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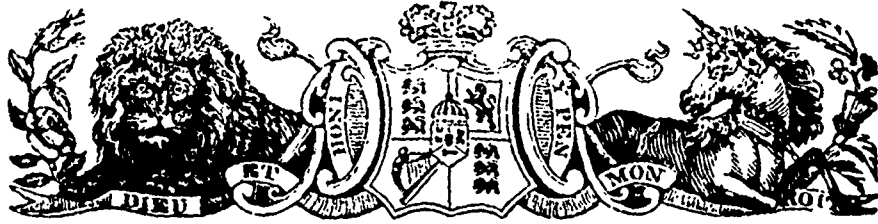
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D. J. Miller

THE CANADA FARMER



A MONTHLY JOURNAL OF AGRICULTURE & HORTICULTURE.

Vol. 1.

HAMILTON, C. W., APRIL, 1855.

No. 4.

The Canada Farmer,

A MONTHLY JOURNAL OF

AGRICULTURE & HORTICULTURE,

Published at Hamilton, C. W.

JOHN E. FORCE, PUBLISHER AND PROPRIETOR.

EACH NUMBER CONTAINS 32 ROYAL OCTAVO PAGES, IN
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CANADA AND ITS AGRICULTURAL RESOURCES.

WHEN the mother country, after enduring for half a century the effects of her eccentric legislation on agricultural products, was forced by the unpretending instrumentality of a rotten potato to adopt a more enlarged and natural policy by repealing all duties on the importation of grain, Canada may be said to have attained her majority, and to have taken her national rank, not as heretofore, in infantine dependence on the parent state, but as a willing, though free contributor to her requirements and necessities. Ever since this period Canada has been gradually improving in her internal condition until the present moment; and impelled by the fortuitous, but much to be deplored, events of the day, she stands in the somewhat singular, but encouraging position, of chief purveyor both to Great Britain and the neighboring republic.

It may be remembered that the great apprehension of the opponents of free trade in produce, was an overwhelming influx every year from the United States; overlooking, or more probably, not knowing, that the enormous increase of population in America, coupled with the no less rapid growth of her manufacturing industry, was calculated to diminish her surplus produce in a corresponding ratio; for statistical

facts show that the increase of population during the past moiety of our century, has ever been in advance of the production of the necessaries of life. In Great Britain this has been the case in a very noticeable degree, notwithstanding that agricultural improvement has always been making some advance there, however slow. Within the last forty years the population has doubled; and yet it is very questionable whether the increased production of the soil at this day, over the first quarter of the century, will exceed fifty per cent. No doubt the extraordinary efforts which have been made within the last few years, by drainage and other operations of a permanent character, have raised the average produce very considerably; but even yet there is a vast void to be filled up. A very competent authority has recently estimated the wheat crop of Great Britain for last year at 16,500,000 quarters, against a consumption of 18,000,000 quarters, thus leaving a deficiency of 1,500,000 quarters of wheat to be imported from some other country. In the United States the population has in the same period quadrupled; whilst, from the absence of many facilities enjoyed by older countries, the scarcity and dearness of labor, and other causes, the amount of agricultural production has fallen from a surplus to below that of the consumption; and wheat is consequently imported to a very considerable extent from Canada. In Canada itself, the census returns exhibit an increase in the inhabitants at the rate of 104 per cent in ten years, which, irrespective of any other influence, is quite sufficient to account for that gradual advance in prices which has been realized. European events have, of course, tended materially to extend this natural rise in prices; but if peace were to be proclaimed to-morrow, there is every reason to believe that, with the demand for home consumption gradually increasing, with a no less certain and extensive demand on the other side

of the Atlantic, and the wants of our neighbors besides to supply, the farmers of Canada have before them a prospect of remunerative rates which should stimulate them to the utmost exertion, and the adoption of all those well tested and approved modern practices which have produced such satisfactory results in other countries

Looking at the statistics of Canada we find evidence of the most unprecedented vigor and national expansiveness and enterprise—greater perhaps, than that of any other country, for although the United States have hitherto been considered as standing unrivaled in this respect, the fact really is that Canada is for the most part in advance of the States. Within the comparatively brief space of a quarter of a century—a long time, certainly, to look forward upon, but nothing in a country's history when viewed retrospectively—the population of Upper Canada, to the year 1850, had quadrupled; and it is probable that at the present time it reaches to close upon a million and a quarter of inhabitants. In the lower Province the increase may possibly not have been quite so considerable, but since, in 1850, it was estimated to contain nearly 800,000 souls; its present population will in all probability considerably exceed one million. And thus, taking Canada as a whole, its population cannot at the present day be much short of two and a half millions; showing an increase of about four-fold since 1815, when the total number was given at about 580,000. Every year adds largely by the tide of emigration from the old world;—the sedate Englishman, the careful Scotchman, the erratic Irishman, and the heavy German, flock

"To vigorous soils and climes of fair extent,
Where by the potent sun, elated high,
The vineyard swells refulgent to the day,"

and constitute a community of labor, skill, and energy unsurpassed by any other example of modern times. It is thus that ceaseless bustle and activity fill our streets with a noise of awakening life and preparation;—a vast industrial host going forth to battle, not in the deadly spirit of human hostility, but to subdue the stormy elements and stubborn soil—a young, hardy, and aspiring nation putting in order and embellishing homes and fields for uncounted millions yet to come. In comparison with our progress, the slow advance of the older nations is like the tottering step of more advanced age, whose life, valuable though it may be, and much that it may have secured, is hidden in the dim past; while we are supple, and in full youthful vigor are pressing impulsively on to a future filled with images of increasing greatness and prosperity.

As evidence of the increasing commerce and wealth of the Province, a reference to the trade and navigation returns of 1853 will show that Canada is making most rapid strides. In 1852 the total amount of exports and imports was £8,898,524, against £13,945,684 in 1853, being an increase in one year of 57 per cent.; and there is little doubt that the returns of the past year will exhibit at least as great an increase. In shipping, the progress is equally on the advance. The total tons of shipping entered from sea in 1852 was 541,114; whilst in 1853 it was 622,579. The value of ships exported from Quebec was in 1852, £262,600; and in 1853, £620,187. The returns of the revenue of the country also attest its progress. In 1852, the total revenue from all sources, customs, excise, territorial, bank imposts, public works, &c., was £880,528; and in 1853, £1,195,168, showing an increase of full 35 per cent. The total estimated revenue for 1854, is given at £1,423,520.

Until within the last few years Canada has been but imperfectly known in the mother country; but the progress she has made, not only in her material, but in her social and political condition has at length attracted that attention which so deservedly belongs to her; and as it is always encouraging to find one's self well spoken of, and especially by those whose good opinion may be worth having, and who are, moreover, very competent to give it, we shall conclude this part of our series by a short extract from a recent leader in the English *Manchester Guardian*, who, speaking of the late Governor General, says: "The contrast between the Canada he found in 1846, and that he left in 1854, is remarkable. The need of praise accorded has been immediate, but it is *durable*. The public judgment rests, in this instance at least, on sure foundations; and throughout the glorious future which we believe is in store for Canada, the grateful colony will ever remember his enlightened guidance through a critical period of her history. Our old ideas of the relationship between colonies and the mother country have been entirely discarded; but under the policy which has replaced them, the colonies have grown far stronger, and are no less intimately attached to us than in former times. It is true that the artificial system of the corn and navigation laws could not be swept away without causing some distress; but, notwithstanding the early difficulties created by the change, Canada speedily displayed undoubted evidence of a new-born strength. The produce of the colony now meets the growth of foreign countries on equal terms in the English market, but at the same time the colonial harbors are

freely open to the ships of every nation. And what, let us ask, have been the results of allowing the laws of nature thus to take their course unimpeded? The revenue of the Province during the eight years we are referring to, has risen from £400,000 to £1,400,000 a year; that upwards of 1,000 miles of railway are completed, and 2,000 more begun. It is shown, too, that in proportion to its actual wealth and population, Canada is increasing in material prosperity faster than even the most flourishing States of the neighboring republic. All this has been done in the short space of eight years, and in spite of the heavy blow inflicted on the Canadian millers and corn-growers by the destruction in 1846 of the prospects held out to them by our legislation of 1843."

(To be continued.)

PARSNIPS.—Parsnips cause cows to produce an abundance of milk, and they eat them as free as they do oil-cake. Land, £7 an acre in Guernsey, is sown with parsnips to feed cattle, and the milk is like cream. Sheep, when lambing, fed with them, produce much milk. They are improper food for horses, subjecting them to blindness.

GUANO AND ITS SUBSTITUTES.

Is it necessary that millions of dollars should annually be sent to a foreign land, in order that the elements of fertility should be returned to an exhausted soil? We think not, if as a nation and a people we were to husband every source of fertilizing material, and not despise the day of small things, in economizing manures of every description.

Though the almost magical powers of guano have been known for hundreds of years, it was not until recently that public attention was so strongly directed to it as to insure its general use. A quarter of a century ago, the lamented SKINNER called the attention of farmers and planters to its power as a fertilizer, but to little purpose. Guano, as most of our readers are well aware, is the dried excreta of sea-fowls, deposited on the islands off the coast of Peru. The supply is not inexhaustible, and at the present increasing rate of consumption, another quarter of a century will see but little left in its present locality. Wherein is its great virtue as a fertilizer, and wherein does it differ from common yard manure? A reference to the component parts of each, will aid us in replying. Guano, as the average of analyses made by BERTELS, OELLACHER, and URE, as given in SOLLY'S *Rural Chemistry*, page 375, contains in 1,000 parts—

	Bertels.	Oellacher.	Ure.
Urate of ammonia	32	122	147
Oxalate of ammonia	134	177	33
Oxalate of lime	164	13	10
Phosphate of ammonia	64	60	143
Phosphate of ammonia and magnesia	42	116	45
Phosphate of lime	100	202	220
Muriate of ammonia	65	22	30
Chloride of sodium	1	4	—
Carbonate of ammonia	—	8	10
Carbonate of lime	—	16	—
Sulphate of potash	42	40	60
Sulphate of soda	11	49	—
Sulphate of ammonia	—	—	20
Phosphate of soda	53	—	—
Humate of ammonia	—	11	—
Wax and resin	6	7	—
Sand, insoluble residue	68	17	12
Alumina	1	—	—
Water	227	43	85
Organic matter	227	93	186
	1000	1000	1000

Let us notice the composition of the various kinds of animal excreta as given on pages 370 and 371 of the work quoted above :

"Fresh horse dung consists of 284 parts dry organic matter, 18 parts inorganic matter, and 698 parts water. Of the inorganic matter about one-ninth is carbonate and phosphate of lime, one-twelfth alkaline salts, and the remainder silica (ZEMM). Horses' urine consists of 27 parts dry organic matter, 33 parts inorganic matter, and 940 parts water.

"Fresh pigs' dung, consisting of the excrement and urine together, contains 93 parts dry organic matter, 87 parts inorganic matter, and 820 parts water. Pigs' urine contains 56 parts dry organic matter, 18 parts inorganic matter, and 926 parts water (SPRENGEL). The inorganic matters consist chiefly of alkaline salts.

"Human excrement (according to BERZELIUS) contains 227 parts dry organic matter, 100 parts inorganic matter, and 733 parts water. Its constituents are—

Albumen	9
Extractive	27
Mucus, fat, resin	140
Bile	9
Vegetable remains	70
Soluble salts	12
Water	733
	1000

"The inorganic matter contained in 1000 parts consequently weighs 150, and contains 100 parts earthy phosphates, 12 parts carbonate of soda, 8 parts sulphate and phosphate of soda, and sulphate of potash.

"Human urine (according to BERZELIUS) consists of 40 parts dry organic matter, 7 parts salts of ammonia, 11 parts inorganic matter, and 933 parts water."

Thus we see that in the urine and fœces of man and beast are contained nearly the same elements. The general practice has been to husband the latter, while the volatile parts of urine, which constitute its chief value as a manure, are allowed to escape without check or hindrance. We can well afford to imitate the Chinese in their practice of economising manures. Rude as their implements of husbandry may appear to us, still the practice and means of fertilization which they use may teach us a useful lesson, if

example is made to follow precept. It is the concurrent testimony of travelers, that no substance of whatever description, capable of serving as food for plants, is allowed to be wasted. Fæces, made inodorous by mixture with dried clay or charcoal, are daily sold in their markets; and to such an extent is their economy carried that the hair clipped and shaved from their polls is carefully collected by the barbers for the same purpose. But few animals are kept, and the means which we possess of adding to the fertility of our fields, are to them unavailable.

But some may say, this is but theory; show us the facts. To oblige such we quote the account of a correspondent of the *London Agricultural Gazette*:

"It may appear to some that there is too much sameness in this annual report of my experiments, but that sameness is the test of truth; for if year after year the results are the same, a valuable truth has been more and more established beyond dispute. On the other hand, if they vary, it is interesting and instructive to investigate the causes of that variety; for that too tends to the establishment of truth, even though it may sometimes be a doubtful approximation. In the first class I may reckon the full effect of ammoniacal manures upon grass. In seventeen experiments of this description, a profit appeared, after deducting the cost of the manure, more or less, in each case, but altogether amounting to £13 (\$65), and the only solitary set-off against this was one solitary experiment with guano, where the value of the increased produce of hay fell short by 8s. 2d. (\$1.98) of the value of the two cwt. bestowed upon the land.

"There is a certain limit in all soils beyond which nature refuses to answer your demands upon her, and so far from any profit being derived by an increase of manures applied to the soil, there is an inverse proportion observable, viz: the more manure the less the profit."

(The point which we wish our readers particularly to notice is the use of peat charcoal mixed with night-soil.)

"Not so, however, in the case of the Irish peat charcoal mixed with night-soil; for of the latter ingredient so small a quantity is present, compared with the bulk, that a large dose is required to produce any effect; and that sort which professes to contain none has been found utterly useless as a top-dressing; and in one instance two cwt. did not repay the expense, though that only amounted to 5s.; but the addition of one-half cwt. made a difference of 12s. profit. In another instance three cwt. was a loss, but four cwt. gave a profit of 7s. 6d. But when applied to the growth of corn (wheat), even a single cwt. of the simple peat charcoal proved beneficial by adding one and one-fourth bushels to the corn, and 224 lbs. to the hay."

Were further evidence required, many more facts might be given, but the above is sufficient. Therefore is it economy to pay out millions of dollars for fertilizers before we have economized all our resources at

home, to say nothing of the vast amount which might be rendered available by proper municipal regulations in all our large cities? We cannot forbear in further illustration of this subject, quoting from a prize report, before a Scotch Agricultural Society, respecting the quantity of fertilizing material now lost or wasted, which can be saved by care and economy:

Cows and bulls	21		
Fattening bullocks	18		
		39 at 3 gallons each	Gallons. 117
Queys	10 at 2½	"	25
One year old cattle	20 at 1½	"	30
Horses, old and young	16 at ½	"	8
Swine	15 at ¼	"	5
			185
But, as the horses will be employed in the fields at an average of eight hours daily, one-third of the urine they make must of course be deducted, which is			67,525
And the cows and young stock, exclusive of the bullocks, may also be more or less in the fields, at an average of say four hours daily, one-sixth of what the produce must also be deducted, which is			973
			7,178
			8,151

This shows a produce, available for the whole year, of 59,374 gallons from the stock kept on such a farm as the reporter has assumed. But as it is proved that, in its original state, it is much too caustic and strong to be applied to grass lands with advantage and economy, it should be well diluted with water, and applied frequently in a weaker state; these 59,374 gallons should, therefore, at least be doubled, by adding water, making—

	Gallons. 118,748
And to which must be added slops from the dwelling house being dish-washings, soap-suds, and contents from the water-closet, &c., at the low estimate of 10 gallons daily for 365 days,	3,650

Here then is, in whole,

122,398 gallons, which will irrigate thirty acres three several times, allowing 1,200 gallons per acre each time, and that after allowing waste by absorption, evaporation, or otherwise, and a considerable quantity for throwing daily over the dung, as pointed out. If, however, the cows and young stock should be kept a longer time in the house than the reporter has stated, then, of course, a greater quantity of urine will be made for the purpose of irrigation, and for saturating the dung.

THE TRUE VALUE OF MANURE.

[Translated from the German of Professor BURKERT for the FARMER; with a Note by the Editor.]

"The true value of manure is known by very few farmers; most of them have only obscure and confused notions on the subject, and so neglect the requisite production and gathering of the same. Nothing, therefore, would more raise to a proper footing the cultivation of fodder and the rearing of cattle, and by this means induce the profitable cultivation of grain and plants for trade, than the ascertaining the proportional value of manure to the

staple products of the country, in given circumstances, by a course of experiments for many years; and no subject deserves more to be investigated on experimental farms than this; because it is too costly for others, on account of the loss which they suffer in the unmanured half of the field. How the product of the field increases with the increase of manure, and a proportional rotation of crops we have shown in vol. i, p. 180. But as the statements there made are drawn from universal experience and reason, they may be attacked until reference be had to the particular experiments which lie at the ground of them. Every experiment which may be made respecting this neglected subject is, therefore, of the highest importance, and deserves to be carefully collected; and in this point of view I hold, as very deserving of notice, what GOSPARIN says, concerning the relative value of manure, in his *Memoir on the Culture of the Olive in the South of France*. 'The average product of seven years of a garden of olives of 1,600 young trees which were not manured was 651 lbs. of oil. (One tree gave only 0.40 lb.) A similar number of the same trees, which in three years had collectively 840 cwt. of manure, gave yearly 1,497 lbs. of oil. (For 0.93 lb.) One cwt. of manure, therefore, produced three lbs. of oil. The manure was horse dung. The product of the larger trees was raised by manure in the same proportion. Trees thirty years old not manured for a number of years gave 3½ lbs. of oil; while those which had yearly 168 lbs. of manure, on a mean average, bore 814 lbs. of oil. One hundred weight of manure increased the product of oil about 2.91 lbs. A person yearly manured his olives, and succeeded in obtaining, as the mean product of fifteen-year-old trees, 4½ lbs. of oil. Trees situated near the house, which had yearly two cwt. of manure, produced ten pounds of oil each.'

"NICOLAI, in his *Principles for the Administration of Estates*, assumes, probably after BECKENDORF, that there will be produced from one head of cattle, ten two-spanned loads of manure in a year. From one stall-fed horse, fifteen loads as above. From a grass-fed horse, 7½ loads. From 100 head of sheep, 100 loads. By careful littering, swine are reckoned at twice as much as cattle.

"According to KARBE, sixty-five cows in summer on a pasture, being kept over night in stalls, will manure forty-four yokes (62½ acres).

"According to LEOPOLD, four cows kept in stables and properly littered, yield fifty loads of manure, of which six will answer for an acre.

"In a very learned and able treatise, found in the

Annals of Netherland Agriculture, the proportion of manure of different animals is stated to be as follows:

1 head of cattle.....	180
1 " horse.....	170
1 " sheep.....	10
1 " swine.....	18

"VEIT says, vol. i. p. 365:—'The value of stall manure is determined by the value of the production effected by it. The quantity of production depends on—1st, the natural capacity of the soil; 2d, on the choice, preparation and employment of the manure; 3d, on the choice of plants which are cultivated in one period of manuring; 4th, on the system of culture, especially the rotation of crops, and the treatment and use of the soil.'

NOTE BY THE EDITOR.—It is not the fault of the able German writers on agriculture that it is so difficult to ascertain the true value of manure. The problem to be solved is exceedingly complex. In one series of experiments the same mixture of liquid and solid excrements differed five-fold in its effects when applied to clayey soil in good condition, and to dry, sandy soil in bad condition; and pulverized human excrement, as well as all other materials of manure in the form of powder, displayed a dissimilar greater effect if they cover the ground and are shaded by the plants manured, than when employed in a smaller mass and on an unshaded surface. In a word, the most trust-worthy experiments prove that one may lose two-thirds of the strength and virtue of his manure after it is hauled into the field, by solar evaporation, and partly, perhaps, by its salts being washed away over the surface of the ground.—SCHWERTZ remarks, "that it is incredible how the Belgians with so little manure can manure so much land." This success he attributes to their skill in classifying the fertilizing power of different kinds of manure, and adjusting it to the exact condition of the land, and the precise wants of the plants to be grown. SCHWERTZ adds, "such facts ought to make us ashamed, and wake us up to a zealous imitation."

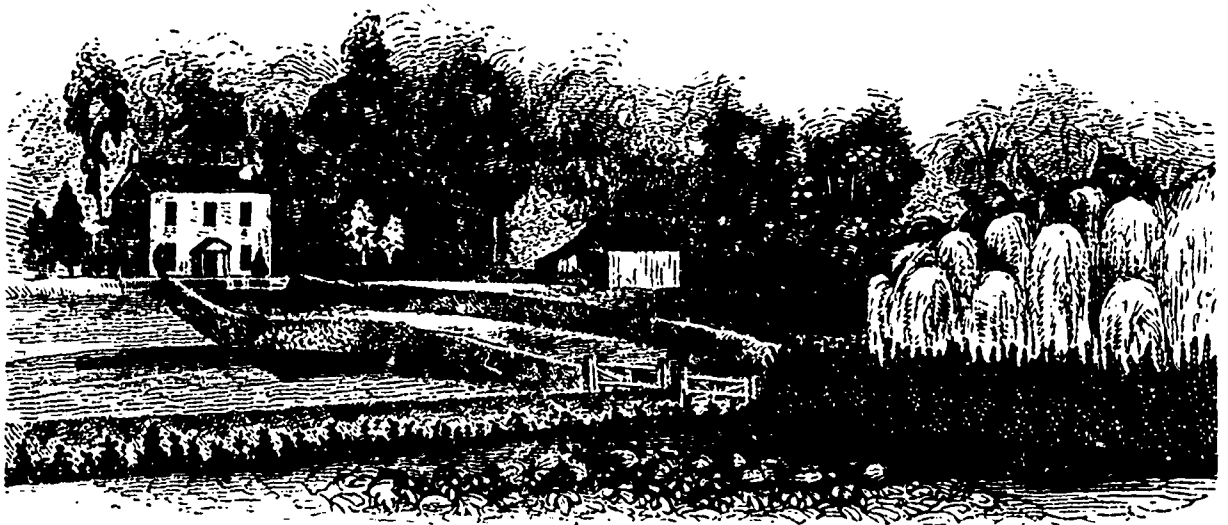
Belgium contains a denser population than any other nation in Europe; and yet, for the area under cultivation, no other country exports so much of the products of husbandry. These are striking facts, and indicate great advancement in agriculture.

How to make the most of any given quantity of manure, is a matter of great interest to a thoughtful farmer. The Belgians calculate the urine of each cow as worth two pounds, or about ten dollars a year. At this rate, the six and a half million cows now in the United States, might yield liquid manure

worth sixty-five million dollars every twelve months. Is it not pretty evident that we have yet to learn the true value of the food of agricultural plants? Public opinion hardly tolerates the study of vegetable and animal physiology in our common schools, even in rural districts. Hence, neither the production of crops, nor the growth of domesticated animals, nor the wonderful adaptation of each to the other, is duly considered. If manure is so valuable as we have shown, to increase the oil of olives, how much more important is it to augment the growth of apples, pears, peaches, and other fruit?

fifty yards will not answer. Strained tightly during the summer season, the cold of winter will operate with irresistible power to injure and destroy them.

There remains the use of hedge plants; and of all that have come under our notice, the Osage orange bids fair to surpass all others. Objections are made by some to hedges of any description, as occupying too much ground, thus rendering unavailable for use large portions of a farm. We question whether any properly made hedge would occupy any more ground than the common worm fence; and there would be much less growth of weeds and worthless shrubs in



VIEW OF SUGAR GROVE FARM.

FENCES.

The subject of fences is one of great and increasing interest to farmers and landholders, and the annual expense of maintaining enclosures in good condition, to say nothing of the rapidly diminishing supply of fencing material from our forests, is a heavy percentage on the profits of cultivation. In a very few years our choice will be confined to two materials—iron in its various forms and arrangements, and hedge plants.

We see it stated in our eastern exchanges that a gentleman of Lowell, Massachusetts, has invented a machine for weaving wire into sections or panels, which, by reason of their peculiar construction, obviate one material objection to the use of iron for fences, viz, the liability to derangement from the effects of heat and cold. It can be furnished according to the purposes required, at from \$1.25 to \$1.75 per rod, and when once set will last, with proper care, for one's life-time. Unless very carefully constructed, and proper allowance made for expansion and contraction, fences made of iron wire strained between posts at intervals of from fifty to one hundred and

and around a hedge fence than is customary in the corners of fences. We believe the Osage orange will be found equally as hardy as the *Isabella* grape, and endure about the same degree of exposure. Its sharp thorns springing out at the base of each leaf-stalk, its comparative exemption from the depredations of insects, its rapid growth and endurance of close trimming and pruning, are weighty arguments in favor of its use.

A hedge on the farm of Mr. JAMES MCGREW, in Montgomery county, Ohio, has been set about four years, and is so compact and broad at the ground, that neither fowls nor pigs can pass it, and so high that the most unruly animal would not attempt to jump it. Professor TURNER, of Illinois, in an article on hedges, says :

“On this place of 150 acres, requiring, as I have stated, four miles of fence to put it in perfect order, I calculate that I am saving, in cash, at least \$200 per annum, *in all coming time*, by using hedges rather than rails, aside entirely from the additional comfort, security and beauty of the hedge.

As regards *comfort*, I can only say that I now write with my eye resting upon a hedge about four

years old, between my garden and front lot, and the most public street in this county, through which thousands of mules and wild Missouri steers, hogs, sheep, &c., are driven every year, and all the stock of this village, of all sorts, runs at large. (And PHARAOH of old knew what a starved cow was.) In this hedge is a small wicker gate, opening into the street, with an Osage crab over it to prevent climbing. When necessary this gate is kept locked. In this lot, which is within the corporation limits, and contains some four acres, we have had through the season the greatest abundance of strawberries, gooseberries, currants, peaches, pears of the finest varieties, grapes, raspberries, plums, cherries, blackberries, melons, &c., and if any person has been inside of the lot without leave, it is certain they did not get over the hedge; or if any boy has taken a plum or berry we do not know it.

The accompanying cut is a representation of the hedge fence on Sugar Grove Farm owned by Mr. JAMES MCGREW, near Dayton, Ohio.

MILLET AND ITS CULTURE.

MR. EDITOR:—Of the millet there are three distinct genera: the *Polish* millet, the *Indian* millet, and the *common* millet.

Of the *common* millet there are three species: the *German*, the *common* or *cultivated*, and the *Italian*.

The *German* millet grows with a reed-like stalk, from two and a-half to three feet high, with a leaf at each joint about one and a-half feet long, and about one inch broad at the base, ending in a sharp point, rough to the touch, surrounding the stalk at the base, and turning down about half the length. The stalks terminate by compact spikes about three-fourths of an inch in diameter at the bottom, tapering to the top, six or eight inches long, and closely set with small roundish grain. It is an annual, and soon perishes after it has ripened its seeds. Of this kind of millet there are three varieties, the *white*, *yellow*, and *purple* grained.

The *Italian* millet rises also with a reed-like stalk four feet high; the stalk is thicker and the leaf broader than the preceding; the spikes are from eight to twelve inches in length; they are not compact but are composed of several roundish clustered spikes. There are also two or three varieties of this, distinguished only by the color of the seeds.

The above described species of the *common* millet being the only kinds cultivated in this section, I shall omit giving a description of the other kinds, and proceed at once to give my readers the benefit of my practical knowledge in reference to its culture.

In consequence of my meadows being destroyed by the severity of the winter of 1854, I was of neces-

sity compelled to substitute something for the hay crop, and finally decided upon millet. I found it very difficult to procure seed, but much more difficult to procure reliable information with regard to its culture; consequently, my first year's experience was in reality a year of experiment.

The field upon which I sowed my millet was a wheat stubble. The soil sandy loam, the higher portions of the field being quite sandy, and in a medium state of cultivation; the surface undulating. During the latter part of May it was plowed ten inches deep, with a Polly plow, No 2, which is one of the best stubble plows in use. The first week in June the ground was harrowed twice, lengthwise of the furrow, with a heavy double scratch harrow. The millet seed was sown immediately, at the rate of 12 quarts per acre, and followed with a light seed harrow and roller. I commenced cutting my millet the middle of August with a common grain cradle; let it lie in the swath one to two days, according to the temperature of the weather; bound in sheaves and shocked up the same as wheat. Judging from the number and size of the loads, the yield was two tons per acre. Had the season been favorable the produce would have been one-third more.

From my limited experience I have come to the conclusion that millet is peculiarly adapted to light, warm soils, but will grow on almost any soil which is not too wet; that the soil should be plowed deep and well pulverized; that the time to sow the seed, if intended for hay, is any time during the month of June—if intended to ripen, the last week in May; that the quantity of seed if intended for hay should vary from 16 to 20 quarts—very rich soils requiring most seed to prevent the stalks from growing too rank—but, if intended to ripen, 8 to 10 quarts per acre will be quite sufficient; that the proper time to harvest, if for hay, is when the grain is just filled and the top of the head or spike is beginning to turn yellow, but if intended for seed it should fully ripen; that the best mode of harvesting is to cut with the cradle or reaper and bind into sheaves when sufficiently dry; and that the yield per acre on good soils well cultivated, will be from 3 to 4 tons of hay or 30 to 40 bushels of seed. It leaves the soil in a loose, friable state, consequently grass and clover seeds do well when sown with it.

As to its nutritious qualities, it is a regular panacea for the craving of all hungry stomachs, whether of biped or quadruped. Horses will work hard and keep in fine condition by being fed on green millet, finely cut with a straw-cutter and mixed with four

quarts of ground millet seed per day, to each horse. Fed in the same way to milch cows, it will keep them fat and sleek, and cause an unusual flow of good rich milk. Colts, calves, and sheep fairly luxuriate in the green fodder. The seed fed to hens will make everlasting layers of them, whether Dorkings, Shanghaes, Poland, Spanish, or native, other necessities being provided.

D. W. FREEMAN.

WINDHAM, C. W.

NORTHAMPTON COUNTY POULTRY ASSOCIATION.

MR. EDITOR:—Thinking it would interest your readers, I send you a brief description of the first annual exhibition of the Northampton County Poultry Association.

For a few years past, an increased interest has been felt in this part of the state, in improved breeds of fowls. At the county fairs of the past two years, the number and beauty of the improved breeds of poultry excited the admiration and astonishment of all. The attention of our farmers was drawn towards poultry-raising, and men of taste and wealth among them, began at once to manifest more interest in this subject.

The quality and variety of both foreign and native fowls has increased so rapidly that—taking the hint from BARNUM, perhaps—those interested met and organized the above association, which held its first annual exhibition in January last. Had I entertained any doubt of the reality of the affair, that doubt was dispelled when I came near the entrance of the hall where the exhibition was held. But when the door was opened, my ears were greeted with such an outpouring of salutarious and overtures, that I stopped on the threshold for some minutes in wondering amazement. It seemed as if every cock was crowing defiance to his neighbor; nor was there any monotony in the tones, or the key-note of this new fangled orchestra;—for, by turns, the shrill, piping tenor of the bantam, the deep, guttural bass of the Shanghai, the chirp of the canary, and the voice of the mocking-bird, parrot or guinea-fowl could be distinguished; but above all, at regular intervals, rang out the hoarse “cronk, cronk,” of a large pair of Bremen geese.

Passing along, I first noticed a number of coops of Shanghaes, Brahma Pootras, Chittagongs, &c. The Shanghaes were beautiful—though large they seemed better favored than any I had before seen—in all the specimens of this breed exhibited, there was a vast improvement upon the specimens which I

first saw some years since. Then they were so tall, bony, gaunt, and ill-favored as to give point to the satirical remark of the negro, that “if you cut dere heads off, de legs would fall right apart.” No other breed exhibited so marked an improvement, though there were many beautiful specimens of Dorkings, Black Spanish, Cochin Chinas, and other fowls of foreign origin too numerous to mention. My knowledge of fowls is entirely too limited to allow me to speak critically of all that I saw; but I suspect that in one or two cases, at least, a foreign name was affixed to a coop containing our common fowl, somewhat peculiarly marked; yet in one case—that of a noble pair of common black turkeys—I feel certain that if a high-sounding polysyllable had been affixed to the coop, nineteen out of every twenty would have left satisfied that they had seen a new variety of the genus turkey.

The show of Pouterams was good; there were half a dozen varieties, of which the diminutive Sea-brights seemed to me the most beautiful. In fact, all the varieties which are commonly found in our poultry books, were more or less fully and well represented.

Besides several varieties of ducks and geese, I found a large cage with nearly forty canaries, another with a dozen of quails, and others still with wild pigeons and pheasants, or partridges. Again, as if the managers had tried to make the exhibition an *omnium gatherum*, in another room I saw a crow, and a large white owl, and near them cages containing Scotch terrier puppies, Guinea pigs, three different varieties of rabbits, English, Madagascar, and common wild and gray squirrels. I should not omit to notice a most superb pair of silver pheasants.

During the exhibition a large number of fowls changed owners, bringing from one to twenty dollars apiece. There was one, and but one, fault which I found. In two or three instances, the weight of large fowls was marked from two to three pounds too high, and that of small ones, too low; thus, cocks of fourteen pounds and hens of twelve, were marked upon printed cards; and bantams of ten and eight ounces; when any one at all acquainted with poultry, could see the incorrectness of the statement at once. Altogether, the exhibition was one which reflects great credit upon this part of Pennsylvania.

Yours, &c., E.

EASTON, Penn., 1855.

A woman may as reasonably be proud of the lilies of the field, or the tulips of the garden, as of the beauty of her own face.

DISTILLERY SLOPE.

MR. EDITOR:—A distillery in this place is now giving away four hundred barrels of slop daily. Some farmers make four trips a day, including part of the night, carrying off nearly eight barrels at a time. During the day this slop is taken as fast as it is discharged from the still; but the vats becoming filled at night, the earliest customers have the improvidence to draw off and waste the slop down to within a foot of the bottom of the vat, taking away only the thick sediment composed mostly of the bran of the corn and shells of the oats; just as though this carbonaceous matter was more nutritive than the oil and protien compounds they have wasted with the more liquid parts of the slop. Is it any wonder that such farmers have short crops, and are now glad to come all distances under twelve miles, thus to avail themselves of a distiller's bounty? Such men are very likely to prefer the long-exposed carbonaceous mass of the farm-yard manure to its liquid or more strongly arotised constituents; hence, instead of making and saving manure to induce a crop, they depend on the chances of a favorable season; and as a general thing, I find there are few good farmers among the great number who never fail to excuse their short crops by a gird at the season. S. W.

WATERLOO, N. Y.

MY NEIGHBOR'S CABBAGES.

MR. EDITOR:—Last season my own garden suffered very much from drouth; and though my plants were watered often and thoroughly, still they were tough, stringy, and but half the usual size; while, on the contrary, my neighbor's plants were uncommonly thrifty, and vigorous in growth.

There must be a reason for this difference, and I must study it out. The first two years of his sojourn in my vicinity, my neighbor (a genuine son of the Emerald Isle), not being over fastidious as to the looks of his yard and lot, kept a number of hogs, giving them full range of his premises—and good use they made of their noses in rooting up the ground in all directions. To be sure, the premises were not particularly neat and cleanly, and now and then one's foot would give tangible and satisfactory evidence that the tenants of the yard were not particular in their habits!

Finding that to buy feed for his porkers was money out of pocket, he concluded to put his lot to a different use. The manure made in previous years was scattered about the premises, and deeply spaded in.

His plants were set out the 20th of June, and thoroughly cultivated.

The result was, that while the gardens of many were parched from drouth, my neighbor's plants seemed to grow as if water was of no account to them. In the fall, scarce a plant but had a good solid head; while in a lot next adjoining, but about one-third of the plants headed at all, and those even were not marketable.

Now, though I do not approve of keeping swine in city lots for the purpose of preparing grounds for cabbages, their are some points in their culture that one may notice. First, all plants of the cabbage tribe are gross feeders. The ground can hardly be made too rich, or spaded to deeply.

As soon as the leaves have put forth, begin your hoeing, and be sure to hoe them once a week at least, and oftener if you have time.

The cut-worm is a great annoyance on such soils. The plants will be found eaten off by hundreds at the surface of the ground, and your work of transplanting must be done again.

On page 206 of the *GENESEE FARMER* for 1854, a correspondent states that after having lost all but five out of two hundred and forty sweet potato plants, he set out five hundred cabbage plants, and one thousand sweet potato plants, with a hickory leaf round each, and not a single plant had been destroyed since. The leaf should be a half or three quarters of an inch below the top of the ground.

GOPHERS.

MR. EDITOR:—Noticing in a late number of the *FARMER* a request that some of your correspondents would give you some information as to the means of preventing the ravages of these vermin, I would say that death, and nothing short of it, will do the business. This I have fully tested in the Sacramento Valley. The amount of dirt that a few gophers will bring to the surface of the ground is astonishing. They work early and late. I failed to poison them, but was gratified in finding that powder and shot would finish them. Level down their mounds and tread down their roads; they will at once commence rebuilding them. At the first approach of light in the morning, or at dusk in the evening, advance with great caution—as a common walk, when you are some rods off, will cause them to stop labor—and as they discharge their loads of dirt, do the same with your powder and shot. Continue to level both mound and gopher, and the victory will be yours.

BLACKWOODTOWN, N. J.

IRA BRADSHAW.

LARGE AND SMALL POTATOES.

MR. EDITOR:—Seeing in one of the former numbers of the FARMER a request for an experiment in regard to large and small potatoes for planting, and not seeing as yet any satisfactory answer, I will give your readers the result of an experiment tried in 1825, when I commenced farming for myself.

I selected a long square piece of ground, and prepared it by plowing and harrowing, and carrying on manure, which I put in heaps so as to be convenient for manuring six rows of potatoes—each load of manure reaching across the piece. I then drew furrows with a plow lengthwise, and put in the two first rows large whole potatoes; in the second, two large potatoes, cut in three pieces and the three pieces put in a hill; in the third row, I put small whole potatoes; and thus alternately through the piece, putting the manure on the potatoes, and then covering with dirt. I was careful that each kind should have its share of attention through the season, doing the work myself. Now for the result. Of the first, I had forty-four baskets full, nearly all large and good potatoes; of the second, I had thirty-six baskets full, of middling size and quality; of the third, I had twenty baskets full, of inferior size and quality.

I have practiced planting large whole potatoes since that time, taking care, also, that they are sound and healthy; and I have had but very few rotten potatoes, although some of my neighbors have lost nearly the whole of their crops during the prevalence of the rot.

GEORGE R. PALMER.

WILLETT, Cortland Co., N. Y.

ORCHARD GRASS.

MR. EDITOR:—Your favor of the 12th is at hand, and in reply I would say that my father (Z. COX, late deceased) has had in cultivation the orchard grass for at least fifty years; and always considered it the most profitable of any kind of grass where the soil was adapted for its growth, and superior to all others for the orchard, growing nearly as well in the shade as when exposed to the sun; and for pastureland it stands pre-eminent,—starting earlier, holding out later, and affording a more nutritious growth than any other of all the different kinds of grass with which I am acquainted. It is also better to sow with clover than any of the other kinds, as it matures at the same time with clover in cutting for hay, and is fit to cut for seed from the 1st to the 5th of July in this latitude. I have seen the orchard grass growing

finely in the upper portion of South Carolina, in Pennsylvania, in this State, and in Connecticut; and I have no doubt but that it can be cultivated and grown finely in the upper part of the States of Georgia, Alabama, North Carolina, Virginia, Maryland, Delaware, and all the Western States. The western part of this State, and the southern part of Michigan, is admirably adapted for its growth; and, in short, it can be grown on all lands that will produce corn or wheat.

In traveling through Michigan and this State, I have often wondered why, on their wheat soils, they did not sow orchard grass with their clover. The time for sowing is in the spring with spring crops, or in the fall with wheat—say half a bushel of orchard grass seed, well mixed with from three to four quarts of clover, and harrowed in with the crop of grain sown.

Herds grass is considered a better kind of hay by some for horses, but orchard grass is better adapted for all other kinds of stock than herds grass, when cut in season.

Truly yours,

BATAVIA, N. Y.

N. K. CONE.

AGRICULTURAL LECTURES.

MR. EDITOR:—H. W. VAIL, of Newark, N. J., commenced on Thursday evening, February 15th, a course of lectures on Agriculture and Horticulture, at Phillipsburg, N. J., nearly opposite Easton, Pa. His subjects are highly suggestive. Among them are "Fruits and Fruit Trees," "Use of Guano, Superphosphate of Lime, and care of Manures," "Theory of Vegetable Growth," "High or thorough Farming," and "Vegetable Garden."

Mr. VAIL's lectures are such as an enthusiastic lover of scientific practical farming delights to hear. He is evidently full of his subject, and has had experience which enforces what he says upon practical men. He uses no high-flown or technical language, but handles his subject as though he was not afraid that his hearers should understand all he said. Still, as yet, we fear he is too much in advance of our farmers to elicit that support which he so richly deserves. Book farming is only beginning to receive attention, but the prospects for the future are bright. Our Agricultural Society, though in its third year, is as large and vigorous as many who number their age by scores. The "Northampton County Poultry Association has not been organized a year, yet its first Annual Exhibition, in January, was by far the best we have ever seen.

E.

EASTON, Pa.

LETTER FROM PENNSYLVANIA.

MR. EDITOR:—Our country is comparatively new—the growth of timber thrifty, making heavy clearing; our hard wood being principally beach, maple, and red birch, in some parts oak, chestnut, cherry, and ash, with an occasional sprinkle of hickory; large bodies of hemlock may be seen over the whole country—in fact they are rarely ever out of sight. The soil is universally good and deep, no hard-pan, and well watered, well calculated for growing purposes. Oats have been raised as a first crop after clearing, averaging 100 bushels and over to the acre. It appears to be, in fact, better calculated for dairy and stock farming than any other country adjoining the State line on either side; but seven-eighths of our farmers are still heavily in debt to the land-owners for their farms, probably for the reason that they have not known how to clear to the best advantage, or so make the most from their crops on such new lands.

Have not some of your subscribers the time and data at hand to show the higher value of such lands, considering its proximity to a commercial mart, compared with the somewhat lighter *first labors* on western lands, to which so many of our best farmers are flocking, that must always be at a great distance from the seaboard,—with all the advantages for transportation that steam and internal improvements may afford?

A subscriber to your journal would be glad to know the best and most economical method of clearing heavy timbered land, say hard wood or hemlock lands, and the best rotation of crops for a new beginner.

J. M. HAMILTON.

COUDERSPORT, Pa.

WHEAT, GRASS, &c.

MR. EDITOR:—In reply to your note of inquiry asking for the particulars of my practice of seeding down lands to grass, &c., I will say I have used clover exclusively when my only object was to benefit the soil; but for pasture or hay, a mixture of clover or timothy—say two parts clover to one of timothy—is preferable. In sowing grass seeds, we usually mix them together by hand, the last of March or first of April; although I think timothy should be sown in the fall—say the last of September.

The two varieties of wheat that have succeeded best with me, are the *Soule's* and the *Mediterranean*. The *Soule's* to be sown on the ridge land, and the

Mediterranean on the flat portions. The *Mediterranean* is less affected by the weevil than any other variety—the fly we know but little about.

With us, the four-rowed barley gives the best yield. Since wheat has got to be so uncertain a crop, we are in the habit of sowing wheat after barley. We plow our barley stubble once or twice, as circumstances may require; but first of all, land should be in a high state of cultivation. This appears to be the cheapest way to raise wheat—I will not say it is the best.

The *Spitzenburgh* apple yields very well, and also the *Fall Pippin*; and both are very saleable. No one general rule or routine of practice can be given to suit all cases, for we have to vary our seed-time and harvest as the season seems to require.

Yours truly, J. KIPP.

BENTON, N. Y.

WIRE FENCES—MANURE CELLARS.

MR. EDITOR:—I have been much surprised by seeing so frequent recommendations in our agricultural journals of Osage orange hedges, or of any hedges at all. Can a farmer whose land is worth one hundred dollars an acre, afford to lose a strip of fifteen feet for a fence? which is the least possible quantity of land a hedge can occupy. I am told they are going entirely out of use in England; and they should do so wherever land is of any value. It may be asked, what can we have? and to this the best answer is, have an outside fence, and *no other*, but as this, in our present mode of farming, is impossible, I believe a substitute may be found. Not, however, a fence made of piano wire, but a six-wire fence, made of No. 4 wire and iron posts, with stretchers at every hundred feet, which can be slackened in winter and drawn up in the spring. This fence can be made for \$1.75 a rod, takes no room, and will last a life-time. It will turn anything but a hog, and even those if of any respectable breed. It throws no shade, and is the easiest fence to keep in order that can be made.

Have you ever seen a barn cellar for manure that did not give a most ammoniacal atmosphere for the cattle above it to breathe, or which did not have some of the manure in a very bad dry state to be carted out in the spring? The cellar, by constant labor can be kept in a good state; but did you ever see it done? Manure absorbents used in quantity in stables is a cheaper way, and then a manure shed and pit in the barn-yard saves expense and labor.

I have tried an experiment for making a warm cel-

lar, which has been entirely successful. My cellar is on a side-hill, one side of the wall entirely out of the ground. The floor let in the cold, which could not be kept out. I ceiled the lower part of the beams with common boards, took up the floor, and filled the place between the beams with leaves. I have had no frost in the cellar for two winters. It is light, cheap, and easily made.

A. B.

FISHKILL LANDING, N. Y.

AGRICULTURAL SOCIETIES.

MR. EDITOR:—The writer of this article is a plain, home-spun farmer, and better qualified to guide the plow than wield an implement of such mighty influence as the pen. But although farmers are not proverbial as writers, they are sometimes out of courtesy allowed to think; and as we have of late years paid some attention to the practical working of Agricultural Societies, under the Act 16th Vict., Chap xi, we have come to the conclusion that said Act might be amended (in so far as County and Township Societies are interested), greatly to facilitate the object for which such societies are organized.

Perhaps we had better glance for a moment at the practical working of some of our Agricultural Societies, in order that any improvements that we may suggest may appear the more plausible. According to the present Act, fifty persons, all in or near the county town, may organize a County Society by subscribing fifty dollars, elect their officers from among themselves, and, although they cannot exclude any person within the county from becoming a member of said Society, yet the advantages of being convenient to the county town gives them a local influence, together with two-fifths of the government grant, (by-the-by, Mr. Editor, we have heard of societies in the eastern part of Canada West, possessing only a local interest, claiming the whole government grant, and dealing out such pittances to township societies as they, in their wisdom, saw fit); and although the presidents of township societies are ex-officio directors of county societies, their members are usually so few, and at such a distance from the county town, that their voice is seldom heard, certainly not sufficient to prevent the local interest of interested parties. It is not uncommon under the present act, to see township societies possessing a more extensive influence and holding better shows than their so-called parent society.

Now, sir, if the act might or could be so amended as to exclude all local interest, that incubus to general improvement, the object of our legislature might in some good degree be realized. As we have taken

the liberty to find fault with the present act, the same presumption, that farmers have a right to think, prompts us to offer a few suggestions, which if acted upon by our legislature, we think would remedy the evil complained of, and county societies might be re-organized so as to become the centralization society to the several township societies, by doing away with the membership in county societies by subscription; then make it imperative on each township society to appropriate a certain percentage of its subscription funds, and that, together with a certain percentage of the government grant, to form the fund of the county society. Let each member of the general township societies be a member of the county society by virtue of his subscription to the township society, and let certain officers of the township societies, say the presidents, secretaries, and treasurers, form the board of directors for the county society; such board to elect a president, vice presidents, secretary and treasurer from among their number, and transact all the business of the society.

Societies thus organized would work in harmony, and each township society would feel that they had an interest in their respective county societies, and would also feel that the county society was their own. Each township society would be fully represented, and would rest satisfied that no private or local interest would clash with the general good.

And to conclude, we would barely hint that as our government is becoming more wealthy, as our public improvements are becoming more extensive, as railroads are penetrating the heart of our country, thereby making the export of our produce more reasonable, as the mercantile and mechanical interest are identified with our own—in a word, as the interest of agriculture is the great interest of the Province, it would be well if government would increase its aid to our agricultural societies, that its resources might be the sooner developed.

A CANADIAN FARMER.

TO KEEP CIDER.

MR. EDITOR:—Having been a subscriber to your paper for some years, and not having seen in it any receipt for preserving or keeping cider sweet, I will give you one. Scald the barrel out with a decoction of sassafras; then fill the barrel with cider, and into it put twelve and a half cents worth of isinglass or fish-glue, and half a pound of mustard seed—if ground the better—then bung and put away for future use. It will keep as sweet as when first made. S. D.

NEW BEDFORD, Lawrence Co., Pa.

GREAT YIELD OF CUCUMBERS.

MR. EDITOR:—For the benefit of your readers I give you the production of eight hills of cucumbers, planted in my garden last spring. The manner of planting was taken from some of the agricultural journals. Having fully prepared a good garden soil by repeated spadings, I placed barrels at a distance each way of eight feet, and about six inches in the ground. The barrels were then filled with barn-yard manure, and seeds previously soaked for twenty-four hours and planted around, and about four inches from the barrels. After the plants made their appearance, and when there had been no rain during the day, two pails of water were put on the manure in each barrel every night, which found its way through holes bored in the lower head. About four plants were left to each of the eight barrels. The end of each vine was pinched off just before fruiting. Now for the result and number of each picking.

1st gathering.....	70
2d ".....	122
3rd ".....	131
4th ".....	160
5th ".....	145
6th ".....	172
8th ".....	186
9th ".....	252
10th ".....	276
11th ".....	247
12th ".....	257
13th ".....	254
14th ".....	467
15th ".....	258
16th ".....	368
17th ".....	305
18th ".....	260
19th ".....	214
20th ".....	183
Total.....	4355

Yours, &c.,

DANIEL MORSE.

LOCKPORT, N. Y.

BLIND OR WOLF TEETH.

MR. EDITOR:—In answer to the inquiry of "J. M.," of Fairfax, Virginia, in the February number of the *GENESEE FARMER*, I would say that there have been many strange stories told of the "blind or wolf tooth," as he pleases to call it, in regard to giving pain, and even causing blindness in the horse. This wolf's tooth is one of the first set of the molar or grinding teeth. When at the age of two years, the second set of molars begin to appear; they frequently push the first and lower molar forward, and it remains in the gum until it is absorbed. It is supposed to have an injurious effect on the horse's eyes by many; but in my opinion, they have nothing to do with the eyes. I can not say what is the cause of "J. M.'s" horse's blindness, but I can say that science is getting the advantage of ignorance in these days.

CHELSEA.

BILL JOHNSON.

SELECTIONS FROM PATENT OFFICE REPORT.

SHEEP.—*Statement of T. L. Hart, of West Cornwall, Litchfield Co., Ct.*—I bought my farm in 1835, and stocked it with sheep, and with fair prospects of success. My first clip of wool sold for 65 cents per pound, and the fleeces averaged over three pounds each. This, together with the price of the lambs, which was \$1.75, afforded a fair remuneration. My sheep cost me \$3 per head, and I spared no pains in improving my flock, by selling off the poorest and buying better, until I had added about 25 per cent. to their value. At that time, between this place and Poughkeepsie, a distance of forty miles, there were many more thousands of sheep than at present.

Statement of Horatio N. Andrus, of Brandywine, Prince Co., Md.—In 1847, I commenced driving Spanish Merinos, mostly from Vermont, to Virginia, between which and the fall of 1852 I sold upwards of 13,000 for wool-growing purposes. Finding it a profitable business, I established a sheep farm, where I now reside, in the autumn of the following year. I have now on my place 1,000 Spanish Merinos, consisting of about 600 old ewes and 400 lambs, among which are about 20 bucks. The committee on sheep at the agricultural fair, in this county, last fall, awarded me their premiums on ewes.

To show that sheep raising in this section of the Union is a profitable business, I would state that my clip in Virginia of 1850, from 200 ewes, brought, on an average, \$1.60 each fleece. They also produced 200 lambs, which sold for \$2.62½ each. The cost of keeping, exclusive of superintendence, was about 25 cents a head, feeding each on a gill of corn a day, and this for only ninety days. The rest of the year they took care of themselves.

HORSES.—*Statement of Wm. Upton, of Dixmont, Penobscot Co., Me.*—The rearing of good horses has always been regarded by us, and no doubt truly so, as a profitable business. The various grades of the Messenger breed are here considered most valuable for the carriage. "Bush Messenger," owned by Hiram Reed, of Augusta, fifteen years old, light gray, took the third premium at the late National Horse Fair at Springfield, Massachusetts. Many of his colts are scattered through this State, and generally bear the distinguishing traits of their sire. They are docile, good travelers, and seldom shy.

The large Pennsylvania horses have been tried here for the purpose of heavy teaming, but have been found deficient in strength of muscle, powers of endurance, and their feet usually give out, apparently from the mere weight of their bodies. They are excelled by a low, heavy-limbed French horse, brought from Canada, and deservedly popular for heavy work, as they possess great powers of endurance and thrive under hard work and coarse fare. Farmers generally here, as elsewhere, are far from taking that pains to breed from the best animals which its importance demands.

As the rearing of good blooded horses costs no more than those of indifferent kinds, not unfrequently hundreds of dollars reward a proper discrimination in this particular. The risk of rearing is such, from the various accidents to which they are peculiarly liable, that the apparent profit is considerably reduced. The cost of rearing till four years old,

under favorable circumstances, may be stated at \$60. They are worth at that age \$100, though speed or fancy carries them far above that price, while, on the other hand, some unlucky accident may render them entirely worthless.

CATTLE.—*Statement of Levi Bartlett, of Warner, Merrimack Co., N. H.*—Cattle and sheep are raised more largely here than other kinds of domestic animals. The great majority of the cattle is what is usually termed "native stock," comprising a great variety as to form, color, size, and difference in cash value at a given age. As an illustration of this, one farmer will sell a pair of two-year-old steers for \$35, while, perhaps, upon the next farm, a yoke of the same age will readily sell for \$60. These differences often arise from our hap-hazard manner of breeding and lack of care in rearing and feeding from the birth of the calf until it arrives at maturity.

At our State and county fairs, there are always to be seen numerous yokes of oxen, of the "native breed," that will compare favorably with any of the imported kinds. So with many of our best milch cows; but as they have no fixed blood in their veins, their progeny cannot be depended upon in sustaining the good qualities of the mother. Hence, it is a standing proverb, "That a good cow may bring a bad calf." A very few Durhams are to be found among us, the general belief being that they would require too high feeding to be profitably raised by the farmers in this northern clime. The North Devons find more favor. They are of medium size, well proportioned, and their beautiful deep-red color is a sure passport to the favor of most farmers. How they may prove here as milkers has not yet been ascertained, as it is but four years since the first Devon bull, from the herd of Mr. HULBERT, of Connecticut, was introduced here. There are now numerous half-blood Devons among our farmers, of one, two, and three years of age, and so far they are highly prized.

The Ayrshires have been somewhat disseminated through this county. But they have, from some cause or other, failed to sustain their reputation as good milkers; as they also have in Massachusetts, where some of the most choice bloods were imported a few years since by the Massachusetts Society for promoting Agriculture. The progeny of these were given in pairs to the county societies, but they failed to give satisfaction to the farmers of the old "Bay State." Reasoning from analogy, we should infer, from the similarity of the Scottish soil and climate to our own, that the change would not materially affect them. But from the disappointment experienced here in regard to their milking qualities, "it would seem that American air cannot compensate them for the Ayr they have left."

Our beef-cattle and sheep are conveyed to Brighton market (80 miles) by railroad—oxen at about \$1 per head, when a full car load is forwarded; dressed hogs, butter, cheese, and other farm products, at 25 cents for 100 pounds. In transporting live cattle and sheep from this to Brighton market per railroad, there is a great saving in shrinkage over the old method of "footing" it, and consequently a saving to all parties concerned—the farmer, the drover, the butcher, and consumer.

GRASSES.—*Statement of Archibald Jones, of Frankfort, Waldo Co., Me.*—Among our native grasses, I would call attention to the "fowl-meadow," which grew wild at Modawaska before that place was settled by the American French. It flourishes best on "intervals," or meadows along rivers or streams, which in the spring are overflowed by backwater or eddies, and receive a rich deposit of earth or mud. It also grows well where there is an overflow from the rise of water in natural or artificial ponds, provided the water runs off before the weather becomes too warm, and the land is well drained. If not, other water-grasses will prevail and force the fowl-meadow out. With an abundant spring overflow, with perfect drainage when the waters of the ponds or streams subside, fowl-meadow will give a crop of more value than any other grass. Water lying upon it all winter will kill it; but an occasional overflow by winter freshets is beneficial.

If this grass be cut three or four years before a portion of the seed scatters itself, it will disappear. A safe practice is, never to cut it for hay before the seed is ripe, which takes place before the stalks begin to turn. Where the seed naturally takes root in an open space, in two or three years it "tillers," or forms a bunch of numerous stalks, and is short lived; but in cases where a meadow of this grass has been cut, two years in succession, earlier than the seed could scatter itself, by harrowing the surface and breaking the long fibrous roots, the plants will be multiplied from these roots. If the meadow be mucky or soft, let it be harrowed when the frost is about half out.

In feeding out the hay, it is a good practice to save the seed-chaff, and scatter it over "swales," or moist upland mowing-lots, and over well-drained lowland occasionally overflowed. In such situations it produces seed in abundance, and will readily take root among other grasses. Sown liberally over moist old mowing-fields, it will keep out much foul vegetation, which would otherwise be liable to work in.

It is another good practice for the farmer to cultivate a small patch of fowl-meadow, to ripen for seed to sow over such other mowing-lots as are mown too early to ripen the seed. It need not stand late, as, after reaping the tops for seed, the butts may be mown for hay.

As fodder for cows and sheep, fowl-meadow makes an excellent hay; but for horse-feed, with grain, it is too fine to keep the bowels of the animal properly distended for health. It here may be remarked that, however large the yield, this grass never is coarse. As the butts are eaten with relish, there is no waste in feeding out. If the burden be heavy, it does not fall flat on the ground by its own weight, but "cripples" with the lower part on or near the ground, with the tops erect. If a summer freshet beats down this grass flat on the ground, new plants resembling "fiorin" start up from the joints, and increase the yield without rot or decay.

The butts, or stalks, of this grass, near the ground, being small, wiry, and full of joints, containing very little moisture, are easily dried and converted into hay; and, as the upper portions of the plant are small and limber, it is very little affected by rains when lying in the cock in the field. Hence it is very easily made into hay.

GARDEN SEEDS.

The following is an estimate of the quantities of different kinds of garden seeds required to produce a certain number of plants, or to plant a certain quantity of ground:

Asparagus.—One ounce will produce about 1,000 plants, and requires a seed bed of about twelve square feet.

Asparagus Roots.—1,000 roots will plant a bed four feet wide and from 200 to 250 feet long, according to the distance apart the plants are placed on the row.

Beans.—*English Dwarf*.—One quart of seed will plant from 100 to 150 feet of row, according as the sorts may be early or late.

Beans.—*French Dwarf*.—One quart will be sufficient for about 350 hills, and the same quantity will plant from 250 to 300 feet of row.

Beans.—*Polc*.—One quart of Lima, White Dutch or Scarlet Runners, will plant about 100 hills; of the smaller sort, one quart will plant about 300 hills, or 250 feet of row.

Beets.—When sown as gardeners generally sow it, it requires at the rate of ten pounds to an acre; one ounce will suffice for about 150 feet of row.

Brocoli.—One ounce will produce from 2,500 to 3,000 plants, and require a seed bed of about forty square feet.

Brussels Sprouts.—The same as *Brocoli*.

Cabbage.—Early sorts the same as *Brocoli*; the late and Savoy sorts will require a seed bed of about sixty square feet.

Cauliflower.—The same as the later sorts of *Cabbage*.

Carrot.—Three to four pounds are required to an acre, and one ounce will sow about 200 feet of row.

Celery.—One ounce of seed will produce about 7,000 or 8,000 plants, and require a seed bed of about eighty square feet.

Cucumber.—One ounce of seed will be required for about 150 hills.

Curled Cress.—One ounce of seed will sow a bed containing sixteen square feet.

Egg Plant.—One ounce, if properly managed in the seed bed, will produce from 2,500 to 3,500 plants.

Kaie.—The same as *Brocoli*.

Endive.—One ounce will produce about 3,500 plants, and require a seed bed of about eighty square feet.

Leek.—One ounce produces about 2,000 or 2,500 plants, and requires about 60 square feet of seed bed.

Lettuce.—One ounce will require a seed bed of about 120 square feet, and will produce 6,000 or 7,000 plants.

Melon.—One ounce will be sufficient for about 120 hills.

Nasturtium.—One ounce will sow 25 feet of row.

Onion.—From four to five pounds are required for an acre, when raised for the bulbs; one ounce will sow about 200 feet of row.

Okra.—One ounce will sow about 200 feet of row.

Parsley.—Six or seven pounds are required to the acre; one ounce will sow about 200 feet of row.

Parsnip.—From five to six pounds are generally sown per acre; an ounce will sow about 250 feet of row

Peppers.—One ounce will produce about 2,000 or 2,500 plants.

Peas.—From one to two bushels are required to an acre; one quart of the smaller sorts will sow about 120 feet of row, and of the larger sorts one quart will sow about 200 feet of row.

Pumpkin.—One quart of the common field sorts will plant from 500 to 600 hills, and, of the finer garden sorts, one ounce will plant about fifty hills.

Radish.—From twelve to fourteen pounds of the the early spring sorts are required to the acre, if sown broadcast; but half that quantity is sufficient if sown in drills. Of the latter sorts five pounds to the acre, in drills, are sufficient. One ounce will sow about one hundred square feet.

Salsify.—From five to six pounds are generally allowed to an acre. One ounce will sow about 150 feet of row.

Spinage.—Cultivated in drills, from seven or eight pounds to the acre are sufficient; if sown broadcast double that quantity. One ounce will sow about 200 feet of row.

Squash.—One ounce will plant from fifty to eighty hills, according to the sorts and size.

Tomato.—One ounce will produce about 2,000 or 3,000 plants, and require a seed bed of about eighty square feet.

Turnip.—From one to two pounds are generally allowed to an acre; one ounce will sow 2,000 square feet.

Water Melon.—One ounce will plant from 40 to 50 hills.

AGRICULTURAL SEEDS.

Quantity varying according to the soil, and whether sown in drills or broadcast.

Wheat,.....	5	to 8	pecks per acre.
Rye,.....	5½	to 6	“ “
Oats,.....	2	to 4	bush. “
Barley,.....	1½	to 3	“ “
Millet,.....	¾	to 1½	“ “
Broom corn,.....	1	to 1½	“ “
Indian corn for soiling,.....	3	to 4	“ “
Peas, broadcast,.....	2½	to 3½	“ “
“ in drills,.....	1	to 2	“ “
Beans, broadcast,.....	2	to 3	“ “
“ in drills,.....	1	to 2	“ “
Buckwheat,.....	1	to 2	“ “
Timothy,.....	12	to 20	quarts “
“ with 6 to 10 pounds			
“ clover,.....	8	to 10	“ “
Red top,.....	16	to 24	“ “
Blue grass,.....	10	to 15	lbs “
Ray “.....	10	to 16	“ “
Tall oat grass,.....	12	to 16	“ “
Orchard grass,.....	20	to 30	“ “
Red clover,.....	8	to 16	“ “
White “.....	4	to 2	“ “
Lucerne, broadcast,.....	3	to 12	“ “
“ in drills,.....	12	to 18	“ “
Saintfoin, broadcast,.....	1	to 5	bush. “
“ in drills,.....	2	to 3	“ “
Potatoes,.....	15	to 20	“ “
Turnips,.....	1½	to 3	lbs. “
Carrots, broadcast,.....	4	to 5	“ “
“ in drills,.....	2	to 3	“ “
Parsnips, broadcast,.....	6	to 8	“ “
“ in drills,.....	4	to 6	“ “
Beets, in drills,.....	4	to 5	“ “
Kohl Rabi,.....	1½	to 2½	“ “
Rape, in drills,.....	2	to 3	“ “
“ broadcast,.....	4	to 6	quarts “
Mustard for seed,.....	8	to 12	“ “
“ for plowing under 12		to 20	“ “
Hemp,.....	1½	to 2½	bush. “
Flax for seed,.....	4	to 6	pecks “
“ for fiber,.....	8	to 10	“ “
Tansels,.....	1	to 2	“ “
Rice,.....	2	to 2½	bush “

WEIGHTS

Of sundry Agricultural Products, and other articles of use to the Farmer.

Wheat,.....	60	pounds per bushel.
Shelled corn,.....	56	do do
Rye,.....	58	do do
Oats,.....	32	do do
Barley,.....	47	do do
Clover,.....	60	do do
Timothy,.....	45	do do
Flax seed,.....	50	do do
Hemp,.....	44	do do
Blue grass,.....	14	do do
Buckwheat,.....	48	do do
Peas,.....	64	do do
Beans,.....	63	do do

HOPS.

GEN. RIDDLE'S method of cultivating, curing, and drying hops is as follows:

Setting the Roots.—The spring of the year is the proper season for setting the roots. Prepare the ground by plowing and manuring in the same manner as for a grass crop. Plant the hops in hills seven feet apart each way, putting three pieces of the root, each about four inches long, in a hill.

The roots will not vine the first year, consequently a crop of corn may be taken from the same ground by planting in intermediate rows. In the succeeding fall put a shovel-full of manure upon each hill of the hop-yard, as protection of the roots against the frost.

Setting the Poles.—Nothing further is necessary for their welfare till May, the proper time for setting the poles. Hemlock is the best material for poles—eighteen feet long, shaved on four sides, in order that they may season well, thereby lasting the longer. Set two poles to a hill, about nine inches apart, and in ranges, leaning a little to the south, so that the branches of the vine may swing free. When the vines have grown to the right length, select two of the most thrifty, and tie them with woollen yarn to each pole. This is very important. And attention also should be given to keep the main vines always upon the pole.

Cultivate the yard well so as to keep it free from grass and weeds, and prevent the branch vines from growing about the hill.

The hop generally blossoms about the 2d of July, and is matured fit for picking by the 5th of September. When the burr, beginning to open at the base, acquires a yellowish tinge, and the lupulin or flower has covered the tip of its stem, the hop is ripe and ready for harvest.

Picking the Hops.—The method of securing the hop crop when ripe is very simple. The vines are cut at the hill, and the poles, pulled from the ground, are laid across a box, into which the hops are picked. This box is usually about six feet long, three feet wide, and three feet high. Four or more can work at the same box. Females are generally the most expert in picking. A man or boy is necessary to tend the box and handle the poles. One person can pick from twenty-five to thirty pounds per day. They should be gathered as free from stems and leaves as possible.

Curing them, and the kind of Kiln.—After picking, the green hops are brought to the kiln to be

dried, which is the most important part of the hop-growing process. It requires no inconsiderable degree of skill to be successful in this department. A knowledge of the mechanism and nature of a kiln is also necessary.

The most approved kiln is constructed after the following plan: A brick foundation wall is built seven or eight feet high, and ten by eleven feet in dimension. It is well to have this wall plastered internally. In the center of the front wall, at the base, there is placed a large stone or brick furnace, suitable to receive fuel from without, and furnished with a funnel passing around within the foundation, above three feet from the top, and terminating in a chimney provided for the purpose. At the base also of this front wall, and on each side of the stove or furnace, there are two small openings, one foot by three feet in diameter, to let in cold air at the bottom of the kiln. The top of this foundation is laid with lathing, one inch wide, the strips being one inch apart, and covered with a thin flaxen cloth. Boards about ten inches wide are placed lengthwise around this cloth, leaving a narrow walk around the kiln. The superstructure is placed upon the foundation wall, as convenience may require, with a roof for shedding the rain. The walls are about eight feet high, and provided with slide or blind openings, suitable to admit the air for driving off the dampness which arises in the process of drying the hop. Such a kiln is capable of curing one hundred and fifty pounds of hops in twelve hours, if properly regulated. The green hops are placed in the kiln box and spread upon the cloth about eight inches deep.

Drying and Bagging.—A constant heat must be kept up until the dampness of the hops has passed off. Attention also should be paid to the regulation of the windows above spoken of. To ascertain when the process of curing is over, take a medium sized hop and snap it; if the leaves fall off, and the stem breaks short off, it is sufficiently dry. The hops may then be removed to a room as free from light as possible, but provided with windows to admit a free circulation of air. A room adjoining the kiln is the most convenient, where they should lay ten or twelve days before bagging. Hops are pressed into bales five feet long, one and one-half feet thick, containing about two hundred pounds—much in the same manner in which cotton is packed. The cider press is commonly used for this purpose.

Expense of growing Hops.—It requires one and one-fourth acres of land to grow 1000 pounds; good soil produces one to one and one-half pounds to the hill, if properly cultivated.

The cost of hemlock poles prepared for setting is two and one-half cents apiece.

It requires six feet of hard wood to cure 1000 pounds of hops.

The cost of a kiln, after the above plan, is \$50, or thereabouts.

The whole cost of cultivating a field of hops, including picking, curing, and pressing, is about five cents per pound.—*Transactions of N. H. State Agricultural Society.*

FLATTERY is a sort of bad money to which our vanity gives currency.

ALARMING DETERIORATION OF THE SOIL.

THE constant deterioration of the soils in New England, and throughout most of the agricultural districts of the United States, is a fact of portentous and alarming significance, though it has not yet arrested very extensively the notice of the public. Probably there is no one fact in our agricultural economy of more pregnant interest than this, in its bearings upon our future prosperity. Some statistics, illustrating this downward tendency in our ability to produce the fruits of the earth will now be given, and they will, I think, conclusively prove that a more prudent, skillful, and scientific mode of cultivating the soil is absolutely indispensable.

Between 1840 and 1850 three hundred thousand acres of land were added to those previously under improvement in Massachusetts. Ninety thousand acres were added to our mowing lands, and yet there was a relative depreciation of the hay crop during that decade of years of twelve per cent. Our tillage lands, during the same term were increased forty thousand acres, and yet there was an absolute depreciation in our grain crop of six thousand bushels. The pasturage lands were increased more than one hundred thousand acres, with scarcely any increase of neat cattle, and a reduction of one hundred and sixty thousand sheep, and seventeen thousand swine.

The same law of deterioration is also observable in the richer regions of the South and West—showing, that, with our present unskillful modes of farming, we are taking much more from the productive ability of our soils than we are returning to them, and that our agricultural prosperity is really and constantly on the wane. This downward tendency is partially hidden from public observation by the vast products which are raised upon the new and almost limitless regions which are every year put under cultivation at the West; but the fact itself is still indubitable.

In the State of New York, between the years 1845 and 1850, 671,692 acres were added to those previously under improvement, and of course there ought to have been at least a corresponding increase in the agricultural products of the State. But what was the fact?

- The number of horses decreased is 58,141.
- Milch cows decreased, 63,066.
- Other cattle the decrease was 127,525.
- Sheep, the decrease was 2,990,622.
- Swine, the decrease was 556,002.
- Of potatoes, the decrease was 7,255,066 bushels.
- Of peas and beans, there was a decrease of 1,132,054 bushels.
- Flax, the decrease was 1,956,485 pounds.
- Wool, the decrease was 3,793,527 pounds.
- Wheat, the decrease was 270,724 bushels.
- Buckwheat, the decrease was 450,724 bushels.

There was an *increase* in the amount of corn, rye, oats, barley, hay, butter and cheese raised in that State, but no greater than would have been expected from the increase of the population, which was 494,323 during those five years.

In Tennessee, the number of cattle raised was:

In 1840	822,861 head.
In 1850	750,365 "
Showing a decrease of..... 72,086,	

In Kentucky, more than nine tenths of the entire area of the State are covered with farms. The number of neat cattle raised was:

In 1840	789,003 head.
In 1850	733,312 "
Showing a decrease of..... 15,781	

Horses and mules raised in Kentucky:

In 1840	395,953 head.
In 1850	381,291 "
Decrease,..... 14,662	

It is estimated by intelligent farmers in Indiana that their river bottoms, which used to produce an average crop of sixty bushels of corn to the acre now produce only forty. In Wisconsin, which is younger still, it is estimated that only one-half the number of bushels of wheat are now raised on the acre which were raised twelve years ago.

These estimates are based on the returns made to the Patent Office, and are as reliable as any now before the public. What, then, is the conclusion of the whole matter? It is this, that the soils of New England, after all the admonitions we have received upon the subject, are annually growing poorer, and that even the virgin lands of the Great West are rapidly becoming exhausted of their fertility. Other and better modes of cultivation must therefore be introduced and practiced, or our country—now the granary of the world—may at no very distant day become dependent on other lands for its daily bread. Within fifty years our population will undoubtedly reach the enormous number of one hundred millions; but the grave question is how are these myriads to be fed and clothed and educated, if our present impoverishing agricultural processes are to be continued? We have territory enough, and it is naturally rich enough to support a population of *one thousand* millions—a number to which we may yet attain—but how can they be sustained, unless some method is devised to keep up the productive capabilities of our country, and to return to our liberally discounting soils as much at least as we abstract from them? This is a problem, which many thoughtful and far-seeing men are beginning to ponder, and which requires but little wisdom to solve.—*N. E. Farmer.*

GEOLOGY AS CONNECTED WITH AGRICULTURE

THE State of New York furnishes examples of all kinds of soils; those produced from every variety of formation, and of almost every shade of intermixture. The lower counties on the Hudson River, and the territory between Lake Champlain and the Black River, now mostly a wilderness, are examples of primitive formations to a great extent. The soil of the river counties, although formed in a great measure of granite, gravel, and sand, has been so incorporated with the drift from the transition series, that the mixture makes one of the most fertile soils, when properly manured and cultivated.

The condition of our primitive districts proves in a great degree the correctness of these opinions. The agricultural settlements bordering on the great granitic formation north of Montgomery and Sara-

toga counties, and west of Champlain, have proved that their soils, evidently the result of the decomposition of granite or felspathic rocks, require nothing but the liming and manuring spoken of by MORTON, to render them most fertile; and the high state of cultivation in some of the river counties is proof of what such soils are capable in the hands of skillful farmers. Soils of this class in all countries have been found very durable, a fact which LIEBIG explains from the abundance of potash contained in the felspar, and which is given out by decomposition. Soils from the gneiss rocks are usually of an inferior quality to the granitic ones, from the felspar being frequently in a less proportion, and consequently the clay and potash of that mineral being wanting. Where the gneiss contains abundance of felspar, the soil has no perceptible difference from the best granite ones, and when treated in the same manner will be equally productive. Some of the best root soils in the world are from this rock, for instance the celebrated carrot and parsnip soils of Guernsey and Alderney; where the latter root is produced in greater perfection than any where else.

The great transition formation of western New York furnishes examples of all the soils which such rocks can produce, from the coarsest pebbles to the most compact clay; soils in which comminuted limestone forms a large proportion, and that which is destitute of this element; soils varying from the lightest sands to the heaviest clays. On these the agriculturist finds soils adapted to every product, and capable of every modification and course of culture. There can be no question but that a natural difference exists in the soils of this formation, and the line is very distinctly marked in many respects by the water shed that separates the streams of the lakes from those of the Susquehannah and Ohio. It will be found that the soils on the northern or lake slope are much better adapted to the production of corn, wheat, clover, &c., than those on the southern one, or rather on that part watered by the streams that flow southwardly; and there can be no doubt that this difference is caused by the geological structure of the two sections. On the northern slope, in the course of thirty miles, no less than three distinct deposits of lime rock are found, two of them of great thickness, besides several minor deposits. Indeed, the whole mass, sandstones and shales, contain so much lime as to effervesce freely with acids. The first of these is the deposit which forms the falls of Niagara, in which the quarries of Lockport are found, which causes the falls of the Genesee at Rochester, and crosses in its course eastward the Oswego River at Fulton. The second deposit is the one which may be traced from Black Rock through the counties of Genesee, Livingston, Ontario, Seneca, Cayuga, Onondaga, Madison, &c. This mass is of great thickness, and has produced the greatest effects on the agricultural character of the soils in those counties. The Oriskany sandstone strata, which lies between this deposit and the gypseous ones is made of coarse sand cemented by lime, and when mixed with the marly or gypseous clays from the shales lower in the series, or to the north, gives an excellent soil, wherever its influence is felt, from Oneida to Ontario. The upper deposit of limestone is the one

called the Tully limestone, and is of limited extent and thickness, compared with the others. This deposit extends from the vicinity of Cazenovia westward across the counties of Onondaga, Cayuga, and part of Tompkins and Seneca. The mass called by the State Geologists, Marcellus Shales, some seven or eight hundred feet in thickness, lies between the Tully limestone and the Onondaga or crinoidal limestones. From the Tully limestone deposit there is not another till the carboniferous deposits of Pennsylvania are reached, leaving a district of some forty miles in width destitute of this rock. The rock strata of this transition district of New York furnishes in the red shale that lies between the gypseous formation and the Rochester series of lime rock, and in which the lead of the Onondaga and Oneida lakes are mostly excavated, a curious instance of the manner in which a deposit will run out, allowing the strata above and below to come in contact, while at another they are widely separated. Thus this red shale deposit, which, from Oneida to Onondaga or Cayuga, is not less than three or four hundred feet in thickness, disappears to the west, and at the Genesee River and the Niagara, allows the gypseous shales to rest immediately upon the Lockport or Rochester limestones. The result is, that the beds of reddish clay, which are so common in the counties east of Ontario, and which have been produced from the decomposition of the red shale strata, are not known at the west, where the strata has disappeared.

No one who is acquainted with the character of the soil, and their agricultural capabilities, in these two sections of western New York, that is, the northern and southern, will hesitate to ascribe the difference to their different geological origin. The influence of the lime deposits on the lake slope is too obvious to be mistaken; and the consequence of its absence on the part watered by the streams flowing south is equally certain. The vegetation is in some respects dissimilar, and the agricultural products are to a considerable extent, distinct. In short, there are few districts in any country where the influence of geological strata on the soil and its agriculture is more marked, or can be studied to better advantage, than in western New York.—*Willis Gaylord.*

ON THE PROPER DEPTH TO SOW WHEAT, ETC.

In order to elucidate the manner of the growing of wheat from the grain till it branches considerably, I have enclosed a delineation with its explanation, on which it is necessary to make some remarks, viz: If a grain of wheat is placed six inches beneath the surface, it will vegetate and throw out two leaves—which are generally called seminal leaves, and correa, ponding roots, (see the delineation, A, cc, and dd), then a thread is thrown out, which, as soon as it reaches near enough to the surface so as to come in contact with atmospheric air, it there forms a knob or enlarged point, which is the part from whence a new set of branches and roots are thrown out, which, in the autumn, is about an inch and a half or two inches beneath the surface (as in the delineation marked D). After this period, the seminal leaves' root, and the thread, denominated caudex, dies and becomes useless to the plant; above which it has a

new set of roots, branches, &c. On examining many roots of wheat, some had a knob between the seminal and coronal roots, &c., appearing to be an effort of nature which proved abortive, being not near enough the surface to obtain air. If the seed is placed anywhere between six inches and two from the surface, there will be a set of coronal and seminal roots and branches; but if the seed be placed anywhere between the surface and two inches below, there will be only one set of roots and branches, and those immediately progressing in their different directions from the seed. I have said the stem or thread arises from the seminal roots to within two inches of the surface in the autumn; but this depends on the dryness and porosity of the soil at the time of vegetating; for, after the soil has settled by rains, and according to the tenacity and specific gravity of the soil, also its moisture, which increases the specific gravity and prevents the access of atmospheric air, so will it be found nearer the surface; so that in the spring of the year, if any branching takes place at a late period, it will be found to be entirely on the surface.

From the above statement of facts, I draw this inference: that if a grain of wheat is deposited upwards of two inches below the surface, that it has an extraordinary effort of nature to make, to come up to that point beneath the surface where it has access to atmospheric air; and is proportionately great according to the depth, quality of the soil, moisture, &c., which must occupy a proportionable length of time, and consequently is equal to having been sown so much later, if put its proper depth.

The next inference I make is, that the branching of wheat being within that distance to which the Hessian fly is known to penetrate, and that its branches become shallower and shallower according to the lateness of its branching, that deep seeding is no preventive against the ravages of the fly.

The last inference, and not the least, is that where the seed deposited is deep, and out of the influence of atmospheric air, that should the season be moist or wet at the time of seeding, the specific gravity of the soil being increased, and its pores closed with moisture before the vegetation has reached the branching point, the seed will rot in the ground, and either partially or totally destroy, or rather prevent a crop being made. This happened to several of my friends this last fall, and is a circumstance that I have seen often happen, notwithstanding the strong disposition farmers have discovered of late years for deep seeding. To conclude, from a consideration of the above facts, and thirty years' experience, I am of opinion that the best depth for seeding wheat is, from one to two inches.

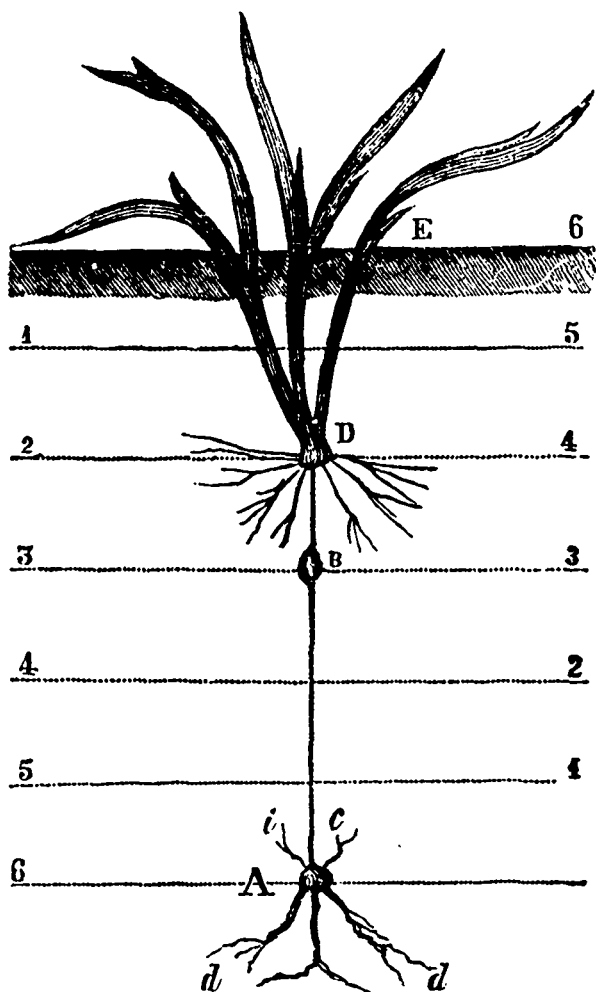
Thus I have endeavored to communicate my ideas respecting the growth and depth of seeding the wheat crop, and as connected with the Hessian fly; should it prove acceptable to the society, I shall be amply rewarded for the trouble I have taken.

A. The grain of wheat deposited six inches beneath the surface of the earth, where it sprouts and throws out roots and two leaves which are called its seminal leaves and roots, and a central thread denominated caudex.

B. A bulb formed on the caudex, being an effort

of nature to form branches and roots at that place; but being too far out of the influence of the air, goes on to within two inches of the surface.

D. The coronal roots and branches, formed two inches below the surface, having now reached within the influence of atmospheric air.



WHEAT FROM THE GRAIN TILL IT BRANCHES.

c c. The two seminal or first leaves, dead when the wheat has branched on the surface, and are hardly discernable without the aid of a magnifying lens.

d d. The seminal roots also dead after the coronal roots appear, and then are no longer useful to the plant.

E. The surface of the ground.

1, 2, 3, 4, 5, 6. Dotted lines marking the number of inches beneath the surface at E—Wm. Meriwether in *Plough, Loom and Anvil*.

Right in one thing becomes preliminary towards right in everything; the transition is not distant from the feeling which tells us that we should do harm to no man, to that which tells us that we should do good to all men.

Hops, mustard and caraway seed, came to perfection as wild plants in Germany.

Horticultural Department.

CONDUCTED BY JOSEPH FROST.

TREE PLANTING AGAIN.

MR. EDITOR:—We are pleased to see that the subject of tree planting is receiving more attention than formerly. To this end the editors of agricultural journals throughout the country have largely contributed, and for it they deserve far more credit than they will receive.

It is to be hoped, however, that they will continue to agitate the subject until a farm house, undorned with trees and shrubbery, will be as great a rarity as one with them is at present.

We do not refer so much to those farms near large cities, as those in the more rural districts, where trees can be obtained with the least labor and expense. What excuse can be given for this neglect we cannot conceive; still it is the fact.

Want of time, or skill, need not be urged, for the work can be done so early in the spring as not to interfere with the "spring work" on the farm, and all the knowledge required may be gathered from a few short maxims, which common sense would teach any one, viz: The hole must be deep and large, the earth pulverized thoroughly, the tree placed not too deep, the earth not packed down too hard, the top trimmed closely, and as many small fibres of roots, *with the earth around them*, saved as possible. If you are transplanting evergreens, be careful in addition to keep the roots as moist as possible.

By observing these maxims, any one of the many thousand of the "farmer boys" that read the *FARMER* could line the road side and the front yard with the choicest trees of the forest; and we hope that if the old folks should think best to wait till another spring, the aforesaid boys will take some spare day, yoke up the steers, hunt up the pick, axe, and spade, and do it. You will never regret the work, whether you live there a hundred years, or sell the farm in five; for you will receive double compound interest for your investment in either alternative.

Trees of four, five, or six inches in diameter may be removed safely in the following manner: While it is yet cold in the spring, dig a deep trench around the tree, and let it remain till the ground is frozen hard; the tree can then be removed safely. We have seen the above tried on large apple and maple trees with entire success.

While we urge the necessity of planting trees, we would urge those who have time and means at their

disposal to plant evergreens, and not deciduous trees only, as is almost universally the case where any attention at all is given to the subject. Private gentlemen are not as yet expected to be at much expense in forming parks; but surely the authorities of our cities, who have been and are now engaged in this praise-worthy undertaking, ought not to pass by winter parks in their zeal for summer parks. As long as deciduous trees are only found in public parks, as is the case in most of the few which grace our cities, so long we must expect to see, for almost half the year, an array of gnarled trunks and leafless limbs, bowing and bending stiffly to the winter blast.

Some attention, however, has been given to this subject. On Fifth Avenue, in the city of New York, may be seen evergreens which present a beautiful appearance when all else is drear and lifeless. The city fathers have placed a few around the fountain in the Park; and near Madison Square there is a miniature winter park, one glance at which ought to convert the strongest opponent to the planting of evergreens, for here alone Old Winter seems deprived of power to destroy, only increasing the beauty of the scene by relieving its monotony, whether his rude blasts toss more swiftly the dense masses of living verdure, or has thrown over them his snowy mantle.

While the planting of evergreens is here urged only on the score of taste, can it not be urged as successfully on that of economy? Read that excellent article in the February number, and see if the writer does not give a sound common sense view of the subject, and take care that you may lose less fruit by exposure to cold and wind. Plant evergreens, and your orchards will not only present a more attractive appearance to the eye, but will in autumn give more satisfactory pleasure to the inner man. E.

EASTON, Pa.

CANADIAN CHIEF GRAPE.

MR. EDITOR:—I see in the February number of the *CANADA FARMER* that "W. H. P.," of Portland, wishes to know more of the *Canadian Chief* grape. He thinks I have told rather a fine story; but I think if he will wait till next autumn, I shall be able to prove that we have the best open-air grape grown on the continent. The vine is in the garden of the Rev. JOHN BRENNAN, of this city. It has a southern aspect, and is planted in a sandy soil, about ten feet from a brick wall, and trained on a lean-to trellis.

I believe it is a hybrid, obtained by Mr. BRENNAN by inoculation of foreign with native sorts, but it is a secret that he wishes to keep, at least for a time.

His treatment of the vine is plain stable manure, close pruning, and shelter in the winter by laying the vine on the ground, covered with a few corn-stalks. It was a beautiful sight to see that vine bearing from thirty to forty clusters, each about nine inches long, compact and well-formed, the fruit large and resembling the *Sweet-water*, with a slight bloom and fine flavor. Mr. BRENNAN informs me that he has a few vines for sale from cuttings of last year.

Yours truly, F. W. TEARMAN.

HAMILTON, C. W.

STRAWBERRIES.

MR. EDITOR:—In the spring of 1851 I bought 400 strawberry plants of three varieties—*Royal*, *Monmouth*, *Black Prince* and *White Bush*, which were set in rows three feet apart, six inches in the row. I mulched the best with saw-dust four inches deep, and kept the runners trimmed off after they had done bearing. I gathered from my bed in 1852, 36 quarts; in 1854, from *Royal* and *Monmouth* 26 quarts, of the *Black Prince* 18 quarts, and *White Bush* 24 quarts; in all 68 quarts. I have been well paid for all my trouble. The berries were very large, and uniform in size.

G. J. ELLERBY.

NIAGARA CO., N. Y.

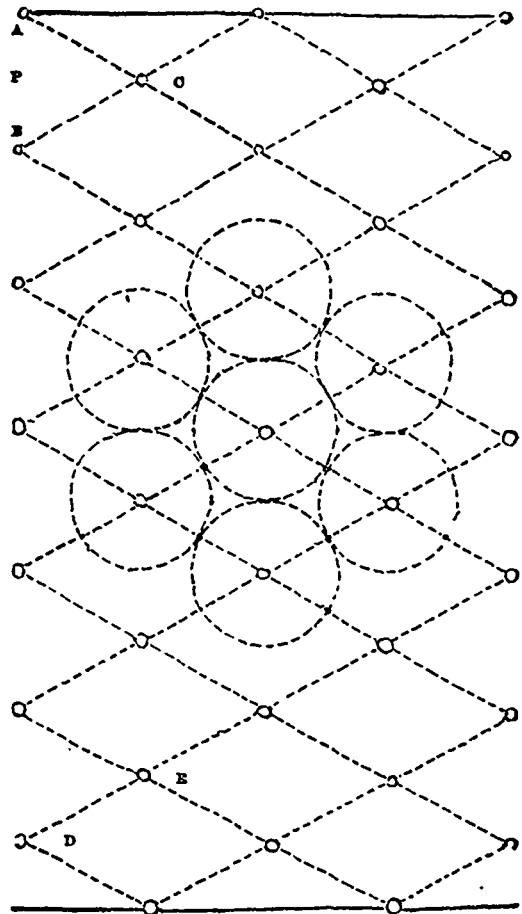
[So it will be with all who will take a little pains to procure choice varieties of fruit. When commencing their cultivation it costs no more time and labor to get the best and grow the best, than poor kinds. Coming as it does the first of our fruits, its sub-acid berry is grateful to the palate and conducive to health. In another column will be found a brief notice of the method of cultivation.—ED.]

PLANTING ORCHARDS OF APPLE TREES.

WHEN an orchard is to be planted, or where there are many rows, the quincunx arrangement is always the best, because by that mode, each tree is equidistant from its neighbors, and each has an equal portion of air and light; it is also the best for lining in all directions. The rectangular mode of planting (Fig. 2) is only fit for avenues. The quincunx arrangement is based on an equilateral triangle, at each angle of which a tree is planted. To trace out on the ground the lines for the quincunx, which must not be confounded with the rhomb, we first form a base line by means of poles, or with a line; on this line pegs are fixed at the places where we intend to plant, at the distance determined on, say at 42 feet. In order to mark out the second line, we take two measures, each 42 feet long, placing the end of one of them against the first peg in the first line, as at A, and the end of the second against the second peg, B; we then bring the two measures together at the other

ends, and a peg is put in at the point where they meet, at C. The three pegs thus form an equilateral triangle. This operation is repeated at the other end of the first line, and the two pegs 1st put in give the second line, which is then filled up like the first with pegs, 42 feet apart. The whole of the ground being thus marked out, we obtain the result shown in fig. 1. Each tree is equidistant from the six adjacent trees surrounding it, which can not be the case either in the rectangular or in the oblique square form.

Fig. 1.



PLANTATION IN QUINCUNX.

In the quincunx mode of planting, it will sometimes happen that the distance between the rows running parallel to A D is determined; and sometimes the distance of the trees in these rows, as A B, is fixed. It is necessary to know, from having one of these distances given, how to find exactly the other. We must repeat the word—exactly; for, supposing the row should contain as many as 50 trees, and the distances A B, or C P, should be only half an inch wrong, some trees, or even rows, would be two feet out of their right position. The trees could easily be placed so as to line in one direction; but this being done, it would be seen that they were, in consequence, put quite as much out of line in another direction. Stake after stake may be altered, to an indefinite period, without forming correct lines, if a wrong principle has been adopted at starting. To prevent such confusion, to save time and expense, and to make sure of staking out the whole satisfactorily, the following will prove very useful:

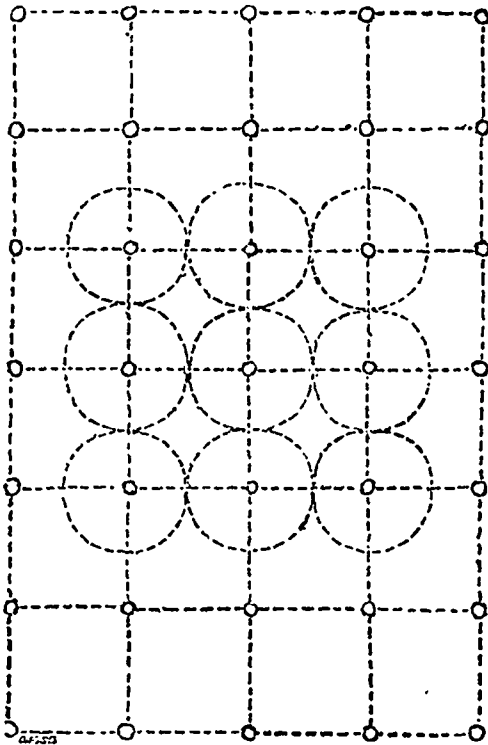
1. The distance CP between the lines $ADC E$, being given, to find the distance AB between the trees in the line AD .

$$CP^2 = AB^2 - \left(\frac{AB}{2}\right)^2$$

This reduced becomes $4CP^2 = 3AB^2$.

Hence the rule: multiply the square of the distance CP by 4 and divide the product by 3; the quotient is the square of the distance AB . Or, to the square of CP add one-third thereof; the sum is the square of AB .

Fig. 2.



PLANTATION IN SQUARES.

2. The distance of the trees in the line AD being given, to find the perpendicular distance CF between the lines $ADC E$ —

Multiply the square of AB by 3, and divide the product by 4; the quotient is the square of CF . Or, from the square of AB subtract one-fourth thereof; the remainder is the square of CF .

It will be readily observed from the annexed diagram, that in square planting, a tree neither is nor possibly can be at an equal distance from all those which surround it; and that when four trees grow till their branches cross each other on four opposite points, there is at the same time a large space left elsewhere unoccupied between these trees.

To mark out the holes, we take a piece of cord, at one end of which we make a loop which is put on a peg where a tree is to be planted, and then fastening a pointed peg on the other end of the line, at the distance of the semi-diameter of the hole, we trace a circle with the pointed peg, which circle is the circumference of the hole. It is advantageous to make the holes some time before planting, and to leave them open, so that the earth may benefit by the action of the air. This operation should always

be performed in dry weather; each kind of earth should be laid in a separate heap at the side of the hole, and so as not to interfere with the lines of the plantation; that is to say, the earth should be laid in the four angles formed by the crossing of the two principal lines, and not in the direction of those lines.—*London Gardeners' Chronicle.*

THE FOREIGN FRUIT TRADE OF NEW YORK.

ABOUT thirty vessels are constantly engaged in carrying fruit to this port from the West India Islands, whence the chief supplies of pine apples, bananas, cocoa nuts, &c., are derived; but a much larger trade in fruits is carried on with ports in the Mediterranean, which supply annually something like seventy or eighty cargoes—principally oranges. The importations of last year are estimated by one of the principal dealers as follows:

Seventy-five thousand bunches of bananas from Baracoa, sold here at from \$1.25 to \$1.50 per bunch.

Two millions Baracoa cocoa nuts, sold at from \$25 to \$30 per hundred.

Twenty cargoes of pine apples, from Matanzas and Havana, averaging 80,000 dozen per cargo, and sold at from \$8 to \$12 per one hundred.

Twenty thousand dozen St. Barts pines, sold at from \$7.50 to \$8 per hundred.

Two hundred thousand dozen from the Bahama Islands. The latter sold very low, on account of the prevalence of the cholera.

Ten cargoes of Havana oranges, averaging 250,000 each, have been received thus far, the present season, the crop being more abundant than at any time during the last fifteen years. Prices are reduced nearly one-half, compared with last year's prices. Mediterranean oranges, which come in boxes, and are most extensively shipped to different parts of the U. S., begin to be received in January, but not extensively until April or May. The greater bulk of this description of fruit, which is less perishable than other varieties, comes from that direction. West India oranges are preferred for their flavor. Bananas and pine apples begin to arrive about the first of April, and are most plentiful during the succeeding three months. Cocoa nuts arrive all the year round. Many cocoa nuts come here from San Blas and the Spanish Main via Baltimore; merchants in the latter city possess advantages which enable them to compete successfully with our own in this branch of the trade. West India oranges arrive in October, and are most abundant in January and February. Just now, this fruit is going out of the market, to be soon superseded by Mediterranean oranges.

It is only within a short time that Havana has produced oranges as abundantly as in years previous to 1844 and 1845, on account of the destruction of the trees by hurricanes. During the year mentioned, such was the scarcity there, that Havana was supplied with Sicily oranges, re-exported from New York. The fruit trade of this city is constantly growing more important as the demand for consumption is increased by a growing population.—*N. Y. Journal Commerce.*

An oak is not felled with one blow.

HOW TO CUT WILLOWS.

WILLOW sets, as commonly planted, would have the appearance of fig. 1. It will be perceived that one eye is above the ground, and more frequently there are two. At the end of the first summer's growth, it has the appearance of fig. 2. These, we will suppose, are cut back, as shown at fig. 3.* It will be seen that a "snag" is left on the old stem, which will increase at all subsequent cuttings, leaving

can answer for it; the contrast in the willow-beds will be still greater than on paper. Little explanation is necessary on this point. The rods given by a stool like fig. 4 have to draw all their nourishment through the stem, and will, as a consequence, be weak in contrast with those given by a stool like fig. 9. Where the whole stool, to the very top, is in the ground, roots are emitted from every point, and the stools swell accordingly; and when growth commences in spring, shoots will be thrown up all around

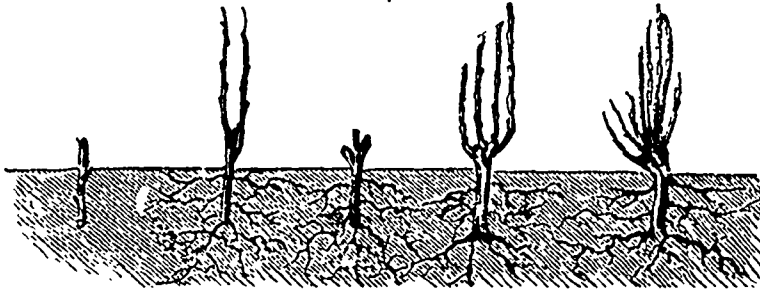


Fig. 1. Fig. 2. Fig. 3. Fig. 4. Fig. 5.

a short stem of it, perhaps a few inches, between them and the surface of the ground. At the end of the second year, we have a plant like fig. 4; and at the end of the third year, like fig. 5. At this and subsequent ages, many of the "stools" will be getting one-sided, from the breaking off of "snags" by carelessness or accident; and when the stools stand close together, many shoots will be weak and worthless. This is a very bad system of cutting, yet in England

the stool, from the under side of the headed-down branches. These shoots springing out of the soil, as soon as fairly growing, also emit roots in every direction, from the point of junction with the previous year's wood. It will be clearly seen, under circumstances such as these—a stool from which roots ramify in every direction, with the young rods rooting into the soil as well—the rods must, as a consequence, be of superior growth to the other system. From

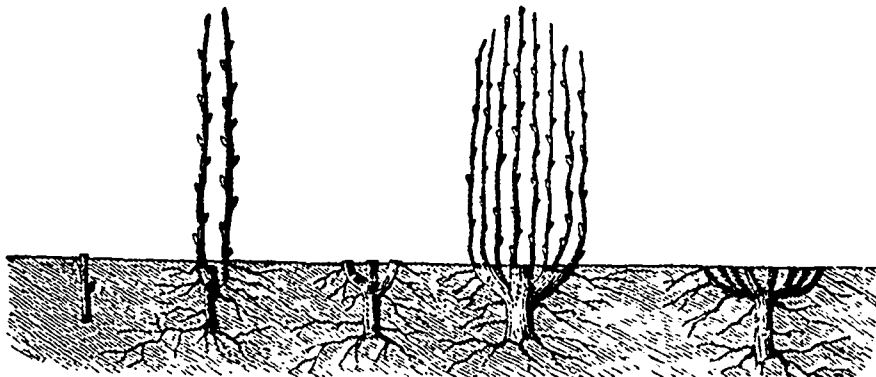


Fig. 6. Fig. 7. Fig. 8. Fig. 9. Fig. 10.

it is the general one. A much better system is practiced by a few good growers. When the cutting is planted, it has the appearance of fig. 6—the top bud level with the surface of the ground. It will be found that the shoots given the first summer, as shown at fig. 7, will be much stronger than that shown at fig. 2. The reason is obvious: as soon as the shoot fairly commences growing, roots are emitted at the base of the pushing buds, which, being near the surface, greatly assist their growth. When these are cut back, it must be done close to the surface of the ground, as seen at fig. 8. The next summer the stools will give a luxuriant growth of "rods," as at fig. 9, showing a great contrast to stools of the same age, as at fig. 4. Persons unacquainted with willow-growing must not think this overdrawn, as I

the system of cutting back, the stool spreads to a considerable distance; three feet in diameter will soon be common in a good soil and under good culture. I have seen them much wider. The rods having more distance, and deriving the same nourishment from the parent stool, are not only long, but uniform in size. If cut on the other system, many weak shoots will be given, for want of room, air, nourishment, &c. This system of cutting close to the ground must be adhered to at all subsequent cuttings. It will be plainly seen that under this mode the stools must be planted at a considerable distance apart,—on no account should they be closer than three feet each way; three and a half feet will be a still better distance; and on favorable soils, with the very strongest willows, four feet each way will not be too much.

* It is much better not to head them back until the end of the second year, as it materially strengthens the stools. Many good growers occasionally let their old plantations stand two years, to give them regater vigor.

I am happy to be able to endorse all that Mr. DOWNING says of the willow imported by Dr. GRANT. It is now twelve years since I became acquainted

with that variety, and so superior to all other varieties of osier was it found, that ten years since, a willow plantation under my charge, planted with inferior varieties, I had cleared, prepared, and planted exclusively with that. The principal points of its excellence consist in its very vigorous growth, annually giving rods of great length and uniform thickness; but the great quality of all, is its extreme toughness. Nurserymen in Europe use willows largely for sewing their bundles of trees. This variety from its length, slightness, (in proportion to length), the facility with which it can be twisted, bent, sewed, or drawn, like a piece of twine, without cracking in the least, recommends it before any variety I have ever seen. I need not remark that basket-makers like this quality quite as well as nurserymen. This is an old variety, though not generally grown in England. In one or two places in Gloucestershire it is admirably grown, to the exclusion of all others. I can not help regretting that this variety should have been given a new name on its introduction here. It has no particular name where grown, but I conceive it would be better to designate it the *Gloucestershire* willow, or the *Tockington*, from the village near which it is extensively grown. New names have had their bad effects on fruits introduced into this country, and it will lead to as much confusion if applied to willows.—*John Saul in Horticulturist.*

PRESERVATION OF FRUITS.

As the season approaches for the enjoyment of our earlier and more perishable fruits, these, such as strawberries, raspberries, currants, gooseberries, cherries, and plums, constitute the delicacies of the season. They give health and enjoyment to all who can obtain them. But alas, their season is short. We have not yet succeeded, as Col. PRABODY, in having strawberries six months in the year. We keep them a few weeks, and they are gone. Few know the pleasure of tasting fresh berries later in the season or in the middle of winter, and yet it is not difficult to preserve them, so that they may be had fresh, during the whole year.

Various plans have been adopted for preserving fruits. The plan of drying them has long been practised, but this preserves to us only a portion of the fresh fruits. Dry them ever so carefully, and there escapes with the water some portion of the original aroma and flavor of the fruit. Currants and gooseberries have frequently been preserved by being put into bottles while green, and the bottles afterwards sealed up. Currants have been kept in this way twenty years. But it is possible to take the perfectly ripened fruit and preserve it perfectly for months and years.

In the first place prepare a suitable number of cans, made of the best tin, to hold the quantity you wish to preserve. It is best to have these cans small, holding only what will be eaten soon after one has been opened; for it is observable that anything that has been kept preserved from decay by an arrest of natural laws, for a long time, when restored to the influence of those laws, undergoes chemical changes with great rapidity. Let those cans be, say seven or eight inches long and four or five in diameter, a hole

being left in the cap of one end, an inch perhaps in diameter. The fruit selected should be perfectly ripe and sound, having no spots of decay upon it. The softer fruits, such as strawberries, raspberries, &c., had better be crushed, as the can may then be more entirely expelled. Currants, gooseberries, cherries, plums, and peaches, may be put in whole. (When the jars are intended for so large fruit, one end must be left unsoldered until filled). When the cans are filled, a piece of tin is to be soldered over the hole in the end, having in it a small hole of the size to admit a pin. The canisters are then to be placed in boiling water, and so kept until the air has ceased to issue from the pin hole. This can be easily known by dropping a drop of water on the hole; if it bubble, then the air is still issuing from the canister; if it does not bubble then the process is complete, and a drop of water on this hole hermetically seals it. If these canisters be now kept in a cool place the fruit will have all the freshness at the end of a year's time that it had when put up.

Every one who has cultivated them, knows that the tomato is a perishable fruit. The tomato is easily preserved in this manner. We, ourself, at several times during the latter part of last winter, ate of the tomato preserved in this manner. We could not detect with the most careful scrutiny that it had not all the life and true tomato flavor of the fruit fresh from the vines.

Almost every family in the summer and fall make what they call their preserves. To do this an amount of sugar is used, equal in weight to the fruit to be preserved. A day's boiling, skimming and packing, and the thing is done for the time. But at sundry times afterwards, unless the luck is unusual, the preserves are "working," and the boiling and skimming has to be gone over again.

Now at an expense a trifle only greater than that of making the "preserves" of one year, a stock of canisters is obtained that will last many years, and in which fruit, with no more trouble, can be preserved with all its unchanged, original flavor upon it; and this too, when the work is well done, requiring no subsequent operation.—*Granite Farmer.*

AMERICAN GRAPE CULTURE

THE *Western Record* contains an extended statistical article on American grape culture, and from the facts it has gathered, expresses the opinion that while the vine remains as it now is in the region of Cincinnati, unaffected by any great increase of insects, parasites, or other causes of blight, the grape may here be cultivated at a large profit, even when the wine is reduced to fifty cents per gallon. But such is the demand for pure Catawba wine, and such is the consumption of wine in the country, that it is safe to say, that in full thirty years to come, wine cannot be reduced to fifty cents a gallon. In all that time, the good cultivators must realize heavy profits. The *Record* thinks that there must be five million acres planted in vines before the price can be reduced to a minimum in the United States! This fact is enough to insure cultivators against any hazard of an overstocked market.

Ladies' Department.

CONDUCTED BY MRS. C. P. T., RICE LAKE, C. W.

APRIL.

THE month of April in Canada is with us but the faint dawning of spring. It bears no resemblance to the month of rainbow showers and fitful sunshine, of the sweet violet, the cowslip, and primrose,—the April of bursting buds and bulbs.

We never feel the real homesickness now, excepting in the month of April, when our heart yearns with an indescribable restless longing for the meadows with "opening daisies powdered o'er," the green, turfy banks starred with fresh primroses, and the wooded lanes where we used to roam in our happy childhood and listen to the songs of the birds, and watch the quaint shadows of the April clouds as they passed over the landscape.

One must not feel surprised that the heart of the emigrant grows sad in the lingering Canadian spring. It takes long years to attach her to the flowerless season of an April like ours. Even March has its store of buds and blossoms, its early violets, and gay crocuses, in whose golden cups the bees make music on sunny days beneath our windows, with clumps of snow-drops and daffodils, and many flowers as fair and sweet to look upon.

The Canadian April has a season peculiarly its own—a mingling of winter and spring; she is no idler, her task is an arduous one; it is hers to loose the iron bands of winter, to absorb and evaporate the snows that have been accumulating during the previous months, to unlock the ice chain from the lakes and streams, to vivify the dormant tribes of earth, and air, and water.

There is a silent spirit stirring in the leafless woods, a swelling of buds within their wintery shades, a moving of the sap upward through the rugged trunk and branches, a laboring of roots and rootlets to push up the newly aroused energies of buds and herbaceous plants, a perfecting of buds where the embryo blossom has lain closely hidden in darkness and sleep.

The early birds begin now to return to us. The song sparrow, the robin, the blue vested jay, the hollow, sonorous drumming of the ruffed grouse is heard in the forest summoning his distant mate—a sure sign of coming spring.

The opened pools on the lakes are noisy with flocks

of wild fowls screaming and splashing in undisturbed enjoyment of the freshly opened waters.

The long days, with sometimes a soft and sunny one, acts on the surface of the snow which disappears beneath the influence of the sun and milder air in a thousand tiny rills, in mimic cascades, now falling over stones, now winding among roots, or forming little pools, following the law that greater floods obey. As the softened snow disappears in the woods, some green leaves become visible,—evergreens that have retained their freshness beneath the covering of snow—among these are the charming wintergreen, and the festoon pine. Of these plants (the wintergreens) we will give some account in our next paper.

Toward the middle and latter end of April, some flowers appear at the edge of the forest, and in sunny spots about the clearing. Among these we will only take time to name the *Hepatica* or snowflower, the *Erythronium* or dogtooth violet, (which is a lily in all respects but the name,) the *Sanguinaria* or blood-root, *Claytonia* or spring beauty, the early life-everlasting, (two kinds-), the *Crawling Ranunculus*, and small white violets in wet places. The heather moosewood is now in bloom on its leafless branches. Many other plants and shrubs, such as currant, gooseberry, and twin-honeysuckle, are showing their leaves in a partially unfolded state, ready for the first warm days of May to expand them fully. This is the month for grafting; and the hot-bed should be prepared, and the flower borders dug, if the ground is dry enough to admit of the spade; lady gardeners may now look to their rose bushes and small shrubs both in trimming and planting; but the earth is yet too cold and damp to admit of seeds being sown—they will be apt to rot and never come up.

LETTER FROM OAK HILL.

MRS. EDITRESS:—I must tell you that I take the *FARMER*, &c. I think works of that sort ought to be encouraged; and I am very glad to hear that a quiet, sober-minded old lady (as I take you to be from your works, some of which I have read) has taken upon herself to conduct the female department; and I hope you will give our young folks some good advice that they may profit by. For there are many of them who would refuse to listen to home truths from fathers and mothers, who will read, mark, learn, and inwardly digest what they read in a book—especially if written in a pleasant way—as dainty invalids reject plain food with disdain, while they will relish the same material if nicely seasoned, and dished up in a

more tempting style. Well, this is human nature, and I do not quarrel with it; we all require a little humoring and coaxing to do what is right. We are a young country, Mrs. Editress, but we are growing old too fast; we walk before we creep, and if we do not take care, our little ones will get ricketty by being too soon suffered to run alone.

Now, I wish to give the sentiments of our club, which consists of a number of plain farmers, like myself, who have marriageable sons and daughters too, and we hope our opinions may have some weight.

We think that plain, hard-working men require plain, hard-working wives; not fine, fashionable young ladies, who will despise their husbands because they drive the plow or wield an axe, and labor for the better support of their families. There is an old proverb—"Can two work together in a yoke unless both be agreed?" Certainly not. Well, the way in which people of our degree now-a-days bring up their girls, will unfit them for the duties they will have to perform as wives and mothers. In other words, they will not make good yoke-fellows.

A farmer's son should choose his partner from among the farmers' daughters;—but in a few years he will find very few of this sort to mate with. A girl that is educated only for show, will not do for the sober, steady farmer's wife. If her time can be spent in rattling the keys of the piano, dancing the polka half the night with flashy young tradesmen from the town, working pin-cushions and chair bottoms, and flaunting about with bits of lace and silk on the back of her head, nick-named bonnets (why don't they call them caps at once), and wearing gay ribbons and flowers, and such like gauds;—such a girl will hardly be contented to sit down quietly on a farm and take her part as an active, industrious woman should do in her husband's house. She thinks she is fitted to shine as a fine lady, and is discontented and dull; her temper becomes sour, she gets cross to her servants and children, the husband goes off to the tavern, the house is divided against itself, and falls,—and great is the fall thereof.

I want to see farmers' daughters brought up for farmers' wives; but by sending them to improper teachers, you uneducate them for the station of life which God destined them to fill. But I am writing too long a letter, and must ask your pardon. Another time I will tell you how my wife and I got on together when we married. By-the-by, I cannot now remember the sort of bonnet my good woman wore on her wedding day; but of one thing I am sure—

that it covered her head and hid her blushes a little and that's more than any of our modern brides can say.

Yours, very respectfully,

OAK HILL, C. W.

IZAAR HUFF.

[We are afraid our young ladies will hardly thank this honest farmer for his tirade against boarding schools and fashionable bonnets. Like many sturdy reformers, he is for sweeping reformations. Fair and softly goes a great way, Mr. Huff. We live in an age of progress; we must not rudely rend away the ornamental, or we may chance to leave only a rude and ragged garment behind. We must try and blend the useful with the ornamental. The solid column is not the less stable for its capital being adorned with fluting and foliage.—We shall be happy to see the promised sketch of conjugal life—we are sure it will be truthful and practical.—EDITRESS.]

RUB SOFTLY.

"'Tis all very well," said my grandfather putting in his oar, "'Tis all very well that rubbing down and polishing off, provided it is done in moderation; but let me tell you there is such a thing as rubbing too hard.

"I have seen an Indian rubbing two pieces of rough wood together; after a little time they became a great deal smoother and had a pleasant warm feel; but when he rubbed away some time longer, harder and harder, they took fire, blazed up, and cracked and sputtered in all directions. Now it is just the same in married life; rub quietly and only a little at a time, and all will go on smoothly, but if you stick to it hard and fast from morning till night, take my word for it, you will kindle up a blaze at last that you may not find easy to put out."

[A good illustration—mark it well, all who are inclined to rub too hard and too long; learn in your daily intercourse to RUB SOFTLY.—EDITRESS.]

TO PREVENT THE JUICE IN FRUIT PIES BOILING OVER.—Place an inverted cup in the pie, and when the pie is removed from the oven the cup will be found nearly full of syrup. The reason why is this: When put into the dish the cup is full of cold air, which expands by the heat in baking, driving out all the syrup and a portion of the air it contains, in which state it will remain till removed from the oven, when the air in the cup will condense and occupy but a very small space, leaving the remainder to be filled with syrup.

Editor's Table.

HINTS FOR APRIL.—The farmer's work will now have begun, and sunny days alternating with fitful showers will swell the buds and blossoms, making all things ready for blooming May. As nature arouses herself from her wintry slumbers, the tiller of the soil will find his cares and labors increase, though they can be much diminished in amount by the exercise of care and forethought.

If wet places are or have been observable in your wheat or grain fields, let the surface drains be opened at once and kept open; and if possible, make arrangements for thorough under-drainage at the proper season. Fences will have been put in thorough repair, and stock will be kept off your mowing lands, particularly while the ground is soft.

The sheep and cattle folds will now require special attention, and ewes in lamb and cows in calf must be sheltered from cold storms of wind and rain. Animals as well as men can endure great degrees of cold with impunity, provided their skins are kept dry; but cold and wet together will impair the stoutest constitutions, and induce incurable disease.

Every one who keeps stock should feed roots now, at least once a day, in order that the digestive organs may be kept in proper and healthy tone. A mixture of salt, ashes, and a little sulphur will be of benefit to animals with unhealthy skins. Lice are sometimes a great annoyance to animals in the early spring (not generally to those properly fed and cared for). There are several remedies which may be used in such a case, viz: sprinkling dry Scotch snuff around the points most liable to be infested, or dry slaked lime over their bodies, and thoroughly currying and brushing the animal; and an acquaintance says the best thing he ever tried was washing the animal with water in which a good quantity of potatoes had been boiled.

A bushel of gypsum to the acre should be sown on pasture and meadow lands, except where experience has shown it to be of no particular benefit. Whatever may be the theory of its action, whether as a stimulant or as a specific manure, there can be no question but that its use tends to induce a growth of the finer and more nutritious grasses, and it is particularly beneficial on clover hay.

Fruit and forest trees should now be set out as soon as possible;—not into holes just large enough to allow the roots to be crowded and forced into place, but of sufficient size to allow every root and spongiole its natural and unconstrained position. But some may say, why insist so much upon all this care and attention in the treatment of transplanted trees and shrubs?—we know it already; we have been told of it many times already—tell us something new. To such we would answer, why ring the bell of the locomotive at every railroad crossing? People know there is danger if they will not be careful. Why spend so much of life in the daily routine of every day duties? Life to all is but the repetition mostly of little things, in themselves considered. The oak in all its majesty and strength adds but little daily to its substance, while in time it becomes the monarch of the forest. So it is with every ac-

and thing in this world. No man ever becomes distinguished at once—and no method of cultivation, however useful it may be, will ever be adopted in haste. If your trees have been carefully taken up and removed, and have a good portion of roots attached, there is no necessity, ordinarily, for close pruning, but more err by not pruning enough, than by pruning too closely. If they (the trees) have but little root, leave but little top—proportion the one to the other. There is another point to which we will advert, and that is the choice of trees. A smooth, straight stem is most agreeable to the eye, but do not let the appearance be your guide. "Low, stout trees are always preferable to tall, slender ones. Inexperienced planters are generally more particular about the height than the diameter of the trunk; but it should be just the other way. If trees are stout and have good roots, a foot in height is comparatively unimportant, unless to one who wishes to turn his cattle into his orchard and have the heads of his trees at once out of the way. In elevated and exposed situations low trees are much to be preferred."

No definite or precise rules can be given as to the kinds of fruit to be selected. Each one must be governed by his locality, soil, climate, and facilities for market. Plant mainly of those varieties which by trial have been found reliable.

And here, in connection with these desultory remarks, we would advert to a topic, in connection with fruits and fruit trees, which has been a subject of much thought with ourselves. How shall we instill a love of husbandry and of home in the hearts of our sons and daughters? Too many, in their haste to amass wealth, consider the services of their children as mere substitutes for hired labor. To a certain extent it may be done, but in our view, there is something more for a parent to do than to make a matter of dollars and cents of the thews and sinews of his children. What wonder is it that boys are anxious to leave the homestead, and girls to marry at the first offer, if to them there is no part nor title in their home. We think a simple, yet effectual remedy for the restless and uneasy impulses of many of our youth would be to give them a piece of land to have as their own, and give them the avails of its products. Let them have a portion of the orchard—a single tree, it may be—teach them how to cultivate their portions to the best advantage; let them early be made to feel that if they would prosper in after life, habits of attention and industry must be formed now. Teach them to carefully observe every fact and practice that influences a result; and unless their nature is sadly perverse, a rich reward will be yours.

NEW GATE AND BARN DOOR FASTENER.—The latch manufactured by the Arnold Sash Lock Company, of this city, for barn doors and gates, from actual trial we find to be all that is claimed for it by the patentee. Remarkably simple in its construction, and free from complication, it is superior to anything of the kind in this vicinity, being strong, durable, efficient, and easily applied.

We have received quite a number of letters replying to "P. S." respecting rats. Want of space prevents the insertion of the residue.

We notice in our exchanges, that in some sections of the country, owing to the scarcity of fodder and the severity of the winter, cattle are in a state of starvation, and some have even been compelled to sell their stock at a great sacrifice to their more fortunate neighbors, who had the means of keeping them.

Now, if every one who keeps stock will make provision for drouth, no matter how good his pasture and meadow lands may be, by sowing corn in drills to cut when just forming the ears, there would not be such a complaint another season. We must expect our seasons to become more and more in extremes from year to year, consequent upon the clearing up of our forest lands; and no wise farmer will hereafter neglect making ample provision for soiling of cattle during the latter part of our summer, and before the commencement of fall rains. We know of one individual in a neighboring town who was not obliged to feed out hay at all till near spring, simply for the reason that between four and five acres of corn sowed for fodder furnished him with an ample supply of forage for his stock.

SAVE YOUR SAWDUST.—Dr. DODD, in a communication to the *Practical Farmer*, writing from Cleveland, recommends highly the use of sawdust as bedding for horses. The livery-stable keepers of that city use it in preference to straw. Among its advantages, he enumerates the following: It is a great absorbent of fluids, is easily removed from the stall—what little may be attached to the hair of animals is easily cleaned off with curry-comb and brush. Also it is adapted for loaming heavy soils, causing them to become more friable and porous, while at the same time it takes the fertilizing atoms with itself for use by the growing plants.

Inquiries and Answers.

OUR river-bottom lands consist of a bed of pure sand, covered over with five or six inches decayed vegetable matter. Would it be advisable to make use of the subsoil plow, or at what depth should such ground be plowed? We raise corn on our bottom lands equal in quantity and quality to that raised on the Scioto and Miami bottoms, and if we were as good farmers as our brethren of Ohio, I am inclined to think that our Big Sandy Valley would yield more per acre than any of their far-famed bottoms. At all events, I am, for one, inclined to profit from the valuable contents of the *FARMER*, as well as your private advice. C. P.—*Coalgrove, Pike Co., Ky.*

In lands of the character described above, it will not do to plow often, or expose them freely to atmospheric influences. On the contrary, the roller is a valuable implement on such soil, while lime and leached ashes never come amiss. Those grasses which are naturally adapted to your soil, and which make the firmest sod, will protect it from washing by rains, and enable you to increase your stock, by whose aid you can in turn increase the fertility of your land.

TO A SUBSCRIBER.—Wisner's Patent Wash Tub can be had of Messrs. J. BUNKER & Co., of Rochester, N. Y. Price, \$5.00.

MR. EDITOR:—I wish to make an inquiry of you in regard to the improvement of a piece of worn out land. It has considerable sorrel on it, and is a very dry, sandy soil. It has been cultivated with rye, two crops in succession, which has worn it down and apparently exhausted it. The reason for putting on two crops of rye was in consequence of the failure of seeding with clover in the spring. Last year the yield of rye was about 10 bushels to the acre. Many of the heads did not fill. Last spring I sowed nearly two bushels of clover seed, which failed entirely. I propose to plow it this spring, sow to buckwheat, plow it in as a green crop, then in the fall cross-plow as summer fallow, &c., sow with rye, and next spring seed down with clover. *Chatkam.*

From the prevalence of sorrel in your land, there is presumptive evidence that lime, at the rate of from twenty to fifty bushels per acre would materially benefit it. On light, sandy soils plow as little as is consistent with keeping the land clean, and follow with the roller. Such soils require to be made more compact, and any treatment that secures this object is advantageous. Gypsum has an effect similar to lime in clay and sand. Clay marls are of value also—particularly ashes, leached and unleached. When once you can induce a good growth of grass and clover, the difficulty in their cultivation is mostly surmounted. It is an advantage to keep sheep on sandy land, as their treading tends to pack the soil closely, producing an effect similar to that of the roller.

A FRIEND wishes me to ask where the best guano can be got what it costs per ton, and how it can be applied to the best advantage in a deep, gravelly loam, with a firm, clayey subsoil. •

See advertisement of A. LONGETT, in the present number.—From \$46 to \$48 per ton of 2,000 lbs. Break up all the lumps with a maul, and mix thoroughly with charcoal dust or dry loam—two parts loam to one of guano—and apply at the rate of 200 or 300 lbs. per acre. Plow it in with a plow guaged to run from four to six inches in depth.

WILL you be so kind as to inform me through the columns of your valuable paper what manure would do the best to apply to a piece of red clover sowed last spring with oats on opening land? Soil loamy, mixed with sand. Lime can be had at eighteen cents a bushel. CHARLES STEIN—*Waukesha, Wisconsin.*

Sow a bushel of plaster per acre early in the spring. If your soil is very light, roll it with a heavy roller. Some advise top-dressing with long manure. Perhaps orchard grass would be better adapted to your soil than clover.

I SHOULD like to be informed through the medium of your valuable paper of some method of destroying the pea bug. It is on its march to the west of Canada, and is every year becoming more destructive. This is the first year I have noticed them in my peas. J.—*Wellesley, C. W.*

Will some of our readers answer the above inquiry.

CAN you tell me what will destroy a species of bug, or rather louse, that infests tulip trees? I have tried a decoction of tobacco and soap, with but partial success. W. RICHARDS—*Springhill, Champaign Co., Ohio.*

ON some of the best land on my farm the wheat crop is half destroyed by chickweed. Is there any remedy for it? B. KING—*Rochester.*

Will those of our correspondents who have had any experience similar to the above, please suggest a remedy?

HORTICULTURAL.

PROPAGATION OF EVERGREENS—SEASON OF BUDDING—NORTHERN SPY APPLE—SUBSOIL PLOW. (E. F. E., Madison, Ohio). All kinds of hardy evergreens are propagated by seed, being the only mode in general practice. Apples, pears and cherries should be budded during the summer season, as soon as the terminal bud on the shoots from which it is wished to take buds is formed, as the wood of the scion is generally sufficiently matured at that time. The stock into which buds are desired to be inserted ought to be making such active growth that the bark will raise freely from the stock; otherwise it can not be performed successfully. The cherry is budded generally first, as it ceases growing earlier than other sorts, then pears, and after apples. When pears are worked on the quince stock, it may be deferred with safety much later, as the quince in good soil grows freely till frost. The *Northern Spy* apple fully maintains its reputation in Western New York, with those who cultivate it properly. The tree is of very upright habit and vigorous; therefore the head of the tree requires thinning out very much, and fully exposing the fruit and branches to the sun and light. You may then depend upon an abundant supply of the finest fruit.

One of the best subsoil plows is *Ruggles, Novrse & Mason's Patent*, which may be obtained through almost any house who have agricultural implements for sale.

BERRBERRY SEED. (J. D., New Bedford.) JAMES M. THORNBURN & Co., seedsmen, New York, offer it for sale at 75 cents per ounce.

PLEASE inform me the mode and time of planting the substantial kinds of fruit seeds, such as apples, pears and cherries—especially the last named—as we seldom, if ever, get the seed to sprout when brought from the States.—GEO. W. HUNT—*Sublimity, Marion Co., Oregon.*

Seeds of the apple, if not sown in the fall, should be kept through the winter mixed with clean, moist sand, or with fine peat or pulverized muck, and exposed to the frost, which will tend to split the exterior horny covering. Mixing with soil or loam causes more difficulty in sowing. The seeds may be sown in drills from one to two feet apart—better, if land can be afforded, three feet apart, that a cultivator may pass between. A sprinkling of fine manure, or of a compost of three parts peat or muck and one part of ashes, will assist in promoting the growth of the young plant. A writer in the *Horticulturist* gives the following as an eminently successful mode of raising pear seedlings: "Trench with a plow, and finish with a spade to a depth of *two feet*—not less. Compost to fill the trench is made of half a peck of iron filings or blacksmith's cinders, half a peck of slaked lime, half a peck of wood ashes, and a peck each of swamp muck and barn-yard manure, thoroughly mixed with a bushel of soil into a compost. The compost to be applied in the fall, and (the seeds having been kept through the winter as directed for apples) sown in spring." Cherry stones must not be allowed to become dry—to be mixed with clean moist sand. J. P. THOMAS, in his *Fruit Culturist*, says: "The best way to keep them till spring is to bury them in shallow pits on a dry spot of ground, covering them with flat stones and a

few inches of earth. Sow in spring very early, for the seeds sprout and grow on the first approach of warm weather."

ADVERTISEMENTS,

TO PERSONS OUT OF EMPLOYMENT.
AGENTS WANTED!

In every section of the United States. The most elegant and useful volume of the year.

SEARS' GREAT WORK ON RUSSIA!

Just published, an illustrated description of the Russian Empire. Being a physical and political history of its Governments and Provinces, Productions, Resources, Imperial Government, Commerce, Literature, Educational Means, Religion, People, Manners, Customs, Antiquities, etc., etc., from the latest and most authentic sources. Embellished with about 200 Engravings, and Maps of European and Asiatic Russia. The whole complete in one large octavo volume of about 700 pages, elegantly and substantially bound. Retail price, \$3.00

This work has been several years in preparation, and will, it is believed, meet in the fullest acceptance of the word, the want so universally felt for reliable information on the history and internal resources of a country occupying so large a portion of the Eastern Hemisphere, and holding so formidable a position at the present time to the rest of Europe and Asia; but of which far less is known than of any other European nation.

Also a deeply interesting volume, entitled "THE REMARKABLE ADVENTURES OF CELEBRATED PERSONS," embracing the Romantic Incidents and Adventures in the lives of Sovereigns, Statesmen, Generals, Princes, Warriors, Travelers, Adventurers, Voyagers, &c., eminent in the history of Europe and America, including sketches of over fifty celebrated heroic characters. Beautifully illustrated with numerous engravings. 1 vol. 400 pages, royal 12mo, cloth, gilt. Price, \$1.25.

The subscriber publishes a number of most valuable Pictorial Books, very popular, and of such a moral and religious influence, that while good men may safely engage in their circulation, they will confer a public benefit, and receive a fair compensation for their labor.

To men of enterprise and tact, this business offers an opportunity for profitable employment seldom to be met with.

Persons wishing to engage in their sale, will receive promptly by mail, a circular containing full particulars, with "Directions to persons disposed to act as Agents," together with terms on which they will be furnished, by addressing the subscriber, post-paid.

ROBERT SEARS, Publisher,
181 William st., New York.

SEND FOR ONE COPY.—Single copies of the above works will be carefully enveloped in stout paper, and forwarded at our risk and expense to any post office in the United States, on the receipt of the retail prices. April—14

CATALOGUE OF RARE AND VALUABLE SEEDS,
RAISED AND PUT UP BY I. W. BRIGGS, MACEDON, WAYNE COUNTY, N. Y.

O'ango Watermelon, from China, per paper,.....	25 cents.
Ice Cream, or White Sugar do., of Alabama,.....	25
Chinese Hoosung, (100 seeds).....	25
Five Foot Cucumber, (6 seeds).....	25
Negley's Seedling Cucumber, (12 seeds).....	25
Citron Nutmeg Muskmelon,.....	12½
The Celebrated Japan Pea,.....	12½
California Muskmelon,.....	12½
Watermelons—Mountain Sprout, Mountain Sweet, Mexican and Sandwich Island, 2 varieties each,.....	06
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Mammoth Red and Grape Tomatoes, each,.....	06
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Pop Corn (3 varieties), Adams' Early (a field corn), very early Sweet Corn, and late, large do., each,.....	06
Poland Oats, per bushel of 40 pounds,.....	\$1.00
Mexican Wild Potatoes, per bushel,.....	1.00
Seeds sent by mail, free of postage. Oats and Potatoes shipped as directed by railroad or canal. Address, post-paid, with money enclosed, I. W. BRIGGS, County Line Farm, Dec. 1, 1854.—14 West Macedon, Wayne Co., N. Y.	

CLOVER STREET SEMINARY.

THE present term will close with the Annual Examination on the 12th and 13th of April. Patrons and friends are invited to attend.

The next term will commence the 30th of April, and continue fourteen weeks, closing August 3d.

Forty dollars, in advance, will pay the bill for board and tuition. Music, Languages, Drawing, Painting and Washing, extra.

Circulars may be obtained of the undersigned, or at any of the Rochester bookstores. Mrs. C. A. BREWSTER, Principal
J. A. COGSWELL, Secretary Board of Trustees. April 1—14

FARMERS, ATTENTION!

WE have now on hand and for sale at the lowest cash prices
 150 bushels Medium Clover seed,
 400 do Timothy seed from Indiana and Illinois,
 150 do Red Top seed,
 100 do Kentucky Blue Grass seed,
 100 do Orchard Grass seed,
 200 do Large Marrowfat Peas,
 100 do Early June Peas,
 200 do Early Kent Peas,
 500 do Field Peas, best quality,
 300 do Fife Wheat (bald),
 200 do Club do do
 150 do Top Onions,
 50 do English Potato Onions,
 100 do Best Early Potatoes,

And also a full assortment of the best and purest Agricultural and Garden seeds ever offered in this market.

All orders promptly attended to at **J. RAPALJE & Co.,**
 April 1—1st No. 65 Buffalo st., Rochester, N. Y.

THE PROGRESSIVE FARMER.

THE cheapest agricultural paper in the world. Eight pages royal quarto, handsomely illustrated. Price 25 cents per annum. A. M. SPANGLER, Editor. Office N. E. corner Seventh and Market st., Philadelphia, Pa. April 1—2st

HENRY C. VAIL,

CONSULTING AGRICULTURIST, NEWARK, N. J.

WILL visit farms and give suitable advice for their improvement, founded on an analysis of the soil and a statement of its mechanical condition. Letters of inquiry as to terms, &c., will insure a reply and satisfactory evidence as to ability.

REFERENCES.—Prof. Jas. J. Mages, Newark, N. J.; R. L. Pell, Esq., of Pelham, Ulster Co., N. Y.; J. J. Scofield, Esq., Morristown, N. J.; Hon. John Stanton Gould, Hudson, N. Y. April 1—4st

FERTILIZERS.

ESTABLISHED NINE YEARS.

KENTISH'S Prepared Guano; price \$25 per ton. Superphosphate No. 1—by the New York Manufacturing Company; price \$40 per ton. Both these articles can be had at the depot, No. 159 West street, city of New York. April—3st

NOTICE

PERUVIAN GUANO.—As there are various substances now offering for Peruvian Guano in the New York market, to avoid imposition be particular to observe that every bag of the genuine Peruvian Guano has branded upon each—"Warranted No. 1 Peruvian Guano, imported into the United States by F. Barroda, Bro., for the Peruvian Government."

When taken in quantities from 1 to 5 tons, \$48
 " " " " 5 to 10 " 47
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A further discount in larger quantity. 2,000 lbs. to the ton.

A. LONGETT,

April 1—2st

34 Cliff st., corner Fulton, New York.

NEW CROP OF SEEDS.

FOR the spring of 1855.—The old and well known ROCHESTER SEED STORE, for the last ten years managed by the subscriber, has been removed from 29 Buffalo street to 34 Exchange street, two doors above the Clinton Hotel.

Claiming to know from experience, something of the value to the grower of good, fresh seeds, as well as the necessity of having such kinds as will give the greatest and best return to labor, this branch of the seed business has received special attention, and purchasers may rely on correctness. Our motto is "never knowingly to deceive a customer."

It is our intention to keep all the varieties of seeds desirable to be grown in the Northern States. I shall have the large German Clover, grown by the German Society of Farmers in Erie county. I have sold this large variety of Clover for several years, and it has never failed to give satisfaction.

Fife's or Scotch Spring Wheat, grown in Canada; may be sown as late as the middle of May. Good crops were grown from this variety last year in Monroe county.

Flower Seeds, Bird Cages, Bird Seed, &c.

April—3st

JAMES P. FOGG.

READY ON THE TENTH OF MARCH.

"HISTORY OF THE HEN FEVER."

BY GEO. P. BURNHAM. Twenty Illustrations. An original humorous account of the POULTRY MANIA, by one who has been there! Price \$1.25 in cloth; \$1.00 in paper, by mail. Everybody who loves to laugh, buys it. Address

JAMES FRENCH & Co., Publishers,
 Boston, Mass.

April—3st

GENESEE VALLEY NURSERIES.

A. FROST & CO., ROCHESTER, N. Y.,

SOLICIT the attention of amateurs, orchardists, nurserymen, and others about to plant, to their extensive stock of well-grown Fruit and Ornamental Trees, Shrubs, Roses, &c. &c.

The Nurseries are now very extensive, and embrace one of the largest and finest collections in the country, and their stock is far superior to any that they have before offered. It is partly comprised in the following:

Standard Fruit Trees.—Apple trees, eighty varieties; Pear trees, one hundred varieties; Cherry trees, sixty varieties; Plum trees, forty varieties; Peach trees, thirty varieties; Nectarine, six varieties; Apricot, six varieties; and other kinds, comprising every sort of merit.

Dwarf and Pyramid Fruit Trees, of every description, for cultivation in orchards and gardens, have received particular attention. They embrace the following kinds, and comprise nearly the same number of sorts as are grown for standards:

Pears upon the best European Quince stocks.

Apples upon Paradise and Doucin stocks.

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Small Fruits, as Currants, eighteen varieties; Gooseberries, sixty varieties; Grapes, Native and Foreign, twenty-five varieties; Raspberries, six varieties; Strawberries, twenty varieties; and other miscellaneous fruits, as well as esculent roots, in variety.

Deciduous and Evergreen Trees, for lawns, parks, streets, &c.

Evergreen and Deciduous Shrubs, in great variety, including four hundred sorts of Roses.

Hedge Plants—Buckthorn, Osage Orange and Privet; and for screens and avenues, American Arbor Vitae (White Cedar), Norway Spruce, &c.

Herbaceous Plants.—A very select and extensive assortment.

Green-house and Bedding Plants, of every description.

All articles are put up in the most superior manner, so that plants, &c., may be sent thousands of miles and reach their destination in perfect safety.

Parties giving their orders may rely on receiving the best and most prompt attention, so that perfect satisfaction may be given the purchaser.

The following descriptive Catalogues, containing prices, are published for *gratis* distribution, and will be mailed upon every application; but correspondents are expected to enclose a one cent postage stamp for each Catalogue wanted, as it is necessary that the postage should be prepaid:

No. 1. Descriptive Catalogue of Fruits for 1854-5.

No. 2. Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c. &c., for 1854-5.

No. 3. Wholesale Catalogue or Trade List, just published for the fall of 1854 and spring of 1855, comprising Fruits, Evergreens, Deciduous Trees, &c. &c., which are offered in large quantities.

October 1, 1854.—tf

MERINO SHEEP.

THE subscriber will sell a few Spanish Merino Sheep—bucks and ewes—of undoubted purity of blood. He will also dispose of a part of his stock of imported French Merinos.

Gentlemen purchasing from this flock can have the sheep forwarded to the principal Western towns at my risk.

Sept. 1, 1854.—tf

R. J. JONES, Cornwall Vt.

SUGAR GROVE FARM,

7 Miles from Dayton, owned by Jas. McGrew.

THE undersigned, successors of Jas. Sumpter & Co., will continue the business of said firm and fill all the contracts made by it in Ohio and Illinois, and being thankful for past favors would now solicit future patronage. We design prosecuting our business with redoubled energy. We have no hesitancy in stating that we have the largest and best lot of Osage Orange plants ever grown on the continent, owing to the fact that the seed was planted where they did not suffer from the severe drouth that has so generally prevailed throughout the country. We also import our own seed direct from Texas; it shall be fresh and of the best quality. All of which is warranted and will be sold at the lowest prices.

Full directions for raising plants, Setting, Cultivating and Trimming in a manner that will secure success, will accompany each lot of seed and plants sold.

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We wish a large number of business men, living in localities where hedging is needed, to take hold with us in the planting and growing of hedges, the sale of plants, seed, &c. Those having the confidence of their neighbors, shall receive a liberal offer. Let us hear from you gentlemen. The enterprise is not only laudible, but will pay.

March, 1855.—3st

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January 1, 1855.—if

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