. of snow.	Rain and melted snow.	Barometrical average.
1859-60.	26.8°	64.96 ins.	9.71 ins.	29.28 ins.
1860-61.	27°	115.25 "	17.85 "	29.214 "
1861-62.	22.8°	105 "	15.02 "	29.196 "
1862-63.	27°	74.25 "	14.22 "	29.318 "
1863-64.	28.4°	84.75 "	16.37 "	29.248 "

Suppose we now take the months separately.

NOVEMBER.

	1859	1860	1861	1862	1863
Average temperature.....	37°	40°	36°	37°	40°
Average midday temperature.....	47°	45°	40°	42°	45°
Barometrical average.....	29.37	29.15	29.11	29.25	29.22
Amount of snow.....	3.75	6.00	10.00	7.60	
Amt. of rain and melted snow.....	1.87	3.23	1.54	1.05	3.55

DECEMBER.

Average temperature.....	18°	22°	27°	25°	22°
Average midday temperature.....	23°	27°	33°	30°	27°
Barometrical average.....	29.33	29.25	29.29	29.28	29.36
Amount of snow.....	30.56	43.25	17.00	11.00	17.50
Amt. of rain and melted snow.....	3.57	3.53	1.90	1.59	4.00

JANUARY.

Average temperature.....	23°	17°	19°	27°	22°
Average midday temperature.....	30°	22°	23°	32°	28°
Barometrical average.....	29.26	29.23	29.23	29.35	29.22
Amount of snow.....	7.75	34.50	29.00	26.75	14.00
Amt. of rain and melted snow.....	0.48	3.97	3.25	3.66	2.35

FEBRUARY.

Average temperature.....	21°	26°	19°	22°	26°
Average midday temperature.....	27°	33°	27°	29°	32°
Barometrical average.....	29.31	29.21	29.25	29.41	29.31
Amount of snow.....	16.25	15.50	31.00	14.50	14.50
Amt. of rain and melted snow.....	2.28	2.98	3.10	3.12	1.75

MARCH.

Average temperature.....	35°	30°	32°	24°	32°
Average midday temperature.....	41°	36°	39°	32°	36°
Barometrical average.....	29.14	29.23	29.10	29.30	29.13
Amount of snow.....	7.25	16.00	18.00	15.00	38.75
Amt. of rain and melted snow.....	1.51	6.50	4.82	4.80	4.72

I have here given the amount of rain and melted snow which indicates the real amount of water which has fallen during the given time. I give the midday temperature, because by it we can

judge somewhat how the cold came; whether in *very cold nights* or a *steady low range* day and night. Thus a low, general average, and high midday average would indicate cold nights. Where these two averages ranged near together the indication is that the cold was steady. Many other deductions can be made by study of such a table as the above. The table enables us to judge correctly as to the "warmest winter" or the "coldest," the wettest or driest, &c., so often remarked without much thought. A. C.

Claremont, N. H.

CROSSING ANIMALS.

CLINE, who is generally regarded as good authority in such matters, remarks that "any improvement by crossing must depend entirely upon the selection of a well-formed female—larger in size than the usual proportion between females and males; and let the male be rather small, with good points."

A late work on agriculture, published in England, contains the following upon the subject of crosses:

"The desire to obtain a *larger* race by crossing, has been very generally attended with evil consequences; the chief aim ought to be to improve the *form*, leaving the increase of size to be the result of a union of larger breeds of cattle."

Again the author says:

It may be desirable to improve the *form* of a native breed or race, but at the same time, it may be very injudicious to attempt to change their *size*, for the size of animals is commonly adapted to the soil and climate which they inhabit. Where produce is nutritive and abundant, the animals are larger, having grown proportionally to the quantity of food, which for generations, they have been accustomed to obtain; but where the produce is scanty, the animals are small, being proportioned to the quantity of food which they were able to procure; and of these contrasts, the sheep of Lincolnshire and Wales are samples—the Lincolnshire sheep would starve on the mountains of Wales. Crossing the breeds of animals may be attended with bad effects in various ways, and that, even when adopted in the beginning on good principles; for instance: Suppose some larger ewes than those of the native breed were taken to the mountains of Wales and put to the bucks of that country; if these foreign ewes were fed in proportion to their size, their lambs would be of an improved form, and larger in size than the native animals; but the males produced by this cross, although of good form would be disproportionate in size to the native ewes, and therefore, if permitted to mix with them, would be productive of a starveling, ill-proportioned progeny.

AGE OF THE BIG TREES OF CALIFORNIA.—

A count of rings in the wood of one of the big trees of California, cut down several years ago, shows that it was *not more* than 1225 years old. It was 23 feet in diameter.

TRY experiments sparingly, but liberally withal, where improvement of the land may be promoted.

THE BOBOLINK.

Where the pheasant late was drumming
With her brown and spotted wings;
Where the velvet bees are humming,
Where the ox-eyed daisy swings—
The gay bobolink is coming,
With his song the welkin rings.
His coat is black as night,
His epaulettes are white;
A meadow bard is he,
Minstrel of liberty.

Hear the chorus of the rover
As he sings upon a reed,
On the thistle, in the clover,
On the tip-top of the weed,
On the elm-twigg bending over,
Singing when he husks the seed.
Where the soft cotton grows,
As white as winter snows,
He never sang the lay
That charms the ear to-day.

How soft and tender is the twitter
Of this meadow minstrel gay!
How jubilant the wings that flitter
While he sings his roundelay
Above the still and faithful sitter
Upon her nest of wool and hay!
When the glad husband sings,
His wife, with folded wings,
Hid in the grass and flowers
Forgets the fleeting hours.

GEORGE W. BUNGAY.

For the New England Farmer.

SICKNESS AND LOSS OF SHEEP.

MESSRS. EDITOR:—In the *Farmer* of May 14th was an article from O. W. True, on "Sheep." I can say with him that they have not wintered as well as common, and many have died. The losses do not seem confined to large flocks altogether, for some small flocks of eight, fifteen, and twenty, have suffered more or less, losing from three to twelve, while larger flocks have lost more heavily. Some farmers in this vicinity have lost as many as twelve, thirty, and even one hundred.

The difficulty is mostly grub in the head,—there being only a few cases of scours. I have known of some to open the head and find eight and nine grubs, and in many cases the sheep would show no signs of sickness until within a short time of its death. I think if sheep are taken in season and treated as recommended in the *Farmer* some time ago, (in March, I should think,) for grub in the head, they may be cured. I have known of a number being cured. In some cases the grub would come out on the swab. Lambs have not done as well as usual, and must command a good price. A READER.

Belknap County, N. H.

SENSIBLE MAXIMS.—Never taste an atom when you are not hungry; it is suicidal.
Never hire servants who go in pairs, as sisters, cousins, or anything else.

Never speak of your father as "the old man."
Never reply to the epithet of a drunkard, a fool, or a fellow.

Never speak contemptuously of womankind.

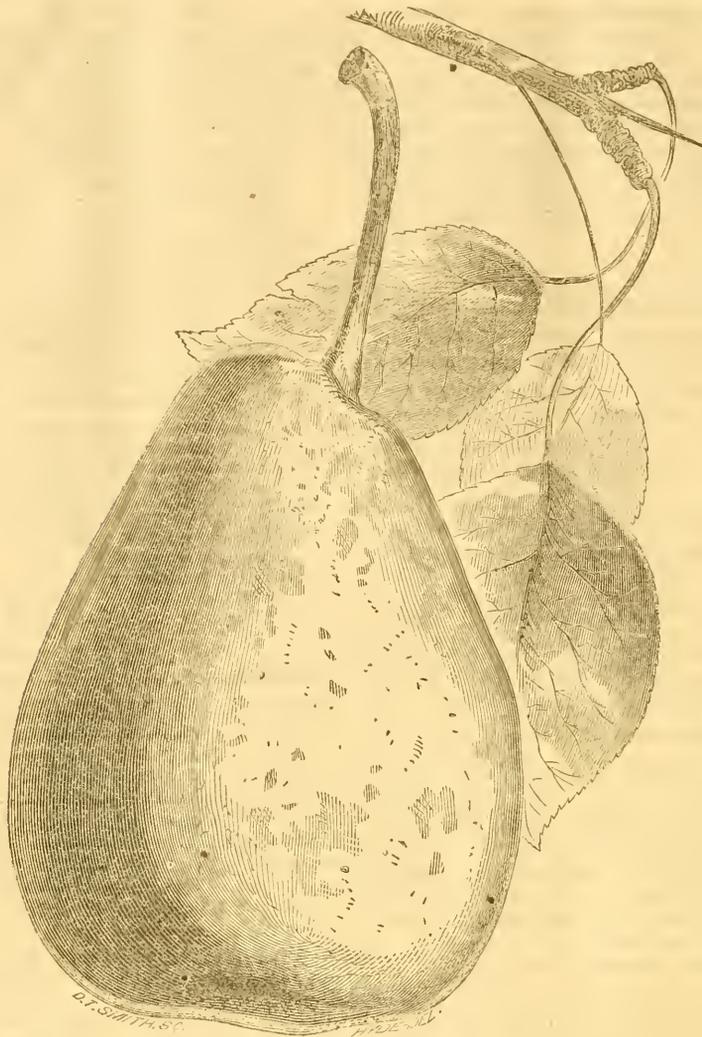
Never abuse one who was once your bosom-friend, however bitter now.

Never smile at the expense of your religion or your Bible.

Never stand at the corner of a street.

Never insult poverty.

Never eat between meals.



THE "WHEILDON" PEAR.

The annexed drawing is of a new variety of Pear produced at Concord, Mass., (which seems to be highly favored in the production of new varieties of fruit,) in the garden of Wm. W. WHEILDON, Esq., to which, by consent, his name has been given, and which promises to be a valuable addition to our native pears. Mr. Wheildon has furnished us with the following history of the tree and description of the fruit:

The stock of the WHEILDON PEAR is a seedling, and, when transplanted to the spot on which it now stands, was of the size of an ordinary walking cane. Having received some injury after it was budded and not growing well, I cut it down to the ground below the bud. Several shoots soon started from the stock, and two of them, (lest one should be accidentally broken off,) were allowed to grow for two or three seasons, when one was taken off close to the ground. The foliage

and growth were so promising that I decided to fruit the natural shoot which indicates its uncultivated habit by its thorns. It grew vigorously and strong, resembling in growth and form a young elm. The first year of bearing, I think, was 1860. The fruit was small, not larger than a hen's egg, but sweet, tender, juicy, and of pleasant flavor.

The next year the fruit was larger, light green in color, more pyriform and generally of improved quality. The third year of bearing, 1862, still further improvement in the size and quality of the fruit was observable, and specimens were exhibited at the Horticultural Exhibition of that year, but as this society seems to give no attention to new varieties of fruit either by premium or notice, it attracted no attention. Specimens were also exhibited at the exhibition of the U. S. Pomological Society, in Boston, the same season, and not being sufficiently ripe, were reported upon by the committee as "promising well." It grows in clus-

ters and has a rugged appearance, somewhat like the Duchess d'Angouleme. The mature fruit of this year was very well spoken of by Hon. Marshall P. Wilder, Mr. Downing, of Newburg, N. Y., Mr. Brill, of Newark, N. J., and Mr. F. R. Elliot, of Cleveland, Ohio. The latter gentleman took from the exhibition of the Pomological Society a specimen, which he ripened, and speaks of it in a letter of March, 1864, as follows:

"On my arrival in Washington, about one week thereafter, I found on examining my specimens of fruit, which I had in my valise, that this "Wheildou" was just in condition, and then and there I cut it, and made a drawing and description, and remember very distinctly that, as compared with quite a number of other sorts at the same time, it was very superior in quality: juicy, buttery, sprightly, aromatic, pleasantly sweet, and, according to pomological rules, 'best.' I have been looking for my drawings, but having moved since that time, my book has got mislaid, and just now I cannot find it."

In 1863, the tree bore another full crop of fruit, and the accompanying engraving, which is an accurate drawing of one of the specimens, sufficiently indicates the continued improvement of the fruit. The produce of this year was generally handsome in size and form, and was approved as a pear of fine character, and as possessing qualities which will render it desirable for cultivation and give it a high rank among our hardy native varieties.

The pear is light green in color, becoming yellowish in ripening, flecked with russet and pink; flesh dull white; very sweet and buttery, with a peculiar aromatic flavor. [A more full description will be given from the fruit of the present season.]

THE MANGOLD WURTZEL.

The practice of raising roots as winter feed for stock has been growing in favor with many farmers for several years. Those who have tried it—and have been tolerably successful in producing crops—would be unwilling to go back to dry fodder as the entire winter feed. Many years ago, potatoes were considered as nearly indispensable, by good farmers, for a portion of their stock,—but since the prevalence of the "rot" among them, and a gradual decrease in the amount of crop, their culture has been so limited as to afford scarcely more than a supply for the table, with a portion of inferior ones for swine.

Since the falling off in the potato crop, the carrot has been introduced and large quantities raised for cattle, horses and swine. Its cultivation, however, is more nice and expensive than the potato or mangold, so that it is not produced much beyond what is required for horses,—for whom it is found to be healthful and better, as a part of the feed, than an equal money value expended entirely in grain. Many stable-keepers prefer

fifty pounds of carrots and fifty pounds of grain, to one hundred pounds of the grain alone.

The cultivation of mangold is easy and cheap. The soil should be a generous one, well drained and thrown up lightly with the plow. After it has been harrowed, furrow out a moderate trench, scatter fine manure into it, cover the manure slightly with fresh soil and drop the seed. The seed should be eight or ten inches apart, as a single seed will sometimes throw out three or four shoots; cover them half an inch if the soil is quite moist, and a little deep, if rather dry. Some cultivators turn two furrow slices together over the manure, and sow upon the ridge. This is not necessary, unless the season is a wet one, or the soil is naturally quite moist. The plants should stand ten or twelve inches apart, and the rows two and a half to three feet, and if all things are favorable, their leaves will cover the whole ground. Cultivation should be thorough through all the early stages of their growth, so that the soil shall be light, and have no weeds upon it, after the leaves have grown to be a foot in length, as the horse and implement used would be likely to injure them afterward.

As they grow principally out of the ground, and reach a large size, they are easily harvested and put away for winter use. A half bushel of them per day for a cow, run through a cutting machine, is as economical as any fodder that can be used. Sow during the first ten days in June.

BET SUGAR IN THE WEST.

At Chattsworth, near the Chicago Branch of the Illinois Central Railroad, experiments have been in progress to which Western men, interested in the highest development of the agricultural resources of those great prairies, have looked with no little anxiety, and much hopefulness, for results. Some circumstances occurred in experimenting, in the state of the weather, or the want of proper machinery, that prevented the manufacture of a large crop of beets produced on the Chattsworth farm. At length, difficulties were overcome, and all concerned were delighted to find that the beets raised there abound in saccharine juices, and that the results obtained are in every respect encouraging. The editor of the *Prairie Farmer* saw the process, which is, briefly, as follows:

The beets are washed, topped, decayed parts cut away, or the whole discarded, if imperfect. A toothed cylinder, two feet in diameter, driven at a high rate of speed, is used as a grater. The beets are fed up to it by a pair of plungers. The pulp and juice fall below in an iron tank, fine and white as snow. Two hundred pounds of the pulp is put in a centrifugal machine at once, and the juice separated from it by centrifugal force in a few moments. The juice goes thence into clarifying tanks where it is clarified preparatory to

evaporation. In these recent experiments, no bone filters were ready, and hence other methods were resorted to to defecate the juice. The evaporation was done both in a kettle with steam coil, and on sorgho evaporators. The editor says of the first experiment: "When it had reached a consistency supposed to be right for granulating, it was taken off and set in a warm room for the night. With many anxious feelings we approached the vessel holding it the next morning, when, to our *great delight*, we found the whole mass had crystallized from top to bottom, showing large and splendid crystals of sugar, which, after standing twenty-four hours longer, was allowed to drain. No more than twenty per cent. of it drained out, much of which was sugar. This would have been less had it been allowed to stand longer."

In former volumes of the *Monthly Farmer*, the reader may find several articles on the economy of using the beet to obtain sugar, and the modes by which the process is to be conducted.

At this time of high prices, when a barrel of good white sugar costs something more than *fifty dollars*, would it not be well for many of our farmers to sow the sorghum to a moderate extent, and reduce its juice to syrup for family use. This was done several years ago, when molasses sold for one-half what it is bringing now, and it was then thought, that, under improved modes of extracting and boiling the juice, a sweetening might be obtained by a large number of our people at an economical cost. It is now made at the West with success and profit, and the probability is, that they will produce a large surplus the present season.

The only way in which we can learn what can be done in this respect is through numerous trials by individuals in a small way, as well as by associated effort on a large scale, with all the appliances necessary to perfect success. In a small way, the fact can be established, whether the beet and the sorghum contain a sufficient amount of the saccharine quality to make their cultivation an object for the purpose of obtaining sugar. A secondary object would be the large amount of matter left for feed for cattle after the juices are extracted from the beet. Perhaps paper might be manufactured from the "bagasse," or remainder of the sorghum.

ERADICATION OF THE OX-EYE DAISY.—J. J. Thomas states in the *Country Gentleman* that on a farm which he lately visited in Pennsylvania, the ox-eye daisy has been so thoroughly eradicated that not a plant could be seen, though it is generally abundant in the neighborhood. The mode practiced for its extirpation is to plant two hoed crops in succession, usually Indian corn, both being well manured, to be followed by wheat and seeded by clover. The few weeds which show themselves are dug up.

It requires the death of 8,300 elephants annually to supply the demand for ivory in London.

BRECK'S BOOK OF FLOWERS.

There are few of the incidental employments of life that have a more happy tendency upon both body and mind than the cultivation of flowers, and a tolerably correct knowledge of their names and habits. Their great variety, beauty and fragrance have attractions for all. The gross in manner, the impure in habit, and even the hard and grasping heart, wrapt in self and forgetful of others, are all happily affected by their presence. Everybody likes flowers.

The infant, too young to express its admiration in words, will lie upon its mother's lap and gaze long and earnestly at the vase of flowers upon the centre table, or the single rose that graces as well as perfumes the room. Girls and boys pluck wild flowers, and adorn their sunbonnets and hats, and look handsomer and feel better for such adornment, while they make the woods echo with their glad voices.

The betrothed maiden places the half-opened rose-bud upon her bosom on her wedding-day—fit emblem of half-revealed virtues of patience, gentleness, charity and loving kindness, which are to be developed day by day in her new sphere of affectionate duty.

Everybody likes flowers! The aged man,

"the lean and slippered pantaloon,"

pauses on his crutch and contemplates the *sweet briar* blossom by the way-side, and is reminded of her who was his stay on earth, and now his guardian angel in heaven. He plucks it, gazes upon it as *her* favorite flower, drops a tear upon its trembling petals, and finds new strength for the battle of life.

So we enshrine the dead with flowers, and strew them over the green turf that rests upon their bosoms, as sweet memorials of our undying love.

In his touching story of *Cymbeline*, Shakspeare makes Arvirago say,

—"With fairest flowers,

Whilst summer lasts, and I live here, Fidele,
I'll sweeten thy sad grave; thou shalt not lack
The flower that's like thy face, pale primrose, nor
The azure harebell, like thy veins; no, nor
The leaf of eglantine, whom not to slander,
Outsweeten'd not thy breath."

Cultivated flowers are evidences of high civilization,—they are a sort of floral thermometer, indicating the degree of intelligence and refinement which a people have reached. And those indications are as significant as the evidences afforded in architecture, painting, poetry, or any of the sciences.

Flowers are *refiners*. As gold comes from the crucible of the chemist rich and pure, so a garden or conservatory of flowers, or even the single pot on the kitchen window, refines the heart, sweetens the affections, and teaches us lessons of love and duty in every petal that is thrown open to the sun.

Children, reared amidst flowers, and encouraged to learn their names and study their habits, are more likely to be pliable and attractive, and to possess greater refinement of feeling and expression, than those deprived of the lessons which they may impart. The love of flowers "is the love of nature in detail; it is a union of affection, good taste and natural piety." "Was a cruel, unfeeling or selfish man ever known to take pleasure in working in his own garden?" If Mistress Eve—a long time ago—had not made a sad mistake in Eden, we should be ready to say that the tempter never found a victim in the garden amid breathing and expanding flowers. But she *did* eat the apple in that

—"place

Chosen by the sovereign Planter, when he framed
All things to man's delightful use; the roof
Of thickest covert was inwoven shade,
Laurel and *myrtle*, and what higher grew
Of firm and fragrant leaf; on either side
Acanthus, and each odorous bushy shrub,
Forced up the verdant wall; each beauteous flower,
Iris all hues, *roses* and *jessamine*,
Rear'd high their flourished heads between, and wrought
Mosaic; underfoot the *violet*,
Crocus and *hyacinth*, with rich inlay
Broider'd the ground, more colored than with stone
Of costliest emblem."

We have said that *everybody* loves flowers. Were we wrong? Lord BACON did not disdain to lend his mighty intellect to their culture. ARIOSTO took deep pleasure in his little garden, and we wish space would permit us to relate some of the charming things that occurred there.

COWPER and EVELYN, COWLEY, POPE, LORD PETERBOROUGH and Sir Wm. TEMPLE, all cultivated flowers and wrote about them. The Emperor Diocletian said:

—"trust me not, my friends, if, every day,

I walk not here with more delight,
Than ever, after the most happy fight,
In triumph to the capitol I rode,
To thank the gods, and to be thought myself almost a god."

"Flowers! what associations the word brings to mind. Of what countless songs, sweet and sacred, delicate and divine, are they the subject." They are the steady, impartial friends of all,—and like the influence of a good man, whose presence is felt before it is seen, they shed their fragrance and sweet influences over all of every age and station. They are *everywhere* friends,—whether they bloom in garden, parlor, kitchen, or climb upon trellis-work or rough rock. They gladden the sick room, and cheer the hot and dusty way of the weary traveller. Here the Golden rod nods over the wall, as he passes, and there the *aster*, or *queen-daisy*, bends away from the thicker foliage and peeps into the worn rut, or with his starry eyes looks him full in the face, and greets him with a smile. The ancients adorned the altars of their gods with wreathes of these lovely flowers.

So the *Curled Clematis* forms bowers on the wayside, and by the country people is often called *Virgin's Bower*. See how it lays hold of the alders and young maples with its claspers or tendrils, and mount to the top of the surrounding foliage, to look out at you as you pass along. The French truly name it the "*Traveller's Consolation*."

We have said that the influence of flowers upon the mind and manner is most happy and enduring. That influence has been no less upon the character of New England farms and homes. Where were seen no enclosed door-yards forty years ago,—where stray cattle and gabbling geese, old wheels, broken carts and rambling wood-piles skirted the house in dire confusion, and huge dogs, as grim as Cerberus, guarded the doubtful way to the door,—now, white palings enclose a spot, sacred to

—"fruits and blossoms that blush
In social sweetness on the self-same bough."

These not only attract and please the traveller, but they stamp the farm itself with the character of intelligence, refinement and taste, and give it an advanced money value. Children, reared there, go forth into the world with buoyant hearts and hopeful spirits, and filled with those sweet affections that soften and mitigate the harsher aspects of life. They are blessings to their race, shedding kindly influences wherever they trade, travel or sojourn—and though far away from the old homestead, among whose friendly trees and flowers they passed their early days, they look to it as the dearest spot on earth, and one to which every lingering affection constantly turns,

"As the *sunflower* turns to its god, when he sets,
The same look that it turned when he rose."

We must pause—and yet we have said nothing of the

"*Amaranths* such as crown the maids
That wander through Zamara's shades,"

nor of the

—"Anemones, whose leaves unfold,
With rubies flaming, and with living gold,"

nor of the leafy *Arbutus*, the *Sweet Balm*, *Cardinal Flower*, or *Balsams*, the *Spring Crocus*, the *Chaney Pansy*, or *Heart's Ease*, that Shakspeare, Leigh Hunt and Spenser sing so sweetly about. This was the flower, too, he scattered before Queen Elizabeth in one of her triumphal marches. Hear Spenser sing:

"Bring hither the pink and purple *columbine*
With *gilliflowers*.
* * * * *
Strow me the ground with *daffa-dawn-dillies*,
And *cowslips*, and *king-cups* and loved *lilies*."

There are dozens of others, all too beautiful to be dispensed with,—all too full of lessons of love and duty to be neglected. But we have only room to say, that the parents who desire their children to be gentle, refined in manner, speech and feel-

ing, and become a blessing to the world, should purchase *Breck's Book of Flowers*, and present it to them, now, when the world about us is glowing with the delightful colors, and fragrant with the rich odors of a million unfolding flowers.

COWS, SHEEP AND HOGS.

[Extracts from the Bi-Monthly Report of the Commissioner of Agriculture.]

Cows.—The general scarcity of butter and cheese, and their very high prices at this time, show that the home markets for them demand a larger supply. The increase of cows since 1859 has been 339,784 in the loyal States; but with these, as with other stock, the decrease in Kentucky and Missouri shows that the increase for the rest of the loyal States has been greater than this general increase indicates. The reported decrease of Missouri is, however, less for cows than for most other stock. The general increase of cows from 1850 to 1860 was 36 per cent., whilst our tables show it to be not quite 6 per cent. in the loyal States between 1859 and 1864.

The table published in the last report, page 37, shows that whilst the increase of butter last year was but *one-tenth*, the increase in price was *three-tenths*. The exports of *butter* to foreign markets have been as follows :

1861.....	\$4,190,745
1862.....	6,091,851
1863.....	7,176,648

And those of *cheese* as follows :

1861.....	\$3,151,171
1862.....	4,673,889
1863.....	5,603,884

Surely, in all these statistics our farmers must see that too much care cannot be given to an increase of cows, and to butter and cheese manufacture.

Sheep.—There is no change in our agriculture so gratifying as the increase in sheep. By our table it is 9,242,119, or about 61 per cent., since 1859, most of it being in the last three years. All the stock raising States have participated in it, except Kentucky and Missouri. But the returns from the first show a present increase; and in the latter, that the decrease occasioned by the war has been arrested. The emigration of this stock from one State to another has been unusually great, for the want of cotton created such a demand for wool for home and factory manufacture, that every farmer, great and small, sought to have a flock of sheep, if he had none previously, or to have his old one enlarged.

The increase during this spring will add from four to five millions to the number in January; raising the whole number to nearly thirty millions, or double what it was in 1859 in the loyal States.

But little need be said as to the future markets for wool and mutton. Until a peace is conquered, and a fair crop of cotton is raised, wool will be remunerative, even after it falls considerably in price after peace and before the production of such cotton crop, for the general deficit in textile material is great, as shown in the last report. But with peace will cease the government demand for clothing, whilst the scarcity of beef and pork will make the demand for mutton insure good prices for it. Whether, then, the old ewes, now kept longer for breeding purposes, should be fattened

and sold for mutton, and such wethers as have been kept longer than customary, on account of the high price of wool, is a question that will demand the consideration of all farmers, and a careful watching of political events. We shall keep them well advised of every fact connected with these subjects, and of such legislation by Congress as may tend to more firmly establish wool production in the United States.

If, as our supplies of wool increase, the imports of foreign wool shall be checked, and the introduction of foreign woollen cloths be lessened, the wool-grower may rest in better security, than if he is to be subjected to the competition of these, as he was prior to the rebellion.

Hogs.—The great destruction of the corn crop last fall by frosts, and other causes has caused a decrease of this stock of 911,323. The high price for hogs in 1859 and 1860 created a large increase in the number during 1860. The low price of 1861 caused a great English demand for our pork and lard in 1862, and the advance in prices in consequence encouraged increased production in 1863. But the scarcity of corn not only checked it, but resulted in the decrease just stated.

In determining the state of future markets for pork, a reference to the present home and foreign markets gives every encouragement. As already stated, the number of hogs packed last season was about one million less than in 1862-'63, and they were much lighter in weight. The active demand and high prices for the products of pork indicate that the market will be bare next fall.

TO CATCH SHEEP-KILLING DOGS.

The country is overrun with worthless dogs—and this is one of the chief reasons why many farmers do not raise more sheep. It is those men who own but little else, who keep the greatest number of dogs; faring scantily at home, these hungry curs roam the fields and make slaughter among the neighbors' flocks. But while candidates for office depend on the votes of these men for an election to the Legislature, few of them possess the independence to vote for any efficient law for the protection of sheep against dogs. It remains, then, for every farmer to employ such means as will protect his own flocks upon his own premises. To do this he has only to make a trap in the form of a "rail pen," similar to that employed to catch wild turkeys, only in the case of the dog, the entrance must be left on the top, instead of the bottom. When your flock is attacked, and a sheep has been killed, proceed at once to lay up a pen, and with every course of rails gradually contract it towards the top, raising it until it is about five feet high, leaving an opening on the top sufficiently large for a dog to jump in with ease. Into the centre of the pen place the carcass of the dead sheep, and remove the flock to some other part of the farm. The first or second night after the attack, the same dog will be quite sure to return for another feast; finding the flock gone, but the carcass remaining, he will enter the pen but will not so readily manage to get out. The owner of the sheep can then satisfy himself as to his guilt or innocence, and act accordingly.—*Valley Farmer.*

It is calculated that the wool clip of Minnesota the present year will not be less than 500,000 lbs.

THE HORSE HOE, OR ROTARY SPADER.

During the last summer, we had an opportunity of witnessing the operation of this machine at three different times. Once upon a deep, mellow loam—once upon a tough, inverted sward, free of stones, and once upon a pasture sward, full of cobbles and fast rocks, and in each place it did excellent work, but especially so upon the land where there were few stones. The operation is as follows :

When power is applied, the machine is drawn forward, and the spokes of the perpendicular wheel penetrate the soil and set the horizontal shaft revolving. The result is :

1. The plough *lifts and displaces* the soil in the centre between the rows of plants, to any depth desired, not exceeding six or eight inches.

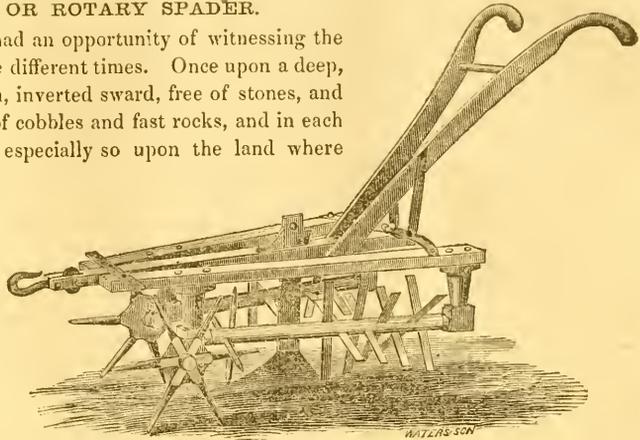
2. The spokes of the perpendicular wheel penetrate the soil on each side of the furrow made by the plough, and *lift that up*, also, so that a space equal to the whole width of the machine is actually displaced,—and then, as the machine advances, the arms of the horizontal shaft throw up and strike the particles of soil, dashing the lumps to pieces, if there are any, and shaking the fine earth out from among the roots of witch or other grasses! The result of these combined motions is wonderful.

1. The soil is made loose.
2. It is made fine, or pulverized.
3. Much of the grass roots and weeds are thrown up by the teeth on the shaft, and left on the surface.
4. The land is left flat or level.
5. By changing the perpendicular wheels to the *inside* of the shaft—which can be done in three minutes—the soil is thrown into hills.

We saw the operation of this machine on a field that was in sward in the spring, and which was ploughed only six or seven inches deep. It was planted with corn, and the hills laid in squares. The machine was run through both ways. Over a portion of the field, the work was left flat, and then the wheels changed so as to throw up hills, and wherever the machine had been there was, literally, *no work left for the hoe!* The surface was left mellow and even, the grass torn up, and just enough of the damp, light soil thrown in among the stalks of corn to give the whole work the most beautiful and finished appearance. Any boy, or girl, old enough to go along and pull an occasional weed from among the spears of corn, would have finished the work of the field! This was accomplished on sward land, in shallow ploughing, and without disturbing the sod in any objectionable degree.

As to draft we did not see that it was harder to draw than the common cultivator. This machine *is moved upon wheels*, while the cultivator is moved by a dead pull or drag.

We call attention to this new machine now, at the commencement of the hoeing season, so that persons interested may have time to test its powers among all crops that require hoeing, and upon all kinds of land.



Dr. D. COLBY, of Claremont, N. H., is the inventor of the *Horse Hoe*. The proprietors are J. P. UPHAM & Co., of the same place, to whom any inquiries may be addressed.

For the New England Farmer.

SHEEP HUSBANDRY--No. 3.

Another cause for the falling off in the value of wool, exists in the fact that farmers are so anxious to obtain a large quantity of lambs that they allow their young ewes to come in at a year old, and I have known ewes mothers at eleven months. This is a serious evil; this is hastening the stock rapidly back to the wild state. Long woolled ewes should always be two years and merinos three years old before coming in with lamb; they will have heavier and better fleeces, with longer and stronger staples, a softer and more pliable fibre, less coarse wool on the hind leg, freer from what is termed jar, or coarse hairs running through the staples, and less liable to kemp than if bred from earlier. They will also be longer in running out, or if fatted at a proper time, will fat quicker and at a less cost.

In selecting a buck, great care should be taken not to select from run out stock. Do not take one, whatever the recommendations of breed may be, from a flock in which indiscriminate breeding in-and-in has been practiced.

Never select a twin lamb. This is a very fruitful cause of want of success in sheep husbandry. Although in some cases you may obtain an excellent twin buck or ewe, yet it would be the exception and not the rule. I met, the other day, with a gentleman who had succeeded in obtaining, he said, a fine Oxford Down buck, a twin. He was an intelligent farmer, and said he should never think of breeding from a twin bull or stallion, but thought the same law did not apply to sheep—a mistake which many fall into. The fleece of this yearling ram only weighed six and a half pounds of unwashed wool; it should have weighed at least eight pounds of washed wool, for that breed produces heavy fleeces. And for stock purposes, a long woolled buck with a lighter fleece of good washed wool should not be chosen.

Another prolific source of degeneracy in sheep is in the practice of keeping the twin ewes that the butcher will not buy; and some go further

than this, they buy twin lambs, which the butchers reject, for stock, and sell their own single ones. I do not want it to be understood that I think twin ewes ought never to go into stock, but I do maintain that if the farmer wishes to succeed in sheep husbandry he must make it an exception and not a rule.

Let the farmer yearly renew his stock by saving his best lambs and feeding his oldest ewes; the younger his ewes are when fatted the better his wool will be. The farmer that produces the best wool in this section of country never keeps his ewes for breeding after six years old, but I think it would be an improvement to his flock to take them out at five, particularly those that have had twins three years in succession.

I saw a fleece of wool, a few days ago, that had been sheared from an old ewe. It weighed less than two pounds. It was hairy, short and cotted. While common unwashed wool was fetching fifty cents per pound, the whole of this fleece was not worth fifty cents. She had a lamb which was sold for four dollars; her carcass was good for nothing. It could not be fatted; yet there had been a time when she sheared a six pound fleece, and two or three years old ewes in the same flock were shearing eight pounds of good wool, worth four dollars; their carcass, in the fall, would bring six dollars at the least, the lamb at their side, at the time of shearing, worth four dollars more; making a total of fourteen dollars against four dollars and a half. The cost and care of keeping would be in favor of the youngest ewe, and the risk in freedom from disease would certainly be in favor of the youngest, for, be it remembered, the old ewes are more liable to disease than young ones, and, when attacked, have less power to throw off disease.

In calling attention to this single fact, we wish it to be understood that it is not a solitary instance; we meet with hundreds, and would say thousands, of very similar fleeces in a year, were it not for fear that some of our readers might think us prone to exaggerate.

I am acquainted with two gentlemen who own adjoining farms. Each own a flock of sheep of the Merino and Leicester cross. They both sold their wool to the same person. One had thirty-two fleeces from ewes six years old and upwards, some of them, I have no doubt, eight years old. His wool weighed 94 pounds; four of the fleeces were unwashed, yet averaging less than three pounds per fleece. The other had 36 fleeces which weighed 160 pounds, all washed but one; averaging near four and a half pounds per fleece, and he obtained five cents per pound more for his wool than his neighbor. These were from sheep one and two years old; none over two. They cost no more keeping than his neighbor's, yet the difference in the profits of the two is so apparent that comment are unnecessary.

I know it is a great temptation to the farmer to sell his lambs, and to bring those he raises into breeding as soon as possible, but let him remember that the long woolled part of sheep husbandry embraces three ideas, and his eyes, if he is desirous of succeeding, must be upon all at the same time, namely: wool, mutton and lambs. If his attention is well directed to the first, he will certainly have the second, and not lose but rather gain the third. If the second claims his attention,

the first will still be his gain; but should the third win his attention too much, he will be very likely to lose the whole if that attention is directed to the butcher, but if to stock, then he will certainly gain the three.

Whoever saw a cosset with a small carcass or a light or poor fleece of wool? This, if nothing else, would prove what good feed and good care will do for sheep. I do not expect that a whole flock will receive the same care that a single lamb will, but simply introduce the fact to show what good care and attention can and will do. But the fact that they are always larger, and have larger fleeces, and when bred from have large lambs, certainly points in the direction of good feed; and the returns coming from three sources, mutton, wool and stock, give three chances for success to one of failure. The long woolled buck should always be eighteen months old before allowed to run with ewes, and at that age the number should be limited. Merino lambs should be a year older.

Some farmers have an excellent method of dividing their ewes in the fall. Those are allowed the company of the ram early in October, which are intended to produce lambs for the butcher, while those which are intended to produce lambs for stock receive his company later, stock lambs, by this method, costing much less, because requiring much less care; and by selecting the old ewes, which are intended for the butcher, to produce the early lambs, they have the advantage of a month or two longer to feed on grass, after the lambs are weaned, than those which come in later. The *Prairie Farmer* says that an Illinois farmer has his lambs drop in mid-winter in order that his bucks may be ready for service in the fall. Such a system may be profitable to the raiser of the buck, but ruinous to the purchaser of such stock. This is as great a violation of physiological law as to breed from young ewes. Any one purchasing such bucks with a view of improving his stock will be greatly disappointed. If his ewes are as young as his buck he cannot have anything else but degenerate stock. If his ewes are mature and vigorous, the buck, so far as breed is concerned, will have scarcely any influence, and concerning stock, it will be bad; and the buck will never be so good as he would have been had his youth been properly served. TYRO.

WHAT IS CULTIVATION?

At a recent meeting of the Fruit Growers of Eastern Pennsylvania, held in Norristown, the question propounded above was earnestly discussed. Mr. A. W. HARRISON said:—

Cultivation resolved itself into two divisions. 1st. Mechanical. 2d. Nutritive. The first had, for its object, the improvement of the texture of the soil, by underdraining and pulverization; the second, by adding to the soil the elements taken away or required for the perfection of the growing crops. Thought all soils improved by underdraining: even sandy soils are rendered by it moister in summer, by the condensation of the moist air drawn through the soil to the underdrains. The object of pulverization was to present new surfaces continually to the action of the air. Air and moisture must act together before the oxidation necessary to prepare plant food can go on. The soil must be so pulverized that the particles must

just touch. If too wide apart, moisture cannot act with the oxygen. If we examine a pile of round iron balls, we find rust only where the balls touch. The great object of cultivation, in its mechanical sense, was to pulverize the ground into as many small surfaces as possible, and then to provide for a continued current of fresh air and moisture through it.

Mr. SATTERTHWAIT said some soils could be injured by pulverizing too much. The particles would grind so very fine, that neither air nor moisture could go through.

Judge KNOX agreed with Mr. Satterthwait. Soils that, in common language, "bake," do so through a tendency to this over fine pulverization.

Mr. W. SAUNDERS, also, inclined to this view. Yet thought no one could go wrong if he knew his object. If we want air and moisture in the soil, and if it is too heavy for it, pulverize; but if the other extreme, pulverization, which when wet makes mud, obstructs air and moisture—stop the practice. With a clear object one could not go wrong. One might say, manure was good for soils; but if we wanted leaf growth and succulency, as in the cabbage, we wanted one kind and quality; but if we wanted sound wood and fruit, as in the orchard, manure is quite another question.

In answer to a question, Mr. Saunders added, that his rule for covering seeds, was to regulate it by the seed. A seed $\frac{1}{4}$ inch in diameter, to receive a $\frac{1}{4}$ inch of covering; $\frac{1}{2}$ inch, $\frac{1}{2}$ of soil, and so of all others.

INFLUENCE OF THE ATMOSPHERE ON THE SOIL.

The following paragraphs contain a portion of the remarks made by members of the *Concord Farmers' Club*, upon the influences which the atmosphere exerts upon the soil and crops. The discussion was an exceedingly interesting one, and showed that the members had formed habits of investigation, observation and inquiry.

MINOT PRATT did not undertake to prove that the atmosphere has an influence on the soil, but took it for granted that the *fact* would be generally acknowledged. An observing man can hardly fail to see that some effect is produced; but *how* it is done is not easily discovered by the unlearned. Possibly the *learned* themselves might be somewhat puzzled to explain all the phenomena. But taking it for granted that a beneficial influence *is* exerted, it becomes of importance to know *how* to derive advantage from it—how to bring the air and soil most intimately in contact. Every one must have noticed the good effects resulting from the frequent hoeing of crops in summer, beyond the mere destruction of weeds. This is more apparent in dry seasons. All crops will stand a drought much better for having the soil thoroughly stirred once a week. This stirring undoubtedly tends to make the surface soil dryer, for evaporation will go on more rapidly in a loose than in a compact soil in a hot, sunny day. But the indisputable fact remains that the corn growing in the stirred soil will stand up with its leaves all spread out, even in light, sandy soil, while at the same time, in another field, where the soil has not been so stirred, every leaf will be

rolled up. This is sometimes accounted for by supposing that the loosened soil is more capable of absorbing moisture from the atmosphere during the night, but he thinks that the heated surface can hardly take in at night so much as the sun and the plant draw out in the day; so that the benefit is to be considered rather as the result of some chemical action of the air on the salts and organic substances in the soil by which these elements are made both victuals and drink for the growing plants. Benefits follow these stirrings at other times than when parched up with drought. The air being more freely admitted into the finely pulverized earth, promotes a rapid decomposition of the vegetable matter which it contains, so that wherever the roots penetrate they find suitable food and "an abundant supply of the oxygen of the atmosphere to aid in preparing it." In all soils there are also fragments of rock, which, as they crumble and decay, yield fresh supplies of inorganic food for plants. This decomposition of the rocks is hastened by exposure to the air. One old writer on agriculture was so confident of the benefits to be derived from frequent plowings, that he believed land might thus be kept in undiminished fertility for an indefinite series of years, without the application of any manure, and he actually reaped twelve successive crops of wheat, the last equally as good as the first, from the same land, the only fertilizers used being the plow and horse-hoe. One of the good effects of *draining* is supposed to be that, by drawing off the water which saturates the soil, the air is more freely admitted, by which some of the noxious portions of the soil and subsoil are so changed in their character as to become harmless, or even beneficial. Much of this noxious matter is also washed out by the descending rains, and carried off.

This suggests that perhaps the cause of the failure to derive benefit from subsoiling and deep spading, as related at the last meeting, would have been removed by a previous thorough draining. In well drained land, there is, of course, no standing water filling the pores of the soil; this settles into the drains and is carried away, leaving room for the air to enter, and do its work. Whenever rain falls it enters the soil, and more or less displaces the air. But as the water sinks, the fresh air again enters, and is in this way renewed by every fall of rain. And even in long continued dry weather, there is, without doubt, a circulation of air kept up in the soil, by means of changes of temperature, which rarify and condense the fluid, and thus keep it in motion. When by these means the removal and change of noxious matters in the soil has been effected, it would be safer to increase the depth of plowing, in most soils.

DR. REYNOLDS said he understood that aeration of the soil was included in the subject as well as the chemical and fertilizing effects of atmosphere on soil. Indeed they must go together, for without bringing the particles of the soil into contact there could be no chemical action. One effect of draining is to admit air in the place of water. This renders the soil porous and light, and enables the gases given off in the soil, by the decomposition of manurial substances to permeate through the soil, like the carbonic acid gas from yeast in bread, and keeps the soil light, so that roots can traverse it in search for nutriment. Without the presence of the oxygen of the at-

mosphere putrefaction and fermentation cannot take place. There are elements in the soil which have an affinity for the elements in the atmosphere, and when they are brought into contact, they act on each other, and form food for plants, or stimulants which plants need. Frequent stirring of the soil brings these elements into contact. Alkalies present in the soil attract moisture from the atmosphere, and thus enable plants to endure drought. Hence, in a dry time soil should be frequently stirred. Draining, subsoiling and deep culture all contribute to bring the air and soil into contact. This is, then, a practical subject. Plants as well as animals breathe. They cannot live without air. Elements necessary to their life and growth are furnished to them through the medium of the soil also. The atmospheric ocean by which we are surrounded is the great storehouse of nutrition for them as well as for animals. Jethro Tull believed that plants derived all their growth from air and water. In this he was probably mistaken. But soil hermetically sealed from the air cannot yield nutrition to plants. Organic bodies closed from the air do not decay, and consequently cannot be converted into food for plants.

SIMON BROWN said: Some members may look at this subject as not a practical one. He thought it was practical; as whatever leads us to investigate the laws that are acting upon the matters with which we are called upon to deal, also leads us to enlightened practices. There is little cause for us to discuss the common manipulations of the farm which we have considered many times before, and with which we have become familiar. But by taking a step in advance, and investigating the operations of nature around us, how they are connected with our own labors, and learning what we can gain from them by making the soil ready for their reception, we can scarcely fail to find an increasing pleasure and profit in agricultural pursuits. The essential elements of vegetable productiveness, are *earth, air and water*. If we can place the first of these, the earth, in proper condition, the others will follow as a natural sequence. That is: when the soil itself is in a favorable condition to receive atmospheric influences, it will receive, and be greatly benefited by them, without further agency on our part. For instance: If a field is thoroughly *drained*, and then plowed and pulverized, as is usually done where a good crop of grain is obtained, that field will constantly receive fertilizing influences, that a field undrained will not receive, although just as well plowed and pulverized. When a shower falls upon the drained fields, the water percolates slowly, but constantly, through the whole earth to the bottom of the ditches. It does not rest upon the surface, nor meet with considerable obstruction on its way to the lowest point of drainage. The withdrawal of cold, stagnant water has permitted the air to enter the soil, taking *heat* along with it, so that it has actually become warmed and dried, to a certain extent, and has caused it to occupy less space than it did before it was drained. The evidence of this is found in innumerable cracks or crevices, which may be found to exist through the whole mass of earth, from the surface to the bottom of the drains, even though they go down four or five feet. This is the first effect of drainage, and is the prime operation, on *our part*, to make the land ready for the reception of atmos-

pheric influences. Rain water is charged—in greater or less degree—with salts, as well as moisture, that act an important part in the growth of plants. When, finding little obstruction to such prepared fields, the rains and dews descend freely among the particles of soil, heating or oxygenizing a little *humus*, starting it into the fermentative process, so that it shall be easily soluble for the young rootlets to take up, or touching a grain of sand, and fitting it to strengthen the tender plants, by covering its outer surface with a coat of mail as brittle as glass itself, such as we see on the stems of wheat and other plants.

But this is not all. Moisture descends in company with these salts, and carries *heat* along with it. It descends freely through the cracks or fissures already mentioned, imparting its warmth as it goes, so that after passing through the soil, and reaching the outlet of the drain, it will often be found 10° *colder* than when it first entered the surface. This moisture is contained in the *air*, held there in solution, too thin and unsubstantial for mortal eye to see, and is continually passing into the soil, and ranging freely through it, as no cold and stagnant water is present to prevent its passage. Here, then, are two most important atmospheric operations upon soil that is fitted to receive them: One actually imparting elements of fertility, and the other supplying a generous warmth through its recesses, with all the kindly influences that are gained from a well-constructed border, or the genial bottom-heat of the hot-bed. Again, we see the action of the atmosphere on soil in times of drought. The atmosphere rests upon the earth with a pressure equal to 15 lbs. to the square inch, and the soil, being light and porous, greedily receives this moisture, and passes it along from particle to particle, distributing the ammonia and other salts, and its heat as it goes. At length, it reaches a point where the soil is cooler than itself, and is at once condensed into *water*, and thus the atmosphere waters the well-drained soil through a pinching drought, and brings its plants to perfection.

J. B. MOORE thinks other members have given much credit to the atmosphere, that should be given to other influences, such as drainage, frost and pulverization of soil, and thinks it impracticable to use the atmosphere to any advantage.

DINNER AS AN EDUCATOR.—You will find that a great deal of character is imparted and received at the table. Parents too often forget this; and therefore, instead of swallowing your food in sullen silence, instead of brooding over your business, instead of severely talking about others, let the conversation at the table be genial, kind, social and cheering. Don't bring disagreeable things to the table in your conversation any more than you would in your dishes. For this reason, too, the more good company you have at your table the better for your children. Every conversation with company at your table is an educator of the family. Hence the intelligence and the refinement, and the appropriate behavior of the family which is given to hospitality. Never feel that intelligent visitors can be anything but a blessing to you and yours. How few have fully gotten hold of the fact that company and conversation at the table are no small part of education.—*Dr. Todd.*

IMPORTANCE OF THE CLOVER CROP.

The hay crop of New England is of immense value, and that value is annually increased by the introduction of new varieties of grass, and by quicker and better modes of making and securing the hay. The consumption and waste of hay, by horses in the army, has recently been immense, so that this, combined with the plentifulness of money, has brought it up to the unprecedented price of *forty dollars* per ton!

Clover hay is not generally considered so good for horses as timothy and red-top. Such, however, is not our opinion. We believe that clover, when properly managed, makes the best hay for any stock, that we produce, and is less exhausting to the soil than the production of most grasses. "It not only makes up the variety necessary to keep cattle in health, but its yield is large and profitable; it takes less from the soil and more from the atmosphere, than most other green crops, and the portion remaining in the soil contains material to improve its mechanical condition, so as to progress the inorganic constituents which it elevates from the subsoil after subsoil plowing, and is almost sure of success on any soil worthy of cultivation." It has been ascertained that a large number of tons of roots are left in the soil, per acre, after a heavy crop has been cut off. This mass of vegetable matter must be of essential service to the soil, because it is just what most soils need, and is intimately scattered through every portion of it, where it decays in the very presence of a thousand roots of succeeding plants, all ready to take it up. It would be impossible for us so to place nourishing substances in the immediate neighborhood of the roots which we desire to have fed. Nature can do it infinitely better than we can. Let us, then, employ the means, and leave it to her to carry out the awaiting results.

One of our correspondents, "W. E. J.," of Hatfield, in a communication to us some years ago, says that "clover is, according to the laws of vegetation, a great extractor from the atmosphere, and is abundantly supplied with leaves which are spread to the wind, and take in carbon and nitrogen; its roots are thrust into the subsoil and take up the salts which other plants do not reach. Here we have mineral elements combined. When the clover is turned under, and we plant with corn, it has an abundance of nutriment necessary for its growth. Oliver Marcy, in an address upon agriculture, says, wherever you can get a crop of clover, you may get a crop of corn. If you have nothing but a sand bank, put on something to make your seed catch and stimulate the plant, and everything that is in the soil, air and rain will be brought into the crop. Turn it

in, and you have gained much; but cast off the green crops, and you have lost the essential materials which the plants extracted from the atmosphere."

This view of the matter is generally confirmed by WILSON, one of the soundest and most judicious of the English agricultural writers, who says, in his "Farm Crops,"—"The habit of the clover plant is to form large and fleshy roots, which have a tendency always to penetrate deep into the soil, and to seek their supplies of food from the lower stratum. This tendency should always be encouraged in all our cultivated plants. It has a two-fold power of benefit to the farmer—not only have his crops a greater range of feeding ground, but they abstract from the subsoil, and elaborate into their own structures on the surface, the food ingredients which, by the percolation of rain or other natural causes, have been carried down below the range of tillage operations; while, at the same time, their roots being buried deep in the soil, secure to them the power of obtaining moisture from below at a time when the more surface-rooted plants are suffering from the effects of the summer sun and drought." These opinions are entitled to weight, coming as they do from those who have given careful attention to the subject.

Cutting, Curing and Housing Clover.

In harvesting clover, our practice is to mow in the morning, and let the grass remain just as it fell, whether from the common scythe or the mowing machine, until about three o'clock in the afternoon, and then gather up the thinner portions, laying them upon the thicker, and turn the whole upside down. This can be done rapidly with a three-tined fork. In England, they have what they call a "collecting fork," made for this purpose. If the crop is heavy, one of our three-tined forks is as suitable an implement as can be desired. In this condition the crop is left until mid-afternoon of the next day, when it is carefully taken up with the fork, made into cocks and covered with caps. It is kept in this condition forty-eight hours, and then, if the weather is clear, it is thrown open—not spread—to the sun for three or four hours in the middle of the day, and then carted to the barn. All these operations require more care than necessary in securing herdsgrass or red top,—but when they are observed, there will be only a trifling loss of leaves, and the hay will be of the sweetest and most nutritious description.

Below we give Wilson's account of the English mode of securing the clover harvest:

The crop is mown with the common scythe, and left lying in the swathes. Here, however, the process differs from that of the ordinary hay-field. Instead of tossing it about either with forks or the "tedding" machine, for the purpose of exposing it

as much as possible to the air, the less the clover is handled the better; all that should be done is to turn the swathes over carefully from one side to the other every day, or oftener, when the weather is suitable, leaving them as open as possible to the admission of the sun and wind. Under ordinary circumstances, in three or four days the juices will have been sufficiently evaporated to admit of forming it into cocks or heaps, and in another day or two it may be safely carted and stacked in the usual way.

Some little care and attention are required throughout the operation. If the cut crop be tossed about in making, the leaves get easily separated from the stems and lost on the field, the stems get bruised and broken, and allow the juices to exude and become oxidized and changed by exposure to the air, while the object of the farmer is to keep them in their natural state, for the purpose of giving flavor and quality to his fodder. In stacking, too, it is desirable that the crop should contain sufficient natural moisture in its tissues to induce a gentle heat and fermentation in the mass, by which the quality of the hay is greatly improved; whereas, if it be carried and stacked too soon, the excess of moisture is always accompanied by an equivalent of heat and fermentation; while, if left out on the field too long, the juices all become dried up, and no heating in the stack takes place at all. Although a certain amount of natural moisture is always desirable at the time of stacking, it is most important that it be free from any surface moisture from rain or dews. Not a forkful should be pitched up until every particle of moisture has disappeared; as, if allowed to be stacked in this condition, mildew and deterioration are sure to be the result.

In the neighborhood of large cities it is very much the custom to sell the clover hay, and load back with stable manure. In other districts, where the clover is intended for home consumption, it is a very good practice to stack it with layers of straw, intermixed with layers of clover. By this practice the clover may be carried a day or two sooner, more of the juices are retained, and the hay generally remains in a more tender and assimilable state, while the interstratified straw has imbibed to a certain extent the flavor and odor of the clover, and is ready for being cut up into chaff with it for the cattle. When straw is thus used no other precautions are needed in regard to the ventilation of the stack; in ordinary cases, where the quantity stacked is large, a chimney in the centre is frequently resorted to, for the purpose of checking any excessive heating.

We wish, especially, to call the attention of the reader to a single expression in the above extract, viz:—"In stacking, (or storing in the barn, as we do,) it is desirable that the crop should *contain sufficient natural moisture* IN ITS TISSUES to induce a gentle heat and fermentation in the mass, by which the quality of the hay is greatly improved." This is a point of the utmost importance in securing hay, and yet it is one very generally overlooked by our farmers. In hot and dry seasons, most of the hay is exposed until there is scarcely a particle of moisture left in its tissues—the natural juices of the plant are literally baked

out by a scorching sun and drying winds. The hay breaks like dry twigs, is harsh and wiry, and has lost a valuable portion of its most nutritive properties. The whole subject of making and securing hay demands more care and consideration than it has yet received.

BLACK TEETH IN SWINE.

Last year this disease was somewhat prevalent and destructive in New England, and those having swine should be on their guard now that the season for hot weather has again come. Confinement from the ground is believed to be one of the causes of this troublesome disease. Its commencement is indicated by loss of appetite, tumours and weakness in the hind legs, and frequently in the loins, with staggering and vertigo. As soon as these symptoms appear, administer a dose of brimstone or flour of sulphur. Frequent applications of buttermilk to the back and loins, and gentle rubbing with a cob, will generally bring relief, and frequently entire cure. The animals should also be allowed a liberal supply of loam, rotten wood and fresh, cool dirt. If there is a yard attached to the piggery, the animals may be permitted to run out if the weather is clear and pleasant.

No hog should be kept entirely away from the ground, and none without access at all times, to a dry bed, entirely away from the wind and sun. Another great oversight in keeping swine is in not giving them *all the pure, fresh water they will drink*, and especially in hot weather. Once each day, at least, a bucket of cool water should be turned into a clean trough, where the hog can drink what he pleases. The opinion seems quite common that swine do not need much drink. Perhaps they do not require as much as some other animals, but unless they get it in their swill, they should have access to water every day.

THE QUANTITY OF BUTTER INCREASED BY WATER.—A New York dairyman furnishes the following advice for the *Genesee Farmer*:

There has a great deal been said about butter-making, but I thought, as I had had a little experience, I might offer a few hints that may be of use to some of your many readers. When cows are feeding on dry feed, the milk is thicker or richer than when feeding on juicy grasses; then add warm water, when setting the milk, in quantities sufficient to make it as the milk from ordinary cows in May or June. The milk from some cows in the spring and summer months is very thick or rich; then add cold water, if the weather be hot. I have practiced the above, and it has increased the quantity from one to three pounds per cow, each week.

CRACKS IN COWS' TEATS.—These are easily cured, by rubbing molasses on the teats for a few days after milking.

THE PUMPKIN.

This vegetable, although long known to the New England cultivator, is regarded with different degrees of favor; some considering it as nearly worthless for feeding purposes, while others use it as a substitute for corn and other provender in fattening cattle and swine. In looking over one of our Western agricultural papers some time since we noticed an article recommending the drying and grinding of pumpkins. The meal is then used as Indian meal, and is said to be one of the best articles for fattening stock that is known.

One of the principal objections urged against the pumpkin is that it contains too little nutriment in proportion to its bulk. It is not easy to set this objection aside; but by drying it the nutritive matter alone is preserved, and the entire mass reduced to less than one sixty-ninth of the original bulk. For this purpose the best and ripest fruit should be selected, and the operation commenced by removing the seeds. The sphere should then be cut in two, horizontally, and each sphere cut into rings; the thickness of each slice being about half an inch. These slices should be hung on strong poles, firmly suspended, and in such a condition as to admit the rings being slipped on and off as convenience or necessity may require.

Those who are fond of pumpkin pies in the winter, preferring them to squash pies, may find this process a paying one; but we think it cannot be made so for feeding and fattening cattle. We have, however, a high opinion of the value of pumpkins to be fed to milch cows or fattening cattle, in a green state, and also for fattening hogs, when cooked and mixed with potatoes, meal, &c. All these animals are very fond of them, and thrive well when fed judiciously with them. They are easily raised and harvested, and may be kept quite late by packing them in the lean-to or other room in the barn, in straw or hay.

SALTING HAY.

Our great hay harvest is again near at hand, and it will be well for all who are engaged in it to ascertain what will facilitate cutting and gathering it, or preserving it in good condition after it is secured. For several years past a practice has prevailed to an extent which we believe has been injurious,—that of *salting* it.

Cattle fed principally on dry fodder will eat very little salt, voluntarily, during the time they are fed in the barn. If salt is freely applied to the hay upon which they are fed, they are forced to consume a considerable quantity which they do not need, and which, to say the least, does them no good, if it does not induce actual sickness. Who knows but the disease which has been car-

rying off sheep by thousands, during the last winter, has been occasioned, in many instances, by over-salted hay! The use of salt for this purpose leads to the bad practice of getting in hay in a half-cured condition. The expression with regard to such hay is,—“this will answer, with a good application of salt.” Hundreds of tons are thus got in under this soothing delusion, and the stock is obliged to eat it or starve!

In an article in the *Country Gentleman*, by S. Edwards Todd, on this subject, he says: “Keep the salt off it. It does more hurt than good. There is moisture in salt. And the idea is to keep as much moisture out of the hay as possible. Hay is not like flesh. Salt will preserve flesh from decomposition, but not plants. Indeed, it will only hasten their decay. Salt will not dry hay in the mow. It only produces dampness. Therefore, keep it away from the hay.”

It is possible that two quarts of salt to a ton of well-cured hay might give it a pleasant relish, so that the cattle would like it better; we do not know that it would, but to put on half a bushel, or more, as is often done, to a ton of damp hay, is wasteful and injurious, in our opinion. Such hay, certainly, cannot be wholesome as fodder.

Last year, a very large portion of the grass cut was wet before it was taken to the barn, and was injured, in greater or less degree, in every instance. In order to secure this valuable crop in good condition, we must avail ourselves of means, in one way or another, of protecting it from the rains, so that when bright suns return we can get it sufficiently dry, in a short time, to be housed. It is easier and cheaper, in the long run, to secure the crop by such means, though the outlay at first may be a little inconvenient.

For the New England Farmer.

SHEEP HUSBANDRY---No. 4.

At a time when the question of a higher tax upon foreign wool is agitating the minds of both wool growers and manufacturers, perhaps it will not be considered out of place to offer a few remarks upon the question in this connection. We have no desire to meet the question as a partisan, but to treat the matter with that candor which we believe it demands; for we have no doubt but extreme views will be urged by individuals of both parties. Yet it may be well for even extremists to pause and consider whether manufacturers and farmers have interests which are opposed to each other, or have *but one real and common interest*, depending one upon another for each other's prosperity. Whatever tends to advance the interests of one, benefits the other; and whatever militates against one injures the other. If the agricultural part of the nation is not in a flourishing condition, the manufacturer's best customers are suffering from want of funds; and though the farmers may be destitute of the very articles for which the manufacturer is vainly seeking a market, yet they can only be purchasers on a system of long

credit, which must be obtained at a price ruinous to the purchaser. It will not require many bargains negotiated upon such a principle before their ruin is complete; and the manufacturers are swallowed up in the same vortex which engulphs the farmers. If, on the other hand, the manufacturing department suffers depression, the farmer's best customers are curtailed of funds, and their produce must lay in their granaries waiting for that market which can only be revived by an increased demand for manufactured goods. That trade and commerce always keep exact step with the progress of agriculture, the best statesmen have long known, and have always labored to advance both, in order to make their nations prosperous and happy.

The farmer complains that the present tariff affords good protection to the manufacturer, and but little to him; but he must remember that a tariff on manufactured goods is a protection to the producer of the raw material as well as to the citizen.

The manufacturer does need protection against the cheap capital of Europe, and the American operative requires protection against the poorer paid, yet better trained operative of other countries. For the foreign operative is trained from almost infancy for that department in which, as a general thing, he has to labor through life. The American operative works in one department till he is about able to operate a machine, then he either has to move to another department or quits the business forever. Under these circumstances, the American manufacturer is always struggling with badly trained operatives. The farmer, too, complains of want of skill on the part of his farm help, yet it is not so serious upon the farm where one skilful farmer can direct the operations of the unskilled upon a large farm. And if the American farmer has to pay a much higher price for his labor than the foreign farmer, he must remember he obtains his land at a much less cost, and that wool raising requires but a small per centage of labor.

When the American manufacturer asks for a protective tariff to enable him to employ the foreign laborer,—he only asks for protection to enable him to furnish a market upon his own soil for the products of that soil; thus finding a market for the farmer at home in place of leaving him to seek it in a foreign land. If all the manufactured goods which are consumed in America were manufactured here, we have little doubt but the whole of the produce of the soil would be consumed by the artisans employed in the different trades, thus saving an enormous cost of transporting food to feed the operatives in a foreign land, and bringing the product of their skill here. The present tariff on wool would be much better for the farmer if it did not favor the importation of the dirtiest, poorest and greasiest wool produced in the world—produced on the cheapest lands and with the least cost of labor. The tariff we would ask or the farmer would be one that would protect him against this dirty trash, and bring him into competition only with the wool raised on the best lands, and with the best paid labor. A moderate specific duty would speedily affect this.

We earnestly entreat all to avoid extremes. If the farmer should obtain a large tariff, the manufacturer must have the same, or the foreign man-

ufacturer would soon drive him out of his own market; and then the farmer must seek a market for his wool in a foreign market, where he would have no protection but cost of transportation, and perhaps a tariff operating adversely. Should the manufacturer receive protection sufficient to enable him to pay an exorbitant price to the farmer for his wool, he must have an equally exorbitant price for his goods, which, when the people compared with the prices in other countries, they would speedily abolish all tariffs as monopolies too grievous to be borne. Thus we should have, as we have frequently had before, a principle carried to such an extreme as to produce a reaction that would destroy itself; and in this case, as it has done before, it would fall heaviest on the farmer.

For example: The tariff of 1846 proved very disastrous to sheep husbandry, not only in this State but in the United States. On referring to the first article on this subject, it will be seen that the great fall off in wool and sheep in this State was between 1840 and 1850; and though there has been an increase in the United States, yet that has not been near equal to the increase of population or to the increased demand. In 1846, a large number of factories, and the largest woollen factories in the country, were employed in producing broadcloth which was equal in every respect to the best productions of England and Germany. A large amount of fine merino wool, equal in many respects to that produced in Saxony, France, or Spain, was raised in this and other States, and found a ready market at remunerative prices; but when that tariff came into operation, our manufacturers could not compete with the cheap labor and cheaper capital of the old world. The manufacture of broadcloth was abandoned, and in 1860 there was not a single loom in the United States weaving that kind of goods. The machinery was employed in manufacturing medium and coarse fancy cassimeres, which required a coarser and longer stapled wool than fine broadcloth. But the farmer could not change his sheep so quickly—they were fine woolled, and with the loss of the broadcloth trade, the value of fine wool suffered depreciation; the sheep were valuable for wool only, their carcasses being small, their lambs small, and the sheep tender, rendered them scarcely remunerative, the breeds were suffered to run out, and this completed the overthrow of the production of fine wool in this State and seriously affected it in every State.

In 1845 the number of fine woolled sheep in this State were about 200,000; in 1855 their numbers were reduced to 72,390.

In 1842 a few enterprising firms commenced the manufacture of worsted goods, and were bidding fair to establish that business upon a permanent basis. This called for another and entirely different class of wool,—a kind which has been brought to great perfection in England, the raising of which has given that country the universal control of the manufacture of coarse and medium worsteds, and enabled her successfully to compete with France in the production of the finer varieties, although she has to import her wool for that purpose. When the worsted business commenced in this country, there was a demand for long worsted wool, and some of our most enterprising farmers imported some of the long woolled breeds of sheep, with the intention of supplying the de-

mand for that class of wool; but the tariff of 1846 closed up that business, and coarse woolled sheep shared the same fate as the fine woolled ones—and 1859 found us with scarcely a decent flock of sheep in the State. Yet the manufacture of mousseline delaine continued; but for a number of years the filling was a fine woollen thread, and not worsted, and required a medium wool with a medium length of staple. But on the invention of machinery in England for combing wool, which before had been performed by manual labor, and at a great cost, these machines were introduced into this country, and the United States have now the control of their own market for mousseline delaines; and remember this is but the alphabet of the worsted manufactures. A wide field is yet open. We are paying Great Britain an enormous sum of money every year for this class of goods, to say nothing about alpacas, fine worsteds and fine woollens, the raw material for which she has to import. Her capital is cheap, and we are every year doing all in our power to make it cheaper by increasing it. In no way can the interests of the farmer be so permanently benefited as by doing our own manufacturing. The artisans of Europe we can obtain at any time. We have always had their sympathy; and now that circumstances are doing what a sound policy has always recommended—developing our own resources—we may expect their aid. The farmer need have no fears that the policy of 1846 will again prevail, and blast his hopes just when they are ripening into fruition. A heavy national debt will require a large tariff, and a revenue tariff sufficient to meet the requirements of such a debt will afford sufficient protection to infant enterprises; and the people now realize more than ever the necessity of keeping their money at home, lest it should be used in affording material aid to the enemies of a true republic.

TYRO.

For the New England Farmer.

A WORD FOR THE BOYS.

Old Times and New Customs—The Dead Bird—A Timely Sermon—Orchard Plowing—Saving Life—Sparrows' Nests—Birds are our Friends—Caterpillars—Result of Honest Industry.

I very much regret it was not the custom when I was a-boy, as it now is, for boys, and girls, too, to have a little pocket diary in which to note important facts or transactions as they occur. I have forgotten a thousand things that would have been useful to me had I noted them at the time. I well remember, that, nearly forty years ago, when I was quite young, the robins never failed to come and build their nests and hatch their young among the branches of two noble elms that stood near my father's house. We were never allowed to molest them; indeed we had no disposition to do so, for they seemed almost as belonging to the family,—but one day there came along a cruel man with his gun (they said he was in drink) and shot one of the old robins, while quietly sitting upon its nest. The poor bird remained in the same position, with its bleeding head hanging over the nest, dead. As you may well conceive, I needed no diary to imprint the sad spectacle on my memory. My father, who was extremely fond of birds, felt very indignant at the wicked act. He procured some little poles, and

by splicing them together, succeeded in removing the dead bird. He was an excellent minister of the gospel, and improved every opportunity to fasten good moral lessons on the minds of old and young, and he preached to his boys a short but instructive sermon on the sad and cruel death of that poor robin.

I have now lived to have boys of my own, trees of my own, and a great variety of birds that come annually to build their nests among the branches of those trees and upon the ground beneath them. I have been ploughing to-day and for several days past in my orchard, with one yoke of oxen and one of my boys for a driver. It is tiresome work to plough an orchard well, without injuring the roots and limbs of the trees, and requires much patience, both in the holder and driver; but as the fruit yields more cash income than all the rest of farm produce sold, I feel inclined to cultivate it every year, notwithstanding many disapprove the practice. I am almost too tired, after ploughing all day, to write at all, but I wanted to relate two little incidents that occurred, trifling in themselves, but in striking contrast with the one already mentioned.

One of them was, that John, as he was driving, stopped two or three times while the oxen were moving along, and with his goad stick drove away a toad that barely escaped being crushed beneath the oxen's hoofs, remarking as he came up, "*I saved that toad's life.*" The other was his taking with him a spade, and removing several ground sparrow's nests, as we approached them with the plough. I noticed that he took them up very carefully, with the little tuft of grass by which they were made, and moved them but a short distance at a time, so that, the furrow being long, the bird always returned while we were passing round. In this way, by degrees, he carefully secured them in a safe place, where they could hatch their young unmolested. This was done without any suggestion of mine, and the first intimation he has of my approval will be from reading this article,—for our boys never fail to read the *Farmer*.

Now it may seem a very small matter to some, to trouble one's self about a toad or a sparrow's nest, even, but I think quite otherwise. One of the old poet's remarked, (Young, I believe,) [Cowper. Editor,] that he

"Would not rank upon his list of friends
The man who needlessly sets foot upon a worm."

Birds not only add much to the charms of life, but they are very useful, also, in destroying multitudes of troublesome insects and worms; and in this latter respect, the toad, perhaps, is quite their equal. But the birds and toads cannot destroy all the worms and caterpillars and insects that infest our orchards. The men and the boys must do their part. I take it for granted that good, neat farmers, have already heeded the suggestions of the editor and others, and removed the unsightly caterpillars, while small and easily done; but if any still remain, just ask your fathers, from me, to give you a trifle for every nest you will remove—not as pay, for all they have will be the children's by-and-by—but as a present for performing an unpleasant but necessary task, and my word for it, they will soon disappear.

Now, boys, one word of advice. Never discharge a gun, or throw a stone, even, at one of those lovely birds that come regularly to spend

their summer months with you, even if they do take some of your currants and cherries. Say, as a sensible old neighbor of mine who lives close by a river surrounded by a great variety of beautiful trees, and who has several fine cherry trees close by his windows, once said to me, "That he was willing the birds should have half of them." One reason, he said, why he admired trees so much was, because he could have the birds with them. No wonder that he enjoys a cheerful old age. He is about fourscore—has worked hard all his days, accumulated a large property, and is quite active still. Only last night, as I went to his mill with a grist, after dusk, he was sitting by the river, catching fish, with his grandson by his side to pick them up.

Remember, boys, that your Heavenly Father is mindful of the sparrows, and provides for them their food; but he is still more mindful of you, and says "You are of more value than many sparrows."

J. F. FRENCH.

Northampton, May, 1864.

For the New England Farmer.

NOTES FROM THE PROVINCES.

Your correspondent turns up here, intending to take a tramp through this province on foot, with carpet-bag in hand. One is surprised at first setting foot on shore, to find such excellent land; but it wants farmers. The tillage land is plowed about five inches in depth, laid up in beds of about twelve feet, whether moist or not. The first that attracts my attention, that is unusual in the States, is the oat mill, with its large heap of hulls thrown away. Oat meal, by the way, is a great article of food, with all classes, and enters into general use more than wheat, which is not much cultivated. A little farther on, I came to a freestone quarry, which is removed with less care than the limestone is with you, but of late not much is done in it. The inhabitants are mostly descendants of the Scotch and Irish, but, rarely, one meets with the Acadian, whose tendency is to their primitive manner of life, with dress of the Normandic style. You will find, roving, the Nova Scotia red man, a degenerate race, who, in many cases, intermarry with the negro. Along the roadside are coal mines, opened for family use.

After leaving Pictou, is a tract of wood, which has been burned over within 10 years, and extends nearly to Truro. At Truro, the terminus of the Halifax Railroad, is a good farming country, which seems to be well improved with large barns, to hold the grain crops. From Windsor to Horton, a distance of twelve miles, there are many traces of the original French settlers. As in Canada, this is shown by the long line of poplars; so in Nova Scotia, they are to be traced by the abundance of orchards. From Windsor, all around the shore to Annapolis, we find these orchards, at different points, and the high reputation for fruit which Nova Scotia, has obtained, is to be attributed chiefly to the original French settlers. I must add that I never have seen apples at this time of the year which retained their flavor like these, and if I were raising fruit I would be at the expense of procuring scions to propagate from. These apples would bring, in Boston market, two dollars per barrel more than russets.

The new idea of using fresh cow manure was shown up to be one of the best dressings for cab-

ages, &c., more than one year since, by myself, and I was induced to use it by one who made no pretension to farming, but whom I noticed raised fine cabbages when others failed. Before I finish this letter, I will say that if one wishes to live cheap, and pay low taxes and low duties, to support government, let him try the Provinces. Beef-steak, 8 cts. per lb., veal, 6 cts., sugar, 9 cts., tea, 50 cts. Cloth for which we pay \$2.25, there, is \$1. A farm which would be taxed \$10 here, would be \$40 in the United States; a pair of boots, with you, worth \$5; here, \$3.

S. P. MAYBERRY.

Halifax, Nova Scotia, May 1, 1864.

GAME AND BRAHMA FOWLS COMPARED.

SIR:—I am quite delighted with your paper, more especially as I am a lover of poultry. Every one has his own fancy for fowls, and I see in your issue of March 1st that "Game Cock" thinks there is no variety like game fowls. I wish to compare my Brahmans with the games. "Game Cock" keeps 23 hens and 2 cocks, at a cost of 20 cents per week; I keep 12 hens and 1 cock, which cost me 20 cents per week; and which, I think, is very little. I feed upon corn, buckwheat, and sometimes barley; I prefer corn. My hens get a regular allowance 3 times a day, with plenty of good clean water, and their house is cleaned and swept every morning. Our notes compare as follows:

GAME (23 hens.)—January, 26; February, 14; March, 237; April, 255; May, 237; June, 191; July, 272; August, 267; September, 208; October, 210; November, 84; December, 28; total, 2,029—169 dozen, or 88 eggs to each hen.

BRAHMA (12 hens.)—January, 86; February, 159; March, 226; April, 201; May, 204; June, 136; July, 124; August, 102; September, 97; October, 70; November, 23; December, 51; total, 1,482—123 dozen, or 123 to each hen.

Now, Mr. Editor, you will see that I got 123 eggs from every hen, while "Game Cock" got 88. I also raised 70 chickens; of course, it cost a little more when feeding so many chickens. I reckon the cost of keeping fowls at a little less than one penny per week each fowl.

JOHN VEITCH, in *Canada Farmer*.

Brockville, April 2, 1864.

PEA CHEESE.—There is a very close resemblance between several animal and vegetable substances. Thus animal milk contains a large quantity of caseine, which is the principal substance in cheese; and peas also contain a large amount of the same substance. The Chinese who have exhibited such an aptitude for domestic economics, that they even make soup of bird's nests, have also found out that cheese can be made of peas. For this purpose peas are boiled into a thin paste, then passed through a sieve, and an acid added to the pea solution, which becomes curdled like sweet milk by the action of the common rennet upon the latter. The solid part is then salted, pressed into cheese molds, and it gradually acquires the taste and smell of cheese. It is sold in the streets of Canton under the name of "Tafoo," and when fresh it is a favorite article of Chinese food.

WHENEVER we utter a true word, instantly we feel 'tis God's, not ours.

THE BLITHE LARK.

BY FREDERICK TENNYSON.

How the blithe lark runs up the golden stair
That leads through cloudy gates from heaven to earth,

And all alone in the empyreal air,
Fills it with jubilant sweet sounds of mirth!
How far he seems, how far,
With the light upon his wings—
Is it a bird or star
That shines and sings?

What matter if the days be dark and frore,
This sunbeam tells of other days to be,
And singing in the light that floods him o'er,
In joy he overtakes futurity;
Under cloud-arches vast
He peeps, and sees behind
Great summer coming fast
Adown the wind!

And now he dives into a rainbow's rivers,
In streams of gold and purple he is drowned,
Shrilly the arrows of his song he shivers,
As though the stormy drops were turned to sound;
And now he issues through
He scales a cloudy tower,
Faintly, like fallen dew
His fast notes shower.

Let every wind be hushed, that I may hear
The wondrous things he tells the world below;
Things that we dream of he is watching near;
Hopes that we never dreamed he would bestow.
Alas! the storm hath rolled
Back the gold gates again,
Or surely he hath told
All heaven to men!

So the victorious poet sings alone,
And fills with light his solitary home,
And through that glory sees new worlds foreshown,
And hears high songs and triumphs yet to come;
He woos the air of time
With thrills of golden cords,
And makes the world to climb
On linked words.

What if his hairs be gray, his eyes be dim,
If wealth forsakes him, and if friends be cold?
Wonder unbars the thousand gates to him;
Truth never fails, nor beauty waxeth old;
More than he tells, his eyes
Behold, his spirit hears—
Of grief and joy, and sighs
'Twixt joy and tears.

Blest is the man who with the sound of song
Can charm away the heartache, and forget
The frost of penury and the sting of wrong,
And drown the fatal whisper of regret!
Darker are the abodes
Of kings, though his be poor,
While fancies, like the gods
Pass through his door.

Singing, thou scalest heaven upon thy wings,
Then liftest a glad heart into the skies;
He maketh his own sunrise while he sings,
And turns the dusky earth to paradise.
I see thee sail along,
Far up the sunny streams;
Unseen, I hear his song,
I see his dreams.

WORKING BULLS IN SINGLE HARNESS.

The *Ontario Times* gives some experiences in this matter, and a correspondent of the *Working Farmer* adds:

My experience corroborates the statements of the author as to the service of these animals when properly trained. I keep three horses, and yet most of my farm work, except plowing and dragging, has for two years past been done by a bull.

He is used for all kinds of drafts, on the ground, on drag, in cart, in sleigh, in buggy, covered carriage, etc. He is used to cultivators, and rakes hay without a driver. The harness used is similar to the one in ordinary use for a horse, except that the collar and hames are inverted. He is more hardy than a horse, is guided with perfect ease and precision without reins, walks or trots, and is as kind and docile as a pet kitten. I think he will move as large a load as an ordinary horse.

He belongs to my son, a lad of fifteen, who has broken and trained him. He will soon be five years old, is a fine animal, a cross of the Devon and Durham blood. He has a mate, a stag, so that when needed he can be used for plowing and dragging. My son is now training another, which will be two in a few months. He can be used already for almost any work, by being led. Learning to drive without leading requires some time and patience.

ROOT CROPS—THE TURNIP.

We have often urged upon the reader the convenience and economy of raising roots as a portion of the winter food for farm stock; cattle, horses, sheep, swine and poultry. We believe the time will come when they will be considered indispensable to a profitable wintering of stock, and when the farmer—through their help—will be enabled to keep a fourth part more than he formerly had, on the same number of acres. This state of things has been accomplished in England, and a large portion of its arable land made permanently rich and productive mainly through the process of raising and feeding out roots to stock.

If anything is to be done in this direction, the season is now at hand to attend to it. The principal roots used for this purpose are the mangold wurtzel and the swedes and flat turnip; the beet, in several varieties, and the carrot are also employed with success. Nothing is more easily produced than the common flat turnip. It may be sown by itself or with the corn or potato crop, and large quantities grown with the most trifling care and cost, and it is thought not to materially exhaust the soil upon which it grows. Its broad leaves are supposed to find a large portion of its nourishment in the atmosphere.

The shape, form, color and modes of growth exhibited by the members of this constantly increasing family are almost infinite. Some are white, some yellowish, some green and some tinged with a delicate pink or purple;—some grow with almost their entire bulk exposed above the surface of the soil,—others entirely below it. In England it is said not to be uncommon to see turnips weighing sixty or seventy pounds, although with us ten or fourteen pounds is contemplated with astonishment and chronicled as a wonderful development. It is true that, although evidently not adapted for transplanting—being of a watery and consequently of a fragile nature—the English turnip may be

transplanted if care be taken to remove with it a sufficient quantity of soil ; but this necessity—for such it is, opposes a serious obstacle to the adoption of the practice, as a general rule, and the farmer acquainted with the habitudes of the plant, and studious of his own interests, prefers sowing them where they are to stand.

The ruta бага, and the various other individuals of the turnip family, are too well known to require any description here. They are all hardy, grow vigorously and rapidly in suitable soil, and are highly prized as food for almost every description of animal ordinarily kept upon the farm. They require a generous, but not over rich soil, and the best stimulants for them are bone manure, ground oyster shells, ashes, gypsum, and perhaps guano.

We have referred above to the high value which English farmers place upon root crops. Brown, in his "Treatise on Rural Affairs," says "that the introduction of the improved turnip culture into the husbandry of Great Britain occasioned one of those revolutions in the rural art which are so constantly occurring among husbandmen. Before the introduction of this root it was not possible to cultivate light soils successfully, or to derive suitable rotations for cropping them with advantage. It was, likewise, a difficult task to support live stock through the winter and spring months ; and as for feeding and preparing cattle and sheep for market during these inclement seasons, the practice was hardly thought of, and still more rarely attempted, unless where a full stock of hay was provided, which only happened in a few instances. The benefits derived from it are of very great magnitude. Light soils, before useless, are now cultivated with facility and profit ; the earth is turned to the uses for which it is physically calculated ; and, by being suitably cleared with this preparatory crop, a bed is provided for grass and other seeds, wherein they flourish and prosper with greater vigor than after any other preparation."

The reader will, perhaps, observe, in the above extract, that the English custom of wintering cattle was widely different from ours. Brown says that a "full stock of hay was provided only in a very few instances." Our practice among good farmers is, to crowd large barns with good, sweet hay, to overflowing, and give every animal as much as he will eat with a good appetite, and occasionally stimulate that appetite with a mess of some kind of roots. Each country, it seems to us, practices upon extremes—one depending mainly upon roots and the other upon hay. What is most economical and best, is, undoubtedly, a combination of both systems—a happy mingling of both modes of feeding, so as to temper the dry

fodder with the tender and juicy roots, and the roots with the sweet and nutritious hay. This is the point to which we desire to call the attention of our farmers, and especially of those who are constantly fattening cattle and sheep for the market. Their chief reliance has probably been corn meal. This is now very high and will remain so for some time. We believe its place may be supplied in a considerable measure by a plentiful supply of a variety of roots fed alternately with as much sweet herds-grass, clover and red-top as the animals will eat. We do not know how it would result in a number of cases, but the best beef we ever ate was fattened in this way,—a plentiful supply of roots and as much English hay as the animal would eat, fed at regular times. The beef was tender, juicy and finely mingled, or marbled, as the butchers term it. We hope that more attention will be given to the culture of roots, and that more thorough experiments will be made of their use in fattening animals.

EXTRACTS AND REPLIES.

Habits of the Wild Goose.

Thinking that your readers would be interested in a brief description of the wild goose and its peculiar habits, I will give a few of them. This splendid bird is no-Mormon, or at least does not believe in a plurality of wives, for the gander will never have but one mate at a time, and never forsakes his first love unless separated by some cause which he cannot prevent ; nor will he allow his mate to take grain from the same dish with him until he has finished his meal and then he will allow her to eat hers. Although they are natives of America they are not "know nothings," for if there is not one of their own nation that they can get they will mate with one of foreign birth and other colors, rather than remain single. Their noise is quite musical, and especially so just before a storm. Though wild in their nature, they are easily domesticated and quite fond of being caressed. The female goose lays about ten eggs, is a good sitter and very careful of her young. Her mate does constant sentinel duty, and fears nothing while protecting its young. Though not as large as the African and other foreign birds, they are a great ornament to the poultry yard, besides producing a good yield of feathers once in six weeks.

Elgin Spring, 1864.

W. S. ALLEN.

Rose Bugs.

As it is most time for the rose bugs to make their appearance I would like to inquire if there is any way to prevent their destroying our grape blossoms, apples, &c. Last year they injured my grape vines, so that the crop was an entire failure ; they eat the blossoms entirely up, and my apple trees were covered with them ; about every apple and pear was eaten more or less, so that I hardly had any fruit but what was injured by them. If you can prescribe a remedy for this pest, you will do a great favor to many in our neighborhood, and I trust others. E. LEONARD.

New Bedford, June, 1864.

A New Insect.

Our apple trees are covered with little green lice. I never saw any until last year, and on inquiry I find but few noticed them at all. I have seen one man (an early riser,) who remembers they covered the trees "when he was a small boy." They come out very early in the spring, or as soon as the leaves begin to appear ; they sap the leaves as the midge (weevil) does wheat, making them look yellow and withered. As soon as the buds begin to open they enter them, fasten thickly on the growing fruit stems and blast them. If any escape they do not become large and

fair, as they used to do. Wherever my observation extends in Vermont there are plenty of them. Apple trees blossomed very thickly in this vicinity this year, but there will be but few apples, I am satisfied.

Can some of your wise entomologists tell us if this is their perfect state, when they are deposited on the trees, when they disappear, and if we can *get rid of them*? If not, my advice is, do not plant apple trees in Vermont; it is time and money wasted.

Washington, Vt., June, 1864.

J. J. WATSON.

REMARKS.—It is humiliating to attempt to answer inquiries like either of the foregoing. Dominion over "every living thing that moveth upon the earth," was in the beginning promised to man. But though he may have sought out many inventions it is evident that his "mission" is not yet fulfilled. In passing through Cambridge the other day, we noticed that the canker worm had commenced its annual ravages on the fruit and ornamental trees of that beautiful section; sparing neither those which surround the princely mansions of the faculty of Old Harvard, or those which shade the very door-steps of her naturalists—her Agassiz and her late Harris. The insect described by Mr. Watson is probably one of the numerous family of *Aphididee*, or plant-lice. One of our contemporaries in reply to similar inquiries by a correspondent, gravely suggests the application of a wash. But just think of washing the buds of not only a single large apple tree, but all the buds of all the trees of a large orchard! And yet this is about the sum of our knowledge of the means for the destruction of insects injurious to vegetation. The thumb and fingers of children in connection with a dish of hot water, constitute the most effectual machine for the destruction of rose bugs that we know of. Offer a small price per thousand for their heads, and if that fails then appeal to the "wise entomologists" for further directions.

FANCY FARMING.—Mr. C. W. Carpenter, Mt. Gilead, Ohio, writes to the New York City Farmers' Club, a dissertation on Fruit-growing, which is published in the New York *Tribune*. His article closes with the advice that every farmer give his wife "a quarter, a half, or even one acre to plant to grapes, blackberries, raspberries or strawberries." He says, "If a woman takes good care of her fruit garden, besides supplying her family with health-giving luxuries, she can have a hundred dollars worth, or more, of fruit to sell every year." "Such exercise," he adds, addressing the women, "will give increased vigor of body and the light, elastic step; then you can fly around and do your housework in a jiffy." We would not presume to limit the endurance of the Buckeye ladies, but in New England we apprehend that few farmers' wives will be likely to add the care of an acre of strawberries to their other duties, however acceptable the one hundred dollars might be to them.

BIRDS AND INSECTS.—In a recent club debate about insects, Mr. Prince, one of the oldest and most extensive nursery men in the vicinity of New York city, said that on his grounds they preserve all the birds and are not troubled with insects.

For the New England Farmer.

SHEEP HUSBANDRY---No. 5.

It has been frequently asserted that no country adapted to sheep husbandry ever entered upon that branch of agriculture without becoming wealthy. Probably in no country, in proportion to the extent of territory, has the breeding and keeping of sheep been so extensively carried on as in England, and no country in the world can boast of more wealth. That this is the result of sheep husbandry alone, we do not believe; but we do believe that it is one of its principal sources of wealth, and we maintain that no farmer ever introduced sheep upon his farm, but his land was improved thereby, and if his sheep were properly cared for, his finances were also improved. And no farmer ever abandoned sheep husbandry, but his farm suffered in consequence, and his income proportionately diminished. In England, he is considered a poor farmer, and not up to the spirit of the times, who keeps no sheep.

It is a well established fact that on any pasture, stocked to its utmost capacity with cows, as many sheep may be added, and a horse introduced occasionally, and the pasture not impoverished, but improved. Sheep will feed upon the herbage which cows reject. It is an old adage and a true one, that horses alone impoverish a pasture, cattle alone improve, but sheep alone enrich it. Where horses, cattle and sheep are allowed to feed in the same pasture, we always find the grass evenly cropped, no unsightly tufts of grass with their rank, coarse growth, left to rot upon the ground, but all is economical.

In England, he who should talk of running out a pasture would only submit himself to ridicule. There, it is always presumed that a pasture will be improved, and it is no rare occurrence to take one, two, and sometimes three crops of grain from a newly broken-up pasture before applying manure; and commonly when a field has been hard run in tillage for a number of years, so that its fertility has been impaired, it is seeded down, and converted into pasture in order to improve it. This the farmer calls laying it down to rest. The landlord never objects to his land being laid down to pasture; but the tenant is never allowed to plow up that which was down when he hired his farm, only under an expressed agreement. It would be well, perhaps, to state in this connection, that in England, dairy cows are never stabled during the night. In many cases they are milked in the pasture, and when driven up for that purpose they are returned as soon as they have been milked. The English farmer does not confine the fertilizing powers of the sheep to his pasture, but he makes them fertilize his arable lands. In the vicinity of the Downs, it is a common practice to fold the sheep at night upon their arable lands, which feed upon the hills by day, and this is about all the manure they apply.

Mr. Hiram Barbus, in the Agricultural Report of 1860, quotes the following from Mr. Stephens, that a dressing thus given by three hundred sheep is sufficient in one week for an acre of land, and is worth fifteen dollars or five cents per head per week. Mr. Barbus asked the question: "May not the universal deterioration of the lands in our rural towns be attributed to the fact that the keeping of sheep has been abandoned for that of cattle?" He says "it is laid down as a fact among

English farmers that the wealth and success of a farmer may be pretty well calculated by the amount of his sheep stock." He asks another question, and gives the answer: "What shall we do to improve our worn out pastures? When sheep were universally kept, this question was never asked, because sheep are ever improving the ground on which they feed." It is said, that man is a universal benefactor who makes two spears of grass grow where only one grew before. What must we say of sheep that make four spears of grass grow where only one grew before, and two blades of grain, where before but one was raised, which clothes us with its fleece, and feeds us with its carcass!

The manure of sheep, if not equal to guano and the droppings of fowls, ranks next as a fertilizer, and if not rich in ammonia, it is richer in phosphates.

Thirty-six pounds of sheep manure are considered equal to one hundred pounds common barnyard manure. We well remember the time before the introduction of guano, when we collected the droppings of sheep, and put them in a barrel with a quantity of water, and after giving them a good pounding, as some do clothes, till they were thoroughly macerated, the liquid was used to force vegetables, shrubs and plants, and sometimes fruit trees, with results about equal to guano of the present day.

But sheep have another element of fertilization which I have not seen referred to in any report or essay on the subject. There is always exuding from the pores of the sheep an oily substance called yolk; this contains a large amount of potash and other alkaline matter. The amount thrown off in the course of a year is large, and is one of the best fertilizers known. This is to some extent washed off in heavy rains, hence the adage, that the sheep fertilizes the ground it lies upon.

The committee on sheep husbandry, as published in their report in the Agricultural Report of 1860, say: "That to the question proposed in our circular, whether sheep improved pasture land, there has been from every return but one unequivocal yes, especially on those pastures where the coarse grasses, briars and bushes are coming in.

J. E. Wight, Esq., in answer to the often asked question, Are sheep as beneficial to the soil as cattle? says: "This question, I think, will meet, with those who have had the experience of the culture of both cattle and sheep, with a ready answer, that the fertility of the soil can be better kept up with sheep than any other stock."

Mr. Joseph Reynolds says: "A gentleman writing from Plymouth county, in 1859, remarks: 'Some of the finest examples are afforded here of the effects of feeding sheep upon pastures that have become exhausted of nutritious grasses, and grown to bushes, briars, brakes and moss. I have seen pastures to-day that had become almost worthless, but now green and smiling as a lawn, with every inch among the rocks covered with the richest pasture grasses, and not a single blackberry vine, wild rose bush, mullein or other useless plant in sight. The sward does not seem bound and compact, but loose and porous, and filled with the most healthy and vigorous roots.'"

While Mr. Reynolds himself says: "Experience shows that sheep walks, instead of becoming exhausted, uniformly grow better and more produc-

tive, and then one of the most effectual means of destroying the bushes and mosses, and bringing back the sweet grasses to an exhausted pasture, is to turn upon it a flock of sheep."

While R. S. Fay, Esq., then Secretary of the Massachusetts Society for the Promotion of Agriculture, and who has owned a large flock of Oxfordshire Downs, for the last ten years, in a very able essay, says:

"We have constantly had under our eye a hundred acre lot upon which cattle a few years ago could not live, that maintains in good condition a large flock of sheep; and the improvement of the pasture has been so great that a dozen head of cattle beside the sheep, do well upon it.

"The reasons for this are obvious to any one who has observed the habits of sheep; they are more indiscriminate feeders than cattle; they nip the shoots of almost every shrub, as well as weed, extirpating many kinds in the course of two or three years; they make room in this way for the grasses to come in where they have been shadowed out or otherwise displaced; the white weed, the broom, or wood wax, as it is commonly termed, the golden rod, the blackberry vine, the blueberry, with many other similar plants, disappear before them, and the finer grasses and white clover take their place.

"This, however, is only one of the advantages which sheep possess over cattle upon pastures which are impoverished—they scatter manure in the way to produce the largest benefit, besides it possesses in the highest degree the requisites essential to restoring to the land the phosphates which it loses by long depasturing with cattle.

"The manure of the sheep suffers no waste, being in a highly concentrated form, and at the same time is minutely divided and evenly distributed over the surface of the ground. So good and economical a distributor of manure is the sheep, that experienced farmers in England are feeding them, when in pasture, with oil cake, for the additional benefit of the manure."

The report of the committee on sheep, for Worcester North, published in the report of the Secretary of the State Board of Agriculture for 1863, says they made the following inquiries of the principal sheep raisers of their acquaintance:

1. Is it better for pasture lands to have sheep kept on them, than any other kind of stock?

2. Do you know of your own experience that sheep will eradicate bushes, or in any way improve the pastures in which they are kept?

In answer to these questions, Mr. H. M. Caswell says: "I notice sheep always rest on the highest parts of the pasture, and spend more of their time upon the hills than cattle, consequently the manure is more evenly distributed. Sheep also require such a variety of food they will even kill out hardhacks and thistles."

James McIntire says: "There is no stock like sheep to renew old pastures. I know clover to come in, and bushes to die out in pastures where they have been kept."

Mr. Joel Hayward says: "I am well satisfied that sheep do materially improve pasture lands, not only from my own experience, but from what I have observed of pasture lands in this vicinity. I have had sheep for nearly twenty years in one pasture, and am confident that it will keep one-third more, and keep them equally well as when first

used for that purpose. I remember an instance where a piece of land had become quite thickly covered with a growth of white birch. These were cut close with a scythe, and then sheep were turned upon it, which, perhaps, for want of better feed, kept the young shoots fed down, and cleared the pasture of brush."

Mr. Hayward does not believe in compelling sheep to become bush exterminators, but says: "Give them clover and other sweet grasses; give them as good as you have, and if you have used proper judgment in the selection of your flock you are well insured of a good profit."

George Fox says: "It is cruel and unprofitable to keep sheep so short as to compel them to eat bushes;" but he adds: "There is scarcely a bush or plant which sheep do not love to eat. I have many times seen sheep turn from white clover, they like so well, to bushes and brakes."

If sheep are turned upon wild pastures, the farmer must expect wild, poor wool and poor sheep; but if care is taken not to overstock the pasture, and properly select stock for breeding, the improvement of flock will progress just as the improvement of the pasture does. TYRO.

WATERING CATTLE AND HORSES.

Although few persons think it worth while to pay much attention to this department of husbandry, yet a little reflection will convince any reasonable person of the value and importance of furnishing cattle with a constant supply of pure water. Pure, cool water is said to be a god-send to a thirsty throat; and as cattle are apt to have thirsty throats, they should be permitted to enjoy a luxury which costs but a trifle, and operates very favorably in promoting their health. All classes of domestic animals have as great an aversion to impure, filthy water, as ourselves; and the former will often turn away with disgust from the filthy stuff called water, which is often found in water troughs on the roadside, and within the precincts of the barn, and in some pastures. The common stagnated pond water, which many poor creatures are compelled to imbibe, is often the exciting cause of disease, especially in the Western States, where decayed vegetable matter abounds. Pure water will never injure an animal. I do not believe the stories which are told about horses becoming foundered in consequence of drinking pure water. In a majority of cases Mr. Fastman is blameable; he has, probably, either overdriven or overworked the creature, or else has suffered it, when heated, to cool off without the necessary care and attention which should always be observed when animals are fatigued, or perspiring freely.

Hard usage, wilful neglect and wanton cruelty, are more likely to produce disease than the "universal beverage" so acceptable to the palate of a weary or thirsty horse. How often do we see a "let" horse come into the stable all exhausted and *used-up*, scarcely able to advance one limb before another! Examine into the facts, and we shall find that the powers of the subject have, perhaps, been overtaxed. He has been driven too far, or at too rapid a rate, for the present state of his constitution to endure; and, perhaps, he has not had sufficient nourishment to repair the waste incidental to the living mechanism, under the states of rapid and protracted labor. Is not this enough to ac-

count for the used-up condition? Is it not more rational to suppose that abuse of the respiratory organs, and those of locomotion, operates far more unfavorably on the horse than water? It is. But Mr. Fastman must, if there be any blame rightly belonging to him, try to shift the same from his shoulders, and therefore he avails himself of a popular error,—"*He drank too much water.*" Yet the individual has no means of ascertaining the precise quantity needed. We might say the same as regards our horses whose labors are very fatiguing; they come from their work, and, as soon as unharnessed, go to the trough and imbibe from one to three buckets, without any bad effect. Some animals need more water than others; the kind of work, the temperature of the atmosphere, and the nature of the food, whether it be wet or dry, all tend to diversify an animal's wants. The domesticated horse requires a bountiful supply of good water; his body is composed of seventy-five per cent. of the same, and he can no more exist without it than he can without food.

A cow or ox is probably the best judge, as regards its own wants, as to the quantity of water needed. It is not the quantity which a rational animal imbibes which does harm, but it is the quality that demands our attention.

Thirsty people drink all the cold water they need; then why deprive a cow or horse of what they actually need? Consider the condition of the inhabitants of populous cities during the summer season. Thirst amounts almost to a disease, and, in view of quenching it, the thirsty are continually imbibing water, rendered cold, hot, sour, sweet or alkaline, just as fancy dictates, or as fashion prevails; cold ices and other fixings are called into requisition, to smother the fire of thirst that rages within; everybody partakes freely, the young and the aged, the exhausted and vigorous, the laborer, exhausted by a hard day's work, and the rich man of no work, each and all are doing their best to see the bottom of the picher, and to pitch their bodies into the watery element; yet, after all, how few persons complain of any bad effect from it!

Cattle should never be allowed to drink pond water. They should either have access to a running stream, or a clean water trough.—*Prairie Farmer.*

CUTTING AND CURING CLOVER.—Clover should be cut immediately after blossoming and before the seed is formed. It should be cured in such a manner as to lose as little of its foliage as possible, and therefore cannot be treated exactly as the natural grasses are. It should not be long exposed to the scorching sun, but after being wilted and partially dried, it should be forked up into cocks and left to cure in this position. The fourth or fifth day, when the weather is fair and warm, open and air it an hour or two, and it will then be fit to cart to the barn.

Clover cured in this way without loss of its foliage, is better for milch cows and for sheep than any other hay. It may also be fed to horses that are not hard worked, or to young stock, but it is most valuable for cows in milk. For other farm stock it is worth from two-thirds to three-fourths as much as the best hay.—*Manual of Agriculture.*

GRUBS IN THE HEAD OF SHEEP.

The following valuable communication, written by Robert M. Montgomery, President of the Ohio State Wool Growers' Association, is copied, somewhat abridged, from the *Rural New Yorker*:

In April, 1862, my attention was called to a flock of sheep owned by my neighbor, Mr. A. He had about one hundred, of which thirty-five were what are hereafter to be known as "tegs." They were apparently in fine condition until the first of February. But then the tegs began to decline—refused their food, and went languidly about with watery eyes and drooping ears—discharging from the nostrils, and exhibiting general and increasing debility. Early in March they began to die. Those which sickened early died in from three to four weeks. But those which sickened later in the season died in from five to eight days. After some ten or twelve were dead, it was suggested that there might be "grubs," and an examination disclosed large numbers of them lying high up in the head, and many of them in the root of the horns. The only available remedy known to us, being a decoction of tobacco, was, of course, resorted to, and was administered to sick and well ones indiscriminately. There was some asafetida in the tobacco juice, but I do not consider this important. All which showed an advanced stage of the disease when the tobacco was first given, died. A part of those which exhibited a milder indisposition recovered slowly, and those which seemed well at that time continued well, and the disease, whatever it was, ceased to prey upon the flock. And here let it be noted, none of Mr. A's sheep sickened or died except the tegs. Let it also be noted that the male portion of them remained entire until they were five or six months old, and consequently had horns nearly or quite as large as if they had been rams. The ewes and wethers (stags) were kept together and treated in every way alike. Two only of those without horns died; while but three or four of the eighteen having horns were left.

Taking counsel of my neighbor's misfortune, I then paid more attention to my own sheep. I found nothing wrong with any of the flocks except the ram tegs, of which I had about sixty. I found but one of them which would have attracted the attention of a casual observer; but three or four others, to an experienced eye, showed evident symptoms of disease. The syringe was immediately in requisition, and tobacco and asafetida injected up the nostrils of the sick and well alike, on every alternate, or at most on every third day, for perhaps two weeks. The result was that about six of the sixty died. Some eight or ten others sickened, but eventually recovered, and the remaining forty-five continued in good health and condition. It may be remarked here that my neighbor, who neglected to apply any remedy till the disease had made serious inroads, lost about 80 per cent. of his horned tegs, while I, having applied remedies early, lost only 10 per cent.

Presuming that the grubs were the probable cause of the disease, two questions arose. Could liquids be so injected as to reach their location? and what effect would certain liquids have? To obtain an answer to the first question, I examined carefully the structure of the head. But to make "assurance doubly sure," I selected a sheep which

was quite sick, and bored a hole one-fourth of an inch in diameter in each of the horns about an inch above the wool, and also two holes in his head, about half way between his horns and eyes. I found that liquids injected into the nostrils came out freely through each and all of these holes.

It then remained to determine the effect on the grubs in different stages of development, varying from the white one of less than a quarter of an inch in length to the full grown brown one of one and a quarter inches. I placed them first in a decoction of tobacco and asafetida. The small ones died in about two minutes, but the larger ones, although showing signs of discomfort, gave no indication of immediate death.

From the above, and from other observations, I deduce the following conclusions:—That the eggs are usually deposited in the latter part of summer; that it depends very much on circumstances when they are hatched; that a large proportion are thrown out and are never hatched; that it also depends on circumstances whether the grubs are fully developed in a long or short time, usually, however, in the latter part of winter and early spring. But I have seen them very small in the spring, and have also seen them full grown in the fall. I conclude, also, that they are not confined to any one class of sheep, though young sheep, and especially if they have horns, are more subject to them, because the larger opening at the root of the horn affords them a more secure resting place above and beyond the sneezing power of the sheep to dislodge them; that sheep in delicate health are more subject to be affected by them than strong, healthy ones; that sheep may and often do have grubs and still remain in good health, but that in other cases they produce serious and often fatal results.

And now, Mr. Editor, if I may presume to advise your readers, it is as follows: Let the sheep's nose be smeared with pine tar so frequently as to carry the smell all the time during the summer. This seems to be a partial preventive, but not absolute; therefore, as a more certain resort, let it be followed during the fall (say once a month) while the grubs are usually but partially developed, with injections of tobacco juice; because, it will be remembered that in the experiment above, the tobacco proved immediately fatal to all the small ones, while it but slightly disturbed the larger ones. This will ordinarily be sufficient, but may be continued as circumstances indicate. This practice, however, is attended with some little danger to the life of the sheep; because, if the tobacco is too strong or in large quantity, and (to use the common expression) goes the wrong way, it will produce sickness and perhaps death in from one to five minutes. But this is not a common occurrence. Sometimes, after they have fallen and are apparently dying, if they are taken up by the hind legs and shaken severely they will recover. It does them no harm after the first paroxysms are over.

I can give no such directions about preparing the tobacco as will enable an inexperienced hand to get it certainly right at first. I advise, therefore, as follows:—Take half a pound of plug tobacco and steep it in six quarts of water; then with a good syringe inject a small tablespoonful into each nostril, and try it on the least valuable ones first, and then increase in strength or quantity as the sheep are able to bear it.

HARVESTING GRAIN.

As the season for harvesting the cereal grains is near at hand, it is well to give the subject some consideration as to when and how the work may be best performed. The subject is too important to be passed over indifferently, when the price of grain is more than double what it has ordinarily been for many years past. A rapidly increasing population, and an immense waste by war, has created an unusual demand, and one which will probably not be materially lessened for a considerable time to come. Whatever, therefore, will tend to swell the aggregate amount, and secure it in the best possible condition for the use of both man and beast, is worthy of earnest inquiry and investigation.

The kind of soil and its preparation, and manuring and seeding, have long been matters of experiment and inquiry, but the effect of earlier or later harvesting the crop, upon the *quantity* and *quality* of the product, has received but little thought by a large proportion of our farmers.

Our present inquiry is, *when is the best time to cut wheat, rye and barley* in order to secure the largest weight of grain, and the best quality of flour? This is one of the many questions which have not yet been thoroughly investigated and solved by individuals, or by any public institution of our country. When our agricultural college is established, we may expect that this, and many other questions of a kindred nature, will receive attention and be satisfactorily answered. Were this faithfully done, and the resulting facts spread before the husbandmen of the country, we believe the gain, in five years, would be more than the whole cost of the college, land and all.

There are certain signs of maturity in grain plants, which are, of course, regarded by all, but some are governed by one and some by another, so that little approach is made to any well settled and governing rule. The motive of *convenience* governs too many. As a general thing, farmers should control their work, and not allow the work to control them: that is, the plowing, hoeing, haying, and everything else, should be kept up square with the season, and then they will be able to select and improve the precise time when any work should be done. It would be almost as judicious, for instance, to plant corn in October, expecting a crop, as to prune an apple tree in April or May—and yet thousands of farmers do prune, because they say it is *more convenient* than at any other time. This is the leading reason why we have so many decaying and short-lived orchards.

We have sufficiently tested the matter of cutting grain to be satisfied that the opinions we quote below are correct and entirely reliable, and we commend them to the careful consideration of all who

have grain to harvest. The opinions expressed in the following paragraphs are by Mr. Anderson, for some time editor of the *Farmer's Journal*, published at Montreal. He says that:

Grass, while still green, contains a large amount of starch, gum and sugar. The sugar is perceived in the sweetish taste of the juice; the starch and gum, being nearly tasteless, are not so readily perceived. The principal nourishing ingredients in all kinds of food are starch, gum, sugar, and some nitrogenous compound. But the starch, gum and sugar are mainly changed into hard, indigestible woody fibre when grass fully matures. If the ripening process be arrested eight or ten days before its completion, and the plant be dried rapidly, double and treble the amount of starch, gum and sugar will be secured. The same reasoning holds true of all kinds of grain. Every one is familiar with the sweet taste of green corn, wheat in the milk, etc. When the growth is completed, cut these crops and you save a considerable quantity of rich nutriment which would otherwise be changed to the woody fibre of the outer shell. The only point to be looked to is to wait until the accumulation of juices is completed, and then begin the harvesting at once. The only exception to this rule is with crops designed solely for seed; these may well be left to the natural full ripening upon the stalk, especially when the seed is to be kept long.

The proper time for cutting grasses is at the moment the seed is set or immediately after the flowering is over. Clover should be cut as soon as in full bloom.

A large number of experiments on wheat and other grains indicate that the proper time for harvesting is when the kernel is fully formed, but still soft enough to yield to a moderate pressure between the thumb nails.

This reasoning is undoubtedly correct, not only because it is founded on true physiological principles, but also because it is confirmed by the experience of those who have put the matter to practical test.

In his agricultural tour through England, our Mr. COLMAN states that he found by many inquiries that "the best rule for harvesting is not when the stalk below the head has changed color, and circulations have consequently ceased, but when grain, though it has ceased to yield milk upon pressure, is yet soft." The advantages of cutting at this stage are given as follows: "Wheat cut early affords more grain, yields less bran, makes a better flour, wastes less in harvesting, gives better straw, and enables the farmer to do more work leisurely."

This precisely accords with the opinions we have gained in our own operations in harvesting grain. Perhaps few persons have given the subject more careful investigation than Mr. C. W. Johnson. He states, in the *Farmers' Encyclopædia*, that

"Grain, if not reaped until the straw is wholly yellow, will be more than ripe, as the ear, generally, except in the late seasons, ripens before the entire of the straw, and it is observable that the

first reaped usually affords the heaviest and fairest sample. The indications of ripeness in wheat are few and simple. When the straw exhibits a bright golden color, from the bottom of the stem nearly to the ear, or when the ear begins to bend gently, the grain may be cut. But as the whole crop will not be equally ripe at the same time, if, on walking through the field and selecting the greenest heads, the kernels can be separated from the chaff when rubbed through the hands, it is a sure sign that the grain is then out of its milky state, and may be reaped with safety; for although the straw may be green to some distance downwards from the ear, yet if it be quite yellow from the bottom upwards, the grain then wants no further nourishment from the earth, and if properly harvested will not shrink. These tokens will be found to sufficiently indicate the ripeness of wheat, barley and oats; but that of rye arises from the straw losing some of its golden hue, and becoming paler."

Some of the most valuable experiments which have been reported on this subject, are those of Mr. Hannam, in the 12th and 13th volumes of the *Quarterly Journal of Agriculture*. The trials were made under his own direction, and with great care. He cut samples of wheat at five different times, as follows:

No. 1	was cut	a month	before	fully	ripe.
" 2	"	three	weeks	"	"
" 3	"	two	weeks	"	"
" 4	"	two	days	"	"
" 5	"	when	fully	ripe.	

Of these lots, 100 pounds of grain of each yielded as follows:

No.	Flour.	Seconds.	Bran.
1.....	75 pounds.....	7 ".....	17 pounds.
2.....	76 ".....	7 ".....	16 "
3.....	80 ".....	5 ".....	13 "
4.....	77 ".....	7 ".....	14 "
5.....	72 ".....	11 ".....	15 "

Thus it appears that No. 3, which was cut two weeks before it was fully ripe, was superior to the other lots; giving more per bushel than No. 5, (cut when fully ripe,) by $6\frac{1}{2}$ pounds of flour, and a gain of about fifteen per cent. on the flour of equal measure of grain; 100 pounds of wheat of No. 3 makes 80 pounds of flour, while 100 pounds of No. 5 yields 72—showing an average of eight per cent. in favor of No. 3. In grinding, it was found that No. 5 ground the worst—worse than No. 1. There were in No. 5 a greater quantity of flinty particles which would not pass the bolt, than in any of the other lots. The bran from No. 5 was also much thicker and heavier than that of No. 3.

Mr. Hannam concludes, therefore, that in cutting wheat two weeks before it is fully ripe, there is a gain of fifteen per cent. of flour upon equal measures, a gain of fourteen per cent. in the weight of straw, and a gain of 7s. 6d. sterling in the value of every quarter (560 lbs.) of wheat.

Wilson, in his *Farm Crops*, says the best indication of harvest time is given by the changed color of the straw immediately below the head. When this changes from green to yellow, which it does before the body of the straw changes, the circulation of the plant is arrested, and the head can receive no more nourishment from the roots. We know that it can derive none from the air,

and therefore at this period must contain within itself all that is necessary for its perfection. If this be admitted, then it is clearly the interest of the farmer to run no further risk of injury from change of weather, or other causes, and without loss of time to cut it down, and get it safely housed as soon as possible."

It will be observed that Colman says, above, that the best rule is in the condition of the seed. We have been in the habit of judging by both seed and appearance of the stem,—for when the stem, just below the head, has turned slightly yellow, instead of retaining its former green color, on testing the seed between the nails, it will generally be found to have just passed from the milky to the doughy state. The difference, therefore, between these two high authorities is not material. We hope that more attention than ever before will be given to the matter, and that our correspondents will give us the results of their observations.

TALK ABOUT HAY-MAKING.

Col. Hawks, of Deerfield, states that he preferred to cut grass when two-thirds of it was in the blow. Did not dry it as much as formerly. Hay can be dried too much to pack or spend well. Likes to have it green enough to retain its green tea smell when opened in the winter.

Mr. Lyman, of Northfield, cuts his hay one day and gets it in the next. Wants it all cocked up at night, and prefers to have it raked for this purpose before 3 P. M., and in heaps when warm. Likes to cart clover the second day. Can get hay dry as he wants it, in one good day.

Hon. Hugh Green, of Northfield, thought that hay was dried too much in the sun and too little in the shade. Dew bleaches and injures hay more than many suppose. He not only gets his hay in cocks early in the afternoon, but covers it with cloth caps at night, whether it rains or not.

Dea. Buffum, of Winchester, N. H., and Messrs. Leverett and Hatch, of Keene, use hay caps whether it rains or not. The former stated that he usually cut his hay in the afternoon, cocked it the next day, and the day following got it in. Cattle do better on hay cut early. They will grow and give more milk on such hay. First crop hay gives nearly one-third more tallow than the second crop. He weighs his cattle once a month regularly. Thinks clover cut early the best hay used. Likes to have it stand two or three days in the cock under hay caps, as the sun injures hay. Low land hay needs more drying than English upland hay. Mr. Leverett uses Manny's mower. Likes in the haying season to mow every evening and cart every afternoon. Wants his hay cocked up early the second day, and the day following simply turned over without spreading. Clover needs two or three days curing in the cock. It cost about eighty dollars to cut, cure, and house fifty tons of hay in this way. Estimates the wear and tear of his mowing machine at six dollars a year. His men hoe mornings when he has no hand mowing.

Moses Stebbins, of South Deerfield, said he cut

but little natural hay. He mows his lands six years, and stocks with herds grass and clover. The former will run the latter out in three years. He never mows when the dew is on, nor latterly uses salt in packing hay. Thinks he injured sheep formerly by salt. Cuts clover in the afternoon, and carts it if the weather is good the next day. The hay sweats if housed too green, and six or eight inches of the top of the mow spoils, but has had no hay mould during the last thirty years, unless it was unnaturally damp. The second crop or rowen is more apt to smoke than the first crop. Hay free from dew and rain is not much in danger of spoiling if housed rapidly after one begins. Herds grass is apt to be dried too much, and he often, particularly in the last of the season, carts it the same day he mows it. Considers clover well ripened the best hay for sheep after an experience of sixteen years. Hay will shrink 15 to 20 per cent. in the barn, and when moved never spends like that kept in the solid mow. Thinks a mowing machine is as necessary to a farmer as a plow.

EARLY CUT HAY FOR MILCH COWS.

What is the best time for cutting hay for dairy cows?—should it be cut at the same time for all kind of stock?—are practical questions which every dairyman must consider at each season.

The state of the maturity to which grass should arrive before it is cut, is a point about which men differ materially. The different dispositions which are to be made of the hay doubtless modify to some extent the conclusions at which they arrive. Some think it should stand till the seed is full and the stems get pretty well ripened, because it is then heavier than before. Others think it should be cut when in full bloom or before.

There is quite a difference in the kind or quality of hay cut before and after it is in blossom. Before it is in bloom its extractive matter, which is used as food, contains a greater percentage of starch, gum, sugar and fat, especially yellow fat; and after it has passed the bloom it has a greater percentage of flesh-forming material along with woody fibre and mineral matter. In the former, it contains more elements of respiration, the source of animal heat and fatness; and in the latter, the foundation of muscle.

These different qualities have their uses. The horse, by his vigorous exercise maintains his proper warmth, to a considerable extent, by the rapid waste of tissue and muscular fibre, and hence, especially in warm weather, can labor and travel better on the less heating, late cut hay.

But in the young animal, the calf, the heat derived from the waste of tissue is comparatively but little, and hence the early cut or more heat-producing hay is wanted; and, besides, the green food is more easily digested.

A cow when giving milk does much the best upon the same kind of food preferred by the calf, because she derives her warmth not by exercise, but by her food directly. To maintain her condition and give milk, a cow must be fed on food rich in the elements of fatness. It is impossible for a cow to give a large quantity of rich milk on late cut hay, without growing poor rapidly; because it does not contain the material from which the milk can be formed, and is, withal, so slow of di-

gestion, that she can do but little more than digest enough to support herself.

There is, I know, but little use in showing by argument when hay is best cut for any purpose. It is a point that must be settled by practice rather than philosophy. I have experimented till I am fully satisfied that I have suffered annually a serious loss by letting my grass stand too long before I commenced cutting. I have done as a majority still do, waited till I supposed it had reached its full size before I begun. I have had too much regard to bulk and weight rather than quality.

If any reader is sceptical about the greater value of early cut hay for producing milk, especially clover hay, let him try it; let him cut some late and some early, and fodder it out any way that will satisfy him conclusively as to the value derived from each from a given area of ground, and my word for it, if he has been in the habit of waiting till his grass has reached its full weight, or even its full size, before he begins, he will start earlier next year.—*Dairy Farmer.*

APHIS ON APPLE TREE BUDS.

Those who have noticed on their own trees the "New Insect," described by our correspondent of last week, will be interested by the following article written for the *Albany Cultivator* by the Entomologist of the New York State Agricultural Society—a gentleman who has done and is still doing the agricultural community valuable service by his unwearied labors in the sphere which he so ably occupies:

The fore part of the present month J. J. Thomas sent me some opening flower buds of the apple tree, thronged with young plant lice, nestling close down among the pubescence. He finds these insects, 100,000 to 1,000,000, on every apple tree in his vicinity, every expanding bud being crowded with them. And I find the same aphid common though less excessively numerous, on the opening buds of the apple trees in my own neighborhood. They are the young of the common aphid which infests the leaves of the apple trees during the summer—the *aphis mali*. These insects end their annual career late in the autumn, by depositing their eggs, crowding therewith all the crevices under and between the scales of the bark of the apple trees, as full as they can hold. Most of these eggs are swept away by the storms of winter and perish. Those which remain hatch with the first warm days of the returning spring, just as the flower buds are beginning to open. Thus the young plant lice all become crowded upon these buds, nourishing themselves thereon until the leaves become sufficiently developed to sustain them.

NO WEEDS TO PULL.—Stir the ground often, and they will never get big enough to pull. A loose top-soil can be stirred up a half-dozen times with a hoe in the time required to go over it once in the pulling process. The growth of all plants will be greatly promoted by stirring the soil often.

It is said that warts on the udder and teats of cows may be easily removed by simply washing them in a solution of alum and water.

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CATTLE MARKETS FOR JUNE.

The following is a summary of the reports for the five weeks ending June 22, 1864:

NUMBER AT MARKET.					
	Cattle.	Sheep.	Shotes.	Fat Hogs.	Veals.
May 25.....	1575	2054	650	1150	1100
June 1.....	975	3660	625	641	900
" 8.....	1052	2907	892	800	1000
" 15.....	1481	3149	750	1300	950
" 22.....	1213	3338	500	600	800
Total.....	6296	15,106	3417	4491	4750

The following table exhibits the number of cattle and sheep from each State for the last five weeks, and for the corresponding five weeks last year; also the total number since the first of January, of each year:

	THIS YEAR.		LAST YEAR.	
	Cattle.	Sheep.	Cattle.	Sheep.
Maine.....	85	299	284	689
New Hampshire.....	676	1578	811	2790
Vermont.....	1423	5528	1073	5794
Massachusetts.....	434	810	411	1530
Northern New York.....	30	516	26	1162
Western States.....	3316	6271	3119	2595
Canada.....	32	114	24	141
Total for the five weeks.....	6,296	15,106	5,748	14,701
Total, since Jan. 1, (25 weeks),	83,626	102,364	33,792	268,766

PRICES.

	May 25.	June 1.	June 8.	June 15.	June 22.
Beef, 1, 2, 3 qual. 11 @13½ 10½ @14 10½ @14 10 @18 9½ @13					
" ex. and prem. 13½ @14 14 @14½ 14½ @15 13½ @14 13½ @14					
Sheep ½ lb.10 @11 11 @11½ 10 @11 9 @10 10 @—					
" sheared...6½ @9½ 5½ @9 6 @8½ 5 @8 5½ @7½					
Shotes, retail.....9 @11 10 @11 10 @12 11 @12 11 @12					
Beef hides, ½ lb. 10½ @11 10½ @11 10½ @11 10½ @11 10½ @11					

REMARKS.—During the past months even higher prices than any heretofore reported, have been paid for cattle and sheep. June 8th there were more than 100 Western cattle sold at 15c ½ lb., with an allowance of 30 ½ cent. on part and 25 ½ cent. on others for offal. Since then we have known of no sales at anything over 14c, and most of the good Western steers at 13 to 13½ c ½ lb. Sheep have also been sold very high. Sheared sheep at 9½ c to 10c ½ lb., and it is said that one lot of extra woolled sheep, bought in Albany on commission, cost over 13c ½ lb. live weight. But the month closes with a large reduction in prices. The following from our report of sales, June 22, will show the state of the market, at that date.

Stephen Mann sold 4 cows and 4 steers best quality of Addison County, Champlain Valley cattle, and the best cattle at Cambridge this week are from that section of clay farms—for 12½ c, 35 sk, about 675 lbs, dressed; 5 two-year-olds to Mr. Alger, 450 lbs. each, for \$50 ½ head; 5 steers laid to dress 600 lbs, for \$355; 2 steers and a cow for \$170, or 11c ½ lb; and one steer for \$45, or 9c ½ lb.

Geo. W. Morrison sold one pair of oxen laid at 2400 lbs, for \$300; 4 oxen laid at 3600 lbs, for \$440; one pair laid at 1750 lbs, for \$215; one pair, 1600 lbs, for \$205; and one pair, 1450 lbs, for \$175. These oxen come from another good farming country, the Winnipisogee Valley, in Central New Hampshire. The Boston cattle market may well be visited by those who wish to spy out the best agricultural localities in New England.

I. A. Blake sold 12 oxen to Henry Zoller for \$1190, or from 10c to 12½ c ½ lb; 4 steers for \$210, or 11c ½ lb; and two cows for \$70, or 9c ½ lb.

M. T. Shackett sold 4 oxen 1100 lbs. each, for 12½ c, which he claimed were good enough to have brought 13½ c two week ago; 4 fat cows 750 lbs. each, for 11c; 12 two and three-year-olds for 10½ c, and 6 cows and heifers at 10c.

Batchelder & Bros. sold to Mr. Valpy 19 Western steers, at 12½ c, 33 sk.

G. W. Barker sold 5 steers and oxen to W. E. Gowing for 12½ c, to kill and weigh, one nice fat cow for 11c, and 9 steers and cows for 10½ c.

J. Lyman sold one pair of River oxen at about 13c ½ lb.

W. Scollans & Co. sold 365 head of Western cattle, part of them left over from last week, as follows, omitting weights for sake of brevity—20 to G. Davis, at 13½ c, 28 sk; 20 to E. Brewer, at 14c, 30 sk; 31 to S. S. Larnard, at 13½ c, 28 sk; 14 to E. Porter, at 14c, 28 sk; 13 to C. Sanderson, at 13½ c, 28 sk; 51 to J. F. Taylor, at 13c, 30 sk; 4 to Jacksons, 13c, 30 sk; 12 to S. S. Larnard, at 13c, ½ sk; 5 to F. Pierce, at 13c, 30 sk; 2 to H. Pierce, at 14c, 30 sk; 11 to T. Brooks, at 13½ c, 31 sk; 13 to A. Mead, at 13½ c, 30 sk; 28 to C. Sanderson, at 13c, 30 sk; 12 to O. Lynde, at 13c, ½ sk; 7 to Mr. Phipps, 13½ c, 30 sk; 42 to S. Davis, at 13c, 32 sk; 8 to S. F. Woodbridge, at 12½ c, ½ sk; 10 to Mr. Ordway, at 12c, 35 sk; 15 at 11½ c, 35 sk; 16 at 10½ c, 35 sk; and 32 for 11½ c, 24 sk.

M. T. Shackett sold 120 sheep 81 lbs. each, for 7c, which he said would have brought 9c four weeks ago, and 192 averaging 78 lbs, for from 5½ to 6½ c ½ lb. Pratt & Way sold a small lot at 6c; Gen. J. Morse sold a lot of good Canada sheep and lambs, the sheep at 7½ c ½ lb, and the lambs at \$5.50 ½ head. Jerry Batchelder sold 500 Western sheep at from 7 to 7½ c ½ lb; A. N. Monroe sold 200 Western sheep, 88 lbs. each, for 6c ½ lb. W. Scollans sold a lot kept over from last week, for 6c; Austin White sold one lot for 7c which was the highest price we heard of, for sheep at Brighton. Grand good lots, fat enough, and too fat, some of the butchers said, at 7c. A lot of good woolled Western sheep at 10c.



DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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OFFICE...102 WASHINGTON STREET.

SIMON BROWN, EDITOR.

AUGUST.

O, 'tis a sight the soul to cheer,
The promise of the fruitful year,
When God abroad his bounty flings,
And answering nature laughs and sings!
He, "for the evil and the good,"
For them with hearts of gratitude,
For them who thanklessly receive,
The blessings he vouchsafed to give,
Bids from his storehouse in the skies,
"His rain descend, His sun to rise."

Bishop Mant.



AUGUST, like July, is a month of many duties. The farmer will find but little respite from his labors, for no sooner is the hay harvest secured than the grain crops—wheat, rye, barley, oats and other grains, are to be attended to. Yet no season, perhaps, is accompanied with sweeter

pleasures or more solid enjoyments. Toil is sweetened by the reflection that it is amply rewarded by its results, and a zest communicated to every employment by the prospect of succeeding rest. Who is happier, indeed, than the successful farmer? With wants moderated within the limits of easy indulgence, and with tastes as simple as the beauties by which he is surrounded, there is little to annoy or perplex, or to excite to those painful and ruinous efforts in pursuit of pleasure, which are so eminently destructive of genuine happiness, and attended so often by disastrous and fatal results. He knows the Omnipotent has designed that in the "sweat of his face

he shall eat bread," and that he can in no way be so happy as in the performance of those duties which "devolve upon him in his character of citizen and MAN." Surrounded by the blessings and enjoyments of a peaceful home, he can smile at the allurements the world holds out to excite the ambitious, and stir up the unholy passions of rivalry and envy in the worldly mind. Conscious that he is, to the best of his ability, filling the sphere which God has assigned as his special province of thought and action, without wishing to transgress its established limits, he does not admit to his heart a single feeling antagonist to the emotions of quiet and pious joy which it so naturally begets. Well may he exclaim with the poet:

I but ask
Of Nature that with which she will comply—
It is but in her summer sun to bask,
To mingle with the quiet of her sky,
To see her gentle face without a mask
And never gaze on it with apathy.
She was my early friend, and now shall be
My sister."

There is one thing which strikes us most favorably when contemplating the condition of the farmers of the present day, and that is the obvious improvement manifested in their mode of living, and the regard to neatness which their farms and homes exhibit. In many details, farming, as a business, has considerably advanced during the last ten years. The New England husbandman, who owns his lands, is now a gentleman—not one of the gilded butterflies of society, who call themselves such, but a gentleman in fact. By patient industry in an honorable pursuit, he has acquired the means of happiness and comfort, and enjoys an independence, a freedom from care, which even a monarch might envy, and of which no revolution of society can lawfully deprive him. In this sentiment of natural independence reposes a power more to be valued than gold or jewels,—a moral force which imparts energy to every faculty, and by elevating the intellect and the affections,

acts as a guarantee to the social and political institutions of our country.

The farmer of the present day is not satisfied with the results which rewarded the patient labor of his ancestors. He knows from experience, as well as by reading and observation, that farming is an art of almost unlimited capabilities, and that it is the part of prudence to avail himself of all the aids which science, by its numerous discoveries, has so beneficently placed within his reach. The benevolent and well directed labors of his predecessors, who have demonstrated the certainty of improvement in the art, have slowly, yet surely, wrought out encouraging results. Great problems have been solved, and satisfactory consequences produced by comparatively insignificant means. The fields and smiling uplands exhibit evidence that enlightened *mind* has directed the hand of culture in their management, and that the golden harvest has well repaid the tiller for his cash and toil. In his house there is also evidence of progress. Comfort is seen in all the appurtenances and surroundings. If we step within and scrutinize the interior arrangement and discipline there displayed, we shall find that the farmer's wife and daughters have also participated in the blessings of progress, and are emulous of performing well the part which nature and the genius of domestic life has particularly assigned them in the great work of improvement.

While we commend the spirit which wisely aims to ameliorate the condition of society by alleviating the burden of the toiler, we are not by any means in love with that sentiment of false refinement which is too frequently allowed to modify the conduct of so many of our pseudo-reforms. Innovations which promise nothing valuable, either in the present or the future, but which tend rather to weaken or divert the mind, are to be deprecated as antagonist to our prosperity and peace. A false and corrupt refinement is the bane of society and of nations. Athens, Rome, felt equally the satanic influences of this great leveller, and it is against this, more emphatically than against any other cause that is likely to assail our liberties, that we would raise a warning voice.

If we labor on moderately, but diligently, and are faithful to all the trusts reposed in us, leaving the issue to the Disposer of events, all will be well with us, here and hereafter.

LIABILITY IN RESPECT TO CONTAGIOUS DISEASES.—A New York court has lately awarded \$5000 damages against the Harlem Railroad Company for turning out their horses infected with farcy and glanders, in a meadow adjoining the stable of the plaintiff (Wilks) whereby his horses took the disease and many of them died.

SYSTEM AND ECONOMY IN FAMILIES.

There is far more depending on a well-ordered household, than a vast majority of married women would seem to believe. In looking around we see on every side how much system and economy would accomplish if properly observed. I began married life early; my husband had no other income to rely upon than the labor of his own hands. We lived in a small house, having attached to it a small garden. Providence blessed us with health. My duties multiplied by increase of years; but they were carefully laid down and punctually performed. We rose early, breakfasted, dined and supped at exact hours, as most families do. Every hour in the day had its allotted duty or arrangement, and everything was done in accordance with it. By this means a perfect system was maintained, reducing the labor of a family nearly one-half; and in this way I had ample time for reading, receiving and returning visits, out-door exercise, &c. Expenditures in every department were made carefully, and thus while we wanted for nothing which persons in moderate circumstances needed, there was an exact account kept of the amount of income and outlay, and we made it a point always to keep safely on the right side. By degrees our pecuniary means increased; capital was supplied for a more extended business on the part of my husband, and profits augmented until we have a full, and I may say an abundant share of this world's goods. My husband and I unite, however, in the conviction that this fortunate result of circumstances is mainly owing to the system and economy established in our young married career, and the smiles of Providence upon our industry and our efforts to perform our duty in every relation of life.

The great error committed by young housekeepers, is the thoughtless and unnecessary expenditure of money which they cannot afford, perhaps in imitation of extravagant neighbors. And in young husbands wasting their time in visiting play-houses, billiard-rooms, club-rooms, worthless exhibitions, parades and other places of resort, instead of remaining at home with their wives and families, enjoying domestic comforts, which will in the end be found to be more enduring and satisfying than all the rest combined. Young wives, also, should find their highest happiness in their homes—in meeting and welcoming their husbands to the spot which ought to be their mutual paradise; and, I am clear, their safest road to prosperity is in establishing and observing strictly system and economy.—*Germanatown Telegraph.*

AN EASY AND SIMPLE YEAST.—Take a jar or quart pitcher and mix in it flour and warm water, with a little salt, somewhat thicker than batter, and about half full. Then set the pitcher in a kettle of warm water, about the same temperature, which must be kept up by adding warm water occasionally. It must stand thus for five or six hours, and be stirred now and then, till it begins to rise. It will at last fill the pitcher; when it will be sufficient for two or three loaves of bread, by being mixed with more flour and warm water in the usual way. If you use water half of which is boiling, mixed with half quite cold, it will give you the proper degree of warmth. This bread never turns sour with age, and is very easily made.

ERADICATION OF BUSHES AND SHRUBS.

When pasture grounds become overrun with bushes and shrubs, one method sometimes adopted for cleansing the surface is to plow them in. To do this well, will require a very strong plow and a stout team. It should be a plow made for the purpose, and sufficiently strong for three pair of oxen, so that it will turn out partially decayed small stumps, and the green roots of young alders, berry bushes, &c. As many of these as possible should be covered by the furrows, where they will gradually decay and feed the living plants upon the surface above them.

Everything that has been produced by the soil, and vitalized by the principle of life, possesses the power of assisting the development and growth of plants, and when resolved into its original elements, by the action of chemical affinities, which occurs on the cessation of the vital principle, of adding also to the improvement of the soil.

There are certain constituents involved in the structure of all vegetable substances, which are, strictly speaking, of a nature at once permanent and indestructible. Thus the lime contained in certain vegetables, when those vegetables cease to live, is returned immediately to the soil. The ash, or residuum, which remains after burning, possesses, likewise, the same imperishable character, and becomes, as before, a portion or constituent of the soil, and a powerful and indispensable adjunct in the reproduction of future crops of hay and grain. Thus the bushes, whether burned or left to decay by a slower process, are by no means lost to the soil, but impart to it valuable fertilizing agents.

There are some lands, however, which cannot be subjected to the plow, and which must be reclaimed by some other process, which will clear them of the spurious vegetation which prevents a growth of grass. When such is the case, it has been found a judicious plan to cut, and either burn the crop on the soil, or remove it to some convenient situation where it can be changed, by the assistance of chemical agents, or by the natural process of putrefaction—which, in all green and succulent vegetables is soon induced—to the condition of manure. In this way the expense necessarily involved in the operation of cutting and clearing, will be partly reimbursed by the food obtained, while the actual improvement of the soil, resulting from the application of that food—and which is by no means an insignificant item in such efforts, will be obvious and enduring.

Most sheep ranges are more or less covered with rocks, rising, occasionally, into steep and abrupt acclivities, and filled with small cobble stones, or large embedded boulders. When such is the geological character of the soil, the surface

must be cleansed with the scythe, as no effort to invert the sward and cover the vegetable matter beneath the furrow slice can prove otherwise than abortive. Where the bushes are cut clean, numerous new shoots will be thrown out, and if the pasture be slightly overstocked, the sheep and cattle will continually browse them and greatly retard their growth, and in many instances entirely suspend their growth. We have known lands completely reclaimed, and filled with the sweetest and most nutritious herbage, where the bushes were cut as suggested, and then the land stocked with sheep. This is probably the easiest and cheapest method of restoring rocky lands, as on such there will remain many places where the plow cannot operate successfully. In such a case, nothing but a useless and unprofitable expenditure of time and effort can possibly ensue.

By thoroughly cleansing the surface of such land, and sowing gypsum, lime, wood ashes, and other energetic mineral manures over the surface, a very decided increase of vegetable matter may be produced, and at comparatively small expense. Argillaceous, or clayey soils, it is supposed, are better able to bear repeated applications of lime, than that of a sandy texture, as, in the first place the action of the mineral tends, by its physical action, to disintegrate and loosen the tendency which all clays have to retain the humus, or decomposable matter, left after the decay of all organized substances, whether of animal or vegetable origin.

On low lands, such as bogs and marshes which have been thoroughly drained, the operation of lime may be highly beneficial, because they are filled with substances which are susceptible of decomposition which the decomposing power of the lime tends powerfully to accelerate and perfect. The effect produced by the solvent influence of the mineral on soils of this description, is far more potent, immediate and beneficial than that of any other manure. But on thin, light soils, if applied too frequently, or in excessive quantities, it will tend to impoverish them, and reduce them, after a time, to actual sterility, even though each application may, when separately contemplated in its results, appear to have a favorable effect.

A good pasture is a valuable appendage of the farm, and without which no farmer can comfortably succeed. As yet, far too little attention has been given to this important department of the farm.

HARVESTING TURNIPS.—"Old Hurricane," a correspondent of the *Country Gentleman*, who often starts up a breeze in its columns, states that one year being hurried up by frost, he "hired six day-laborers, and an extra team, to work with two of his own men and horse and cart. That day

they worked at topping Swedes and raising them, and at night he actually offered the men the roots housed for their wages, and was refused." He also states that a neighbor, who raised two acres paid enough for extra day-labor in harvesting, besides his regular hired men and team, to amount to 20 cents per bushel for the whole crop. He also says that his experience is, that, after a crop of corn is ready to garner, it will cost more than the corn will fetch in market to hire it harvested by ordinary day-laborers. This he acknowledges, to be a specimen of Gentleman Farming. In contrast to which he cites the case of a neighbor who does his own work, is independent of circumstances and men, has fine buildings, good fruit, early crops; in fact, perfect order, neatness and thrift are the characteristics of that thirty-acre farm.

TOPDRESSING GRASS LANDS.

It is the practice of many farmers to topdress their grass lands with composted manure as soon as they conveniently can after getting off the hay crop. It is a good practice. The manure protects the roots a little from the rays of the sun, and the first shower washes some of its nutritious properties into the soil and about the roots of the grass, so that they are stimulated to throw out new sets of leaves, which afford a still further protection, both to plants and the manure. The surface is also sufficiently hard in summer to allow the teams to pass over it without cutting ruts, or being poached by the feet of the animals drawing the load.

We refer to this matter at this particular time in order to suggest to those who have grass lands newly laid down,—that is, that have been mowed only one or two years,—not to postpone the application of some sort of dressing, if they desire to continue cutting a remunerative crop for several years. The mistake made by most farmers is, in postponing the topdressing too long. If clover is allowed to seed, and is then cut, the roots die and there can be no further crop from them. If the clover is cut while in blossom, there will be a second crop the same year, and perhaps two crops the succeeding year, if the land is rich. Red top and herds grass will continue longer than clover, but the roots of both of these gradually die out, or yield to stronger grasses, until the whole crop is changed from the sweet and nutritious grasses just named, to the wiry "June grass," weeds, or some other plants of little value. All this comes from not topdressing in season. If this were done, even though but slightly, after the first crop is cut, and afterwards, each year, the roots of the grasses sowed would be kept in a vigorous condition, and our mowing fields would not "run out" as they do now. Under such a practice, moist, and naturally good lands would yield a ton or a

ton and a half of hay per acre for eight or ten years in succession, with more certainty than they now yield two-thirds that amount.

A neglect of this important item of farm work brings a train of losses that should be avoided. In the first place, the farmer, feeling that he cannot afford to plow so often, allows the field to remain in grass for several years, when he gets but a scanty crop, not half, perhaps, what the land is capable of producing under skillful cultivation. The next expense incurred is that of plowing and preparing the soil, and the cost of seed to stock it again. These are all expensive, and if their frequency could be lessened one-half or one-third, the saving would amount to a handsome sum in a twenty years' practice.

For the New England Farmer.

SHEEP HUSBANDRY---No. 6.

One reason assigned by some farmers for not keeping sheep is the expense of fencing. We have said in a former article, that he is a poor farmer who does not keep sheep; and we always say, when we see poor, tumble down fences, that the owner is a poor farmer, and has poor land to farm; for if land is not worth fencing it certainly is not worth farming.

An ordinary fence, sufficient to turn the generality of cattle, would be all that would be required to turn, with the addition of a rail, that class of sheep which would be most profitable for a farmer in this section to keep. Mr. Charles G. Davis says in his report: "A few sheep were formerly kept in remote corners of Plymouth county, mostly known as native sheep, with long legs and narrow breasts; wool of all varieties on the same carcass except the fine grades, with straight hair protruding from the more substantial level of the woolly matting. These sheep could run like deer, and jump or climb a four-rail fence. The majority of our farmers had been brought up with the idea that stone walls and common fences would not restrain sheep; and they judged rightly of such as were known to them. We have now among us many flocks, small in number, which are easily confined by a good wall or a three-foot fence, close enough to prevent their crawling through. Sheep raised for mutton, as in England—and it is for mutton principally that they must in a series of years be raised here—are quiet and lazy." A good four feet and a half fence would turn the heavy, long woolled sheep without a rail. But in this section of country, where stone is so abundant, we should be in favor of a *deep wall* under the surface to drain off the water and out of the way of the frost, and six feet high above the surface, so that during those cold and driving storms good shelter would be afforded the cattle and sheep, and such shelter in the spring would be of incalculable value to the raiser of lambs; and which the farmer would fully appreciate after seeing the beneficial effects upon his stock for a few seasons. What an advantage it would be in early spring to have the southerly side of such a fence, with a sweet, fresh grass for the ewes and lambs to crop while enjoying the genial rays of the sun, shielded from the bleak,

cold, northerly winds; and in summer the northerly side would afford excellent shade from the scorching rays of the sun!

When we have seen the sheep lying panting under some low bush or wall, we have wondered that it did not occur to our farmers who have some old boards and slabs lying round, to make a cheap shed for their cattle. What a protection it would be during showers, storms and winds! and the amount of manure found there would be sufficient proof that it was appreciated by those it protected.

But they say it will not pay. If it will not pay to remove a stone from the surface of the ground, it certainly will not pay to let it remain there. What profit did the farmer ever realize from that square yard of land occupied by a stone? A spire of grass, a blade of grain or corn never waved there. But the stone once removed the soil becomes productive forever. Whether the stone is used to build a fence or make a drain, it ceases to be a barrier to the cultivation of the soil. The question of paying being simply a question of time, improvements on land ought not to be calculated like ordinary outlays which endure but for a season. The improvement of land by removing stone continues forever.

We have, in preceding articles, referred to the large amount of wool which is raised in Great Britain; but it is not for wool alone that sheep are kept in that country. Mutton constitutes a large item in the domestic economy. It is frequently styled a beef eating country, but a larger amount of mutton is consumed there every year than of beef. Mutton is cheaper and more nutritious than beef, and far more nutritious and much more healthy than pork, and can be produced at a less cost than either.

The experiments of physiologists prove that mutton is not only more nutritious, but digests more easily, and more readily assimilates to the system than any other meat we are in the habit of consuming, and is more economical to the buyer at the usual prices, for careful experiments show that while beef in boiling loses 26½ per cent., mutton loses but 21 per cent.; beef loses by roasting 32 per cent., mutton only 24 per cent.

The committee's report on sheep husbandry for 1860 from which we quote, says:

"These facts have not only been long known and demonstrated by English and French philosophers, but have been actually and practically understood by the people, and certainly are worthy the consideration of our own countrymen.

"The taste for and consumption of mutton will increase according to the quantity and quality of the production. Mutton can be raised much cheaper than beef or pork. Mr. Mechi says, 'he is convinced that beef must sell twenty per cent. higher to make them pay alike.' When our farmers find the demand for mutton increasing according to their exertions to make it good, that they can raise it a quarter cheaper than they can beef, and that it is better husbandry to get a hundred pounds of mutton from one sheep than from two, and the quality of that will be a ruling condition, then we shall have our State farmers cultivating the best breeds of English mutton sheep to the comfort, profit and health of the whole community as well as themselves."

And if farmers wish to increase the demand,

and to cultivate a taste for mutton, let them produce the kind described, and they will find their efforts appreciated by being remunerated.

We are satisfied that the supply of good mutton is not near equal to the demand in this vicinity; and the same may be said of the larger towns in the State as well as the villages. But we do not blame the people for having no taste for a large amount of the mutton that has been brought to market. We are pleased, however, to notice a marked improvement in the mutton offered for sale, yet there is room for still further improvement, and the public are ready to reward every attempt to bring to market a first class article.

In order to demonstrate that the raising of mutton is more profitable than raising stock or producing beef, let us suppose a heifer calf and six lambs are dropped at the same time, the expense of keeping six sheep being generally admitted to be equal to one cow; the cost, however, of keeping the calf the first six months will be more than the cost of keeping the lambs. These lambs we will consider wethers, of the long or middle wool description, which are the best for mutton. At one year old these would have fleeces of superior coarse wool; and if we reckon it at the lowest price, such wool has reached the last twenty years—twenty-five cents a pound—and reckon six pounds to a fleece, which is light for that class of sheep, then we shall have nine dollars for wool the first year; and the second year the fleeces would be larger, though not quite equal in quality, yet the value would be about the same,—that would make eighteen dollars for the wool for both years; and calling the wethers one hundred pounds each, which would not be a great weight for this class of sheep fat, then we should have six hundred pounds of mutton, for which four and one-half cents per pound could easily be obtained, then we should have twenty-seven dollars for mutton, added to eighteen for wool, would give us forty-five dollars. How many heifers are there to be found at two years of age worth forty-five dollars? But suppose we take six ewe lambs, the first year we should have their fleeces, which, if they had no lambs, would be worth as much as the wether's nine dollars; the second year their coming in with lamb we would call the wool only six dollars, and we would only reckon six lambs, three for the butcher and three for stock. The butchers have been paying the present year four dollars per head, but we call them only three dollars, and two for those kept for stock, which would be fifteen dollars for wool and fifteen for lambs, and if we only called the six ewes two and one-half dollars each, would be fifteen dollars, then we should have forty-five dollars, the proceeds of six ewes, not bringing them in as many do at one year old, but at two, and reckoning in no couplets and low prices.

W. R. Putnam, in his report on sheep, gives the actual sale from one of his sheep for three years as follows: 1861, two lambs dropped the 5th of March, sold the 15th of June to the butcher for ten dollars; six pounds of unwashed wool sold at twenty-five cents per pound, one dollar and fifty cents. 1862, two lambs at four dollars and twenty cents, eight dollars and forty cents; four pounds of wool, one dollar and sixty cents. 1863, two lambs at three dollars and sixty cents apiece, seven dollars and twenty cents; six pounds

of unwashed wool at fifty-five cents per pound, three dollars and thirty cents,—making a total of thirty-two dollars in three years. Two such ewes as this would be a match for a pretty good cow.

Last August a friend of ours killed a wether sheep sixteen months old, a Cotswold with a little Merino. The carcass weighed 126 pounds, for which he received ten cents per pound; he obtained four dollars and fifty cents for its fleece, making a total of seventeen dollars and ten cents, leaving out hide and tallow. Where can the farmer be found who can equal these examples for profit by raising stock?

We are not in possession of sufficient data to make comparisons with dairy stock, but we are satisfied that it would be found largely in favor of sheep, while those farmers who keep cows and sell their milk at four cents per quart, would find it greatly in their favor to keep at least one sheep for every cow in order to replenish the pasture, with the phosphates, of which the milk cows deprive it.

When our estimate of the weight of sheep and value of lambs and wool are compared with the following statement, we think it will be allowed that we have been very moderate in our statements, and left a wide margin in favor of the sheep.

Mr. Lawrence Smith, of Middlefield, writing of his new Oxfordshire flock, a cross of the Leicestershire and Cotswold, says: "My yearling ewes will weigh in store condition from 125 lbs. to 175 lbs., fat wethers at three years old from 175 to 250 lbs. My heaviest breeding ewe last winter weighed 211 lbs.; my flock of store sheep and breeding ewes usually shear from five to seven pounds of wool. My ram fleeces weigh ten pounds unwashed, and will sell in that condition for twenty-five cents per pound. I never feed my store sheep and lambs with grain, but give them early cut hay, and occasionally a few roots." This statement was made previously to March, 1859, when wool was low.

O. C. Felton, Esq., in his report of the Berkshire Agricultural Fair, mentions a Cotswold buck that weighed 264 pounds.

Mr. Hiram Barbus, in his report for the same year, mentions a Leicester buck exhibited by O. S. Moore, of Southampton, five and a half months old, that weighed ninety pounds.

Mr. Charles G. Davis says, that the butchers paid him in June, 1861, for his Oxford Down ewes, eight dollars per head after the fleece was off. He sold his lambs for ten dollars, and buck lambs for twelve dollars to breeders.

Mr. Richard S. Fay says, that his lambs of the same breed often reach 100 pounds in five months on nothing but milk and grass. A yearling ram from Mr. Fay's flock gained 15 pounds in three weeks; and a ram lamb weighing 85 pounds at five months, weighed at six months 105 pounds, on nothing but grass. A five years' old ram of this breed weighed in the spring of 1859, 360 pounds. Mr. Fay's ewes weigh from 150 to 180 pounds. In 1859 his flock averaged over seven pounds of unwashed wool per sheep.

We might quote from others concerning different breeds and crosses, but we have quoted sufficient to show, we think, that our figures are placed at the lowest point, and if they prove the keeping of sheep profitable, what must these statements prove? They certainly cannot prove less than that it will pay to make fences, if not such as we

describe, such as Mr. Putnam says Mr. Pierce, of Topsfield, has upon his farm, small posts placed by the side of the wall about twenty-five feet apart, set leaning so that a wire fastened to them will be over the wall about six inches above it, and then another wire ten inches above that. This, it is said, is durable and cheap. TYRO.

For the New England Farmer.

MAKING BUTTER.

I have read all the pieces upon making butter and cheese, published in the goodly columns of the *Farmer*, but have as yet (much to my disappointment) found nothing really applicable to us farmers on a small scale. I suppose writers think we that keep one or two cows, the same number of sheep, a pig and a horse, must reduce the advice to suit our case, but that we don't like to do, and the thought entered my mind that perhaps if I should give a bit of my experience, others might follow my example and thus enlighten me. We have one cow, a common milker, good as farmer's cows average, no better. She gives about eight quarts at night, and between four and five in the morning. We have no nice cool place to keep the milk, and use common tin milk pans, which we have no trouble in keeping sweet and clean; strain the milk in two at night, and after saving out a quart or more in the morning, strain the remainder in one. The cream rises pretty well, and we churn it once a week, always. The cream is very thick, the butter comes in about twenty minutes, and we call it sweet and nice; the average amount is five pounds a week. We salt it with our hands, then let it stand twenty-four hours, and work it over with our hands, let it cool and press it through a mould into nice little yellow cakes, just large enough for the butter plate, with a well-defined strawberry leaf upon them. You see our method is simple and plain. Now the question is, do others make butter as we do?

The best way to deal with milk pans, pails and cream pots, is to wash them out first in warm water and soap, then scald them with boiling water and wipe dry. Many wash pans that have contained sour milk with hot water; that is very wrong, as it will spoil them, by causing them to smell sour.

If this should prove interesting, I will at some future time, speak of making cheese, upon a small scale. SARAH.

REMARKS.—We shall be glad to get your account of making cheese.

DRAINING.—The *Canada Farmer* well remarks that in such a spring as this the benefit of draining the land is most striking: "We saw two large fields adjoining each other yesterday, of precisely similar soil; one thoroughly drained and the other not; the drained field was quite firm and dry, and the crop (peas) peeping promisingly through the ground; while the other is full of water holes, and will require at least a week's fine weather before a team can be taken on it. The difference in the temperature of these two otherwise similar soils six inches from the surface was found by careful experiment to be more than seven degrees!"

TEN RULES FOR MAKING GOOD BUTTER.

In making good butter there are several nice operations to be gone through with which require an eye to cleanliness, forethought and some little experience.

1. On milking clean, fast, yet gently, regularly twice a day, depends the success of the dairyman. Bad milkers should not be tolerated in a herd, better pay double price for good ones.

2. Straining is quite simple, but it should be borne in mind that two pans about half full each will produce a greater amount of cream than the same milk in but one pan; the reason of this is the greater surface.

3. Scalding is quite an important feature in the way of making butter in cool weather; the cream rises much quicker, the milk keeps much longer, the butter is of a better color, and churns in one-half the time.

4. Skimming should always be done before the milk becomes loppered; otherwise much of the cream turns into whey and is lost.

5. Churning, whether by hand or otherwise, should occupy forty or fifty minutes.

6. Washing in cold soft water is one of its preserving qualities, and should be continued until it shows no color of the milk by the use of the ladle. Very hard water is highly charged with lime, and must in a measure impart to its alkaline properties.

7. Salting is necessarily done with the best kind of ground salt; the quantities vary according to the state it is taken from the churn—if soft, more; if hard, less; always taking the taste for the surer guide.

8. First working, after about twenty-four hours, is for the purpose of giving it greater compactness.

9. Second working takes place at time of packing, and when the butter has dissolved the salt, that the brine may be worked out.

10. Packing is done with the hands, or with a butter mull; and when butter is put into wooden vessels they should be soaked two or three days in strong brine before using. After each packing cover the butter with a wet cloth, and put a layer of salt upon it. In this way the salt can easily be removed at any time by simply taking hold of the edges of the cloth.

Butter made in this way will keep any length of time required.—*Maryland Farmer.*

HEALTH IN CALIFORNIA.—We clip the following paragraph from a communication in the *Prairie Farmer*, written by Edson Harkness, an old agricultural writer for that paper:

It was the health of my family that induced me to come here. More than one had weak lungs, and one had died with consumption. Two others I have good reason to think restored to sound health by coming here, but my wife was too far gone, yet the change without doubt prolonged her life at least a year. There are a few unhealthy districts in California, but the main portion is of remarkable salubrity. The perfect health of the children here attracts the notice of every observer. In eight years I have not known a case of ague or billious intermittent here in the mountains, except it might be persons from the valleys who come up to recruit.

A PATENT STEP LADDER.

We have rarely met with anything more perfect of its kind than a light, neat, and really ornamental *Step Ladder*, which we saw the other day at Mr. J. NOURSE'S Agricultural Rooms, and one of which we had immediately transferred, per express, to our own rooms in the country. There are various sizes, from four feet high to ten feet, and the prices vary from \$2.75 to \$5. It is certainly the lightest, strongest and most graceful thing of the kind we ever saw, and should be owned by every person who wishes to rise in the world, from parlor to store, and from the shop of the mechanic to the farmer, trimming, grafting and gathering fruit. One can carry a six-footer on his finger, it is so light, and yet it is warranted to sustain the weight of five medium sized men without breaking! Do not be too much in a hurry about it, but be sure to get one the first opportunity, if you ever have use for a step ladder.

For the New England Farmer.

A FEW WORDS TO FARMERS.

A friend severely criticised my farmer piece, viz. "Marry a farmer." The gothic cottage and fountain was a source of much merriment to him. He said, "There might, perhaps, be a few such farms in the world, but one did not often see them." If my sketch was an ideal one, is it not to be regretted that the farmer cannot erect tasteful dwellings, or perchance a fountain?

Must the farmer devote all his time to raising grain and potatoes, with no leisure to beautify his home, that it may be a source of pleasure to himself and family? And in after years, when time has silvered his hair, he may sit under the trees his hand has planted. And is a fountain, with its crystal waters imparting its cooling airs around, a luxury to be confined to the grounds of the wealthy man of leisure?

Tilling the soil is a noble occupation if conducted properly. But how few farmers devote any time to improvements. They follow the beaten track of their ancestors, because "Dad did so." The farm is distasteful to most farmer's sons, for the reason it is not made interesting to them. The monotony of the drudgery continues from year to year, while their souls are in some other pursuit. Give the boy more recreation. Let him go into the woods and cull flowers, and there lay the rudiments for a systematic study of botany at some future time. Give him works on geology and chemistry, and he will derive much pleasure in analysing the different soils, and the formations of the rocks.

Above all, make your home attractive to your family. A tasteful villa is not out of place on a farm, if one can afford it. If not, assist your children to plant vines, erect trellises for their support. Let them have a sunny place for flowers, and assist them to transplant forest trees. Let them cultivate the smaller fruits, while you attend to the apple trees. Girls will be as much interested as the boys in these occupations. No matter if the sun browns their complexions; bronze is a prettier color than "pale milk." I believe farmers' daughters are not so well skilled in

household labors as their mothers. A young lady can master many of the sciences, become accomplished in the elegant attainments of refined society, and be a thorough housekeeper, without any detriment to her character as a lady. Domestic employment must be ranked as a fine art to be appreciated.

If there is no one but the wife to perform the menial duties that devolve on a farmer's wife, procure help for her at once. The farmer has his assistants—why not the wife? Keep things in order about the farm. Don't draw water from the well by a pole with pail attached; you may sometime see your wife floating in the water down there. But, then, hunting wife No. 2 is such a *delicious* business. No. 2 would undoubtedly have that well fixed to suit herself.

I presume my friend will perceive *this* is no ideal sketch. MRS. S. A. MIGHILL.

Georgetown, Mass.

For the New England Farmer.

METEOROLOGICAL RECORD FOR MAY, 1864.

These observations are taken for and under the directions of the Smithsonian Institution.

The average temperature of May was 59°; average midday temperature, 65°. The corresponding figures for May, 1863, were 59° and 67°. Warmest day the 31st, averaging 74°; coldest day the 3d, averaging 39°. Highest temperature 86°; lowest do., 36°.

Average height of mercury in the barometer, 29.11 ins.; do. for May, 1863, 29.23 ins. Highest daily average, 29.42 ins.; lowest do., 28.83 ins. Range of mercury from 28.75 ins. to 29.42 ins.

Rain fell on fourteen days; amount of rain 3.14 ins. Ten stormy days, and 3.02 ins. of rain in May, 1863. There was no entirely clear day; on three days the sky was entirely overcast. High winds occurred on the 2nd, 3d, and 24th; at other times wind moderate. The comparison of the temperature of the month of May, 1864, with that of May, 1863, indicates warmer nights this year than last; which have contributed much to assist forward vegetation.

A. C.

Claremont, N. H.

CORRECTION.—In my meteorological table published in your paper of May 28, the record of the months of January, February and March was for the years 1860-1-2-3-4. Therefore the table should be cut in two between December and January, and the lower part moved one place to the right, putting the date 1864 over the right-hand column, then the whole will read correctly. As it now stands it reads entirely wrong for the three months named.

A. C.

A PREVENTIVE OF BOTS IN HORSES. I will give you a remedy for bots which I have used, and known others to use for twenty years with entire success. Get some salt from a fish barrel and feed the horse once a week, and he will never be troubled with bots so long as the treatment is continued. My way of feeding is to mix it with clean salt in the proportion of about two parts of the latter to one of the former, and give a small handful once a week. If this is done from the 1st of January to the 1st of July, there is not much danger of bots. S. F. B., in *Iowa Homestead*.

For the New England Farmer.

MAKING BREAD.

Sugar and molasses are so high at the present time, that every good wife is trying to use as little as possible. And therefore, to fill up the place once assigned to cake and gingerbread, something else must be prepared. I know of nothing better than good, light, sweet bread and nice yellow butter. As far as I am concerned, I ask no better supper than I can make from those two articles, with a bit of cheese and a cup of tea, enriched by a spoonful of cream. Milk, cream, cheese and butter farmers' wives always have; then let them learn to make nice bread and they can live, let the war last as long as it may. Allow me to give you my way, and if you will try it I will warrant good bread, unless the flour is too poor to deserve the name.

Take one yeast cake at tea time, soak it in milk-warm water, thicken with flour, about like (what farmers' wives call) flap jacks; let it stand in a warm place, covered, until bed-time. Then take one pint of pretty warm water, a little salt and your yeast made from the cake, and add enough flour to make the whole a batter about the same consistency as you did the yeast cake. Cover it and let it rise until morning. Then add a small half-teaspoonful of soda, and flour enough to make it very stiff. Take it out upon your board, knead it thoroughly and divide into loaves; fill your baking pans half full, set it in a warm, but not hot place, say up on the mantle shelf, if you have one, and let it rise until the pans are just full. Then put into a hot oven; bake very quickly. Take it out, wrap it up in a cloth dipped in cold water, and if, upon cutting, you don't find good bread it won't be like mine. Your children will take it instead of cake and gingerbread, and say not a word. Your husband will make his supper of it and forget his usual piece of pie. Your neighbors will all inquire "how you make such nice bread," and go and do likewise.

If you have good, nice yeast, so much the better; use one cupful for a pint of water. I use yeast in the winter and buy yeast cakes in the summer.

SARAH.

CABBAGE FLEAS.—A farmer in Chatauque Co., N. Y., writes to the Farmers' Club of the American Institute: "I want to tell my experience of ten years in cabbage raising. I first learned of a Swedish woman. Seeing some very nice plants, I wished to know how she raised them without the lice or fleas destroying them. She said she took droppings from the hen-roost, a small quantity; a little new milk, enough to soak what seed she wanted to plant; put in her seed, mixed all together, let it soak for a few hours—eight, ten or twelve. She said fleas never would disturb the plants. I thought as I had lost plants from fleas eating them, I would try her method. For ten years it has proved a success. I select a sunny spot near the house, so as to throw on the slops from the kitchen. I make the bed loose by putting on leached ashes and hen manure. When soaked enough I sow the seed, stirring it in well, then if it should be a drying sun, sprinkle on water often, say three or four times a day. Sow the seed as early as the ground is fit to work, set the plants in place when three or four inches high, keep them well watered and the ground nicely worked, and you can raise cabbage.

For the *New England Farmer*.

RETROSPECTIVE NOTES.

DISEASES OF FARM STOCK.—Under this caption, in the issue of this paper of April 30th, we made some remarks intended to show that the want of information in regard to the causes and cure of the diseases of farm stock, resulted in great loss to the farmers and much needless suffering to the poor brutes; and we also made some suggestions intended to assist those who are desirous of a better knowledge of proper medical treatment of domestic animals.

We return to the subject in consequence of having met with some very sensible and useful observations in connection with it, from the pen of Dr. Henry S. Randall, in a recent issue of the *Rural New-Yorker*. After some remarks upon the folly and venturesome presumption of a correspondent who wrote that he tried everything he could hear for of grub in the head, which he supposed to be the ailment under which some of his sheep were laboring, Dr. Randall remarks that he who "doctors" at random, or because some person as ignorant as himself has recommended this or that, both being ignorant of the properties of the drugs prescribed or used, stands more than a hundred chances to one of doing a positive injury to his poor, mute, defenceless patient. "We have no patience," he says, "with this trifling with the lives of our valuable domestic animals. We have a right to kill them, in a prompt and decent way, when our needs require it. But we have no right to murder them by inches and in torture, by our infernal nostrums and ignorant experiments.

"The most ignorant is always the most presuming person in such cases. The man of large experience and knowledge finds out that 'doctoring,' under the most favorable auspices, for serious and constitutional maladies, is very uncertain in its results, and that, usually, sheep which are 'doctored' much, die. His opinions, therefore, are given with hesitation. But your ignorant booby, who knows nothing about the properties of drugs, and who never owned a hundred sheep in his life, understands everything at a glance. He either had or saw 'just such a case once'—such and such things were given—and the sheep 'got well right off.' And some sensible men listen to such nonsense!"

After showing that this blind and inconsiderate way of experimenting with animals laboring under serious disease, bad as it is, is not yet so bad or foolish as that of those intermeddlers with nature, who drug and dose animals in perfect health, to prevent some future anticipated or dreaded disease, Dr. Randall, remarks, most judiciously, that the whole doctrine of medical preventives, as commonly understood, is based on error, advises abstinence from drugs and trying everything one can hear of, even when disease seems threatened, and concludes with the following sensible admonition, which it would be well if every owner of farm stock would follow, both for themselves and for their suffering animals: "My friend, if you don't know what to do, and have no well-informed, experienced and intelligent friend to tell you what to do, it is better to give healthy surrounding, cleanliness, fresh air, good nursing, and then fold your arms and wait for results. In nineteen cases out of twenty, those results will be less calamitous than they will be if

you fall to drugging and dosing. Lay it down as the first and best rule of medical practice among sheep, that when you do not know what to do, do nothing at all. This is true of all animals." We conclude, for the present, by saying that there would be less sickness if there were more good management and kind treatment.

MORE ANON.

THE PRICE OF WOOL IN 1864.

Every circumstance would seem to show that wool must bear higher prices this year than it did last year. Nothing has occurred, or is likely to occur, to diminish the consumption. First, our own great civil war continues to rage—expanding rather than contracting in the magnitude of its operations and consequently in the employment of men. The most sanguine have ceased to anticipate its termination before the close of 1864. Foreign wars have not diminished, and there is a strong probability that they will increase. And while the extra demand for woollen clothing will thus be kept up, the ordinary demand will be promoted by the fact that there is less than the usual surplus of woollen clothing left over from last year, in the possession of consumers. During the high prices of 1863, a disposition was manifested, throughout the world, to economize in its purchase. Even in our own country, where there is less providence in such matters in proportion to means than in any other, there was an obvious retrenchment in this particular. Accordingly nine out of every ten persons have less spare woollen garments than they were in the habit of having before woollen fabrics rose to such high prices. The consequence is that they will be compelled to purchase more freely during the current year; and the least increase of consumption per head, throughout the wool consumers of the world, will sum up to an enormous aggregate.

Second: The price of wool is considerably higher abroad than last year, and the tendency is still steadily upward. Old accumulations are exhausted. In some countries the product, owing to climatic and incidental causes, is diminished in quantity and quality. Especially is this true of Buenos Ayres and the Cape of Good Hope. These two countries supplied the United States last year with 32,000,000 lbs. of wool—within a million pounds of half of the whole quantity imported; and they supplied us with considerable more than two-thirds of all our imported *fine* wools.

Third: No doubt exists in any quarter, that the tariff on foreign wools will be materially increased during the present season of Congress.

Fourth: Gold, and consequently exchange, is gradually advancing. Gold yesterday (June 6th) reached 194—so that it would have required \$1.94 in our currency to buy a dollar's worth of wool in England, at the Cape of Good Hope, or in Buenos Ayres. This state of things alone should keep wool fully up to the best last year's prices, provided the consumption, the tariff and foreign production and prices remained the same. But supposing the war to continue, the increase of foreign prices and of the tariff, and the diminution of foreign production, must necessarily, according to all the laws of trade, advance the price of wool in our country in 1864. The usual effort will probably be made to depress the new clip, but if the growers patiently bide their time, all these efforts

will fail. And on whom will this advance in wools operate as a special hardship? All the previous circumstances above enumerated, united, have not carried up wools in proportion with most of the other great staples of consumption. Woolen goods, including cloths, carpetings, &c., &c., are about 100 per cent. higher than before the war. Linens, on the average, have probably advanced full 100 per cent., if not more. Cottons have advanced from 300 to 500 per cent. Hardware generally has advanced at least 100 per cent. Pig iron has advanced at least 300 per cent.; bar iron 150; carriage springs 250; tin 150; cast steel 100; nails over 140; screws and bolts, stoves, axes and trace chains 100; lead, window glass and paints 100; oil say 125, &c., &c. It probably would not be unsafe to assume that articles of consumption generally, except provisions, have doubled in cost.

Some of the articles above enumerated have been rendered dear, like wool, by scarcity—others not. Wool has been brought into immensely increased demand for consumption as the only extensively available substitute for cotton in a multitude of important uses. It is not excelled if equaled in importance by any one single specific article of consumption, and in none, probably, except cotton, is the present supply less equal to the demand. Yet wool, as already said, has not risen since the opening of the war like other less important, and in various cases, less scarce commodities. The rise in 1863, in the country generally, in fine and medium wools, probably fell below 60 per cent. In coarse, it was higher.

How is this to be explained? Partly, unquestionably, by the fact that the manufacturers, who are the ultimate purchasers of all wool, are but a mere handful of men, who are wealthy and highly intelligent in their occupation, and who, from the smallness of their number and their business-like habits and associations, are capable, in their pecuniary operations, of acting almost with the unity and energy of a single individual. In this respect, and consequently in the power of effecting their objects in the market, they are to the disunited producers acting without concert, what a Macedonian phalanx is to an unorganized mob. That they have struggled during the past year with indomitable resolution, and with a very great degree of success, to keep down the price of wool, is not, we think, to be disputed.

Are they to blame for those efforts? Whether so or not, we are disposed to believe that the producers would have done precisely the same, with the same opportunity for doing it. Human nature is pretty much alike in all occupations! We take occasion to say this, because in nothing that we have uttered would we be understood as preaching up any crusade against the manufacturers. We want the wool-grower to have all that belongs to him, and the manufacturer to have no less than belongs to him. A feeling of hostility between them is only injurious to both. If the contemplated tariff on wools is enacted, there is no occasion for the former to entertain any jealousies of the latter. He will be placed in a situation where even the circumstances above named will give the manufacturer no advantages over him. But let there be reason and moderation on both sides. In the day of his success, let the wool grower never forget one fact, viz., that in

pursuing any line of action which will necessarily prove destructive to the manufacturer, he only performs the Sampsonian feat of tearing down the edifice whose ruins must overwhelm himself. All our present advances in wool growing will be thrown away and lost unless American manufacturers continue to flourish. No American in our day and generation, can raise wool for profitable exportation, at least north of Texas and east of the Rocky Mountains.—*Rural New-Yorker*.

PRUNING FRUIT TREES.

The following sensible and practicable remarks are copied from the Michigan *Farmer*:

Pruning is a scientific operation, requiring knowledge combined with good judgment. The apple tree is an institution that should never be touched with saw or knife unless you have a good reason for it. That is, you should know *how*, *when* and *what* to prune, or let the tree alone. The rules of pruning are mostly negative, to avoid doing mischief to the tree. The plum and cherry rarely require any, the pear but little, the peach more, and the apple more than all. The peach should be cut back at setting so as to create a low head, and then annually cut off from the head one-half of the last year's growth of each shoot. This is what is called "heading back," or "heading in," and this heading in process should be practiced on the pear.

The apple needs pruning or not, according to the form and habit of growth of the tree. Some trees grow with heads erect, some diverging, some spreading, and some drooping. Others are ascending, while others have an irregular or straggling growth; hence much judgment is required as to what and what not to prune. Every limb should be so cut at its "swell" as to make the least wound. Always avoid cutting off very large limbs, as it endangers the health, if not the life, of the tree. The little fruit spurs on the bodies of the larger limbs should be generally left on. Some thick headed trees, like the Spy, need half thinning out in the centre of the top, to let the sun in to ripen the fruit. Those sorts with sparse heads need thickening by heading back the limbs. It should always be born in mind to keep the head of the tree well balanced. The apple should be pruned very lightly if done in the Spring, and a little done every Spring. The month of August is the best time for heavy pruning, for the reason that if you prune heavily in the Spring, you have taken away so many channels for sap that the tree is obliged to throw out limbs—"sap-suckers"—to carry it off; but if you prune in August, when the flow of sap is weak, the wound heals over, and, at the same time, new channels are formed for sap, so that in the following spring the sap will take to those channels without throwing out sap-suckers. It is rare to see sap-suckers from August pruning.

THE CURRANT WORM.—A correspondent of the *Rural New Yorker* recommends the following wash as death to the worms, but not injurious to the leaves:

Take one oz. carbonate of ammonia; 1 oz. nitre. Dissolve in one quart of soft soap; mix the whole thoroughly in nine gallons of rain water.

HAVE PATIENCE WITH THE BOYS.

Labor is scarce and produce is likely to be extravagantly high this season. While farmers will be obliged to economize in the amount of hired help, they will be anxious to raise all they can. There is, therefore, danger of undue anxiety of mind and over-exertion of body. This year, if never before, let patience have her perfect work. Have patience with the new machine. If at first it does not meet your expectations, if it is harder to manage than you anticipated, and fails to do all you hoped, have patience; "practice makes perfect."

Especially is this old saw true in respect to the boys, for whom we would ask a large share of patience—patience not only with the poor manner in which they accomplish their tasks, but patience, and a great deal of it, with their inability to do all you would like to have them do, now that the work presses so hardly in all directions. Just take that boy's hand in your own; feel of his arm, his shoulder, chest and ribs—wonderfully, fearfully, slightly made—is it strange that he accomplishes so little? that he so soon tires, and complains of the "hard row" that has fallen to his lot? Will fretting or scolding harden his bones, toughen his sinews, increase his endurance, or make him love the hard work of the farm?

Farmers are generally careful about putting their colts to hard work before they get their growth. It is well they should be. Many a fine animal has been injured and its value greatly decreased by being used too much before its system was sufficiently developed and matured.

That parents intend to be much more careful with their boys than with their horses we have no doubt. But the boys are so much longer in "the green tree," their bones harden so much slower than those of domestic animals, that there may be danger in the present scarcity of farm help, of laying out more work than ought to be performed by the available working force of the farm, and, consequently, danger of "putting up" the boys too hard; not purposely, not willingly, but from an apparent or supposed necessity.

But the body is not all. There is danger of discouraging their minds as well as dwarfing their bodies; of breaking their spirits as well as their backs; of distorting their fancy as well as their frames. In fact, everybody knows that "all work and no play makes Jack a *dull* boy"—dull of mind as well as of foot.

What, then, shall be done? With Cowper, we boast,

"I would not have a slave to till my ground," nor would we have our sons so overworked as to become as stiff and stupid, as dull and clownish as the ignorant peasantry of Europe. The history of New England, and, in fact, of all the other

free States, has demonstrated that there is a happy medium between these alternatives; that the day-laboring farmer may improve the mind as well as the soil; that he may think as well as work. The great mission of the present age and of the present generation is by many supposed to be the abolition of slavery, and the demonstration of the true dignity of labor. But do not the models and drawings of our national Patent Office show that at the bottom of all these efforts lies the idea of substituting machinery for slavery—of doing by ingenious combinations of wood and iron, put in motion by steam and horse power, just that kind of drudgery which from time immemorial has been performed by slaves. The big water-wheel revolving in the dark basement of the factory; the hissing boiler, which, like the Southern slave, is cautiously "lodged" in an outside "cabin;" the patient ox and the noble horse are henceforth to be our "hewers of wood and drawers of water." And our sons,—they are to be overseers; taskmasters,—not of human sinews "bought and sold;" not of down-trodden, abused man, thank Heaven, but of the inanimate, soulless machine.

The question, then, is not simply whether any given tool or machine will save money. We should consider whether it will save hard work,—

A few years since we passed two farms in early hay-time. On the first farm a man and a boy were mowing in a lot near the road. We passed along leisurely. The man was far ahead of the boy, who was slowly and awkwardly hacking his way along. After "mowing out" and whetting his own scythe, the man walked back somewhat impatiently, to the boy. "Why don't you put the heel down?"—"Stand up to your grass."—"There! right into the ground again!"—"Seems so you never would learn." "Well, it's all loose here, and bent out there," replied the boy, as we went out of hearing of what else he had to say, and out of sight of the old black implement in his hand. On the next farm a man and two boys were mowing—the shortest and probably the youngest was on the lead. Their scythes and their hats looked new. We heard nothing of their conversation, but everything indicated that they were starting right—that their tools were good, the iron sharp, and the boys full of courage and ambition.

This courage and this ambition should be kept alive, if possible, during this season. They are worth more than good tools cost; more than pretty frequent holidays cost; more than kindness, more than pleasant words cost. We see it stated that a farmer in Illinois kept up the courage of his boys by giving two of them,—one ten, the other twelve years of age—twelve dollars, telling them playfully, to "go and buy out" a neighbor

who had a large flock of fine-wooled sheep. The boys bought four ewes. This was three years ago. With this spring's increase, the flock and the wool they have produced is estimated at nearly \$300. The *Prairie Farmer*, who tells this story, says that in all that section small boys are enthusiastic sheep raisers, talk precociously of diseases, and discuss earnestly the relative qualities of different breeds, grades of wool, &c.

We commend the example of these parents.

EXTRACTS AND REPLIES.

An Excellent Alderney Cow.

Having noticed in your last paper an account of a fine cow in Holliston, I thought I would like to tell you of a full blood Jersey. I bought her of Mr. Thomas Drew, formerly of Worcester, when she was five weeks old. She had her first calf when she was two years old, and would make $1\frac{1}{4}$ pounds of butter in a day. She brought her second calf when she was four years old and made in one week eleven pounds and ten ounces of butter. She had her third calf the third day of last April. She is now five years old, weighs only 700 pounds, and made last week $15\frac{1}{2}$ pounds of butter.

J. W. MORSE.

Northbridge Centre, June 15, 1864.

REMARKS.—The delicate, deer-like appearance, and the rich milk of the Jersey cows, seem to fit them especially for the gentleman's lawn and the private family, yet Mr. Flint says, in his treatise on Dairy Farming, that "one or two good Alderneys with a herd of fifteen or twenty ordinary cows will make a great difference in the quality of the milk and butter of the whole establishment."

Making Sugar---Keeping Stock.

As there have been some big sugar stories told in the *Farmer*, I would like to tell what has been done in this town. There have been made, this last spring, by ten farmers within one mile of me, twenty-three thousand pounds of sugar. You may think we live in the woods and on sugar, but the same persons have wintered twelve hundred sheep, one hundred and eighty-two head of cattle, and thirty-five horses.

Shrewsbury, Vt., June 12, 1864. C. GRAVES.

REMARKS.—These facts are scarcely more creditable to the "ten farmers" of Shrewsbury, than the manner of the announcement is to friend Graves. It does our poor old eyes good—it does the younger and brighter eyes of the printers good,—to see now and then a faultless manuscript; one in which the writing is neat and distinct, the words and lines properly separated by liberal blanks, the capital letters and marks of punctuation just as they should be on the printed page, and last of all without a superfluous word. We know where Shrewsbury is; have seen her mountains and something of her farms, and hope Mr. Graves will favor the readers of the *Farmer* with some further notice of the industry of his neighbors. Have not the experience of these ten farmers who produce 2300 pounds of sugar, keep 120 sheep, 18 cattle and $3\frac{1}{2}$ horses, on an average, to each farm, elicited some facts which, if published, would encourage and benefit, possibly, some of their less prosperous brother farmers?

Substitute for Butter Used by a Workman at the Portsmouth Navy Yard.

As my knowledge of botany has lain unused of late I will not undertake to describe the plant that he says produces the fruit which is about the size of first picking of the baldwin apple. It arrives at maturity about August 10th, when it is picked, laid on plates and

punctured, when there exudes a substance which, when mixed with a small quantity of milk and sugar, acquires the consistency of butter. It can then be worked into balls the same as butter. Many who have used it prefer it to butter. My informant says he has used that kept three months and found it sweet and good. The first plant was given to him by a naval officer who arrived at Portsmouth from some foreign station.

Seabrook N. H., June, 1864.

S. P. M.

REMARKS.—At first thought we supposed our correspondent was slyly recommending good large baked apples; if that is not the case, will he please brush up his botany a little, or jog the elbow of his navy-yard friend who is so quietly dodging the present high prices of "ball butter," that a little further information may be imparted as to this wonderful plant from some "foreign station."

That Check-Rein.

If the neighbors of the man who still persists in the use of the check-rein, will tie up his arms and put him on the double-quick over some twelve or fifteen miles of a billy road, he will learn to appreciate the disadvantages under which a horse travels with his head fastened in an unnatural position.

S. P. M.

Small Cows.

I saw a breed of cattle a few days since, which, as milkers, are preferred to any others by those who like small feeders. They do not give as much milk as some larger cows, but the quantity is large for their size. The cow that I saw did not exceed in size a yearling of the native breed. Her "points" were all first-rate, the only disproportion being her bag, which was too large for her convenience.

S. P. M.

Seabrook, N. H., June, 1864.

REMARKS.—We publish the foregoing as a specimen of that indefiniteness which greatly mars many agricultural communications. Whether our correspondent has been smitten by a little fawn-like Jersey, or by some diminutive Irish, Kerry, Norman, or Canadian breed, is more than can be gathered from his statements.

FACTS BEARING ON CATTLE BREEDING.

The Secretary of the Massachusetts Board of Agriculture gives the following abstract of some remarks made by Prof. Agassiz at a meeting of the Board last December. Whatever may be thought of the practical truth of the theory advanced, if it shall lead to greater caution as to the use of inferior males either first or last, it can do no harm in that direction at least.

"After expressing some sound sentiments with regard to the connection between science and practice, and showing how the two ought to be connected in the business of agricultural education, he presented an elaborate view of the laws of reproduction, and their connection with the breeding of farm animals, as an illustration of the vast importance of profound science in guiding the farmer to his work. He had found by experiment that the process of fecundation was governed by some extraordinary laws. The common turtle, for instance, does not commence to breed until it is 7 years old. At the second year, connection between the male and female takes place, without any apparent result. The third year connection takes place, and still no eggs. And so on until the 7th year of the life of the female, when she commences bringing forth maternal eggs. At this time the eggs in the ovaries present various

sizes, as if they had been impregnated at the different periods.

Certain very curious facts in the reproduction of other animals, go to show that the impregnation of an ovum may take place a long time previous to its development, and that it probably only requires the stimulus of future connection with the male, to bring it into existence. He had experimented with a Newfoundland bitch, by coupling her with a water-dog, and the progeny were partly water-dog, partly Newfoundland, and the remainder a mixture of both. Future connection of the same bitch with a greyhound produced a litter like the former, with hardly a trace of the greyhound. He had bred rabbits with the laws established by this experiment, and had at last so impregnated a white rabbit with the gray rabbit, that connection of this white rabbit with a black male invariably produced gray. A fact stated by Mr. Chapin, of Milford, that a hen turkey would lay two or three successive litters of eggs, having been impregnated only for the first litter, was new to Prof. Agassiz. It was undoubtedly with a knowledge of these laws of reproduction, perhaps profounder than that which we possess, that the Jewish code declared that if a widow having children marry again, the children of her second husband shall be heirs of the first.

These laws, established by these experiments, should govern us in the breeding of our animals, and should make us careful in a selection of males for the first impregnation of females, as upon this depends the future value of the female in producing the type which the breeder may design.

The lecturer threw much light on the subject of breeding and rearing cattle, and clears up many points which have always been troublesome to the breeder.

In conclusion, Prof. Agassiz dwelt upon the influence which soil and climate exercise in developing the animal system. Large frames, great bony structures, grow on limestone soils, smaller bones on granite formations. He thought this ought to be taken into consideration in selecting animals for any locality. And he was moreover satisfied that a breed of animals could, if confined to any given spot, grow into conformity with that spot.

The Professor confirmed these views with great distinctness by reference to the animals which represent the different cantons of Switzerland."

SUMMER DRINK.—A "Practical Farmer" recommends in the *Germantown Telegraph* the following as a refreshing beverage, and one that may be safely drank in the hottest weather: Take of the best white Jamaica ginger root, carefully bruised, two ounces; cream of tartar one ounce; water, six quarts, to be boiled for about five minutes, then strained; to the strained liquor add one pound of sugar, and again place it over the fire; keep it well stirred till the sugar is perfectly dissolved, and then pour it into an earthen vessel, into which you have previously put two drachms of tartaric acid, and the rind of one lemon, and let it remain till the heat is reduced to a lukewarm temperature; then add a tablespoonful of yeast, stirring them well together, and bottle for use. The corks must be well secured. The drink will be in high perfection in four or five days.

THE RETURN OF THE BIRDS.

BY WILLIAM CULLEN BRYANT.

I hear, from many a little throat,
A warble interrupted long,
I hear the robin's flute-like note;
The bluebird's slenderer song.

Brown meadows and the russet hill,
Not yet the haunt of grazing herds,
And thickets by the glimmering rill
Are all alive with birds.

O Choir of Spring, why come so soon?
On leafless grove and herbless lawn
Warm lie the yellow beams of noon;
Yet winter is not gone.

For frost shall sheet the pools again;
Again the blustering East shall blow,
Whirl a white tempest through the glen,
And load the pines with snow.

Yet, haply, from the region where,
Waked by an earlier spring than here,
The blossomed wild-plum scents the air,
Ye come in haste and fear.

For there is heard the bugle-blast,
The booming gun, the jarring drum,
And on their chargers, spurring fast,
Armed warriors go and come.

There mighty hosts have pitched the camp
In valleys that were yours till then,
And Earth has shuddered to the tramp
Of half a million men.

In groves where once ye used to sing,
In orchards where ye had your birth,
A thousand glittering axes swing
To smite the trees to earth.

Ye love the fields by plowman trod;
But there, when sprouts the beechen spray
The soldier only breaks the sod
To hide the slain away.

Stay, then, beneath our ruder sky;
Heed not the storm-clouds rising black,
Nor yelling winds that with them fly;
Nor let them fright you back,—

Back to the stifling battle-cloud,
To burning towns that blot the day,
And trains of mounting dust that shroud
The armies on their way.

Stay, for a tint of green shall creep
Soon o'er the orchard's grassy floor,
And from its bed the crocus peep
Beside the housewife's door.

Here build, and dread no harsher sound,
To scare you from the sheltering tree,
Than winds that stir the branches round
And murmur of the bee.

And we will pray, that ere again
The flowers of autumn bloom and die,
Our generals and their strong-armed men
May lay their weapons by.

Then may ye warble, unafraid,
Where hands that wear the fetter now,
Free as your wings shall ply the spade,
And guide the peaceful plow.

Then, as our conquering hosts return,
What shouts of jubilee shall break
From placid vale and mountain stern
And shore of mighty lake!

And midland plain and ocean-strand
Shall thunder: "Glory to the brave,
Peace to the torn and bleeding land,
And freedom to the slave!"

Atlantic Monthly for July.

For the New England Farmer.

HORSE HOE---CORN---POTATOES.

MR. EDITOR:—The farmer seems to have his full share of all the improvements of the day, and the last invention is the "horse hoe," which looks like a thing of great utility, and far surpassing the cultivator or horse plow, the latter the only implement known to me when a boy for working among the corn and potatoes.

All that seems to be needed now to complete the farmer's list, is a perfect potato-digger, a corn-husker, an apple-gatherer and a sheep-shearing machine. It may not be too much to expect perhaps, that the time will come when a flock of sheep may be driven, full run, single file, through a machine, and all come out sheared from tip to tip. Genius, machinery and horse power, have immeasurably lightened the labors of the farmer, and his hard work has almost become a pastime.

In regard to hilling corn, or scarcely making the form of a hill, is it necessary? Will not this farmer's "horse hoe" do nearly all the work? See the corn roots diverging from every point, like so many guys, to hold it erect against heavy winds. Hoeing deep and hilling high, must cut off many roots, and the holes that are made leave a fine escape for the water, without doing as much good as if the land was level.

What can we say of potatoes, with their long, clinging roots; the umbilical cord, connecting the potato with the vine, (tough as a whip-lash;) the little brush-like roots around the vine, to give growth to the top, while the combined powers of earth and atmosphere contrive to give us our mother earth's best esculent vegetable? Is hoeing deep and hilling high the better practice for this crop? While we doubt it to some extent, we would beg to ask the practical farmer what is best. He ought to know. It would be a simple test to hill, half hill, and barely add a little fresh earth in weeding the third row, and at digging time the experiment would be fairly tested.

These suggestions may be of no avail to your readers, yet cultivation of these two most important crops, cannot be too well understood. I trust they may elicit a reply from some of your thousands of readers that till the soil.

Brooklyn, L. I., 1864.

H. POOR.

REMARKS.—Excellent suggestions. We hope some of our progressive farmers will give us their views on the subject of hilling, with reasons for and against.

For the New England Farmer.

THE APPLE TREE APHIS.

MR. EDITOR:—The apple tree aphis mentioned by your correspondent J. J. WATSON, of Washington, Vt., in the *Farmer* of June 18th, is not a new thing under the sun. It has been known here for a long time; and though somewhat injurious to the apple trees, has not caused any such painful evils as your correspondent fears. The insect is most noticed late in autumn and early in spring, being more concealed in summer by the abundant foliage of the trees. It is most seen in summer on young sprouts growing from the hedges and limbs of neglected trees, where the wood is new and tender, and new leaves are continually putting forth. I write to speak of the

enemies of this insect. The greatest preventive of its increase is the protection of the birds, many kinds of which feed extensively upon it. Some of our seed-eating birds, the sparrows and finches, which most people suppose do but little good, or harm, to the farmer, are very fond of them, and destroy multitudes of them in autumn and spring. I have often noticed the tree sparrow and the chipping sparrow picking them off the trees; and for weeks about the last of October and the last of April and fore part of May, the pine finches and the common yellow birds frequent the apple trees in small parties, and seem to derive a large part of their food, especially the pine finches, from these insects. When the buds are opening in May, they may be seen clinging to the extremities of the small branches, often head downwards, searching for and devouring the aphids. At these times I have found hundreds at a time in their stomachs on dissecting them, and rarely much other food. Many kinds of warblers destroy them in great numbers, particularly the yellow-crowned warbler or myrtle bird, the Nashville warbler and the blue yellow-backed warbler, which are so beneficial to our trees in May, when a variety of destructive insects are swarming among the opening blossoms and tender leaves, upon which these species and many others exclusively feed.

J. A. A.

Springfield, Mass., June 20, 1864.

For the New England Farmer.

BREEDS AND MANAGEMENT OF STOCK.

Read before the Concord Farmers' Club by JOHN B. MOORE.

The term *breed*, as I understand it, applies only to the distinct families of animals who have been bred without admixture of blood with other animals, for so long a period of time as to have their various points become so fixed and permanent as to render it certain that the offspring bred from the male and female of such stock will always show the same points possessed by the family to which it belongs; and if an individual animal said to belong to any one of the different breeds should produce an offspring not having the points belonging to that breed, it would be sufficient cause for saying that the animal was not of pure blood.

The following distinct families of animals are among the number usually designated as pure bred animals, namely:—*Durham*, or *Short Horns*, *Herefords*, *Devons*, *Jerseys* and *Ayrshires*. The term *Native Breed*, which we so often hear used, is true in only one sense, that is, that the animals to which it is applied are born here, and the term *native* could be applied with just as much propriety to the *Devons*, or any pure-blooded animals who have been bred in this country, through many generations, as if they were also born here, and in some instances their parents before them. Perhaps the term *grade* would be a better name for all animals not of pure blood, and I will venture to say, that no animal can be found in this vicinity, called *native*, but that has more or less of blood in its veins of one or more of the breeds before named. And if you examine the best authorities upon breeds and breeding you will find that those classes of cattle that I have named have been bred for special purposes, and in each case with a particular object in view. Thus the *Durhams* and *Herefords* for beef certainly excel all

other breeds; the Devons for beef, dairy and working oxen. As working oxen they excel. The Ayrshires and Jerseys for the dairy, in which they excel all the before-named breeds, and neither of the families combine all the qualities required for beef, work and the dairy.

It is of secondary importance to us to raise beef and working oxen, compared with animals capable of producing large quantities of good milk, which we sell in the form of milk or of newly-churned butter. Of the above-named breeds we find that there are only *two* families now prominent enough to call your attention to as dairy stock, namely:—the Jerseys and Ayrshires, and for the improvement in animals for the dairy we must rely upon these two breeds. I do not mean to say there are no good milkers in the other breeds, but they are exceptions to the general rule, such not being the fixed habit of these breeds.

Some may think it would be better to raise a breed of our own, or, in other words, a pure American breed from our native stock, so called, thinking that such a breed would be better adapted to our pastures and climate than the pure bred cattle we now have. It is evident that it would be the work of two or three generations of men, at least, to produce such a breed—but premising that such is the fact, then the most feasible way for us to breed cattle for milking purposes is to adopt one or both of these breeds, or, in other words, take advantage of the improvements made for the last hundred years in the Jersey and Ayrshire cattle for making that improvement. As it would take a long time to raise a sufficient number of pure bred animals to stock all our farms, perhaps the best way would be to select good-shaped, medium-sized cows of our common stock, who have a thin, soft-handling skin, a broad and capacious udder, with medium-sized teats, and a heifer, the product of such a cross, will be likely to be a good milker, although that will not always follow. To raise good milking stock with any certainty, it will not do to breed from a grade bull; because, although he may be a fine animal to all appearance, he might,—and probably would,—mark many of his progeny with the bad stain of blood in his composition; and the chances of producing a fine animal would be much less with such a bull and the same cow than with one pure bred. Good cows, raised in this way, will answer our purposes for milking, and for which they would be as good, probably, as pure bred animals. Any one breeding pure blooded stock should confine himself to one breed, as in a stock of cattle all of one blood there would be no danger of accidental admixture of blood, and they will look better for being all nearly alike.

It may be urged that we should have a breed of cattle that, after they were worn out for milking purposes, would be as valuable for beef as the Durhams. The Durhams, as a whole, are not good milkers, although some families of them are much better than others; but you will find that those who do give a fair quantity of milk are inclined to go dry five or six months each year.

A Durham cow that will make 600 pounds of beef after she is laid aside for milk, will be worth about \$25 for the purpose of turning out to fat in the spring of the year. My idea is that an Ayrshire or Jersey cow, that will make 550 pounds of

beef after being done with for milk, will give dairy nine months of the year, two quarts of milk a day at least more than the Durham. If they give only one quart of milk a day more, in nine months it would, at two and a half cents a quart, amount to \$6.80, which, calling seven years the average number of years that cows are usually milked, would amount to \$47.60, and the difference in value of the two cows for fattening would be only from \$2 to \$5, leaving from \$42 to \$45 in favor of the milker.

The next thing after procuring a good calf is to raise it properly. Much depends on this, as it is a well established fact that no animal, half-starved for the first two or three years of its life, will ever come to the standard of perfection of the breed to which it belongs,—so that good feeding from the time of dropping the calf up to the time of the heifer coming into milk, is necessary for the perfect development of the animal. I do not mean by this that I would have an animal pampered, but that they should be well fed and kept in a thriving condition all the time, and in the winter more particularly, and that they should always be kept from vermin, which are often allowed to increase to such an extent as to almost eat the very life out of our young cattle. Then they should be sheltered from the storms in cold weather, for they will suffer from being exposed to the cold rains, and then left in the yard or put in a cold barn, where it will take them many hours longer to become dry and comfortable. Some persons say it is no matter, it will make them tough and hardy to stay out in the cold storms. But what would be thought of a man who would keep his children out all day in a drenching rain, and then let them dry their clothing on their backs in a cold room at night for the purpose of making them hardy? Children would probably soon die under such treatment; but animals, having more tenacity of life, survive, but do not attain to such perfection under that treatment as they would if properly sheltered?

I do not know but the idea of poor keeping is encouraged by many of the statements in regard to cattle made to the various agricultural societies for the last few years. The substance of some of them is pretty much as follows:—A gentleman enters a fine fat ox or cow for premium, and in his statement says that the animal was kept on poor hay, without any grain during the winter, and summered in the pasture with very short, poor feed; or of a cow, giving an enormous quantity of milk—that she has been kept on very poor feed, and a little corn fodder once a day to eat. Can any sensible person pretend that an animal can be fattened, or made to give a large quantity of milk, without good and nutritious food? Men that make such statements—instead of receiving premiums—should have their statements sent to the grand jury, for them to inquire into the matter, and see if they would not be proper subjects to be indicted, under the statute, for cruelty to animals!

A uniform kind treatment, regularity in feeding, good shelter, cleanliness and a plenty of nutritious food fed to them in comfortable stalls, in the winter, good pasturage in the summer, with an abundance of good water at all times, is what I suppose would be called good management. If I were called upon to state some of the points for

which Jersey cattle are noted, I should say, gentleness, quietness, both in the pasture and in the barn, a constant and regular flow of milk, many of them milking the whole year (which I very much doubt the profit or utility of) but think it would be better to let them go dry from six to eight weeks. It not only gives them time to recruit themselves, but their calves are much stronger for it. They are also noted for the richness of their milk, the fine yellow color of their cream and butter, and for its fine flavor.

FINE-WOOLED SHEEP IN ILLINOIS.—The editor of the *Prairie Farmer* says that in a trip through Du Page and Kane counties he scarcely saw a farm but had its small or large flock of sheep. Barns costing twenty-five hundred dollars were not uncommon.

"There can now be found in Northern Illinois as good sheep as are to be found in Vermont. In fact, the celebrated sheep that carried off the great prize at the Hamburg fair last year, have been outdone in yield of wool by sheep owned by Mr. Kelley,—who has just sheared a part of his flock, intending to take them to the great exhibition in Ohio in September next, the rules requiring that they should be sheared on the 3d day of May. The sheep are those that were shown at the Illinois State Fair, at Decatur, last fall, and received the first prizes as best pen of ewe lambs, best pen of yearling ewes, and best pen old ewes, and sweepstakes of nine ewes and one buck; the buck being a lamb of 13 months old."

WHEN TO CUT WHEAT.—A club of ten farmers in Chester county, Pennsylvania, made experiments in cutting wheat. Their conclusion was that the best time to cut wheat was "when the grain can be pressed between the thumb and finger, and leave nothing but the husk and a thick pulp, without any fluid around its edges." The reason and the rule are thus stated by a Gettysburg farmer in the *Germantown Telegraph*:

Wheat is composed of gluten, starch and bran. Gluten is the nourishing quality of the grain, makes the flour stick together in the hands of the baker, and gives weight to the grain—and there is the *greatest* quantity of gluten in the grain just when the straw is yellow two or three joints from the ground, the head turns downward, and you can squeeze a grain between your fingers without getting any milk from it. Every day the wheat stands after this tinge of its ripeness, the gluten decreases in quantity and the bran increases in thickness.

NEW CODE OF MAINE LAWS.—By a law of this State any person who shall, to the acceptance of the Selectmen, place a trough by the roadside, into which a stream of water shall be constantly kept running, is entitled to an annual deduction of \$3 from the amount of his yearly taxes. And by another law, towns and cities are authorized to give bounties to farmers and other citizens who shall plant out and protect shade trees by the road-side.

DEATH OF DISTINGUISHED AGRICULTURISTS.

Within a few weeks past several men, whose names have long been familiar to the readers of agricultural papers, have departed this life.

BRIG. GEN. JAMES S. WADSWORTH fell at the head of his division May 6th. He was President of the New York State Agricultural Society in 1842 and 1843. Was a man of great wealth and equal benevolence. Lived on one of the most beautiful farms on the Genesee River.

DR. EVA PUGH, President of the Pennsylvania Agricultural College, has also been taken from us. Like many other distinguished scientific men, he was from the humbler walks of life—having been originally a blacksmith. He devoted all his spare time and earnings to the improvement of his mind. He was at length enabled to go to Europe to complete his chemical studies. After he had spent some time in several of the most celebrated laboratories on the Continent, he spent two years with Mr. Lawes on his experimental farm at Rothamsted, engaged in investigations in regard to the absorption of atmospheric nitrogen by plants. Returning to this country he was elected President of the Agricultural College of his native State, and soon gave it a character possessed by no similar institution in this country. He was a man of unbounded energy and perseverance, and thoroughly acquainted with the science and practice of agriculture. His loss is irreparable.

CHARLES B. CALVERT, President of the Maryland Agricultural College, died at his residence, at Riversdale, May 12th. He was a large and successful farmer, prominent in every agricultural improvement, and his loss will be severely felt, not only in his own State, but throughout the whole country.

REV. C. E. GOODRICH, of Utica, N. Y., well known for his experiments on potatoes, and for the number of excellent seedlings he has produced, died at Utica, May 11th, aged 62 years.

TENANT FARMING.—The ambition of the American farmer is to own the land he cultivates. He scorns the position of tenant, and if obliged to rent a farm for a few years, seldom thinks of making any considerable outlay for improvements, especially for those of a permanent character. In England, where long leases are taken, large sums are expended by the tenant for such purposes. An instance of very liberal improvements made by a tenant is mentioned by a late Scotch paper in an obituary notice of Thomas Logan, of Wood-end:

Mr. Logan entered on a new lease of the farm, formerly leased by his father, at Whitsunday, 1859. During the first year he limed 700 acres at a total cost of £3500; in the same year he drained 600 acres, the drains 3 feet deep and 30 feet apart, at a cost of £2520.

☞ Coal oil dropped upon the nests of caterpillars when the "varmints" are inside is said to be a safe, sure, and speedy means of accomplishing their destruction.

MULTIPLICITY OF PLANTS.

The number of plants now known and regularly classified, amounts to several hundred thousand. The Linnæan enumerates twenty-four classes, one hundred and twenty orders, two thousand genera, and thirty thousand species.

Of these species, the varieties are almost innumerable. The arrangement of LINNÆUS is very ingenious, and serves greatly to facilitate the acquisition of botanical knowledge by its clearness, and the ease with which it enables one to discriminate between plants so nearly assimilated in appearances as to demand no inconsiderable degree of research to avoid confusion.

Of these plants, there are a great many which administer directly to the wants, comfort and happiness of man, by affording healthy food, wood for building and other artistic purposes, as well as for medicine, and a great variety of other things.

"There is nothing in nature," says an ingenious author, "without its use in the animal or vegetable kingdom. Of plants, some give out in the sunshine, vital air, called by chemists, oxygen gas. This he imbibes into his blood through the medium of his lungs, in breathing, and without which we could not live. Some afford substance to the silkworm which spins for him those elegant garments so much worn and admired. Some plants are used for feeding and fattening his cattle. In short, without vegetables there would be no animals, and man himself would only catch a glimpse of life, and then miserably perish with hunger."

What, however, should more particularly arrest our attention, is the almost endless variety of vegetables, possessing such a varying degree of taste and of nutritious and medicinal matter. They seem, indeed, to be adapted to all the wants of man and animals. In sickness and in health, for the strong and the weak, some one may be found to suit every case. We know a physician, for instance, of extensive practice, who rarely uses anything as an alternative but apples. If he is sleepless, and is slightly feverish, he rises and eats a crisp and juicy apple, and finds it more effective than any narcotic. This remedy would be quite likely to throw another into convulsions, who would be relieved by a dose of hellebore or the juice of the poppy! Another person afflicted with a painful disease finds relief from the free use of pears, and another from grapes. Where the kidneys are affected, the patient is often relieved by eating freely of ripe peaches, the prussic acid which they contain being properly administered in this mild form.

Then, how wonderfully they are adapted to the varying seasons. By the time the snow is fairly gone, some plants push forth their tender leaves with rapidity, so that in a few days the table may

be supplied with fresh and healthful "greens" of various kinds. Then succeed the delicious small fruits, ripening in succession until delicious pears and apples are waiting to be gathered.

There is no other country, we believe, where there is such a variety of eatable vegetables, and such an abundance of them, as we have here,—certainly, the markets of England do not afford them.

MILK, BUTTER AND CHEESE.

MR. BROWN:—Having had some dispute in regard to milk, we agree to leave the decision to your valuable paper. As to qualities for butter and cheese in proportion to its weight; also, which will make the most butter, the lightest or heaviest? Please discuss the matter generally, and oblige
H.

Templeton, July, 1864.

REMARKS.—It would afford us pleasure to make this controverted question clear to our Templeton friends,—but when they disagree—the practical "doctors" in the case—men and women of great experience in all matters that relate to the dairy, we may well approach it with diffidence and distrust. We have had, however, considerable experience in the dairy room, and with the light which that affords, together with the opinions of good dairy women, and what we can find that is reliable in the records of others, we will present a few paragraphs for consideration.

The question propounded seems to be as follows:

Which will make the most butter or the most cheese, the *lightest* milk, or the *heaviest* milk?

The specific gravity of milk is 1.032—that is, one, and thirty-two thousandths parts, while pure water, which is the standard, is 1.000; milk, therefore, is the heaviest by the difference in these two sums.

Several years ago, when the adulteration of milk in the Boston market had become so notorious and intolerable that the Legislature took the matter in hand, many experiments were made by different persons to ascertain the various degrees of adulteration. In these trials, new milk, that was known to be pure, was used in nearly all the cases, and with the surprising result, that the specific gravity of all new milk is nearly alike,—the extreme variation being only *one ounce* in a wine gallon!

This certainly is a remarkable result, when we take into consideration the fact that the milk of different cows has a wide range of *quality*,—the cream varying from *five* or *six* per cent. in one cow to *eighteen* or *twenty* per cent. in another! We have owned two cows, each of which gave a large flow of milk, for several months after calving, but from neither of them could six pounds of butter per week be obtained from their milk.

They invariably brought large calves, however, which grew and fattened with remarkable rapidity. This is undoubtedly owing to the abundance of *caseine*, or cheesy matter, which yields the materials of the growing muscles and of the organic part of the bones; while along with the curd and dissolved in the liquid milk is the phosphate of lime, of which the earthy part of the bones is to be built up. A grade Ayrshire, standing by the side of one of the above, not yielding much more than half as much milk, would give nine or ten pounds of excellent butter per week.

With these facts before us, our Templeton friends will see how difficult it must be to give a satisfactory solution to their inquiry.

In his excellent work on "Milch Cows and Dairy Farming," Mr. Flint says: "Milk is exceedingly sensitive to numerous influences, many of which are not well understood. It is probably true that the milk of each of the divisions of the udder differs to some extent from that of the others in the same animal; and it is well known that the milk of different cows, fed on the same food, has marked differences in quality and composition. But food, no doubt, has a more powerful and immediate effect than any thing else, as it goes directly to supply all the secretions of the body. Feeding exclusively on dry food, for instance, produces a thicker, more buttery and cheesy milk, though less abundant in quantity, than feeding on moist and succulent food."

It is quite clear, we think, that the quality of the milk, and consequently the proportions of its several constituents, vary with the breed of the cow, with the food on which it is supported, with the time that has elapsed since the period of calving, with its age, its state of health, and with the warmth of the weather,—as in warm weather the milk contains more butter, but in cold weather more cheese and sugar. In all cases, the milk contains the same substances, though in different quantities and proportions.

Let us see now what the influence is, of BREED, CONSTITUTION, FOOD, SOIL, &c., on the *quantity and quality* of the milk.

Both the quantity and the quality of the milk are affected by a great variety of circumstances. Every dairy farmer knows that his cows give more milk at one season of the year than at another, and that the quality of the milk also—its richness in butter or in cheese—depends, among other conditions, upon the kind of food with which his cows are fed.

1. *The quantity and quality of the milk are affected by the breed.*—Small breeds generally give less milk, but of a richer quality. Good ordinary cows in this country yield an average produce of from 8 to 12 quarts a day. Thus the dairy cows of

Devonshire give.....	12 quarts a day,
Lancashire.....	8 to 9 quarts a day,
Cheshire and }.....	8 quarts a day,
Ayrshire	

during ten months of the year; but crossed breeds are, in many districts, found more productive of milk than the pure stock of any of the native races.

The influence of breed both on the quantity and quality of the milk appears from the following comparative produce of milk and butter of one cow of each of four different breeds, in the height of the season, and when fed on the same pasture. The

	Milk.	Butter.
Holderness gave.....	29 quarts and	33½ oz.
Alderney.....	19 "	25 "
Devon.....	17 "	28 "
Ayrshire.....	20 "	34 "

Not only was the quantity of milk very different in the four cows, but the produce of butter also—the Holderness, in the quantity both of milk and of butter, being greatly superior to all the other breeds.

The milk of the Holderness and of the Alderney breeds was equally *rich* in butter, as was the case also with that of the Devon and the Ayrshire, since one pound of butter was yielded by

12	quarts of milk from the	Holderness cow,
2	"	Alderney cow,
9½	"	Devon cow,
9½	"	Ayrshire cow.

Some stocks of Jersey cows produce one pound of butter from eight and one-fourth quarts of new milk, the year round, and at the same time consume less food than others.

The butter of the milk is often in great part derived directly from the fat of the food. Hence the value of food which, like Indian corn and linseed cake, is rich in oil. Hence, also, those animals which lay the smallest proportion of this fat upon their own bodies will be likely to give the largest proportion in their milk. Thus the Ayrshires and Alderneys, which are good milkers are *narrow* across the shoulders, and *wiry and muscular* about the flanks. They give a rich milk, but rarely fatten well. The *short-horns*, on the contrary, are celebrated for their fattening tendency. They deposit more of the fat under their skin, and impart less of it to their milk. In both breeds, however, there are striking exceptions, because—

2. *The individual form and constitution of the cow* causes both the yield and the richness to vary much among animals of the same breed. Every dairy farmer knows that some Ayrshire, or Holderness, or Devon cows are better milkers than others. And even when they yield nearly the same quantity of milk, the richness or produce in butter may be very unlike. Thus, four cows of the Ayrshire breed, fed on the same pasture, gave in the same week—the

	Milk.	Butter.
First.....	84 quarts which yielded	3½ lbs.
Second and third, each.....	86 "	5½ "
Fourth.....	88 "	7 "

so that the fourth, though it produced only four quarts more milk, gave twice as much butter as the first.

The tendency to yield butter, is, no doubt, constitutional, like the tendency to lay on fat.

3. *The kind of food* also exercises, as all cow-feeders know, much influence upon the quantity and upon the richness of the milk.

If the food contain little fat, the animal still produces butter. It has the power of changing the starch and sugar of its food into fat during the process of digestion. It even robs its own

body of fat, becomes leaner, and thus yields more fat in the form of butter than it has eaten in its food. Where only part of a dairy of cows is kept for their butter, and the rest for cheese, the butter-milk from the former may be given to the latter, and thus the produce of cheese increased. In the State of New York, cows are said to yield one hundred pounds more cheese in a year when the whey from their own milk is added to their daily food.

4. *The nature of the soil*, also, in which plants grow, and the manure by which they are raised, affects their influence upon the milk. It has been known from the most remote times, that when fed upon one pasture the cow will yield more butter, upon another more cheese. This difference must depend upon the soil.

5. The milk is affected also by a *variety of other circumstances*. Its quantity depends very much upon the distance from the time of calving.

The quality of the milk is better from cows that are in good condition and have already been two or three times in calf—it is richer in warm climates, in dry seasons, and when the cow is not too frequently milked. It is said to be richer when cows are kept constantly in the house and regularly fed—those which go at large in the pasture yielding more cheese. When a cow is allowed to go dry for two or three months before calving, it is believed to give more milk the following season. In autumn it is richer upon the whole, giving a less proportion of butter, but a greater of cheese (AITON) while it becomes poorer in both when the cow is in calf. The first milk which comes from the udder is also poorer than that which is last drawn, the *strippings or strokings*—and, lastly, the quality of the milk is very much affected by the treatment and moral state of the animal. Gentle treatment and a state of repose are favorable to the richness of the milk; while anything that frets, irritates or harasses the animal, injures its quality.

Lassaigne obtained some curious results on observing the composition of the milk of a cow, which he examined at ten different periods, four of these before and six after parturition. The milk examined during the first three of the former periods, namely, 42 days, 32 days, and 21 days *before* parturition, contained no casein at all, but in place of it albumen; and no sugar of milk and no lactic acid, but a sensible quantity of uncombined soda. The milk examined eleven days before and just after parturition, contained both albumen and casein; while milk eleven days before parturition, and always after it, contained free lactic acid and sugar of milk, but no free soda. The milks examined 4 days, 6 days, 20 days, 21 days, and 30 days *after* parturition, contained casein and no albumen. It would appear from these observations that the milk of the cow is at first very similar to the serum of blood; and that the casein, sugar of milk, and lactic acid, to which it owes much of its distinguishing characteristics, begin first to make their appearance in it about eleven days before parturition.

We are aware that in this discussion we have not answered the question put, and we think those who have followed us thus far, have come to the conclusion that it is just as difficult to answer as it is to tell why one plant produces red fruit and

another yellow, or why one apple tree bears sweet apples and another sour.

The truth is, that life, in its action, develops results that are entirely beyond any human power to trace out. This diversity in the products of the cow is not more strange than is sometimes observed in the growth and quality of plants. It is pleasant and instructive to inquire, because such inquiry leads us to many interesting particulars perhaps unknown before, and brings the mind to act upon a special and highly important topic.

We shall be glad to hear from some of our correspondents, on a subject of so much consequence to all.

For the New England Farmer.

SHEEP HUSBANDRY---No. 7.

In populous districts it will be found more advantageous to raise the long or worsted wools than clothing or shorter wools, on account of the market for mutton and lambs. And it would be particularly profitable for farmers in this section of the country to raise the former class of wool, having a market so near at hand, where they have found a ready sale for the last twenty years, and where the consumption of long and middle wools has been increasing, and in all probability will continue to increase for some time to come; and we may reasonably suppose that enterprising capitalists will not leave their capital unemployed under the present high tariff, high rate of exchange, and particularly the present price of cotton, which, let there be peace or war, must rule high for some years to come—not less, certainly, than twenty-five cents per pound.

Upon the introduction of cotton warps into the manufacture of worsted goods the English farmer thought it would seriously affect the price of long wools, but the cheapening the manufactured article so increased the demand for that class of goods, that notwithstanding the introduction of cotton warps in the place of worsted ones, and the introduction of alpaca for filling, yet so great was the demand for half cotton and half worsted goods that the demand for long wools increased.

And in 1844, in the vicinity of Bradford, England, the great centre of the worsted manufacture, there was scarcely a loom to be found weaving worsted warps. In the vicinity of Halifax a few mills were employed making lastings, a class of worsted goods which require worsted warps, and there is no reason in the world why this article—the material of which our wives' and daughters' boots and shoes are made, and many of our vests and summer coats—should not be made in a country which in all probability exceeds every other country in the world in its consumption. But in order to do this, we must have the material either produced at home or brought from abroad; but the importation of the raw material would no more benefit the country than the importation of the manufactured article. The production of the raw material is with the farmer; which we have endeavored to show in former articles can be produced at remunerative prices. We would call the attention of our readers to the fact that bunting, of which all our flags are made, is imported; glory as we may in the stars and stripes, we must

bear in mind that they are produced in foreign lands. Bunting is all worsted and requires a strong thread, in order that the article may be light. The warp must also be worsted, for the hard twisted filling would cut a cotton warp and render it unfit for the breeze.

To produce worsted warps it will require a better class of wool in some respects than the farmers in this section of country have been accustomed to produce to any great extent. There are some fleeces produced that are good warp wool, but the great bulk is only fit for worsted filling, and some so short that it is only fit for woollen goods.

But in order that the farmers may operate intelligently in the production of the class of wool required for this purpose, it may be well to give them a few leading ideas of the character of the wool required, and some reasons why it is required; and also state that that wool which is best adapted to make worsted warps will also make the best filling. Therefore, should worsted warps never be made, the farmer would have the satisfaction in knowing that he was producing wool best adapted for worsted filling.

The kind of wool required for worsted is that which will make the smallest and strongest thread with the least nap, and the smallest amount of stock, and this can only be accomplished by combing the long stapled wool.

Combing has two objects to accomplish—the removal of the noil, which is the short fibres at the bottom and the hard ends at the top of the staple; it also lays the fibre straight by taking out the curl to a great extent. This is done by the warm comb while the wool is moist. Wool is the same in character as horn or hoof, warm them and they are easily worked. The wool is worked with a warm comb, and by repeatedly passing through the wool while warm, the curl is taken out, causing the fibre to measure one-third longer after being combed than it did before.

The wool best adapted for making worsted warps is that sheared from yearling wethers. This is what is called, in England, hog wool; but when only a limited supply of this can be obtained, then wether wool is used, that is, wool sheared from wethers two years old and upwards. The first fleece of an ewe is as good as that of a wether, provided she has no lamb,—if she has, her condition is likely to be impaired, which weakens the wool, causing it to break easily, making more noils, which are of less value than the long, and by shortening the fibre unfits it in a great measure for warp, and makes it less valuable for any other purpose. Wethers being always kept in an improving condition their wool has strong, good bottomed staples; but if from scarcity of food, or want of proper care, or by disease, at that particular time when the wool is growing, there will be a weak place in the staple, and should the difficulty be serious the staple will scarcely hold together. Hence ewes' wool is never so good for any purpose as wethers'. Their condition is always variable, and their wool will be as variable as their condition; consequently a young ewe, having lambs before she has arrived at maturity, cannot have a good fleece of wool, and no ewe can be drawn heavily upon by lambs without its wool being poorer, therefore a moderate supply of lambs will be made up to the farmer by a larger quantity and better quality of wool.

Wool grows from a soft pulp included in a little sack underneath the true skin, through which it passes in the form of a cylinder, consequently whatever tends to diminish the supply of pulp, robs the fibre of nourishment, and checks its growth. You cannot have both pulp and milk, and old age furnishes it very sparingly.

The fibres of wool have externally a scaly texture, the scales pointing from root to tip. These scales form a sort of fine points or serrations, which, when wrought into cloth, lock themselves together, producing by this means a much stronger thread than if smooth. These scales are smallest and most numerous, and the serrations finest pointed, in the finest wool, therefore broadcloth made from the finest wool is stoutest if not too much reduced in stock. But in worsted, where the strength of the thread depends in some measure upon the length of the splice, the longer the fibre the stronger the thread; yet the strength is increased, if, in proportion to the length of the fibre, we have a proportionate number of secretions, and the scales being shortest in young sheep's wool, the secretions will be most numerous and finest pointed, and will produce the strongest thread. Older the sheep the longer and more blunted the points of the scales and fewer the serrations, and these less capable of cohering to others, cannot produce as strong a thread as young wool. On this account old sheep's wool is frequently styled slippery-haired,—a proper appellation,—it will not hang together well in worsted. A firm piece of broadcloth cannot be made from it. The farmer will now easily understand why young sheep's wool is so much more desirable than wool from old sheep, and if he desires good cloth he must produce a good material to make it from. He is interested in the production of good cloth, but he cannot have it unless he produces good stock; the production of the material is his part, the working of it the manufacturer's.

The farmer should bear in mind that pastures abounding in burrs waste a great amount of wool, and unfits it for worsted; if these are cast out with shears half the staple is cut away, the part cut off is but of small value, and the part left is not fit for worsted, and of little value for woollens. If the briars are taken out with a machine, the staple is broken by the process, and its quality seriously impaired; this, too, unfits it for worsted. Marking the sheep with tar or pitch wastes a great amount of wool—this must be cut off with shears, which destroys about half the staple and seriously impairs the value of the other half.

Sheep, allowed to run amongst the bushes, will have the back of the neck, between the shoulders, and sometimes along the back filled with leaves, seeds and little sticks; this injures the wool for any purpose, but entirely unfits it for worsted. And a careless manner of feeding sheep in winter with hay, fills the neck and back with the seed; this also impairs the wool very much, as it is almost impossible to remove it, and also unfits it for worsted. Sheep ought always to be fed in racks which will not allow them to shake the hay over their backs—a hopper-shaped rack is the best—not of so blunt an angle as to prevent the hay from falling into the trough, but projecting sufficiently to protect the back and the neck. The slats should not be more than eight inches—these should be perpendicular—and the hopper above

should be of boards. Chaff, when allowed to get among the wool, is worse than hay seed, and greatly impairs the value. We hope to live to see the day when the farmer will learn that it is his benefit to bring his wool as clean to market as any other of his farm produce. TYRO.

For the New England Farmer.

FARMING THE COUNTRY'S MAIN STAY
---"ECONOMY EVERYTHING."

MR. EDITOR:—The old adage, "facts are stubborn things," holds as good as ever. How many times has the question been put, is farming profitable? Let facts decide without regard to the cost of producing a bushel of corn, but take the business as a whole. We can run the expense of carrying on a farm to any amount above the income, where economy is wanting, but that don't prove that farming is a bad business. The facts are, that prosperity at farming depends, like all other business, wholly upon the manner in which the business is conducted. If the farmer, like many men in other occupations, must smoke expensive cigars, drink the "best of liquors," with other corresponding requisites, he would soon be admonished that he had mistaken his calling. Now what makes the difference between the farming population and inhabitants of villages? It is coerced economy: the farmer and the villager have naturally the same propensities, the farmer's capital is land; his income is tardy, his money comes in small sums at uncertain times, he dreads infringing upon his capital and that is what saves him. On the other hand, the villager's capital is his trade, which directly produces him cash, instead of a crop for the market.

It is frequently the case that those who earn the most are the greatest delinquents, and most apt to wrong their creditors. Those who receive the highest wages, as well as those who receive salaries, are as apt to fall short as those who receive but moderate pay; they commence upon a higher grade of living and, to carry it out, are often under greater perplexity than those who make less pretensions.

A few years ago I was conversing with a very respectable and worthy clergyman, whose salary now would be considered very small. Among other talk, I remarked that we had to pay some regard to economy to steer through the world like honest men, and not disgrace ourselves by paying our honest debts by the laws of chancery. He replied with *emphasis*, "economy is everything." That clergyman's note at that time was good for \$10,000. That is the true idea; economy is what sustains the farming interest. If farmers were to drink expensive liquors and smoke Havanas daily, and follow other fashionable habits which are indulged in by respectable merchants and receivers of salaries, how long would it take the farmer to cancel a mortgage? The industrious, economical farmer has the advantage of laboring men in manufacturing villages in many respects. Every farm has some kind of a tenement attached to it which answers to shelter the occupant, which is rented or sold with the land and draws no extra pay as rent; then the little trifling things that grow about every farmer's buildings, of the vegetable kind, including cultivated and fruits of spontaneous growth, which if purchased, take off the small paper, and if not, must dispense with some

of the greatest luxuries of the season—the berry pies.

We can make no rational estimate of the income of the farm from the cost of any one or two individual articles of produce, from a year or two in experimenting, but we must be governed by the product of the farm as a whole. At the year's end, if the farmer finds himself as well, or better off than when he began the year, he may consider himself more fortunate than the average of the working world. The proprietor of a small farm of 80 or 100 acres of good land, is the best off, if he would be contented. Large farming establishments require a high degree of skill, good calculation, economy and unceasing care in the manager, or errors may happen to defeat his expectations, and the business prove a failure.

That blight and curse to all comfort, the unbounded desire to get rich, seizes the farmer occasionally to the annihilation of all tranquility and rest, in doors and out. Hurry and confusion pervade the whole premises, and reign supreme; the women are unmercifully burdened to perform their share in the enterprise; the sons, under continued pressure, get tired, and a growing hatred to the business drives them from home, perhaps to their ruin; and so it goes on till sickness from exhaustion enters the premises and the deluded farmer, when too late, *feels* the effects of his folly, if he does not see it, by the loss of his wife and desertion of his sons—himself an old, suffering, broken-down man before he is aware of it, and compelled to die before he gets the last purchase paid for. "What does it profit a man if he gain the whole world and lose his own life" in the attempt? I have been an eye-witness to a like tragedy. Not so with the rational, contented farmer. His sons and daughters love home and leave it with reluctance, and as many of them as can be accommodated stay there.

I have spent some of the happiest hours of my life with such families. Ignorance is not a necessary element in the constitution of a farmer. A clown may enlist in the calling as well as into other business. Well educated farmers are multiplying, and our instructive agricultural newspapers will prove a continued school of progress in teaching the art of agricultural science as well as improving minds in physical and moral subjects. Money cannot be expended for paper in any shape to better advantage than for our agricultural papers; they are not party bigots, but inculcate good, practical Christianity, which is useful to everybody. Undoubtedly there are individuals among merchants and speculators who are richer than farmers, in estimated property; but when fluctuations take place in consequence of embargoes, blockades and wars, which, God forbid, as in 1808 to 1815, there comes a change; land now in Boston worth from one to ten or more dollars a foot, was an unsaleable drug, while in the country, farms sustained their prices and were more in demand as the war held on. A landholder in the city worth a million to-day, under similar causes, if obliged to sell, may find himself a very poor man to-morrow. Farms in the country are a matter-of-fact property, while land in the city has a temporary, fictitious value, regulated and governed by business operations. In conclusion, the incontrovertible evidence that farming is the "main stay of the country," is that every other

kind of business is dependent upon it. If my statements above are incorrect it would give me great pleasure for some of your correspondents, better informed than myself, to point out my errors.

SILAS BROWN.

North Wilmington, June, 1864.

For the *New England Farmer*.

THE SEASON AND CROPS IN VERMONT.

How cheering and refreshing to the parched earth is the rain, now gently falling, which has so long delayed its coming! Our wet spring has been followed by an unprecedented drought, commencing with the month of June, though there had been but a trifle of rain for some time before the first of the month. We had a slight shower the ninth day, when the wind suddenly shifted to the north, and the next day the snow-flakes flew among the green hills of Vermont in high style. The thermometer stood at 46° all day; the clouds and wind kept off frost that night, but the next morning, Sunday, the 12th, the thermometer was found standing at 30°, giving us a hard freeze in the valley, killing early potatoes level with the ground, and entirely spoiling some fields of corn and beans. I think the corn that was killed was not planted so deep as it should have been. Some of our best fields are now large enough to hoe the second time, and give promise of a crop yet if we have a favorable season till October. From the 12th, the thermometer rose gradually to 90° in the shade, and in some villages in the valley several degrees higher, scorching the grass on gravelly and sandy lands till it would burn like dry stubble, as was proved by fires catching from engines passing by the fields. But the rain is again falling, and we may yet have an average crop on most of our lands, if the summer should be wet.

Could some of your readers inform me, either by letter or through the *Farmer*, where a yearling heifer and bull of the Jersey breed could be produced. I don't know that there is any of that breed in this vicinity, but I lately purchased a little quiet red and white cow that had her last calf the first day of last December, and the 28th day of May the milk she gave made a pound and fourteen ounces of butter, and she had no other feed than she got in a very good sheep pasture. I don't know what breed she is, but am satisfied that she is a very good cow. W. I. SIMONDS.

Roxbury, Vt., July 2, 1864.

For the *New England Farmer*.

LEADING ANIMALS.

The horse, cow, calves and sheep may be easily led by making a slipping noose and fastening it to the lower jaw, passing the rope (which must be small) around the neck and through the noose on the jaw. It is a very easy way of leading a sheep, not being obliged to go behind and "push." After once pulling, the sheep will follow right along with no trouble. It costs nothing extra. Try it.

DICKSON.

REMARKS.—We have no doubt but this would be effectual. It is the contrivance which Mr. Rockwell uses in managing a vicious horse. In leading a bull, never trust to his good nature. Bulls are unreliable animals. They can be led, but often take a fancy to "push with their horns"

in a most uncomfortable manner. Always, therefore, have a stick as strong as a good hoe handle between yourself and the bull, and fixed in such a manner as to poke the sharp end of it through the rascal's skin if he undertakes to poke you. Never trust a bull. Make it a rule and you may escape getting terribly gored. Frightful occurrences by them are not uncommon.

PLANTING CABBAGES.

A correspondent of the *Mark Lane Express*, who highly extols the cabbage for feeding milch cows, store cattle, sheep and swine, and more especially for spring-feeding of lambing ewes, says that the average product per acre in England may be stated at 25 tons. He gives the following directions for planting them:

The cabbage plants freshly drawn from the nursery-bed, with the extreme end of the slender fibrous root cut off, are brought to the field, and immersed in tubs of water, with the roots downwards, and taken from the vessels as the plants are required for use. Persons provided with dibbles insert the plants on the top of the drills, at the distance of two feet from each other, making a hole with the dibble for the insertion of the plant to the depth it has stood in the nursery-bed, and pushing with the dibble the sides of the hole together, in order to give the plant a firm position. It must be very carefully observed not to insert the plant deeper or more shallow than they stood in the nursery-bed, as a transformation of the exposed or earthed up skin is the consequence, and a necessary delay in the onward progress of the plant. All plants with a large foliage require much moisture, and the dung that is used for cabbage must be thoroughly moist, and even wet, whether it be cool or fermented; the plants immersed in water, and the insertion in the ground should be performed in the wettest weather in which the work is possible to be done. When any plants are seen to be dead, the places must be immediately filled with fresh plants in order to secure a full crop all over the field.

THE WESTERN GRAIN CROPS.—A gentleman having an extensive telegraphic correspondence with the Western grain markets speaks of the crop prospects of the present season as very fair, taking the country as a whole, notwithstanding the prevalence of drought in many parts. Recent rains have done incalculable good, though not as abundant or general as might have been desired. In Southern Ohio the harvest will soon be ready for gathering, and the crop is spoken of by Cincinnati papers as a good one. Corn and oats still need rain, but promise an average yield. Western agriculturists, as a class, are represented as exceedingly comfortable in regard to money, as the high prices of grain have induced them to send forward their old crops, exchanging them for cash, and paying off incumbrances. Farm mortgages, so much desired for investment, are not to be had.—*N. Y. Journal of Commerce*.

SCOURING KNIVES.—A subscriber to the *American Agriculturist* writes that the ashes of hard coal unmix'd with any from wood, are a better article than Bath brick for scouring knives, forks, etc.

WHY BEES WORK IN THE DARK.

A lifetime might be spent in investigating the mysteries hidden in a bee-hive, and still half of the secrets would be undiscovered. The formation of the cell has long been a celebrated problem for the mathematician, whilst the changes which the honey undergoes offer at least an equal interest to the chemist. Every one knows what honey fresh from the comb is like. It is a clear yellow syrup, without a trace of solid sugar in it. Upon straining, however, it gradually assumes a crystalline appearance—it *candies*, as the saying is, and ultimately becomes a solid lump of sugar. It has not been suspected that this change was due to a photographic action; that the same agent which alters the molecular arrangement of the iodine of silver on the excited collodion plate, and determines the formation of camphor and iodine crystals in a bottle causes the syrupy honey to assume a crystalline form. This, however, is the case. M. Scheibler has enclosed honey in stoppered flasks, some of which he has kept in perfect darkness, whilst others have been exposed to the light. The invariable results have been that the sunned portion rapidly crystallizes, whilst that kept in the dark has remained perfectly liquid. We now see why bees are so careful to work in perfect darkness, and why they are so careful to obscure the glass windows which are sometimes placed in their hives. The existence of their young depends on the liquidity of the saccharine food presented to them, and if light were allowed access to this, the syrup would gradually acquire a more or less solid consistency; it would seal up the cells, and in all probability prove fatal to the inmates of the hive.—*“Chronicle of Optics,” in the Quarterly Journal of Science.*

OLD-FASHIONED COMFORTS.

Our ancestors were a frugal, self-denying people, inured to hardships from the cradle; they were content to be almost without the luxuries of life, but they enjoyed some of its comforts, to which many of us are strangers (old-fashioned comforts, we may say); and among these the old fire-place, as it used to be termed, held no mean rank. How vividly the picture of one of those spacious kitchens of the olden time comes to our mind, with its plain furniture and sanded floor, innocent of paint, but as white as the neatest of housewives could make it! In one corner stood the clock, its very face wearing an aspect of good cheer, and seeming to smile benignantly upon a miniature moon over its head, which, tradition said, had, at a remote period, followed the rising and setting of its great prototype in the heavens, though its days of active service were long ago over.

But the crowning glory of that kitchen was not its white sanded floor; nor the high desk with its pigeon holes and secret drawers, which no venturesome youngster ever dared to invade; nor yet the old clock ticking so musically in the corner; but it was the old fashioned fire-place, with its blazing embers, huge back-logs, and iron fire-dogs, that shed glory over the whole room, gilded the plain and homely furniture with its light, and rendered the place a type of true New England in “ye olden times.”

Never were there such apples as those which swung around and around upon strings before the

bright fire of a winter's evening, never such baked potatoes as those buried deep in the ashes upon the hearth, never such cornstalks as those which caught golden hue from the blazing embers, or turkey like those turned upon a spit, filling the room with savory odors so suggestive of a dainty repast.

Before the fire was the wooden settle, and here the children were wont to sit in the long evening, telling stories, cracking nuts, conning their lessons for the morrow, or listening in silence to the words of wisdom that fell from the lips of their superiors, and anon gazing in silence into the bright fire, and conjuring up all sorts of grotesque fanciful images from among the burning coals. No fabled genii, with their magic lamps of enchantment, could build such gorgeous palaces, or create such gems as the child could discern amid the blazing embers of the old fashioned fire-place.

And we must not neglect the chimney corner, where sat our grandfather in his accustomed seat, his hair silvered with the snows of many winters—a venerable man, to whom old age had come “frostily but kindly,” and whose last days were like those of an Indian summer, serene and beautiful, even till the stars appeared in heaven.

How pure was the air in those days! The huge fire-place, with its brisk draught, carried off the impurities of the atmosphere, and left the air pure, life-giving and healthful. Now, we crouch around hot cooking-stoves, and think it strange that we feel so stupid and drowsy of an evening; or we huddle about air-tight stoves, and wonder that the air seems burned and impure; or we sit down in chilly rooms heated by a furnace, and marvel that with all our costly furniture, soft carpets, bright mirrors and damask curtains, they are cheerless places—so unlike our ideas of a New England home.

Alas! that with all the so-called improvements of our advanced civilization, the fire should be permitted to go out forever in our old fashioned fire-places, thus burying in the ashes of the past so many means of health, home comfort, good cheer and happiness.—*Scientific American.*

THE PORTULACAS.

In looking over the horticultural publications of the day, there is so much said of new varieties of plants and flowers, often with high sounding names, that we greet with especial pleasure any notice of an old friend. In the June number of Hovey's magazine we find the following complimentary notice, by the editor, of portulacas in general and of a late improvement of this old favorite, in particular:

The portulaca, though one of the most common, is still one of the most showy and beautiful annuals, admirably adapted to our climate, growing freely and flowering abundantly under conditions of soil and treatment where many other flowers would scarcely make any display; the old orange and scarlet, when planted out in large patches, vie in brilliancy and decorative effect with the showiest verbenas.

For a long time there were but two or three shades of red and orange, but with the skill of cultivators they have been crossed and fertilized till we have nearly a dozen different sorts, some

scarlet, some crimson, some yellow, orange, white, &c., with a mixture of the two colors. These have hardly become well known before we have another improvement, obtained by the German florists, in double flowers, as double as the rose.

These double varieties are in fact charming objects, and may well claim a prominent place among the novel things of recent introduction. The flowers are perfectly double, about the size of a twenty-five cent piece, and a bed of them in full bloom presents a gay appearance, not unlike that of the beautiful ranunculuses, or the little Burgundy rose, so that the Germans call them "Portulaca roses."

The portulacas love a warm and rather light soil, and a dryish situation, to flower well. They need not be planted early, unless in a frame or hot-bed, as the seed will not grow freely till the ground is warm. About the middle of June the plants begin to appear in the open ground, and grow with great rapidity, soon covering a large bed, and making a dazzling display, with their many-hued flowers, from July to frost.

The double varieties, like all other double flowers, cannot be relied upon with certainty to produce all double flowers, but the larger part of them will be double, and the single sorts may be pulled up and thrown away or transplanted, unless it is desired to retain them in the same bed with the double kinds.

INDIAN CORN.—A correspondent of the *Prairie Farmer*, after a few remarks on the culture of corn, waxes eloquent, as follows, on the value of this grain:

With a nominal cost of seed, a range of two months for planting, it waits for the sick and the absent—may be harvested almost any time without expensive machinery, is almost indestructible, destroys worthless plants, gives about as much rough feed for all domestic animals, and is unequaled for fattening purposes. The buxom girls and stalwart sons of the West deem it the staff of life when made into bread, and when made into whiskey many think it life itself. It supports the poor man's family, the rich man's flask and the merchant's trade. It is the basis of an immense trade in beef, the main pillar of our national prosperity, the golden fleece of America, the staple of the West, the pride of Illinois. From its partial failure last season we more fully appreciate the inestimable value of this splendid gift of the Great Spirit to the Red Man, the jewel of our rich inheritance.

ABOUT MILKING AND TALKING.—A correspondent asks: "Does it affect the quantity of milk a cow will give if conversation is carried on between milkers when milking?" We do not think there is any doubt about it—especially where the dairy is made up of young cows. We would not have a loud-talking milker in the stable. And it would be better without doubt, if conversation were entirely tabooed when milking. We remember some years ago, a dairyman asserted at a meeting of a farmers' club, that he had discharged a man because he would talk and interrupt the milking in his dairy, and that in three days the increase in milk was equal to the man's wages. Such are important facts, if established.—*Rural New Yorker*.

FIRE-FLIES.

'Tis June, and all the lowland swamps
Are rich with tufted reeds and ferns,
And filmy with the vap'rous damps
That rise when twilight's crimson burns;
And as the deepening dusk of night
Steals purpling up from vale to height,
The wanton fire-flies show their fitful light.

Soft gleams on clover-bloom they fling,
And glimmer in each shadowy dell,
Or downward, with a sudden swing,
Fall, as of old a Pleiad fell;
And on the fields bright gems they strow,
And up and down the meadow go,
And through the forest wander to and fro.

They store no hive, nor earthy cell,
They sip no honey from the rose;
By day unseen, unknown they dwell,
Nor aught of their rare gift disclose;
Yet, when the night upon the swamps
Calls out the murky and misty damps
They pierce the shadows with their shining lamps.

Now ye who in life's garish light,
Unseen, unknown, walk to and fro,
When Death shall bring a dreamless night,

May ye not find your lamps aglow?
God works, we know not why nor how,
And one day, lights, close hidden now,
May blaze like gems upon an anger's brow!

"The Round Table."

PURE WATER FOR STOCK.

A good draught of good water is, probably, as refreshing to beasts as it is to people. But in the month of August, nearly all domestic animals suffer for want of good water. Sheep will thrive far better if they can have access to pure water. Teams will endure the heat far better if they can have plenty of pure water; and if milk cows must drink stagnant water wherever they can find it, how is it possible for them to give their usual flow of good milk. It is impracticable for them to do this.

Some people allow water to stand in troughs, day after day, many times, and compel their animals to drink it all up. Did such people ever drink water from an old dirty slop pail, after it had been allowed to stand in the sunshine for two or three days? Let them try the experiment of drinking such water, and wait for the result; and then they will be prepared to express a correct opinion, whether or not such water is as good for stock, in the sultry days of August, as pure cold water would be.

Water troughs and water tanks should be cleaned frequently, during the hot days of August and fresh water pumped into them several times during the day.

Milk cows require a vast quantity of pure water in hot weather, in order to produce their usual flow of good milk.—*Country Gentleman*.

STONE HOUSES.—The writer of an essay on "Country Houses," printed in the *Baltimore Farmer*, concludes that, "As to the economy of stone, we believe, at the present prices of lumber, it is quite as cheap, if not actually cheaper than wood; and as to the comfort of houses built of stone, when compared with those constructed of wood, the odds are altogether in favor of the stone."

WHEAT---GOOD SEED.

I've seen the largest seeds, tho' rear'd with care
 Degenerate, unless the industrious hand
 Did yearly cull the largest. Thus all things
 By fatal doom, grow worse, and by degrees,
 Decay, forced back into their primevous state.

Virgil.

Too many of us are apt to think that we possess a sufficient amount of knowledge in the business we pursue, in and of ourselves, without reference to the almost infinite mass of mind around us, or that ceaseless research and activity that has existed before we came upon the stage of being, and which is now constantly affecting us.

It is true that great progress has been made in the art of cultivating the soil, and especially in regard to the labor-saving machinery and implements that have been introduced, and which have proved of the utmost efficiency. Improvements have also been made in many other directions,—in buildings, stock, &c., and in the introduction of new and valuable vegetables and fruits. There are several important rules, however, well understood by the ancients, and observed by some of them, at least, with scrupulous care, that are very generally disregarded by us. One of these is in regard to the selection of seed.

COLUMELLA, who wrote about the time of our Saviour, in some remarks upon the selecting of the best seeds to propagate from, says:

"I have this further direction to give, that when the corns are cut down and brought into the threshing-floor, we should even then think of making provision of seed for the future seed-time; for this is what CELSUS says—where the corn and crop is but small, we must select the best ears, and of them lay up our seed separately by itself."

The method, however, most farmers practice in reference to this important matter is far less scientific and rational; they do not hesitate to purchase of any one having the reputation of being a "good farmer," any kind of seed he may chance to recommend or have on hand. In this way fatal mistakes are often made, and lands which have been prepared with patient industry, are stocked with seeds which are nearly worthless, and sure to disappoint the expectations of those who have expended much time and capital in procuring and planting them.

An able writer, who is also a practical farmer, says: "I am convinced that a proper selection of wheat is indispensable, my crops having almost doubled in produce since I have raised seed of a pure sort. Those intelligent and superior farmers who have already made great strides towards pure crops by a careful selection of seed, must not expect so great an increase. But even to those I hold out decided hopes of improvements by the means I recommend."

There are a great many varieties of wheat.

Le Couteur's collections embraced one hundred and fifty distinct sorts. One ear of one of these varieties he sowed grain by grain and suffered the plants to tiller a part. The amount of produce exceeded four ounces! Indian corn, when care is exercised in selecting the best formed, but not always the largest ears, and those which are the earliest ripe, and continuing the practice for a succession of years, is found to be greatly improved, both as regards earliness of maturation and productiveness. The same remark applies with equal force to other vegetables—roots as well as grains.

Attention to this subject will result in great gain to all who are cultivating extensive crops.

COMSTOCK'S ROTARY SPADER.

Believing that hard work is the great objection to farming, especially in the mind of "Young America," we rejoice at every indication of the near approach of the good time coming when the drudgery of cultivation shall be performed in a great measure by machines instead of human hands. For many years an indefinite vision has floated in our brain of some machine to take the place of the simple plow, which has changed only inform from the primitive "crooked stick" of our antediluvian forefathers. Last year we copied from the Western papers a brief notice of experiments with the Rotary Spader. The universal scarcity of farm help throughout the country has increased the demand for machinery beyond all precedent, and it is used this year as never before. Hon. M. S. Sullivan, of Broadlands, Champaign Co., Ohio, has four of Comstock's Rotary Spaders on his extensive farm this season. With these machines he estimates the cost of preparing the soil and planting corn at fifty (50) cents per acre, allowing one dollar and a half per day for men and fifty cents per day for horses. In a communication to the *Rural New Yorker*, he says:

I commenced working one of them on the 19th of April, preparing ground for corn, and have worked it constantly since, when the ground was in condition for working. A few days later I started two more, and a fourth some days since; they have all been running constantly when it was not too wet. I am working two of them with four horses and one man each; the other two we work in a gang, with a team of six pairs of oxen, driven and managed by one man.

"These machines work three feet in width and eight inches deep, pulverizing the soil more thoroughly and preparing a better seed bed than I have been enabled to do with the plow and harrow. The horse machines do one acre each per hour, with a speed of two and three-quarter miles; the gang will do one acre per hour, with a speed of one and three-eighth miles.

"I expect, in a day or two, to have a machine the full width of a corn row, (three feet, eight inches,) at work, with a self-acting corn-planter attached. This machine will be capable of pre-

paring and planting the ground at the rate of one acre per hour, with a speed of two and a quarter miles; we think four horses, or six oxen, and one man, will work and manage it readily.

"As to my opinion of it, I have no hesitation in saying that I think it the greatest step forward that has been made in agricultural machinery. I believe they will supersede the plow on our prairies, and similar soils, and cause a great revolution in Agriculture."

In the *Prairie Farmer* we notice a statement by another farmer who has one in use, and who writes that one man and four horses spade about eight acres per day, if the weather is reasonably cool. He says:

"The Spader is the implement for me. It gives, what I have always desired, a depth of filth that is not obtained with the plough at one operation. It also gives a quicker and better way to prepare the soil for the seed, enabling the farmer to do his work at the right time and in the right season."

Mr. Wicks, for that is the name of the writer, adds that his teamster "either walks or rides at his pleasure or convenience, and that with good improved tools and harnesses and horses farming is a real pleasure to any man."

THE SEASON---CROPS---DROUGHT.

Since the middle of June the weather has been, at times, excessively hot during the day, with succeeding cool nights. The thermometer, in the shade, has risen to 98° and 100°. In the midst of these tropical suns there has been but little rain for several weeks past, so that the grass crop has been hurried to a most rapid maturity. Haying was commenced in earnest during the last week in June, and more grass was probably cut than was ever known to be cut before during a similar period. On old lands the crop will be light, and the impression is quite common that the entire crop will fall short a full third of that of last year. Such, however, are not the conclusions to which we have arrived, after visiting various portions of this State and New Hampshire. We believe we shall have not only a full average crop, but that the fodder will be worth at least *twenty-five per cent.* more than it was last year. Many farmers have already, July 18th, got well nigh through with their English hay harvest, and are striking vigorously into their meadows. Scarcely a ton of hay has been wet so far, so that what has been housed is of the best quality, and will make milk and beef almost as rapidly as grain.

The drought now begins to pinch the barley crop pretty sharply, and the early potatoes feel it sensibly. Corn never looked better, nor have we ever seen finer fields of winter rye than are presented in every section we have visited. We have seen only a few fields of wheat, all of which were of an average quality. We must have rain soon or the second crop of grass will be light.

CLEANING GOVERNMENT BEANS.

We have several times spoken, in these columns, of the devices of one SANFORD ADAMS, of Boston, to separate good things from bad ones, so that each shall stand before the world upon its own merits,—where all ought to stand now, but where we shall be *obliged* to stand by-and-by.

It is said that *some* government contractors have few scruples as to what they bale and barrel and box and send to our brave soldiers in the field and our gallant sailors on the sea—but hide beneath the boards and staves, which enclose them, articles not contracted for, and entirely unfit as food or clothing. This shows a moral obliquity in some of our business men which is now a crime closely akin to disloyalty, and which it is not pleasant to expose. We wish all persons of this stripe were obliged to submit to such a verdict as Gen. Butler pronounced upon an unworthy son of Massachusetts, who allowed numerous casks of whiskey to be smuggled into Norfolk, Va., for a petty bribe of \$750, viz: that he should be arrested, tried, convicted and sent to State Prison.

It is enough, certainly, for the government to sustain itself against its public and open enemies,—but it is still harder to protect itself against those in the guise of friends, and whom it is daily protecting at enormous cost and sacrifice.

Disloyal! Under such a mild and equal government, and in such a crisis! It is a crime which has scarcely yet found its way into the calendar of crimes! It is treason, not only to one's government, but to one's family, against humanity and human liberty! Treason against God himself,—for treason, now, tends to deprive the children whom he has made of liberty and of life itself! And yet the government is robbed and wronged every day by scoundrels who wear meek faces and use honeyed words, who sit in high places and pass as "tolerably honest men." If we had the power of the "Grand Turk" for a single day, the "Dry Tortugas" would groan with the weight of lusty shovellers who should press its hot and heavy sands! We could, possibly, listen with patience to the apology of a Southern traitor, but with none to him or her reared amid Northern institutions and customs. If there are any "bolts of Heaven, red with uncommon wrath," ought they not to be hurled upon those who have enjoyed the protection and blessings of such a country and such a government as ours, and then, with traitorous spirit and acts, turned their heel upon them when everything is imperiled by wicked and open enemies?

We recently saw a portion of a lot of more than *three thousand bushels* of white beans, which had been contracted for by government agents, and *rejected* as bad by government inspectors. After remaining some time, and being greatly needed by

the army and navy, the agent brought Mr. Adams and his curious mill to his aid, and has rescued from the mass about three thousand bushels which are fit for the camp, dining cabin or king's table.

In the *debris* which was left were two barrels of broken bean pods, two barrels of a variety of small seeds, chaff and other refuse, sixty-four barrels of small beans, in perfect form but that did not get fully grown, and *six bushels of small stones!*

The complete separation of this huge mass was performed in twelve days with his mill and the services of one man and three small boys.

We wish his "Separator" could be set in motion and sift out every person with secession tendencies as thoroughly as he sifts the chaff from the wheat which passes under his care. Would it not be a singular and just judgment upon them to march in gangs "down South" with haltered necks,
"And coffee's weary chain!"

May God grant that they repent before this dreadful doom overtakes them.

For the New England Farmer.

CHICORY AND COFFEE.

MESSRS. EDITORS:—In these trying times, when the price of coffee has gone up like a balloon, I have been thinking of the expediency of raising chicory or succory or endive, (*Chicorium Intybus*) which is growing wild along all our roadsides, and is now in bloom and will be all summer, with bright blue showy flowers.

It goes under the same specific name (*Intybus*) as the French plant of whose roots a substitute for coffee is made. Can you or any of your readers tell me *with certainty* that it is exactly the same as the coffee plant, or if it is a *variety* of that, and not proper to make coffee of. In "*Le Bon Jardinier*," I find the following:

"Wild chicory is very early and productive as a fodder, very good food for cattle, either in a green or dry state, and it resists drought well. It succeeds well either in strong or light soils, if they only have sufficient depth. It is usually sown broadcast in the spring, either by itself or with red clover, or barley or oats. It may be sown in September. When sown by itself, take about twelve pounds, Troy, to the acre. It lasts three or four years. The roots do not freeze, and may stand in the ground during the winter."

I wish some one who knows (not guesses) will tell me whether or no this plant by our roadsides will do as a substitute for coffee?

REMARKS.—Chicory is a pest. It has got into our grounds by some means unknown to us, and defies all our efforts, thus far, to eradicate it. A plot of it has been dug up four or five times in a single season, and the next spring would show itself in full vigor again. It roots very deeply, bears a sharp drouth and all manner of trampling upon by man and beast. We dislike it, both in field and coffee-pot, and should rather drink the tea steeped from raspberry leaves than any decoction of chicory. Arthur Young brought the seed from France in 1788, and grew the plant exten-

sively on his own farm in England. He says:—"The root runs deep into the ground and is white, fleshy, and yields a milky juice. On the continent the dried root is roasted and used instead of coffee. The root contains a strong bitter which may be extracted by infusion."

"When the roots are used as a substitute for coffee, they should be first cleaned, then put into an oven after the bread has been taken out, and allowed to remain until cool. Should once baking be not sufficient, the process is to be repeated, after which mix with one-half of coffee."

We have no doubt that the plant which our correspondent describes is precisely that described by Arthur Young.

EXTRACTS AND REPLIES.

Difference between Good and Poor Farming.

I have seen this strikingly manifested in two farms that have come under my observation. One, the town farm in South Danvers, on which the poor are supported,—the other, the County farm in Topsfield, given to the Essex County Society, by the late Dr. Treadwell, of Salem.

On the one, *thirty tons* of prime English hay was cut upon *twenty acres!* On the other, less than half this amount. Originally, they were of soil equal in quality. One has, for years, been skinned by tenants,—the other has been dressed by liberal applications of manure made on the farm. Other crops in like proportions. Facts are stubborn things. P.

July, 1864.

A Good Clip.

I have 102 sheep, 50 of them are $\frac{1}{2}$ Atwood blood, one year old wethers; they sheared 8 $\frac{1}{2}$ pounds, on an average. The other 52 are $\frac{3}{4}$ Atwood blood ewes, two years old last spring; they sheared 9 $\frac{1}{2}$ pounds on an average.

The whole sheared 920 pounds, or a trifle over 9 pounds, to average the whole. I did not raise any lambs because I did not think my ewes old enough. My sheep were well washed about two weeks before shearing. I sheared the 30th day of June, 1864.

I would like to have some one beat this, and I will try again. A. D. NELSON.

North Haverhill, N. H., 1864.

For the New England Farmer.

ON BUTTER-MAKING.

MESSRS. EDITORS:—In the *Farmer* of July 2d, I noticed an article on *butter-making*, which does not exactly coincide with my sentiments, or at least, I differ from "Sarah" in some particulars, namely, she stated that their cow gave eight quarts of milk at night, and that she strained it in two pans. I should use three or four—prefer four if I had plenty of room and plenty of pens, as I think the cream would rise much sooner; milk ought not to stand more than thirty-six hours in very warm weather, before being skimmed, I think.

She also said she had no nice, cool place to keep milk; how can she make nice, sweet butter, as she says she does? I could not. She says she churns once a week. I think it is better to churn oftener, as the cream does not get so sour, and I think the butter is much better. I consider a "nice, cool place" to keep milk and cream indispensable in butter-making. I have a nice, cool milk-room, constructed on the principle of ice-houses, a space filled with sawdust, with double doors, double window, and an ice-box inside for

ice during the hottest weather. I can bring the temperature of the room to 58° or 60° by filling the ice-box, when the thermometer stands at 90° outside.

When my milk is brought to the house, I cool it during the hot weather, by putting it in tin pails and putting the pails in tubs of cold water, then strain in tin pans, 2½ or 3 quarts to a pan. My pans are so arranged that the air can circulate all around them. I let the milk stand 36 hours, then remove the cream, put it in a tin pail, being careful to keep the cream cool. I sprinkle a very little salt in the cream as I gather it. I skim milk morning and night, stirring my cream each time when I put cream in the pail. I have the temperature of my cream at the time of churning 58° or 60°, which I think is about right for warm weather. I churn twice a week, and use the "N. E. Air Pressure Churn." I have two other patterns of churns, but I think, for all times, I prefer the air pressure, as it churns the butter more even, that is, all the cream comes to butter. When the cream is churned to butter, I remove the butter from the churn, work out the butter-milk, salt the butter, putting one ounce of salt to each pound. I let it stand twenty-four hours, then work over twice, with hands, working three or four pounds together first, and then each pound separately, so as to be sure and get all the butter-milk out. I then form it into pound lumps, and put into boxes for the market.

MARY T. TOWNSEND.

Marlboro', July, 1864.

For the New England Farmer.

BIRDS---CHERRIES---INSECTS.

FRIEND FARMER:—I write a few lines to tell you what I have observed in birds, as related to cherries and insects, as follows:—Birds, of whatever kind, whether robin, cherry birds or what not, never wantonly destroy or feed upon cherries. I have for two seasons particularly examined their depredations, and have come to the following conclusion, viz: that birds never trouble fruit unless there is a worm in it; whenever they find such, (and God has given them instinct, reason, or whatever one chooses to call it, enough to enable them to seek and find their food,) they bore the fruit and secure the worm. I have gathered cherries which were perfectly fair and sound and found a worm inside. I have examined cherries which the birds have pecked, and have found inside a worn cavity larger than the hole which the bird made to get at it. Birds have free access to my trees—the insects do not destroy their foliage. The birds are so tame, that while I am gathering cherries they gather insects, and I could easily catch them (the birds) with my hand. I believe that the way to get rid of insects and bugs on fruit is to cherish the birds, treat them as friends, feed them, if necessary, to induce them to frequent our premises. One or two or three seasons of such a course may not wholly free our orchards from pestiferous insects, but I believe that a constant perseverance in encouraging the birds will in time effectually remove all obnoxious insects from our trees. There is no poison that will at one application rid our premises of bed bugs, yet all good housewives will tell you that by perseverance they can accomplish the end aimed at.

South Danvers, July, 1864.

T. A. S.

For the New England Farmer.

SHEEP HUSBANDRY---No. 8.

In a former article we referred to an oily substance exuding from the skin of the sheep. One object designed by nature in furnishing this yolk appears to be to soften the scales on the exterior of the fiber. To this yolk the wool is indebted for, much that makes it superior to hair, for it renders it softer, more pliable, and more readily worked than it otherwise would be. This yolk is plentifully supplied in young and well fed sheep, but in old and half-starved sheep it is scarcely perceptible, and their fleeces partake as much of the character of hair as of wool. For the want of it the scales are not so soft and the fibre not so pliable, and cloth made from such stock is harsh and tender; and science has failed thus far to discover an unction which can render that wool soft which has been left harsh by nature not supplying its own emollient.

The ancient Romans appear to have exhausted every known expedient to aid nature in producing a soft and delicate filament. They smeared it with fine oil moistened with wine; the fleece was combed while growing, that it might not become matted, and the sheep were washed several times a year. This lack of yolk in old and ill fed sheep is another reason why we have urged upon the farmer the necessity of keeping their sheep in good condition, and disposing of them before they become old. And those who have old and badly fed sheep should not complain because their neighbors, who have young and well fed animals, obtain a higher price for their wool, though it may be coarser than their own; for it will make softer and firmer cloth than finer wool from poorer and older sheep.

Though this yolk is essentially necessary to the production of good wool, yet no more is required than just sufficient to keep the fibres soft and pliable. Any quantity in excess of this is of no benefit to the wool, but is sometimes injurious. Some farmers feed for the purpose of exciting a large supply, thinking that by so doing they obtain what many may suppose a heavier fleece; but the quantity of wool is not increased by the increase of yolk, and the purchaser would certainly be unfit for his business if he did not make a proper allowance for all excess of grease and dirt, and it seems to be a poor speculation on the part of the farmer to feed his sheep with special reference to producing a yolk. His fleece will hold from twenty-five to thirty per cent. excess of the proper quantity required in good healthy wool, which would amount to about two pounds, and this is produced in about a fortnight, and in order to have this two pounds of yolk at the time of shearing, they will produce in the course of a year from fifty to one hundred pounds; and it is not unfrequently produced at the expense of the pulp, which is the source of the wool. When this is the case, the wool, though soft and pliable, will be weak and stunted in growth. Generally this excess of yolk is produced at the expense of mutton—the food of the sheep in place of building up the carcass and fattening it, is expended upon the yolk—and the farmer frequently finds his endeavors to feed his sheep defeated. He has fed high and is surprised that his sheep have not gained in weight. It is also produced at the expense of milk. Sheep which produce large supplies of yolk are

always deficient in milk. Corn too liberally fed to sheep will produce this effect. It contains a great amount of oil, and in place of producing fat, as in some domestic animals, it too frequently produces oil in sheep. Sheep fed largely on oil cake will be excessively yolkly, particularly merinos. A large number of those remarkably heavy fleeces are produced from oil cake. Wool having its origin in the skin, will be affected by whatever affects that part. Too much dry food is apt to affect the skin of all animals unfavorably, and man is no exception,—while all succulents have a happy influence upon the coats both of the horse and cow; some of the sleekest coated horses we ever saw were indebted to a small supply of potatoes daily, for the softness and brightness of their hair.

Corn and hay are dry food, and fed exclusively and liberally to sheep are apt to affect their skin unfavorably, and consequently their wool. We have frequently noticed that sheep, which have been fed liberally with corn, show a falling off in the build of the staple during its winter growth, and is sometimes as weak as though its feed had been deficient; the bottom of the staple is often yellow and filled with a salvy substance, a sure sign of skin disease. This we have rarely noticed in wool when the sheep have been fed upon roots and hay, and scarcely ever saw an excessive supply of yolk from sheep so fed, but have known a great many cases where sheep on such feed have rapidly improved, while those fed upon corn and hay have lost weight, which could only be accounted for from the fact that corn, containing a great amount of oil, produced yolk and not fat. A little corn, with roots and hay, we have no doubt would be good feed, yet we have never seen roots fail. Sheep have many slight diseases of the skin which are rarely noticed by the flock master, but an ordinary judge of wool quickly detects them. They are frequently manifested by a discoloration of the wool—which is found to be yellow at the bottom of the staple. One reason, we think, why dry food is found to be injurious to the sheep is, it draws heavily upon the saliva in the process of mastication, and deranges the whole system by the drain.

In this connection we would urge upon the farmer the importance of looking well to his sheep in the fall. They are too often suffered to run too late in the pastures after the feed has been seriously impaired by the frost, and consequently lose condition. The growth of the wool is affected, a weak place is produced in the staple at this time, and any animal suffered to lose condition at this season of the year, cannot afterwards be restored when the weather is much colder, except at a greatly increased outlay. A little feed sometimes judiciously supplied before folding time, might be of more benefit than high feeding after they are housed. The past fall was not an exception, but we think an exemplification of this matter. We know of a great many cases when the sheep were allowed to run out till after Christmas, and pick up their own living from the sour, frozen grass; we do not object to their running out when it is dry, though it may be cold, yet they ought to have some better feed than the hard, frozen pastures afford; we believe a little good hay fed nights and mornings, at that season of the year, would have saved the lives of many sheep and produced better and heavier fleeces.

TYRO.

NEW ENGLAND AGRICULTURAL SOCIETY.

General Arrangements.

The first annual exhibition of the New England Agricultural Society will be held at Hampden Park in Springfield, Massachusetts, on Tuesday, Wednesday, Thursday and Friday, September 6th, 7th, 8th and 9th, 1864. The gates will be open for the admission of the public from 8 A. M. till sundown of each day. The Marshals and Superintendents of the various Classes will meet at the President's marquee at 8 A. M., on Tuesday, to perfect arrangements for the day. The Judges and guests will report themselves at the Secretary's office on the grounds where cards of admission, etc., etc., will be furnished, vacancies will be filled by the Board of Trustees, at the President's quarters, on Tuesday, at 10 A. M., when the book of entries will be delivered. The reports of the Judges must be handed to the Secretaries before 9 o'clock, Friday morning. Notice of intention to enter life stock, and all other contributions, should be sent to either of the Secretaries on or before September 1st, that proper arrangements may be made for their accommodation. Letters may be addressed to C. L. Flint, Boston, Mass., or Henry Clark, Poultney, Vt., Secretaries, or J. N. Bagg, Springfield Mass., Corresponding Secretary. Entries may also be made on the grounds at the Secretary's office until 9 A. M., on Tuesday, September 6th, when the books must be made up for the Judges. Arrangements will be made for the sale of stock on the grounds at the close of the Exhibition. Male and female animals used for breeding must have been owned in New England at least six months previous to the Exhibition. Stalls will be provided for the stock; and hay, straw and water without charge. Grain furnished at market prices. Favorable arrangements will be effected with the various railroads in New England, for the transportation of stock and articles intended for exhibition.

Entrance Fees.

Members of the Society can enter animals or articles for premium, free of charge, and are entitled to a season ticket. All others will pay an entrance fee of one dollar, and receive four tickets of admission, with the following exceptions: Competitors for premiums on horses will pay ten per cent. on the first premium offered. Single horses under the saddle or in harness, entered for exhibition, but not in competition for premium and subject to the call of the Marshal, \$3; spans or tandems, \$4; four or six in hand, \$6. Exhibitors of horses under the above rules will be entitled to an exhibitor's ticket, and when necessary an attendant ticket good during the Fair.

Amount of premiums offered, \$10,000.

Address on Friday, by His Excellency John A. Andrew, Governor of Massachusetts.

Farmers' meetings will be held every evening. Prize animals will be specially signaled, and provision made for the sale of stock. Ample accommodations will be made on Hampden Park. Animals and articles competing for premiums must be on the grounds by 6 P. M., Monday, September 5th, the day before the exhibition. Arrangements have been made with most of the railroads to transport stock free, and run half fare excursion trains. Entries may be made in writing with

J. N. Bagg, Corresponding Secretary of the Society, at Springfield, Mass., the week prior to the exhibition. Inquiries can also be made of C. L. Flint, Boston, Mass., and Henry Clark, Poultney, Vt., Secretaries of the Society. For further particulars send for pamphlets or bulletins.

President—George B. Loring, Salem, Mass.
Vice Presidents—Ezekiel Holmes, Winthrop, Me.; T. S. Gold, West Cornwall, Ct.; Frederick Smyth, Manchester, N. H.; Amasa Sprague, Cranston, R. I.; David Kimball, Rutland, Vt.; W. H. Prince, Northampton, Mass. *Superintendent of Grounds*—William Pynchon, Springfield, Mass. *Superintendent of Halls*—James E. Russell, Springfield, Mass. *Secretaries*—Charles L. Flint, Boston, Mass.; Henry Clark, Poultney, Vt. *Chief Marshal*—George Dwight, Springfield, Mass. *Treasurer*—Thomas Sanders, Brookfield, Vt. *Corresponding Secretary*—J. N. Bagg.

CURIOUS FEATURES OF WAR.

War presents some curious features to our view. It has drained our cities in large part of a redundant, idle, diseased and degraded class; these either soon die or are killed off. But there are examples not a few where the activities of the camp, its discipline and its experience, have made invalids robust; and have imparted a higher moral tone to some, and given character and energy to others, who before were by common consent considered to be inane and worthless.

When a man of a good common education and some steadiness of character, goes to war and fairly engages in battle, he is thereafter, until his dying day, more of a man than he ever was before. No one of even common observation can have failed to notice in the faces of returned veteran regiments as they have marched along our streets, a stereotyped cast of countenance, common to all; there is an imprint of sternness on every face; of determination, and an elevation of spirit, despite of tattered garments and soiled clothing and the dust and sweat of a long march; as much as to say, I have been fighting for my country, I have imperiled my life to maintain her liberties and her unity; these are first things; my mission is God-like, to wit, to maintain liberty and the right forever! Amen.

When this war is ended, much of the scuff and scum of society will have disappeared, and nine out of ten of those who return from victorious battle-fields will make better, sterner, more manly members of society than ever before. The most of the great soldiers of history were men of simple tastes, quiet manners and of unassuming deportment. This is the tendency of war, to lop off excrescences, to consolidate the character, to inure to self-denial, to impart energy, determination and self-reliance, and to mold the whole man aright. This war will leave more men in the country than were found in it the day when Sumter was fired at and fell.

Official reports of European countries have shown more boy-children are born in war than in times of peace, and that although at the end of the wars of the First Napoleon, it was rare to find a Frenchman over five feet three, there was a recuperation in the next age, and now the average height of the men does not vary much from what it was before the Directory.

As soon as the war closes there will inevitably

be a universal financial crash; in five years thereafter the country will exhibit a degree of solid prosperity and national power which can defy the world besides; an amount of cotton will be raised annually, which will astonish all civilized nations. Why?

War makes men; determined, self-reliant men; such men have a degree of self-respect which idlers never dreamed of; these characteristics will impel them to labor; to intelligent labor, to labor well directed. Five years ago, many a planter had from five hundred to five thousand acres of land, of which a few hundred only were cultivated, the remainder was held in reserve for children who were growing up with the expectation of a fortune and with the full calculation to live in ease and luxury, to end in a life of idleness, intemperance, and debauchery. Five years hence, there will be ten households instead of one, to every thousand acres; there will be ten families instead of one to be supplied with school-books, and libraries; with the ubiquitous newspaper; the weekly journal and the monthly magazine. Ten families will want a sewing-machine, a piano, a reaper and a clothes-wringer, where one does now. Ten neat cottages will spring up, where was seen but five years since a solitary planter's house, never papered, seldom plastered, and always in a more or less unfinished condition. Intelligence will not plant the teeming soil with corn and potatoes at a price of twenty dollars an acre when it can raise a hundred dollars' worth of cotton, and sometimes three hundred dollars' worth, with less labor.

That country is strongest, is most prosperous, and can best defy all outside nations which is marked off into farms of forty, fifty, or an hundred acres instead of embracing ten or twenty of these in one partially tilled plantation. So that aside from the mere question of slavery there will be benefits arising from this war which will present an encouraging front compared with the opposite phases.

The ravage of war as to human life is exaggerated in almost all minds, and is never so great as it seems to be. Many of the soldiers who sicken and die in hospitals would have sickened and died at home; while the proportion of all who die from wounds is astonishingly small, and some of these would have perished by accident had they remained at home.

It cannot be denied that war is always a curse; and can seldom, if ever, fail to be a sin; but as in the present state of human morals it will come sooner or later, to the nationalities of the earth, it is well to look at both sides calmly and dispassionately, take an intelligent view of all its phases, and endeavor to make the best of it.—*Hall's Journal of Health.*

GALLS ON THE BACKS OF HORSES.—It is said that an ointment made of white lead and milk will greatly soothe and heal galls on horses, occasioned, as they frequently are, by a harness that does not fit, or from some other cause. In cases of long standing, it will be necessary to repeat the application daily for a week or more, gently rubbing and stirring the blood about the injured parts. Care must also be observed not to cause fresh irritation by riding or otherwise exciting the wounds.

DON'T STINT THE COLTS.—At no time in the life of colts, do English farmers pay so much attention to these animals, or feed them better, than during their first winter; and these men contend that, if you inform them correctly how a colt is fed and cared for the first year, they will predict what kind of a horse he will make.

Just so soon as a colt is weaned, he should have a few handfuls of good oats, bruised, per day, a few pounds of cut straw, and a few pounds of hay cut. All else that he procures in the pasture will fill up the gap in his stomach (which occurs between meals,) and he will not over distend that organ, nor his intestines, simply because the wants of nature have to a great extent been satisfied, or rather provided for, by feeding the articles just alluded to. Some persons may object to feeding colts in a generous manner, on account of the expense; but if good fodder makes strong, vigorous and healthy colts, and such colts make valuable horses, then I think that such investment must pay well. Finally, the principal effect produced on the growing animal by an insufficient nutrition, is, to hinder his best development. Therefore, I say *don't stint the colts.*—*Dr. Dadd.*

LADIES' DEPARTMENT.

THE BRAVE AT HOME.

BY T. B. READ.

The maid who binds her warrior's shash
 With smile that well her pain dissembles,
 The while beneath her drooping lash
 One starry tear drop hangs and trembles.
 Though Heaven alone records the tear,
 And fame shall never know her story,
 Her heart shall shed a drop as dear
 As ever dewed the field of glory.

The wife who girds her husband's sword,
 'Mid little ones who weep or wonder,
 And gravely speaks the cheering word,
 What though her heart be rent asunder—
 Doomed nightly in her dreams to hear
 The bolts of war around him rattle,
 Hath shed as sacred blood as e'er
 Was poured upon a field of battle.

The mother who conceals her grief,
 When to her breast her son she presses,
 Then breathes a few brave words and brief,
 Kissing the patriot brow she blesses,
 With no one but her secret God
 To know the pain that weighs upon her,
 Sheds holy blood as e'er the sod
 Received on Freedom's field of honor.

DOMESTIC RECEIPTS.

CANNING FRUITS.—It may be interesting to our readers to know that in these times of high prices many fruits can be preserved with little or no sugar. Currants, gooseberries, cherries, peaches and pears, require no sugar to preserve them. Raspberries and blackberries do not require more than four ounces of sugar to a pound of fruit, and strawberries but little more. We have now the different kinds nearly as fresh and good as when first gathered. Put them up the same way as if you used the usual quantity of sugar—that is, expel the cold air by heating the fruit after it is placed in jars, by setting the jars in cold water, which heat to boiling. The jars we use are Mason's self-sealing, with zinc covers, which can be screwed on before the jar is removed from the

water. We have never lost a jar of fruit put up in them.—*Maine Farmer.*

FLEMINGTON GINGERBREAD.—Stir together till quite light, a quarter of a pound of butter and the same of brown sugar. Then mix in half a pint of molasses. Sift in rather less than a pint and a half of flour. Beat four eggs very light and stir them gradually into the mixture alternately with the sifted flour, a tablespoon of ginger and a teaspoon of cinnamon. Stir all well. Dissolve a level teaspoon of soda or pearlash in as much water as will melt it, then stir in at the last, and set immediately into the oven, which should be brisk, but not too hot, and bake well. Spice to your taste, as the spices frequently vary in strength.

CORN MEAL SLAPPERS.—To a quart of sweet milk stir in sufficient meal, with one handful of wheat flour, to make rather a thin batter; add a little salt and not more than half a teaspoon of soda, but you can judge better by stirring in a very little at a time till the mixture feels light. Bake like buckwheat cakes.

HOP BEER.—The editor of the *Genesee Farmer* pronounces beer made by the following rule, very superior. It is easily manufactured, and will keep six or eight months. This receipt is for fifteen gallons:

Twelve ounces of hops, six quarts of molasses, ten eggs. Put the hops in a bag and boil them fifteen minutes in three pailsful of water. Put in the molasses while hot, and pour immediately into a strong ale cask, which can be made perfectly air tight, and put in the remainder of the water cold. Let the mixture stand until cool, then add the eggs. The beer will not ferment in cold weather, unless put in quite a warm place.

SMALL TEA CAKE.—Seven ounces of flour, four and a half ounces of butter, three ounces of white sifted sugar, the peel of one lemon, the yolks of three eggs, worked well together, rolled into small rolls, and pressed on one side with a knife, and then baked.

TO CLEAN PAPER HANGINGS.—Put a clean, soft bag, or an old pillow-case, over a new broom, and gently brush the dust from the paper; then take crusts of stale bakers' bread, and wipe it down lightly, beginning at the top. If you rub it, the dirt will adhere to the paper. After thus brushing all around the upper parts of the walls with the bread, begin just above where you left off, and go round again. Do thus until you have finished the paper. The dust and crumbs will fall together. Whenever a room is cleaned it is a good way, before the paint and windows are washed, to wipe the paper with a covered broom, as above directed.

A CAT HINT.—When a cat is seen to catch a chicken, tie it round her neck, and make her wear it for two or three days. Fasten it securely, for she will make incredible efforts to get rid of it. Be firm for that time, and the cat is cured—she will never again desire to touch a bird. This is what we do with our own cats, and what we recommend to our neighbors; and when they try the experiment, they and their pets are secure from reproach and danger henceforth. Try it.

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CATTLE MARKETS FOR JULY.

The following is a summary of the reports for the four weeks ending July 20, 1864:

NUMBER AT MARKET.

	Cattle.	Sheep.	Shotes.	Fat Hogs.	Veals.
June 29.....	1503	4134	600	900	800
July 6.....	883	4293	—	600	600
“ 13.....	1343	2993	230	1600	700
“ 26.....	1913	5070	400	850	500
Total.....	5642	16,492	1230	3950	2600

The following table exhibits the number of cattle and sheep from each State for the last four weeks, and for the corresponding four weeks last year; also the total number since the first of January, of each year:

	THIS YEAR.		LAST YEAR.	
	Cattle.	Sheep.	Cattle.	Sheep.
Maine.....	10	2272	357	2011
New Hampshire.....	362	1613	556	1405
Vermont.....	1465	5952	937	4480
Massachusetts.....	220	1592	92	1708
Northern New York.....	210	2192	92	1212
Western States.....	3357	2446	3331	384
Canada.....	18	425	24	—
Total for the four weeks.....	5,642	16,492	5,419	11,840
Total, since Jan. 1, (29 weeks),	39,268	102,251	39,211	78,269

PRICES.

	June 29.	July 6.	July 13.	July 20.
Beef, 1, 2, 3 qual.....	9 @13	9 @13	9 @13	9 @13
“ ex. and prem.....	13½ @13½	13½ @13½	14 @15	13½ @14
Sheep ½ lb.....	5 @ 6¼	5 @ 6¼	6 @ 7	6½ @ 8
Lambs, each.....	4 @ 6½	4 @ 6½	4 @ 6½	4 @ 6½
Shotes, wholesale.....	9½ @10½	— @—	9½ @10½	— @10
“ retail.....	10 @12	— @—	10 @12	11 @12
Fat hogs, live weight.....	11½ @11½	11 @11½	— @11½	— @11
Beef hides, 10½ @11½; tallow 10 @12; calf skins 25 @28c ½ lb.				

REMARKS.—Although the prices of beef have fluctuated somewhat during the past month, they have not reached a higher point than that attained last month, and last market closed considerably easier than the one immediately preceding.

Sheep gradually advanced in price until the last market, when they took a large jump upwards—from \$6.37 to \$8 ½ 100 lbs., on those bought in Albany.

Milch cows very dull; in consequence, in part no doubt, of the drought which has parched up the feed in all this section. Nobody talks about working oxen as everything goes for beef.

Calves have been high—from \$9 to \$14 ½ head. Hides, pelts and tallow all seem to be going up with “every thing else.”

The following from our report of the market July 20, will show the state of the market at that date:

G. W. Barker sold one pair of steers to S. F. Woodbridge at 11c ½ ½; 5 to Mr. Winter at 10½; 7 to Mr. Gage at 10c, 35 sk; and 5 of his lightest at 9c ½ ½.

Geo. W. Morrison sold one pair of oxen laid at 2000 lbs, for \$240; one pair, 1600 lbs, for \$195; one pair, 1500 lbs, for \$182; 4 three-year-olds steers, 2100 lbs, for \$210; one cow, 600 lbs, for \$60; and 2 heifers, 650 lbs, for \$65.

I. A. Blake sold 6 oxen to Henry Zoller, for \$690, or from 11 to 12c ½ ½; one pair to Mr. Wentworth for \$165, or 11½c ½ ½; 8 cows for \$452, or 11c, 5 two-year-olds for \$135, or 9c ½ ½; 4 heifers for \$118, or 9½c ½ ½; and a steer and a cow for \$87, or 9c.

Stephen Mann sold 6 oxen and 1 cow to S. S. Learnard to kill and weigh, at 12½c; 8 small cattle to W. E. Gowing at 9½c; and other stock, at from 9½c to 11c ½ ½, on his estimate of their dressed weight.

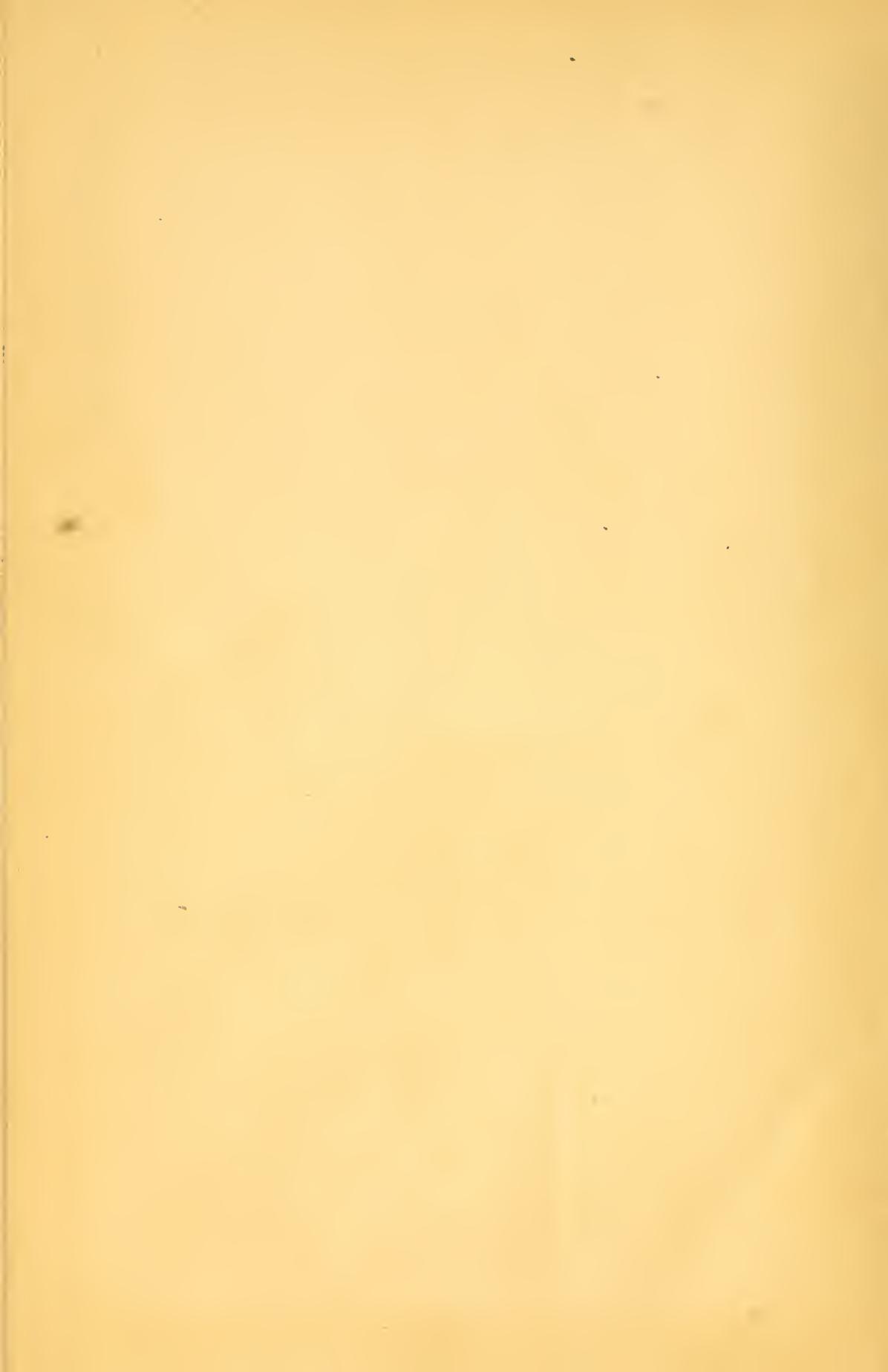
O. E. Taylor sold the four best oxen that we saw at Cambridge, and rich ones they were for this season, for \$575, or 13½c ½ ½; one pair for \$215, or 11c; another for \$230 or 12c; 9 two-year-olds and one cow, to dress over 400 lbs, for \$40 each; 2 heifers 550 lbs, for \$60, 8 other light cattle at 9c or less ½ ½.

Lambert Hastings sold 6 very nice 3 and 4-year-old steers, laid to dress 900 lbs, for nearly 13c ½ ½, on his estimate of their dead weight, although buyer hoped they would not cost over 12½c; his other fair cattle were sold from 12c to 10c ½ ½, and some of the lightest at 9½c ½ ½.

A. N. Monroe sold 50 Western steers, live weight 1261 lbs each, at 13½c, 32 sk, as his highest, and 24 light steers, 751 lbs each, at 9c ½ ½, 42 sk, as his lowest sales; 31 at 11c, ½ sk; 7 at 12½c, ½ sk; 6 at 12c, 35 sk; 8 at 11c, 35 sk; 29 at 11c, ½ shrink.

John Sawyer & Co. sold 35 steers at 12, ½ sk; 25 at 13c, 34 sk; and 7 at 10½c, 37 sk.

Mr. French sold what he considered a fine lot of New Hampshire lambs, for \$5.25 ½ head; Luce & Tyler sold sheep and lambs at \$5.40 ½ head, without weighing; J. P. Fowler sold 265 sheep and lambs at \$5.25 ½ head; John Harmon sold his lambs at \$5 ½ ½ head and his sheep at 7½c ½ ½; one lot of Canada lambs brought \$6.00. N. E. Rice sold lambs at \$5 and sheep at \$6.60 ½ head; Berry Long sold 192 sheep, 80 lbs each, at 7½c ½ ½; M. T. Shackett sold 150 sheep, 90 lbs each, to J. W. Hollis, and 155 of 89 lbs, to Jerry Pratt, at 7c ½ ½, and 62 lambs, at \$5.25 ½ head; one carload of Albany lambs we understand would cost a fraction over \$6. One lot of old sheep were sold at Cambridge for 6½c; Lambert Hastings sold 400 lambs with a very few sheep at \$5 to \$6 ½ head.



Date Due

~~SEP 28 1971~~

