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Vol. II. No. 6.

TORONTO, UPPER CANADA, MARCH 15, 1865.

POSTAGE FREE

The Field.

Logging and Burning.

We now come to the most important of all the operations connected with clearing land. If the logging and burning are badly done, or not finished at the proper season, much difficulty and annoyance will be experienced. The best time to commence, is as early in the summer as possible, that is to say, as soon as the land is dry and warm enough for the fire "to run," as it is called. In a good burn the sparks

from which the logs extend in all directions. In our last, we insisted on the necessity of throwing the tree tops in the course of the prevailing summer winds. The wisdom of this precaution will now be seen. A fine warm day, succeeding a month or two of dry weather, with a good stiff breeze blowing, should be chosen to burn off the brush. Care should be taken to select a day when the wind blows in the same direction in which the rows are laid. At the leeward side of the fallow, set fire to some old rotten maple stump. This will catch in a moment, and burn like tinder. With an iron shovel, you can carry great pieces of the blazing touchwood from heap to heap,

communicating the fire from heap to heap. You will see the importance of beginning to leeward as directed, for, were you to commence at the other end of the rows, the smoke would soon drive you away, and prevent your lighting the heaps thoroughly. When all is going on well, and the fire is running freely along the ground, you may go to the windward side, and fire the whole line of brush. The entire clearing should be one blazing mass by 11 o'clock in the morning, and before the dews of night fall, there will be a clean sweep made of all the brush, the tree tops, and many of the smaller logs, long lines of smouldering ashes attesting the thorough-



ly readily, and ignite all the half decayed timber, while the fire literally "runs" along the ground consuming the chips, leaves, and rubbish, and leaving a clean surface behind it.

It is to be supposed that the chopping has been well and thoroughly done, the trees having been thrown as much as possible into long rows, and the heads forming almost continuous lines of brush heaps,

and soon have your fires well going. Always begin at the stump end of the piles of brush, as it is assumed that they have been carefully made by falling the tops from the quarter whence the wind comes. Light as rapidly as possible every brush heap, or row of tree tops. If they catch readily, and burn well, you can miss a wide portion on your return across the fallow with the blazing brands. If difficulty is found in

ness of the work. Next morning, as you survey the smouldering ruins, you will wonder at the extent of the destruction effected. The next step to be taken, is raking the ashes, with a view to securing some return from the potash. This is done with a wooden scraper,—the head of which is about two feet long and the handle eight feet. With this you proceed to rake the ashes into heaps, containing from one to two

bushels each. The whole fallow should be gone over as quickly as possible. Leave the heaps high and conical, to protect the ashes as much as possible from rain, and to secure thorough combustion of the cinders, twigs, and charred ends, of which there will always be some left, however clean the burn. It is most important to have these scraped up into heaps before the fire is out. The next thing will be to take a "hand-barrow," as it is called; i. e., a box about two feet by three, with poles fastened to the sides, and pass from heap to heap carrying the ashes into piles, of perhaps a waggon load each, taking care to make each pile in an open spot where the waggon will have little difficulty in turning. When this job is completed, proceed with your waggon to haul the ashes to the leaching place. An axe-man will be needed to precede and attend on the waggon, in order to chop out a kind of road. Usually it will not require much additional use of the axe to do this. All ought to be chopped into manageable lengths when first felled, but as trees are sometimes buried in deep snow at the time of felling, a few are overlooked, and require cutting across at logging time. In making a road for the ash waggon, the oxen will be required to pull the ends of cut logs out of the way, so as to leave a free passage for the wheels. Having piled up the ashes at the leaches, they should be protected from the rain, as otherwise there will be great waste and loss. The process of potash-making, cannot now be described, but may form the subject of a future article. By care and attention, potash of prime quality can be made with the ashes accumulated in the way just spoken of. You are now ready to proceed with the work of logging up—and the sooner it is pushed forward the better, as, if wet weather comes on, it is very difficult to get the log heaps burnt out of the way. By having the logging done in good season, a dry time can be chosen for the burn, and an effective job made of it. Four or five men, and two yoke of oxen are needed for logging up. "Bees" as they are called, are frequently made for the purpose. A number of adjacent settlers, with their teams, meet in the clearing of one of their number, and by combining their forces, a large day's work will be done. The system of changing work, is often found very convenient in a new country, where both labourers and money are scarce. Logging up may be lightened considerably, by the exercise of judgement in making the piles. The butt logs of the larger trees should fix the places, and form the beginnings of the heaps. The second cut, though heavy, can be twisted round with far less exertion on the part of the oxen, than is required to draw it end-wise. By the help of skids, and the use of levers, or "hand-spikes," as they are called, the men will roll up the logs as they are drawn, with comparative ease. When the work is well done, the heaps present a compact, neat appearance, and if a dry time be chosen, will burn very nicely. Our engraving represents the final operation, and it is with no little satisfaction that the settler beholds the flame and smoke wreathing and curling upwards from a hundred log heaps. These got rid of, only the stumps remain as cumberers of the ground. These, however, though eyesores and obstacles for a time, do not preclude cultivation. It will be many a day before skilful tillage, will secure a better crop than that yielded by the virgin soil, even though it be studded with a host of stumps.

Field Beans.

The cultivation of the bean is now extensively practiced in almost every State in the Union, but with varying success. Few crops are more lucrative. On soils properly constituted, it rarely fails, the only enemy to which it is exposed being the cut worm, among insects, and the only emergency of a climatic nature from which it severely or fatally suffers, being cold or frost. There are numerous varieties of the bean, some of which are low of stature, and others that are climbers, requiring support, and producing their fruit in clusters, as is sometimes the habit of

the pea, to which vegetable it is more nearly assimilated than to any other leguminous plant. The soil best adapted to the cultivation of the field bean, is a light loam, having a preponderance of sandy vitrous earth, with an admixture of vegetable matter, and a quick and free descent. A tenacious subsoil is always pernicious in its effects upon this crop. Thorough cultivation is highly essential to the complete development of every variety of the bean, from the largest to the most diminutive; but old and vigorous animal manures should never be applied, or if applied, only in small quantities. Unless the soil is naturally calcareous, lime in its caustic state, as well as wood ashes, either leached or unleached, should be applied. These articles supply an important principle to the soil, besides acting as a stimulant to the crop.

By many, the drill system is now preferred, in the field, cultivation of the bean. The land is first thoroughly worked and reduced to the finest possible tillage by ploughing and harrowing. The seed is then put in with a seed sower, which deposits the same evenly, and at the same time covers and rolls the ground. Eighteen inches is as near together as the rows should be placed; in the rows, the distance between the plants or hills—one plant constituting a hill—ought to be, if the ground is in fair condition, from three to four inches. I have generally, of late, experienced very important advantages to result from the liberal use of poudrrette, and other fertilizers in the cultivation of the bean. Their application is not only attended with greatly less labour and expense, than necessarily attends the use of other manurial substance of greater bulk and weight, but they act more immediately, and put forth their powers at that stage of development when the crop more emphatically demands sustenance and support. My method of applying them is to place them in the drills by hand, and spread over them a slight quantity of soil to prevent a too close contact with the seed, the vitality of which might thereby be impaired, if not destroyed. In the after cultivation, care is had to keep down all spurious vegetation, both between and in the rows. This may be accomplished by means of a common contracting and expanding cultivator, graduated to the space between the rows; the weeds in the rows it will be necessary to remove by hand labour. A few dressings of gypsum and unleached wood ashes during the season, and particularly at or near the period of flowering, will be of equal importance.

As a food for sheep, the bean is unrivalled. Like all legumes, it is affluent in farinaceous matter, and consequently exerts a healthy and vigorous effect upon the system. Ewes for a week or so before and after dropping their lambs, should have a gill or so per day. But little salt should be given them during this period. Beans that have become mouldy answer well for this use. They may be freed from the rancid and disagreeable taste arising from mouldiness, by pouring over them a small quantity of boiling water, in which a small spoonful of pearl-ash or saleratus has been dissolved. The softening of the bean does not injure it, or render it unpalatable to the sheep, but on the contrary, seems to augment their fondness for it.—G. W. B. in *German Town Telegraph*.

Encouragement to Flax Culture.

To the Editor of THE CANADA FARMER :

SIR,—At a recent meeting in Dublin in honour of the appointment of Lord Wodehouse as Viceroy, his lordship stated that flax culture was proceeding with giant strides. In 1857, there were 100,000 acres of flax—in 1864, 300,000.!!

The *Newry Telegraph* states that last season, seven bushels and four quarts of Riga flaxseed were sown on somewhat less than three and a half statute acres of the glebe lands of Mullabrack. The produce has just been scutched at Mr. Carlyle Carson's mill, and has yielded 360 stone of flax, which was sold on the 16th inst. at 9s. per stone, realizing for the fortunate owner the large amount of £117, or very nearly £35 per acre.

The *Armagh Guardian* states that during the last week, the scutch mill of C. Carson, in Marlacoo, in this county, has been employed in scutching 260 stone of flax of fine quality and great length, grown by the Rev. J. F. Flavell, on his farm at Mullabrack. This crop was the produce of somewhat less than seven bushels of seed, giving an average of 38 stone to the bushel. It was sold for 9s. per stone, with the exception of 60 stone, which brought 8s. 9d.

Surely these statements should encourage Canadian farmers to try their hands at so profitable a crop. H.

Whitchurch Township Agricultural Society.

JUDGES' REPORT OF ROOT CROP FOR 1864.

Judges' Remarks	2nd Prize.	1st Prize.	2nd Prize.	1st Prize.
How did the remainder of the crop compare with that exhibited?	Average	Nearly Average	Nearly Average	Nearly Average
How many acres raised?	0	3	2	2
Number of bushels prepared?	1216	913	835	1015
How was the seed?	Dry	Dry	Dry	Dry
How many hills?	2	1	1	1
How often ploughed?	1	1	1	1
How often ploughed in the Spring?	1	1	1	1
Was it ploughed?	No	No	No	No
Was it sown?	Yes	Yes	Yes	Yes
How many acres?	11	9	10	10
What kind of manure?	Barn	Stable	Stable	Stable
When manured?	Fall	Spring	Spring	Spring
Was it ploughed?	1	1	1	1
Kind of Soil	Clay	Clay	Clay	Clay
Name of Crop Judged	S. Turnips	do	do	do
NAME OF COMPETITOR	James Cormick	John Ironside	John Jamieson	Samuel Johnson
	Thomas Stiles	Geo. L. Pearson	William Swales	William Swales
	Orlin Chappell	J. W. Collins	It. H. Smith	Joseph Bogart
	John Baker	John Jamieson	Jared Lloyd	Orlin Chappell
	It. H. Smith	Joseph Bogart	John Baker	John Jamieson
	Jared Lloyd	Orlin Chappell	It. H. Smith	Joseph Bogart
	John Baker	John Jamieson	Jared Lloyd	Orlin Chappell
	It. H. Smith	Joseph Bogart	John Baker	John Jamieson
	Jared Lloyd	Orlin Chappell	It. H. Smith	Joseph Bogart
	John Baker	John Jamieson	Jared Lloyd	Orlin Chappell

NOTE BY ED. C. F.—The above report is alike creditable to compilers and competitors. It will repay careful perusal.

MANURE MAXIMS.—At a meeting of the Farmer's Club of the American Institute, Mr. T. W. Field read a paper on manures, in which he said :

- "The whole subject of manures may be stated in these propositions.
- 1. Manure does not waste so long as it is unfermented, or undissolved, and these conditions may be effected by drying or saturation.
- 2. Fresh manure is unfit for food for plants.
- 3. Fermenting manure, in contact with inert matter, has the power of neutralizing vicious properties, such as tannic acid of peats, and making it a fertilizer.
- 4. Manure wastes in two ways—the escape of gas and the dissolving of its soluble salts.
- 5. The creative power of manure, mixed with other substances, is capable of multiplying its value many times.
- 6. The value of manure to crops is in proportion to its divisibility through the soil. The golden rule of farming should be small quantities of manure thoroughly divided and intermingled with the soil."

Heavy Turnip Crop.

To the Editor of THE CANADA FARMER :

Sir.—I clip the following from the *Dumfries Courier* of Jan. 10, 1865:—"Mention was made in summer of a very luxuriant-looking crop of turnips on Boatholm, New Galloway, in the occupation of Mr. Rooke. The field gained the first prize offered by the Glenkens Society in autumn. On Thursday last the weight of the crop was carefully tested, when it was found to amount to 44 tons, 18 cwt., 1 qr., 2 lbs. per acre. The turnip sown was Dickson's Bronze Swede, and the manure applied was 27 cart-loads of dung, 5½ cwt. ground bones, 1 cwt. Upper Peruvian, and ½ cwt. best Peruvian guano per acre. It is believed the crop would have been heavier than it is but for a flood of the Ken that covered theholm in October, and for a time stopped the growth of the plant." At the turnip match for North and South Wentworth, reported in a former number of THE FARMER, the heaviest crop was 8353¾ bushels per acre. In THE FARMER of December 15, there is noticed a turnip crop in Markham that yielded 1,140 bushels per acre. The above noticed heavy crop gives 1 67643 bushels, being rather more than twice as heavy as the premium crop in Wentworth, and nearly one-third heavier than the Markham crop. It seems to have been very highly manured. W. R. Cobourg, Feb. 8, 1865.

The Best Size for Potato Sets.

Mr. G. Maw, of Broseley, gives in the *Gardener's Chronicle* the result of his observations on the crops yielded by potato sets of various sizes. The following passages are extracted from his communication:—

"During the last season, I have carried out a series of experiments, with the object of ascertaining what sized potato sets gave the most profitable crop, and the results have been so striking, and present such decided contrast to general practice, that they appear to me to be of sufficient importance to publish in your columns.

"My experience during the past year, convinces me that from one-fourth to one-third of the natural produce of the potato crop is lost, solely from insufficiently large potatoes being planted; and that, by a proper selection of sets, an increased crop, representing a clear profit of several tons per acre, can be obtained.

"On the 16th of February, I planted in rows, two feet apart, and one foot from set to set in the rows, 60 uncut sets of early prolific potatoes, viz:—

20 sets weighing 2 oz. each.
20 sets weighing 4 oz. each.
20 sets weighing 8 oz. each.

The 20 sets of 2 oz. each (2½ lb.) produced 21 lb. 3¼ oz.
The 20 sets of 4 oz. each (5 lb.) produced 29 lb. 8½ oz.
The 20 sets of 8 oz. each (10 lb.) produced 35 lb. 3¼ oz.

"Another experiment was made with second kidneys, planted at intervals of a foot, in rows two feet apart, on the 31st of March, viz:—

20 sets of 1 oz. (1¼ lb.) producing 15 lb. 9 oz.
20 sets of 2 oz. (2½ lb.) producing 16 lb. 15 oz.
20 sets of 4 oz. (5 lb.) producing 19 lb. 15 oz.

On the 31st of March I also planted four lots of fluke potatoes, in rows two feet apart, each lot occupying 40 square feet of ground, namely:—

20 sets, 1 foot apart, of 1 oz. each (1¼ lb.) producing 15 lb. 2 oz.
20 sets, 1 foot apart, of 2 oz. each (2½ lb.) producing 15 lb. 0 oz.
20 sets, 1 foot apart, of 4 oz. each (5 lb.) producing 18 lb. 12 oz.
16 sets, 1 foot 3 inches apart, of 8 oz. each (8 lb.) producing 30 lb. 12¼ oz.

Mr. Maw, after dwelling particularly on the facts above detailed, and mentioning the somewhat similar results of further experiments, thus generalizes from what he has observed:—"It would seem that small sets cannot produce such a vigour of growth as to fully develop the potato-bearing capabilities of the soil. I believe that potato sets are seldom planted of much more than 2 oz. in weight—4 oz. sets are certainly the exception—so that, as a rule, the potato crop is starved from an insufficient vigour in the set.

"This question is in no way related to that of thin seeding. The distance at which the sets should be placed is another matter, upon which I will not now enter, excepting to observe that I think, when small sets are planted, they are not put nearly thick enough in the rows. My experiments prove that the ground is capable of bearing a much greater weight of tubers than can be generated from 2-oz. or even 4-oz. sets, planted a foot apart; and I believe that such small sets, if placed at 6-inch or 8-inch intervals, would

produce nearly as much to a root as if at a wider distance, and, of course, a much greater weight per acre; but upon this point I hope to experiment during another season.

"What I now wish to establish is, that the produce of the crop depends, much more than ordinary practice would seem to admit, on the size and vigour of the individual set. Small potatoes are diminutive in all their parts; the eyes are proportionately small and cannot produce such strong shoots as full sized tubers.

"All the 8-ounce sets I planted appeared above ground with remarkably strong and vigorous shoots, which maintained their superiority over those from the smaller sets throughout the whole period of growth, and no one who saw their splendid tops—nearly double the height of the others, could for a moment doubt what the result would be at the harvest.

"With potatoes nothing is easier than to select the largest tubers for planting. If the generation is to be conveyed through the smallest individuals of the crop, the gradual diminution of the produce is a matter of certainty; but if the potato were treated like live stock, and the finest individuals only allowed to generate, its gradual but permanent improvement, on the theory of inheritance, would be as certain, and the immediate increase of the crop could not but leave a rich profit over the extra weight of potatoes planted.

"This is a very simple matter of experience, which any one who has a garden can prove, at little or no expense, by planting a number of potatoes of various weights, and noticing whether the larger potatoes do not produce an excess of crop over the small sets, vastly greater than the extra weight of the sets planted."

Two Flax Crops.

To the Editor of THE CANADA FARMER :

Sir.—Owing to the too frequent failure of our grain crops, farmers are desirous to know if it will pay to raise flax. Forty years ago, when we lived the primitive life of a backwoodsman; when cotton cost seventy-five cents, and a dollar, per yard in cash; when cash could only be had for potash and black salts; we were under the necessity of growing flax. I will give a little of my experience in flax-growing. I raise crops by rotation, breaking up a piece of sod every year, taking five or six crops, and then seeding down with grass. The last crop but one, is a root crop, which I manure well, and seed down the following year with barley or wheat. I think it best to have the land in good heart when I put into grass.

In 1862 I manured a field of six acres for potatoes and turnips; it was a dry summer, potatoes were not half a crop, and turnips were an entire failure, owing to the fly and the drought. In 1863 I selected ¼ of an acre, of what I thought was the richest and most suitable of last year's turnip ground, for flax. On the first week of May I sowed a bushel and a peck of seed on it. I had sown the potato ground with barley, and the rest of the turnip field, about 4 acres, with spring wheat. The season for flax and grass was all that could be desired. The spring wheat that promised a yield of 30 bushels, scarcely gave 11; barley gave at the rate of 30 bushels per acre. A storm of wind and rain, a few days before we commenced harvesting the flax, tangled it so that the pulling of it was a tedious process, and considerable of the seed was lost. I sold the flax unweighed for fifteen dollars. I had the seed returned, of which I had ten bushels, which I sold for fifteen dollars. The expenses for preparing the land, seed, and harvesting, would be about seven dollars, leaving a margin of \$23 of profit, from three-quarters of an acre.

Having succeeded pretty well in flax-growing in 1863, I concluded I would double the quantity of ground in '64. About the beginning of May, I selected half an acre of turnip ground, soil loam, and sowed it with flax, and about the middle of May I sowed an acre more on what had been wheat stubble; it being the second crop since it was broke up; it was clay soil, and had been in pasture for about six years. It was well ploughed in the fall, but the spring being unusually wet, instead of ploughing, I cultivated it well with the cultivator. We all know the result of the dry season on the crops of 1864. I don't think I exceed the truth when I say, they generally were not one-third of the usual yield. We pulled the flax without kid gloves; it was a tedious job, and scarce worth

the labour. When there is a failure in the grain or hay crop, there is generally a rise in the price, but there seems to be an exception in the case of a poor crop of flax. In '63, good flax brought twenty dollars per ton, without the seed. In '64, it was selling from ten to fourteen dollars per ton, with the seed. I have thrashed the seed of my nice little crop of flax, but I have no thought of taking the fibre to market, as I don't think it would pay for the trouble. If flax can be raised with profit, no doubt farmers will raise it; but let them observe the old maxim—"Sow your flax in the mire" [on low land]. "Plant your corn in the fire" [on high dry land]. PIONEER.

London, March 2, 1865

SPREADING MANURE IN AUTUMN.—We have strongly urged this practice for several years. At first the advice was received with strong objections from some quarters. We are glad to observe the practice is gaining ground and its advantages becoming appreciated. A late number of the *Genesee Farmer* says:—"Mr. Lyman Balcom, of Steuben Co., an old and experienced farmer writes me that he thinks 'one load of manure, hauled out and spread at any time between the 20th of September and winter, is worth more than two loads applied at any other season of the year.'"—*Country Gentleman*.

A CHEAP HOME-MADE GATE.—I take five pieces of inch boards, each ten feet long, one of these eight inches wide for the bottom strip, and each of the others four inches wide. I then take one piece four inches wide for one end upright, and one piece eight inches wide for the end piece where the hinges are to be. These end strips are four feet long, that being high enough for any gate for ordinary purposes. Now lay down your end piece, then place the eight-inch wide and ten-foot long strip for the bottom, nail it at each end to the upright with wrought nails; now take three of the four inch wide strips and lay them on parallel with the bottom one, dividing the spaces so as to leave four inches between the lower two boards, and six inches each space between the upper ones; nail as before. Now turn the gate over, and take the remaining strip, lay it at an angle from the bottom, at the hinge end, to the top, at the latch end; cut it so that it will fit in and lay close to the long strips; nail it thoroughly. Now hang with strong hinges and you have a gate that is light, and will not sag, and just as perfect against cattle as one made by a joiner, and costing from three to five dollars. Any person can put together and hang such a gate in two hours.—*Cor. of Ohio Farmer*.

A PROFITABLE PIECE OF GROUND.—The following is taken from the *Massachusetts Spy*, communicated to that paper by Wm. Eaton, of Auburn, Mass.:

I planted this year three-quarters of an acre of ground. I planted most of it with the early white potatoes, and raised eighty bushels on the piece, and sold sixty-five bushels for \$130 50. The other fifteen I valued at \$25; value of corn and corn shocks, \$11; peas, beans and beets, \$12. About September 10th, my brother sowed two-thirds with turnips. Two-thirds of them were fed to the fat cattle, with tops and all on, and cut thirty-one bushels. If all the piece had been sown with turnips there would have been \$62 worth.

The way I managed was thus: I gave the ground in the first place a thorough plowing, eight inches deep, and then a thorough harrowing. Then I struck it out both ways with a small horse plow, and after that a good shovelling in the hills. I hoed the piece three times; I put one plow both ways every time I hoed it. This half hoeing, half ploughing, half manuring, I don't think much of. The manure I used was from one hog and one horse, and the wash from the house, and what ashes I had. The beet bed was sixteen and a half feet long and five feet wide, and I used hen manure. I raised four and one-half bushels of turnip-beets on the piece. When the beets were out of the ground I gave them a good sprinkling of ashes. In the fall I gave my hog pen a good coating of loam about eight inches deep. In the spring I put my horse manure in the pen and give it a thorough working over. In the fall I got it out into the field and gave it another working over. Where I laid the heaps of manure, the potatoes were one-third larger, and yielded one-third more. When I dug the potatoes I covered the vines and weeds all up, thus keeping the ground light for the turnips. If you will thoroughly manure the ground you plant, you will get your reward for your labour. We, brother farmers, go over too much ground, and manure and hoe too little.

The Breeder and Grazier.

The Calving of Cows.

The early portion of Spring is the most advantageous time for the calving of cows, and our stock farmers will now have to be on the alert in reference to this very important department of their art. A few practical hints may, therefore, not be without their interest and reasonable application.

The gestation of the cow comprises about forty or forty-one weeks, seldom varying more than a few days, and as the expiration of this period approaches, the appearance and state of the animals should be frequently and carefully observed. A cow about calving should be separated from the herd, and have a warm, quiet place assigned her, with dry, comfortable bedding, and a moderate supply of suitable food. A distention of the udder, the falling of the flank, and other well-known symptoms of approaching labor, should be carefully observed, and preparations made accordingly. In our changeable climate, early spring is always more or less attended with cold, sharp winds, and serious mischief sometimes arises, both with cows and calves, from their being exposed at so critical a time to their chilling and debilitating influences.

When the operation of calving actually begins, then signs of uneasiness and pain appear, a little elevation of the tail is the first mark; the animal shifts about from place to place, frequently getting up and lying down, as if not knowing what to do with herself. She usually continues some time, till the natural throes or pains come on; and as these succeed each other in regular progress, the neck of the womb, or *os uteri*, gives way to the action of its bottom, and of its other parts. By this action the contents of the womb are pushed forward at every throe, the water bladder begins to show itself beyond the shape, and to extend till it becomes the size of a large bladder, containing several gallons; it then bursts, and its contents are discharged, consisting of the liquor amnii, in which, during gestation, the calf floats, and which now serves to lubricate the parts, and render the passage of the calf easier. After the discharge of the water, the body of the womb contracts rapidly upon the calf; in a few succeeding throes or pains, the head and feet of it, the presenting parts, are protruded externally beyond the shape. The body next descends, and in a few pains more the delivery of the calf is complete.

In natural presentations, that is, when the two forefeet and the nose of the calf can be distinctly felt by gently inserting the hand into the uterus, but little extra assistance is required. Nature, if left to herself, will, under such conditions, generally expel the fetus. The treatment, therefore, is very simple, and the natural throes or pains should be allowed to go on without any interruption, and the result, in most instances, will be as rapid and satisfactory as is desirable. But where the water bladder breaks early in calving and before the mouth of the womb is sufficiently expanded, the process is often slow, and it is a considerable time before any part of the calf makes its appearance. In that situation it will be necessary to give some assistance, which consists in introducing the arm into the womb, and laying hold of the fore legs till they are brought into the passage gradually assisting at every pain or throe; this being accomplished, the rest of the business is brought early to a conclusion. As soon as the calf is brought forth, its nostrils should immediately be cleansed from the adhering mucus, the mouth opened, and when it has breathed freely, it may be carefully rubbed with a wisp, and then presented to its mother, who will at once lick it freely with her tongue, which acts both as brush and curry-comb most advantageously. In a few minutes it should be lifted up, be supported, and enticed to suck. If it sucks freely very little danger is to be apprehended, and the dam and calf may be safely left together. Warm water only should be given to the cow, and her food should be of a mild and nutritious character, avoiding cold roots or the like. The calf should be left with the dam at least three days, in order that it may draw its food at first naturally, and as it is required. By this time the first milk, or "bestlings,"

acting as a gentle purge, will have passed through its bowels, cleansing them of all mucus; it may then be safely removed and brought up by hand.

In cases of wrong presentations, the cow should be carefully examined, by inserting the bare arm as far as possible into the uterus. Upon ascertaining the position of the calf, such judicious means must be adopted to get it away in the best manner, the judgment, formed by experience, may dictate. In a presentation where the hinder parts come first, the calf may occasionally be drawn away; but, generally, in such presentations, the legs are doubled backwards; it is then necessary to push the calf back into the womb or calf-bed, and, if possible, turn it, or get forward the legs, for it cannot come forth doubled up as it is; in either case it is a most difficult task to get it away safely, and often results in the death of both dam and calf. In extremely violent cases the womb, or calf-bed, will frequently protrude and fall down. This is a very difficult thing to restore, with safety, to its proper place, owing to the continued pain of the cow. It should be well washed in warm water as quickly as possible, before it has much time to swell, and, with double fists, it should be firmly pushed into the uterus, where it must be secured by strong ligatures sewed across the opening. The cow should have a strong dose of laudanum to quiet her for some hours, so that the calf bed may have time for the swelling to subside. Subsequently give her a little warm water, with some meal stirred in. This should be given repeatedly, but sparingly, so as not to load the stomach. No heating or any purgative drenches should be given, and everything done to keep the animal perfectly quiet. The cleansing or after-birth, usually comes away in a few hours, and generally requires but little attention. If, however, it should become necessary to draw it away after the lapse of several days, the operation requires to be performed with much judgment and care.

When the cow has had a protracted and difficult calving time, she will require careful treatment. In common natural cases she will be soon all right; but in difficult cases, brushing of the belly and loins with a crisp is said to be serviceable, and gentle walking exercise for a short time in the open air, when the weather is warm and fine. Gruel and cordial drinks may also be occasionally given. The latter may consist of a quart of ale mixed with sugar or treacle, and diluted with water, and given warm. The old "cow-leech's" drench is—1 oz. aniseed, powdered, 1 oz. sulphur, ditto, 1 oz. liquorice, ditto, 1 oz. diaphoretic, ditto, 1 oz. long pepper, given in a quart of warm ale.

The old barbarous practice of driving a cow about while, or just before calving, is now, happily, exploded, except in very benighted situations. It was ignorantly believed that such extreme exercise facilitated the operation of calving, whereas its tendency was the exact contrary, and many a valuable animal has been lost by such unreasonable and inhuman treatment. A cow in open pasture will usually leave the herd, and seek some sequestered place for calving, an instinct which clearly points out the necessity of quietness in our treatment of her at this critical period.

Milk fever, or dropping, after calving, is one of the most dangerous diseases attending parturition and unless timely arrested, will very soon prove fatal. Cows in high condition are very liable to this complaint, especially if they are kept close, and luxuriantly fed, previous to calving. The symptoms usually show themselves within two or three days after calving, sometimes within a few hours. They are known by the cow shifting about from place to place, frequently lifting up her legs, with a wild appearance in her eye, and unless the disease is arrested she will, after a while, stagger and fall down. The usual recourse is to take three or four quarts of blood from the animal, and promote the natural evacuations by Epsom salts, nitre, &c. This and other diseases, however, cannot be successfully treated, except by the merest accident by inexperienced parties, and therefore we would strongly advise our readers to employ duly qualified veterinary surgeons in all cases of serious disease whether in the cow or horse. Unfortunately, such aid is not at present available in most parts of this country; and, as our stock is rapidly increasing, in both number and quality, and, consequently, in money value, it is much to be hoped that the efforts now making by our Board of Agriculture, in imparting Veterinary instruction, will supply, by degrees, this wide-felt desideratum.

Do Animals Reason?

Do animals reason? I have no doubt that they do. That they have memory is certain. They can be instructed up to a certain point. What is called the "cunning of the fox" is nothing but his quick sagacity. A multitude of stories—even enough to make quite a volume—could be gathered illustrating the sagacity of

the elephant, the horse, the dog, and other animals. Even the stupid "ass knoweth his master's crib." A fox has been known—so I have been told—to carry off a small pig. In course of his way back to the woods he had to cross a deep creek, setting up from the sea. He could jump over it himself. But could he jump over it with the pig in his mouth? That was the problem to be solved. He went off a little way and came back with a knot, a piece of broken limb, in his mouth. It was just about as heavy as his pig. "Now," says he, "if I can jump across this creek with this knot in my mouth, I also can with the pig." In a moment he gave the leap and over he went. He then laid down his knot, jumped back again, seized his pig, and stood a moment as if weighing and comparing the two. He hesitated but a moment, when presto! he was over, pig and all. Was this not reasoning and logic? Could a philosopher or a divine have drawn a more acute inference?

A dog had been accused of killing sheep. He and his master were very fond of each other. It was a long time ere the owner could be made to believe the ill report about his favourite. At last he was convinced that poor Rover was guilty. As he could not bear to kill him himself, he came into the room one morning and said, "Peter, you may take the dog after breakfast and shoot him. Mind and kill him dead." The dog was in the room and heard it. In an instant he darted out of the room, and was off in a straight line. No calling or shouting could cause him to turn his head. Straight as an arrow he shot across the loam and went out of sight. Every hour they expected him back. At night he would certainly come. But no, he never returned! Many months after this, his master was riding in a wild, lonely place. Just as he came between the two banks through which the road had been cut, he saw poor Rover standing on one of the banks. His heart yearned towards his old friend, and he spoke to him very kindly. But Rover's heart was hardened. He gave one growl, snapped his teeth at his old master, and again scampered off at the top of his speed. His master never saw him again! Unforgiving Rover! Thy memory was good, thy will was strong, and thine anger lasting!

One more example. A neighbour of mine had a very knowing cat. Of course Tab was a great favourite with all the family. At a time when Tab had a family of kittens, beautiful kittens too, and when it seemed as if it was too much for her to take care of them, one of them was given away to a neighbour. Little kit was carried off in a basket, and warmly welcomed. In a day or two, the door being opened, in walked Mrs. Tab, who seized her kitten and made off with it—seeming delighted to find her child. In about three weeks she came back again, tugging her kitten, and laying it down at the feet of the mistress of the house, seemed to say: "Madame, this kit was too young when you took it before, it needed my care. But now it has grown up and can get along very well. You may now have it." With that Mrs. Tab walked off, leaving her kitten and never returning for it.—*Rev. Dr. Todd.*

The Diminutive Cattle of Brittany.

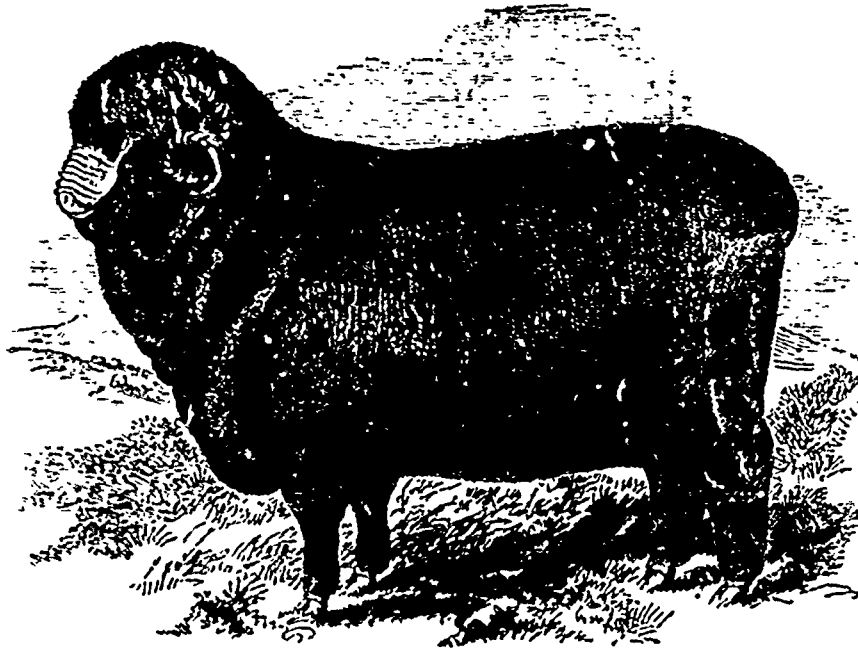
LITTLE cows of this breed are becoming quite fashionable in England, and some have been imported here. Some inquiries addressed to the *American Agriculturist* are answered by an extract from Mr. Lhat's report of the International Exhibition of 1861: "The little Bretagne cows pleased me exceedingly. Standing only about three feet high on their legs—the most fashionable height—most black and white; now and then, but rarely, a red and white; they are as docile as kittens, and look pretty enough to become the kitchen pet of the hard pressed mountain or hill side farmer, with the pastures too short for a grosser animal. Ten pounds of hay will suffice for their limited wants for twenty-four hours, and they would evidently fill a seven quart pail as quick and long as any other cow. These pretty cows will often hold out in milk, so the herdman said, from fifteen to eighteen months after calving, and often begin with the first calf with six or seven quarts a day. The horn is fine, not unlike the Jerseys, but smaller and tapering off gradually, and the escutcheon or milk marks of Guenon generally very good. Good cows are held from 60 to 70 dollars a head, a fancy price of course, but I am not sure that they would not pay six per cent. on the investment as well as fancy stocks." It would be an expensive matter to import many at the present rates of exchange, when good cows can be bought for \$50 to \$80, and are worth as much as they cost for beef.

The Vermont Merinoes.

We are at length enabled to present our readers with the long-promised portrait of the celebrated Merino ram, "Gold Drop," owned by Mr. Edward Hammond, of Middlebury, Vermont. His owner has refused \$10,000 for him. He was dropped in 1841 and was out of Old Queen by California, by Sweepstakes, by Little Wrinkly, by Old Wrinkly, by Old Greasy, &c. &c. Old Queen was out of Old Queen's dam, by Long Wool, by Old Greasy, by Wooster, &c. His pedigree will be found, given at length, on page 111 of the *Practical Shepherd*.

We append a communication on the Vermont Merinoes, for which we are indebted to Mr. J. R. Page, of Seneca, N. Y., the artist who drew the annexed portrait for THE CANADA FARMER and who is himself an intelligent and experienced stock-farmer. "Having recently visited several of the choice flocks of Vermont, I send you a few notes respecting them. All the breeders of the two leading families of Merinoes in Vermont, viz.: Infantado (Hammond), and Paulars (Rich. of Richville, Addison Co.), have the same standard as a whole, varying slightly in some unimportant particulars. I confine my notes for the present to the flocks of the Hammonds, of Middlebury, Addison Co. Nearly a quarter of a century ago, Mr. Edwin Hammond and brother, bought a small flock of Merinoes of Stephen Atwood, of Connecticut, already closely bred, and to that purchase they have confined themselves to this day. The flock, for many years, was bred and owned jointly. Since the death of the junior brother, the flock has been divided between Edwin Hammond and his brother's son, Henry W. yet in all essentials it remains the same, as both flocks are bred to the same rams, of which

Sheep Husbandry.



"GOLD DROP."

there are six, all beyond price; viz.: Sweepstakes, Gold Drop, Silvermine, aged; Old Abe, Kearsarge, yearlings; and Green Mountain, a teg of great promise. Annexed to this article is a portrait of Gold Drop thus named at birth, from his promise of usefulness, and well has he fulfilled his mission, having proved a mine of gold to his owner. So much is he valued, that Mr. Hammond felt justified in refusing \$10,000 (ten thousand dollars) for this ram, last fall. Indeed from present appearances, his earnings as a stock ram in two seasons, will reach above that amount, enormous though it is.

"The type of the original purchase from Atwood, is not to be found in the flocks at present, but having once seen a very old ewe, bred by the Hammonds, said to resemble the first stock of the Atwood purchase, I describe her, and one of the queens or beauties of to-

day. The old ewe had the following characteristics: long and narrow in head; top and side of the head not covered with wool; long slim neck, entirely smooth; legs long, and without wool; belly, not well covered, otherwise a good thick fleece; of good size and body, though somewhat drooping in loin; body without wrinkles. From the Hammond flocks, of the present style, I describe one, and in a majority of points, it will be a description of the whole. Head short, broad, with wrinkled nose, making a face that artists style a "famous mug," that is, strongly marked; wool of fore top coming below the eyes, and well on to cheek, giving in the side view a narrow face, the fore top and cheek so well connected that it often covers their eye, so as to render it necessary to clip out, or tie the wool, that the sheep may see; short thick neck, heavily wrinkled; straight top; ribs starting out from back bone at right angles, giving a broad, level back

and loin; tail, broad, with a small wrinkle around it, in sheep parlance, a "rose tail"; body short and deep, with usually two wrinkles just behind the arm, and one or two forward of the flank; though what the Merino breeders term the flank, is a loose hanging skin, running from body to inner side of the hock, making a quarter circle; short legs, covered with wool to hoofs; straight hind leg; full thigh, with more or less wrinkles, placed horizontally from breech to body. The average weight of fleece of the whole flock is over 12 lbs. each, unwashed. There are many other points of skin, style of wool, yolk, &c., fully to understand which, one must spend days and weeks among the Merinoes. The Vermont sheep-men have wrought wondrous improvements in this breed, and have demonstrated what great things care and attention will achieve, in the matter of stock generally."

Blooded Sheep vs. Native Canadian.

To the Editor of THE CANADA FARMER:

SIR,—I have fled away with the *Rural New Yorker*, THE CANADA FARMER. The latter I have received from the first number, and derive from its columns a fund of useful information; I have diligently searched for all correspondence and editorials, in anywise relating to the raising of sheep; for, away here in Vermont, blooded sheep have become almost a mania, and to be the possessor of one hundred sheep, out of which you can pick twenty, or thirty, worth from \$10 down to \$25, is a common thing among our farmers. We claim for Vermont, a forward position in the raising of sheep of a superior quality. We do not prize the carcass much, but direct our best efforts in procuring the finest wool. Our State statistics show that the income from sheep alone, exceeds that of all other stock put together. Would it not, Mr. Editor, be far more profitable for farmers, with large or small farms, to keep blooded sheep? You may claim that your Canadian winters would be too much for the tender Merino, or the fine and delicate Saxon, but it is no colder with you than with us, the temperatures are relatively the same. The profit derived from native sheep and blooded, is incomparable. Experience has shown an excess of more than 100 per cent in favor of the latter. I find in the Farmer, that a ram was imported in 1851, weighing 334 lbs. and shearing 17 lbs of washed wool, of 11½ months growth. What a frame for so little wool, and think of its quality; nearly as coarse as twine. Take for instance a ram I saw sheared this year, weight 150 lbs. quan-

tity of wool 27 lbs. washed 10 days previous to shearing, of 11 months growth, and wool of the finest Saxon. We freely admit that the meat of your native sheep is far superior to ours; but we do not study to obtain good "mutton," but the largest number of lbs. of the finest wool, and the price we can get for blooded lambs and ewes. It is not an uncommon thing here to get \$1,000 for a fine Saxon lamb—kill him and the meat would not bring \$2.—Large lots of Vermont sheep are being shipped every season into the Western States, thus affording an excellent market for us.

I should like to hear from some of your Canadian farmers concerning blooded sheep. We make a good deal of money here out of horses, but a great deal more from sheep. GUY STEELE.

Castleton, Vermont, Feb. 24, 1865.

DOGS PREVENTING THE EXTENSION OF SHEEP HUSBANDRY.—A friend writes us:—"I have a letter from Hon. B. N. Huntington, (Rome, Oneida Co., N. Y., in which he says—'I see that orders have been issued by our Board of Supervisors for damages from dogs to sheep, for the sum of \$3.00.' This is a suggestive fact." He further states, that Mr. Huntington was about to procure a valuable ram, but just before the time for using him, his flock was nearly ruined by dogs—"so that, for the present, dogs have kept him from moving in the direction of wool raising."

We have heretofore published statistics, showing the enormous losses incurred in different States from the destruction of sheep by dogs. But great as these are, they bear no comparison to the losses incurred by inability to keep sheep by reason of the "curvature." We know hundreds of men, within the circle of our own acquaintance, who would like to stock their farms, wholly, or in part, with sheep—who feel that it would be particularly profitable for them to do so—but they know that they cannot do so safely,

and rather than be kept in a constant state of alarm about their flocks, they prefer to give up sheep husbandry altogether.

We fear our dog-laws are not stringent enough. We would like to see the tax increased. We would like to see adequate provisions made (and they can be made) to render the collection of that tax in all cases compulsory, whether the money is required to pay for damage to sheep or not. If not required for that purpose any particular year, let the avails of the tax go to the support of the poor.—*Rural New Yorker*.

A FEW WORDS ABOUT SHEEP.—If a man wishes to buy young sheep, it is an easy matter to tell their age by their teeth. A sheep has 8 front teeth, and when one year old they shed the 2 middle teeth, and within 6 months from the time of shedding, their places are filled with 2 wider than the first; at 2 years, the next 2 are shed, and in 6 months their places are filled with 2 wide teeth; at 3 years, the 2 third teeth from the centre are shed, and their places filled with 2 wide teeth, and at 4 years the corner teeth are shed, and by the time the sheep is 5 years old, the teeth will have grown out even, and it will have a full mouth of teeth; after that the teeth will begin to grow round and long, and at 9 or 10 they begin to shed, and then is the time to fatten for the butcher, and let young sheep take their place.

If a farmer would have a good flock of sheep, he must keep a few of his best ewe lambs to take the place of his old sheep. Poor nurses should not be kept. The same ram should not be kept with a flock more than one year; neither should he be used in the flock that he was raised in.

Sheep, to be healthy, should not be kept in low wet pastures. To have a good flock of sheep, they must be well fed summer and winter. To make sheep peaceable and contented, never allow them out of the pasture intended for them to run; but if they should happen to get out, return them immediately, and make the fence sure. Sheep should be taken to

the field as soon as harvest is done, as their droppings are worth as much to the field as the grass they eat, and they will thrive much faster in the field than in the pasture. Sheep should never feed their pasture so close, but that a horse or colt would find plenty to eat with them; but cows should never be allowed to go in the sheep pasture. To tell whether a sheep has a heavy fleece, put your hand into the wool and if you can easily shut it the sheep has a small fleece, if you get your hand full it is a heavy fleece. Rams with no horns are most desirable, if other qualities are the same, as they are not so apt to injure the ewes.—*EL. Scribner, in Boston Cultivator.*

The Breeding and Management of Black-faced Sheep.

Mr. Cook, the Secretary to the Hoxham Farmer's Club, read an interesting paper on the above subject, at a recent meeting. We make the following extracts, not because we deem the particular variety of sheep referred to desirable or suitable for this country, but but because most of the suggestions are equally applicable to other breeds.

"In choosing black-faced ewes from which to breed, the mountain farmer must always have an eye to hardihood, for whatever other good properties the ewe may present, if she show signs of softness, or want of constitution, I would reject her as worthless, as her progeny, if ever she managed to have any in such an exposed situation, would in all probability inherit her defects, and prove unremunerative. Having secured hardiness in a flock of ewes, I would then select those of good frame, with broad back, good shoulders and quarters, with a prominent breast, and standing a good width between the fore legs, as well as betwixt the hind legs; and they should stand well and straight on their legs, on a good sized, well-shaped foot, as I would reject all those having knock knees or knock houghs; neither do I like a sheep too long in the legs. The ewe for breeding from should have a good sized head, a clear full eye, lengthy face, and good open nostrils. The horns should come from the head with a graceful curve, of fair width, and towards the lowest part of the curve they should incline a little forward, as I do not approve of the black horned kind and the horns should be of a fair size. But I neither like too slender horns, which indicate weakness of the constitution, or coarse, which indicate want of quality. The head ought to be set on a neck which rises well from the breast and shoulders, and which is not of too short a length; and, having mentioned the head, I must say a word about the tail. I would like to see it of a fair thickness, and would reject all those with small tails, as this also indicates a large or weakness of constitution. Having described the body of a breeding ewe in a very imperfect manner, as I am quite sure that on seeing a stock of ewes before me, I can satisfactorily describe their good and bad properties in a much better manner than I can on paper from memory, let me say a few words respecting the wool. The black-faced ewe having to be exposed in the most ungenial climate of our kingdom to all the winter blasts, without, in general, having any shelter except what nature furnishes her with, it is absolutely necessary that she should be well clothed with wool—this, in the first instance, to keep her comfortable, and in the second, to render her profitable to the flock-master, as a great portion of the flock-master's returns are derived from his clip of wool, and as that article has of late years commanded much higher prices than usual, this subject at present requires more particular attention. Well, then, I would choose my ewes well set with wool from the ears and cheeks, all over the body and tail, and well down the legs, but not on the shanks, below the knees and houghs. I would have the wool as thick-set as consistent with good quality and a fair length, but I would object to increase its thickness by choosing those animals whose wool is intermixed with kemp hair, as this breed of sheep is neither profitable to the farmer, nor approved of by the woolstapler. Having described the selection of ewes for breeding, it now behoves me to prescribe the selection of a tup, and I may state that almost all I have said regarding the ewe, applies with much greater force to the tup, inasmuch as, while the ewe seldom breeds more than one lamb in one year, the tup generally begets in one year three-scree, so that any defect in the tup puts the whole flock out of order much sooner than in a single ewe. I would select the tup with a robust constitution, a good firm hofn, not coming too close to his cheeks (if possible), or not standing too wide, and I don't like a tup whose horns rise too much after leaving his head until they curve down, as such tups generally beget lambs of a light nature, which are generally very fatal to the ewes in parturition. I would always be very careful to reject all club-horned tups—by this term I mean all tups whose horns do

not separate before they leave the head. I would also reject those having blood horns. Keeping in mind these remarks, and what I have here stated regarding ewes, I do not think any practical man would go far wrong in selecting his tups, although I must say good ones are very difficult to lay hold of. The best time to put the black-faced tup to the ewes on the Northumberland Hills, is from the 11th to the 20th November. In the management of black-faced sheep, a great deal depends on having a sagacious shepherd to carry out in an effectual manner the instructions of his master; and I cannot do better than give you an extract from "Little Practical Observations on Mountain Sheep." "When the ewes are about to lamb, it is best to bring them into the most sheltered parts of the farm, and where there is the best bite of grass for the ewe. After being lambod a fortnight or so, according to the season, the ewe and lamb are generally turned out to the common, to afford a better bite for those ewes or gimmers which are latest in lambing, and so on until they are all lambod. About the middle of October, the lambs are brought off the common and salved, or smeared, with a mixture of tar and butter, or other preparation; but for high and exposed situations, I have never found any plan answer so well as the mixture of tar and butter. After the lambs have undergone this preparation, they are placed in a sheltered situation on the farm, or sent away to some more genial climate for the winter, where they remain until about the first week in April, and then return home to their native common. After the lambs are salved, the ewes and wethers undergo the same operation, after which the ewes are generally sorted for the tup. With regard to shearing, I may state black-faced are usually shorn about the end of June, or early part of July in each year. The wethers are generally kept till they are three years old, and are then usually sold for feeding purposes, but if they are not then sold, they are fed off on grass during the summer, or on turnips during the ensuing winter. The ewes are generally kept till they are about five years old, when they are sold as draft ewes, and their place in the breeding flock supplied by the shearing gimmers, which are at this age put to the tup as breeders."

Superior Imported Stock.—We had yesterday the pleasure of examining a small flock of very superior imported Leicester sheep, comprising eight ewe lambs and three ram lambs, en route from England to the County of Bruce. These lambs, the property of Mr. Jas. Hewetson, of the Township of Arran, have been selected by him from the extensive stock of Mr. John Hannam, of St. Marks, Wetherby, Yorkshire, an approved breeder; and are certified to have taken the first prize in their class at the great Yorkshire cattle show, at Howden, in August last, and subsequently the first prize at Weatherley show. These sheep were brought by Mr. Hewetson per Moravia to Portland, and thence per Grand Trunk to Guelph, and will reach their destination to-morrow evening, the cost of conveyance added to the original price, amounting to a sum that would pay the fee simple of a good cleared farm. The sheep look travel-soiled and somewhat lean from their long journey, but show all the good points of first class Leicesters in perfection, with strong-fibred silky wool over ten inches in length. The agriculturists of Bruce are under no small obligations to Mr. Hewetson, by whose enterprise an immense improvement will speedily be effected in the herds of neighboring stock breeders.—*Guelph Herald.*

The Dairy.

Quality of American Cheese.

The London *Mark Lane Express*, in an article on the imports of American cheese into Great Britain, says:

"Were cheese-making as well understood in America generally as it is in Europe, the demand would be greatly increased. It is admitted by themselves that comparatively little of the prodigious quantity produced in America, can be termed a first-rate article. While many enterprising dairymen supply an article creditable to the country, in Europe, American cheese is not purchased with that confidence with which British cheese is named, and for the reason that the processes have not reached that perfection, which alone contributes to the uniformity of excellence, and distinctiveness of character. When this point is attained, a taste is cultivated, an increasing demand follows, and profits enlarge."

The *Country Gentleman* observes on the above extract.—"It is this point which we have so frequently brought to the notice of our readers, and it will be one of the greatest improvements brought about by the adoption of the Factory System, if, as it now accords to

promise, greater uniformity and better quality is thus obtained in the cheese we export." The article above quoted, adds:

"Cheese cannot be made at a profit in this country we should think, below 5d. or 6d. a pound; indeed, the actual cost of production is usually above this figure; therefore the Americans know what margin is left them for competition, if the quality can at all compare with our home production. But whatever perfection of quality and appearance they may obtain, if the cheese arrives here in a damaged condition, no reputation is established, nor can any successful competition with British manufacture be carried on. It is not good economy to make a loss of a penny, or more, per pound on all cheese manufactured, simply by throwing damaged cheese on the market resulting from imperfect packages."

The Factory System of Cheese Making.

Our friend Mr. Harris, of the *Genesee Farmer*, thinks that the Factory System of Cheese Making can only continue profitable while the premium on gold sustains the present price of the article. He says:

The average price of cheese sold by the different factories the past season, must be taken at 20 cents per pound. With gold at \$2.25, which may be taken as the average of the past year, this would give us not quite 9 cents per pound for cheese in specie. The extra 11 cents per pound now obtained is purely fictitious. Take this away and where would be our "cheese factories?"

In our last "Foreign Notices" we quoted a statement from the London *Mark Lane Express*, to the effect that the actual cost of production for cheese in England, is rather above than below 5d. or 6d. a pound. Taking this at 10 or 12 cents of our money, we think we might fairly assume that our cheese, if of a quality such as to command the full price of good English cheese, would be sure to sell in that market at least for the price above named. But allowing for freight, and profits of dealers, and taking 9 cents as its probable home value,—if the cheese made in factories is sure to obtain this price, while that made in the ordinary way will not average perhaps more than 6 to 8 cents, we confess we can see no reason why the one cent per pound paid the factory for making, will not then be as good an investment as it is now. The average prices of cheese in New York for twelve years past, according to the table appended to the last report of the Secretary of the Treasury, have been—taking the two months of February and August:—

	Feb.	Aug.	Feb.	Aug.
1851,	6 67	4 66	1857,	11 — 5 9
1852,	6 7	6 —	1858,	6 7 4 8
1853,	8 9	8 —	1859,	8 10 6 8
1854,	10 12	7 9	1860,	9 11 7 10
1855,	9 10	6 9	1861,	9 10 5 7
1856,	9 10	6 9	1862,	5 7 4 8

During these years the price has been more frequently below than above 9 cts.; and it has been a price, we think it fair to assume, as a general rule, created by the home market—not by the demand for export. Thus, in 1859, and again in 1861, it touched 2 cts. a pound in the month of July; in 1858, 3 cts. in August; in 1862, 4 cts. in the same month; and at some time during the summers of the other 12 years, it went down as low as 6 cts., except in 1853, when the lowest price was 8 cts., and in 1860, when the lowest price was 9 cts. Such are the fluctuations to which the home market is subject; and if, as we do not think it too much to hope, the factory-made cheese will command a uniform price, based upon the actual cost of production abroad, of at least 9 cts. per lb.—or even of 8 cts.—the difference in its favour, over that sold in the home market, when unstimulated by a foreign demand, would vary all the way from one to six cents per lb. during the season of production.

The question, as we have before said, appears to us to hinge mainly upon the point of quality; and the great danger to the factory system arises from the chance that, in the demand for managers, inexperienced and ill-qualified persons will assume that post, under whose control, the product, instead of being constantly brought more nearly to the foreign standard, may be allowed to run back to something like the old average of home-made cheese. As to the cost of carrying the milk to the factory, our contemporary overlooks the almost universal arrangement now adopted, by which the same team carries the milk of all the farmers in a certain beat, but admitting his figures to be correct, we believe the labour and cost of carrying the milk to be less than that of making the cheese in the house, and as above stated, that with the exception of a few of the most careful and skillful dairymen—taking the average of the dairy farmers—the large price received for the cheese made at the factory, will more than make up for the charge involved. One cent a pound covers this charge, in ordinary times—the proposition to increase it arises merely from the temporary increase in the actual expenditure for labour, &c.—*Country Gentleman.*

Veterinary Department.

Diseases of the Horse's Foot.

PRICKS, BRUISES, QUITTOR, AND FALSE QUARTER.

The foot is often injured from pricks, or punctures, which may happen from a nail, or any sharp body, penetrating into the sensitive structure; but the most common cause occurs in shoeing. The nail may be driven so as to wound the quick, when lameness is very shortly perceptible, or the shoulder of the nail may chance to be too close upon the sensitive parts, which sets up inflammation, and lameness follows, suppuration takes place, and if the foot is neglected and improperly treated, it often gives rise to very serious consequences, and leads to more troublesome diseases, such as quittor, canker, or even the entire separation of the hoof.

When the injury is recent, simply withdrawing the nail, and perhaps applying a little tar to the opening, so as to prevent gravel or sand getting in, is all that will require to be done. If inflammation has taken place, the shoe must be removed, and by applying the pincers to the foot, the tender part will be revealed. If the injury has been caused by pressure of the nail, with a small drawing knife, follow up the nail hole,—also pare down the surrounding sole, and remove the discoloured horn, so as to relieve all pressure, and give vent to any matter which may have collected. The foot should then be immersed for a short time in hot water, and afterwards enveloped in a poultice, made of bran, linseed meal, &c. After the inflammation and tenderness are removed, apply the shoe, and dress the injured parts with a pledget of tow and tar. It sometimes happens that the puncture may extend to the coffin-joint, and give rise to such a degree of fever as will prove fatal.

Bruises very frequently occur around the coronet, and are often caused by a tread when turning,—the heel of the shoe passing in between the hair and the hoof. In winter, when horses must be shod with high and sharp heels, this is a very common occurrence. In some cases the coronary artery is wounded and a great degree of hemorrhage follows. If a bruise is not attended to, and kept clean, inflammation is set up, and even suppurates, causing excessive lameness. The horn under the wound must be cut down to give exit to the matter collected, a linseed poultice should be applied, and the parts dressed with a mild astringent. When the tenderness is removed, in some cases it will be necessary to apply some tar and tow, to keep the parts clean. Irritant dressings which are often had recourse to, are not required. They are decidedly injurious, and only retard the healing process.

Quittor is another disease affecting the horses foot, and is a fistulous wound about the top of the hoof, communicating with some abscess, or ulcer, within. It is always the result of some previous injury, as a corn, bruise, prick, puncture, &c., which being neglected, leads to the formation of matter, which accumulates, and cannot proceed outward, in consequence of the thick covering of horn. The irritation is directed inwards, attacking all the internal structure of the foot, and therefore giving rise to a fistulous opening at the coronet, from which issues a mixture of pus, and a fluid resembling the white of an egg. The openings or pipes, are often very small and tortuous, and to find out their extent, it is necessary to use a flexible probe. Sometimes the inflammatory process extends to the bone, and causes ulceration. Quittor seems to create intense pain, and of course produces very severe lameness. In the treatment of quittor, the healing process is exceedingly tardy, and the treatment must necessarily be varied according to the malignity of the case. Whatever has been the cause, must be sought for, and a more natural and dependant egress provided for the matter. The treatment should be commenced by a thorough examination of the actual state of the parts. If the sinuses be found to extend to the bone, and the cartilages are also involved, the case is unfavorable, and a perfect cure can scarcely be effected. All detached horn must be removed, as when separation has taken place betwixt the organic and the inorganic structures, the latter only acts as an irritant, and therefore should be freely removed. In fact we meet with cases where it is necessary to remove one-third of the hoof. After removing the detached portions of horn,

apply poultices for a time, and dress daily with an astringent, such as the Sulphate of Zinc, or a weak solution of Lunar Caustic. When the sinuses are deep, they must be laid open with the knife.

At one time a quittor used to be treated with powerful caustics: a paste was made of equal parts of some resinous substance, and Corrosive Sublim. &c. and was introduced into the sinus, and was called coring a quittor. Such a reckless use of caustics is injurious, as this disease can be as successfully treated by much milder, and certainly more scientific, measures. The after treatment consists in shoeing properly. If much of the hoof has been removed it will be necessary to apply a bar-shoe, and in some instances what is called a three-quarter bar-shoe must be used. When quittor has been long continued, and is accompanied by much sloughing, thereby causing destruction of the coronary ligament, and rendering that part incapable of secreting trap horn, this is called *false quarter*, and tends greatly to weaken the foot. In the treatment of false quarter, attention must be given to the diseased coronary band, and the application of a blister above the coronet will tend to improve the growth of horn. In cases of false quarter the animal is useless for fast work upon hard roads, but may be rendered serviceable for moderate work by using a bar-shoe.

The Apiary.

Corn Cobs and Bee-moisture in Winter.

To the Editor of THE CANADA FARMER:

SIR,—I noticed an article from Langstroth, in your last Feb. No., upon the wintering of bees in the open air, and a high recommendation of the benefits of Mr. Sprague's practice of applying dry corn cobs above the moveable comb frames in lieu of the honey board. The benefits to be derived from the cob, as a non-conductor, and absorbent of moisture, will be admitted, if their application should prove equally convenient. Their application to other hives, than the Langstroth or shallow hives, would be desirable, and equally practicable with moveable covers or caps. He also claims that the cobs enable him, without any drawback, to winter his bees in *low or shallow hives*. The benefit appears to be fully appreciated by Mr. Langstroth, the patentee of those shallow hives. My own experience with those hives, has convinced me of a serious defect, in the extent of superficial surface to be occupied by the bees and comb, proving a serious drawback in dissipating the insect heat, and preventing the natural advantage of a dense compact body in wintering. Even in the spring and autumn, the economical requirement of this insect heat, directly under the honey boxes, to aid in the manipulation of wax, and the construction of comb, in all sudden changes of temperature, is obvious, as without a continuous high temperature, in both hive and boxes, their labours cannot proceed, except at the expense of an increased number of bees in sustaining the required temperature. There is no exception to this drawback, and but one remedy, viz. by strong stocks, and then they will overcome nearly all the difficulties that occur in bee-keeping, even with the simplest and most rudely constructed hive, with ordinary good care. It is this difference of results accruing from strong stocks, compared with the failure and disappointment from keeping weak ones, that gives rise to such a diversity of opinion upon the merits of the different hives in use, without this cause being taken into account. If Mr. Langstroth had been as successful in the construction of his hives, as he was in the compilation of his admirable work on the honey bee, they would have been more worthy of adoption by all bee-keepers; but in using Mr. Munn's frames, patented in England in 1811, they necessitated a correspondingly low hive, but such frames suspended from the top upon rabbits, are being fast superseded by those that stand resting upon the bottom, or if that is moveable, upon cleats nailed to the sides for the support of the foot of the frames, simple in construction, applicable to any height or width, leaving no harbour for the moth, without the disadvantage of drawing them out at the top. If Mr. Sprague has borne testimony to the use of cobs, Mr. Langstroth has acknowledged the corn. In his work alluded to, page 329, he says:—"A hive tall in proportion to its other dimensions, has some obvious advantages, for as bees are disposed to carry their stores as far as possible from the entrance, they will fill its upper part with honey, using the lower part mainly for brood, thus escaping the danger of being caught in cold weather among empty ranges of comb, while they will have honey unconsumed." This is

my opinion also, and the general opinion of experienced apiarists. Before adopting another style of frame, I made them much deeper with a corresponding benefit. To prevent the accumulation of moisture, instead of cobs, I cover the frames (or hives without frames), with a piece of open, coarse linen, of the cheapest description, with a few small tacks pressed through, to keep it in place, resting on a small strip of wood in the centre of the frames, for the bees to pass underneath. The top of the cover is then pried up half an inch, to permit the moisture to pass out, the cover is then filled with fine red-top hay, packed in and put on. This material will allow all moisture to pass off, and retain the heat sufficiently to keep the bees warm and dry, the hay being always found dry near the bees, and without any perceptible draught of cold air, so liable to occur in other modes of ventilation. After a trial of several methods, this has proved the most successful.

JAS. HISLOP.

West Flamboro', March 4, 1865.

Bee-Keeping.

To the Editor of THE CANADA FARMER:

SIR,—Permit me to endeavour to interest you and your readers on the subject of bee-keeping, if only with a view to profit. *Few things pay better and cost less.* There is a gentleman living in the county of York, who made one hundred pounds, not dollars, from his bees in 1863.

They did not cost him one shilling beyond the first cost of his bee-boxes, and those were brought to Toronto market, and the honey in the comb sold readily for twenty-five cents per lb.—the boxes, when emptied being returned. A short history of the best mode of keeping bees, and the cost of the boxes, would be very interesting and useful. Honey is a very wholesome article of food, and the production of it ought, on many accounts, to be encouraged. With this view, I have offered a small prize of five dollars to the Toronto Electoral Division Society, (which this year will pay more than usual attention to floriculture and horticulture generally, as the Horticultural Society contemplates no exhibitions this year) to be paid to the person who keeps the greatest number of bees in the County of York, and shall exhibit not less than 50 lbs. weight of honey in the boxes in which it is made.

In the Eastern townships and various parts of Lower Canada, bees are kept in large quantities for the sake of their honey, which can be purchased there at any of the local markets, or from the farmers at 10 cents per lb. The honey grown in Vermont, has a peculiar and delicious flavour, much like that which the honey of North Wales has, where wild thyme and heather abound.

H. P. H.

80 Peter street, Toronto.

Why Bees Work in the Dark.

A LIFETIME might be spent in investigating the mysteries hidden in a bee-hive, and still half of the secrets would be undiscovered. The formation of the cell has long been a celebrated problem for the mathematician, whilst the changes which the honey undergoes, offer at least an equal interest to the chemist. Every one knows what honey fresh from the comb is like. It is a clear yellow syrup, without a trace of solid sugar in it. Upon straining, however, it gradually assumes a crystalline appearance—if *candies*, as the saying is, and ultimately becomes a solid lump of sugar. It has not been suspected that this change was due to a photographic action; that the same agent which alters the molecular arrangement of the iodine of silver, on the excited collodion plate, and determines the formation of camphor and iodine crystals in a bottle, causes the syrupy honey to assume a crystalline form. This, however, is the case. M. Scheibler has enclosed honey in stoppered flasks, some of which he has kept in perfect darkness, whilst others have been exposed to the light. The invariable results have been that the sunned portion rapidly crystallizes, whilst that kept in the dark has remained perfectly liquid. We now see why bees are so careful to work in perfect darkness, and why they are so careful to obscure the glass windows which are sometimes placed in their hives. The existence of their young depends on the liquidity of the saccharine food presented to them, and if light were allowed access to this, the syrup would gradually acquire a more or less solid consistency; it would seal up the cells, and in all probability prove fatal to the inmates of the hive.—"Chronicle of Optics," in the Quarterly Journal of Science.



Farm Leases.

To the Editor of THE CANADA FARMER :

Sir,—I have just had the pleasure of reading your excellent suggestive article on Farm Leases. In this as on most agricultural questions, you are ahead of the country. The subject has its importance, but it is prospective. Many reasons lie handy to be used against leases of farms in Canada. One is furnished by Hali Burton through the mouth of Samuel Sick, Esq., of Shekville. We have too much land. A lease of a farm ought to make it the mutual interest of landlord and tenant to farm the land so as to increase its fertility. Two things are necessary to insure such a condition. Sufficient capital in the hands of the tenant, and a long term granted by the landlord. In England ten pounds an acre is the necessary capital—with less, a tenant could not farm profitably. Would less be sufficient here? Certainly not, if a tenant means to make his farm profitable. In this country a man can buy a farm with the money necessary to cultivate it. He buys the farm, and hopes to farm without capital. Therefore, at present, Canada is not ready for farm leases. In many respects, it is desirable that the cultivator of the land should also be the owner. Whether the agriculture of the country derives benefit from the union of the two characters, is not doubtful. Poor human nature works most frequently and most effectually under compulsion, and rent is a mighty stimulant, and moreover is enduring. It is the only perpetual motion that has yet been discovered; and under the influence of rent, I have known men in England to do well on rented land, after having failed upon their own. The yeomanry of Canada need not fear from what I have written, that I aim at their depreciation. They are the foundation and the mainstay of the country—its glory and its pride. Nevertheless, there will always be land to be let; and the question is, how can that be best done to the advantage of the owner, of the occupier, and of the country?

Farming on shares, upon whatever terms, will ever produce sterility. Like other plans adopted in new countries, in the absence of capital, it has that temporary character which ensures its failure. To farm without sufficient capital is to ruin the land, and to bring poverty to both owner and tenant.

The first question that arises on letting land, is the amount to be paid as rent. Your article says: "Land can easily be tested by a certain standard of productive capacity." I do not know how you would arrive at a certain standard. At best it could only be conjectural. Farms vary in such a variety of circumstances and conditions, that any test applied indiscriminately would be fallacious. The difficulty is greater here than in England. There, land that has been farmed for ages upon a low system—the wheat always sown upon a summer fallow—gives a more uniform result than does land farmed in any other way. We may take the average yield of wheat on such low farmed land, at twelve bushels an acre; and as this produce requires two years, the annual yield would be six bushels an acre. Call the value six dollars, and give two-thirds to the tenant, and you would have one-third, or two dollars an acre for rent; and that would be a fair rent for land in Canada held for purely agricultural purposes.

Then comes the lease. I read in your article, "In Britain lands are let from generation to generation to the mutual satisfaction of all concerned." That is true; but such holdings are not under leases. In many cases there is not even a written agreement. The tenants of the lands so held would not accept a lease. They would look upon it as the first break in the good understanding between landlord and tenant, handed down through ages from father to son, and resulting from perfect confidence on both sides, in their mutual integrity and honour. But this is in rotten Old England, where they maintain all manner of old world things,—such as hereditary succession and primogeniture. Here excessive enlightenment has saved us from such folly. Such tenancies are impossible in Canada. If land be ever well farmed under a lease in this country, it will be a lease for twenty-one years. The ten-

ant ought to show a sufficient capital, and he should not be crammed by numerous and strict clauses. The leases used in England would not do here. Indeed they are in great part, useless here. I have had a long experience in farming, and a longer experience in the preparation of farm leases, and I say that no farm lease, with a long scheme of husbandry, was ever made that a farmer could not break. No such lease was ever framed that he could possibly keep. I go further and I say that no such lease was ever made that was not broken. It could not be otherwise. The attorney who drew the lease, knew as much of farming as the farmer knew of law. The lawyer took old forms and crammed as many clauses as possible into his lease without knowing or considering their effect upon the land. After the lease was executed, the attorney gave a counterpart to the tenant, and neither party thought more of the lease as long as the rent was paid. If the rent fell into arrears, the Land Agent would refer to the lease, and find many slips by the tenant, under which it would be forfeited. All that is necessary here in the matter of husbandry in a lease, is that the tenant shall not take two white crops in succession; shall not sell hay or straw without bringing back an equivalent, and shall manage timber as may be agreed.

With such a lease for twenty-one years, land may be restored to fertility. I fear, however, that before such leases become the rule, THE CANADA FARMER will be a mighty book, requiring a large library to hold it. Meanwhile, the best holding for a landlord is a yearly one; it is also best for a tenant. Your seven years leases are an abomination—cluding and impoverishing.

W. R. CARTER.
Toronto, 20th February, 1865.

Bruce and Grey Agricultural Shows.

To the Editor of THE CANADA FARMER :

Sir,—As most of our Agricultural Societies have now elected their officers for the current year, I beg leave through the columns of the FARMER, to suggest to the officers of the above societies, that they throw open their shows to all who may desire to compete, or prizes in the different departments; whether such exhibitors may reside in their own county or not. If this system were adopted, it would not only increase their receipts, but afford breeders of stock, who wish to select proper animals for that purpose, a larger field from which to make a selection.

Having become a resident of this part of the country only two years ago; and this being only my third year in Canada, my stock is not what I would like to see it by any means; and being desirous of improving the breed, I went to the Walkerton Show last fall, for the purpose of purchasing a good Leicester ram, if there were any such to be had. Well, Mr. Editor, I will not say that there was not a good ram at that show—for there were one or two very "fair" animals there; but being an *Auld Scotch Herd*, I am perhaps not very easy to please, and not seeing any to suit my fancy, I went home without making any purchase. A friend of mine from the Township of "Glenelg," who called upon me the other day, and who pretends to be a good judge of sheep—tells me that at the Show held at Durham (in Grey County) last fall, the ram lamb, and pair of ewes, of the Leicester breed which gained the first prizes, were as fine animals as any one could desire. My friend could not tell me the owner's name, nor residence. Perhaps some of the readers of the FARMER might let me know in your next number.

AN AULD HERD.
Brant Township, County Bruce, Feb. 22, 1865.

DEEDS AND WILLS.—"Charles Gillies" of Manvers, asks information on some legal questions connected with these instruments. We advise him to apply to a competent lawyer in reference to such matters.

SUPERPHOSPHATE OF LIME.—"W Bell," of Shakespear, will find his enquiries about this manure, answered in No 3, vol. II, of this journal, and in Mr. Coe's advertising pamphlet, which will doubtless be sent to him on the appearance of this paragraph.

NAME OF PLOUGH AND ITS MAKER WANTED.—"C. Innes" of Langside, Culross, wishes to know the name of the plough which took the first prize at the last Provincial Exhibition, the name of its maker, and whether it was an iron or wooden plough.

APPRECIATION OF THE CANADA FARMER.—Henry N. Brush, of Franklin County, New York, writes:—"I enclose one dollar in gold, subscription to THE CANADA FARMER for 1865. For that dollar, I paid two dollars and forty cents, practically illustrating that I consider the FARMER worth more than twice the price of subscription."

QUERY FOR STOCK-BREEDERS.—"Springfield" would like to know what chance he has for breeding from a short horn heifer, that has been served six times during the last twelve months, and that still fails to hold to her bulging. She is four years old, and in fair condition. Would some of our breeders give this information?

OPERATING MILL STONES.—"W. Dutton," of Midhurst, writes:—"Would a concise and scientific description of grinding operations, with the advantages of any system of introducing air into mill stones, be admissible in your publication?"

ANS.—We think it would be more suitable to the columns of the Journal of the Board of Arts and Manufactures of Upper Canada.

HAY PRESSES.—"T. C.," of Haldimand, asks:—"Can you give the readers of THE FARMER, some information about pressing hay for market; whether such presses are made in Canada, where they can be found, their price, &c. Information on this subject, would be gladly received by the farmers of this section."

ANS.—We cannot furnish the information desired, but perhaps some of our readers may be able to do so.

ORIGIN OF THE MICHIGAN STATE AGRICULTURAL COLLEGE.—The Secretary of the Michigan State Board of Agriculture, Sanford Howard, Esq., informs us that we were mistaken in stating that the Michigan Agricultural College came into being as the result of the Congressional Land Grant. It was organized by the Legislature in 1855, and went into operation in 1857. The Land Grant has largely contributed to the present efficiency of the Institution, but was not the means of its origination.

HAND LOOMS.—"Samuel Preston," of Norwood, Ashpodel, writes:—"In your last number of the 15th ult., a gentleman wants to know the price of hand looms for weaving plain woollen or linen fabrics, &c., and where such looms can be obtained. A good plain, firm, square loom, will cost about \$10 00
Warping Mill and Bobbin Frame, about. 6 00
Wheel and Reel, about. 5 00
Total. \$21 00

As to where such looms may be obtained, I can only say that I will make, or cause to be made, as many as any party may please to order, for the above sum, possessing all the improvements which observation and experience have suggested for the last thirty years. I do not promise to put any fancy work on the loom, but simply to make it good, plain, firm, and square, capable of weaving all kinds of domestic fabrics."

DIRTY WORKING HANDS.—A correspondent writes:—"Many of your readers will have felt the great annoyance of dirty working hands. I allude to the dark stain engrained in the hand. Where the skin is hard and exposed to dirty work, the following is a complete remedy:—Soak the hands in hot water for ten or fifteen minutes, then, without drying them, rub them thoroughly with lard (of course, if scented, the more agreeable), holding the hands over the fire so as to melt the fresh lard; allow it to be absorbed by the skin; rub them thoroughly together for ten minutes, and wash them in water without any soap; repeat this as often as the hands are discoloured, and there will be no more complaint of chapped, rough, or stained hands. It is an extraordinary fact that soft grease will cleanse the pores of the skin, if properly applied, much more thoroughly than water."

ANTI-INSECT SHIRT OR PLANT WANTED.—"W. H. Mills" writes:—"Would you permit a subscriber to make an enquiry, through the columns of your highly

esteemed and valuable journal, for the name of any tree, plant, or shrub, known by yourself or any of your numerous correspondents, who will take the trouble to give it, the most offensive, injurious, or destructive to insect life; that is, such as is never interfered with by any insect. If I can obtain this desired information, I propose to make with it, some experiments the coming season upon the pests of the garden; and if successful, will lay the whole matter before your readers with pleasure. Each insect has its peculiar, and natural element, to sustain its existence; change this, and it will disappear as ice when brought to heat. It is said, that our common Sumach is free from the ravages of any insect. Is this so? How about the alantus, the blackwalnut, or any other that may suggest death to all creeping insects, and which is at the same time easily obtained? It would be a labour of love to succeed in destroying the midge, squash bug, curculio, "et id genus omne," with an easily obtained infusion of leaf bark or root, which would not also be destructive of human life."

A WORLD OF QUESTIONS.—"Bob," of the county of Perth, sends us queries enough to require an entire number of THE CANADA FARMER to answer adequately. A good work on kitchen gardening, will "initiate" him into the management of his "twelve acres," as a market garden. The questions about superphosphate have been already replied to in No. 3, vol. II, of THE CANADA FARMER. We must refer our correspondent to successive numbers of this journal, for information on the various points relative to fruit culture, which he enumerates. Dwarf trees will come into bearing soonest, but where there is plenty of room, we should recommend standard trees. For information as to varieties, prices, &c., "Bob" will do well to consult the catalogue of some trust-worthy nurseryman. Mr. Beadle, of St. Catharines, and others, will supply their catalogues on application.

CARROT CULTURE.—"T. Turner, of Flos, asks:—"Will you, Mr. Editor, or some of your correspondents, be kind enough to answer the following questions, through THE CANADA FARMER. Which is the best way to plant carrots, in raised drills, or on level ground; whether they can be worked with the cultivator; what kind would be best for horses and cattle; and how far they should be apart in drills?"

Ans.—It is usual to sow carrots on level ground. The hoe must be used while the plants are small, but when they attain some size, they can be worked with the cultivator. The ground should be clean, and in good tilth. We consider the Short Horn, and Large White Belgian carrots, the best for horses and cattle. The Short Horn, though a short carrot, as its name denotes, has but little top, and will grow so close that when mature, the roots will touch one another. It is also a carrot of excellent quality. The White Belgian grows to a large size in rich ground, but is a coarser carrot, and needs a deep soil to do well. The Short Horn may be planted in rows eighteen inches apart, but the Belgian should be planted two feet apart.

POTATOES AND MARKET-GARDENING.—"Walter Keating," of Barrie, writes:—"You would greatly oblige by informing me in your valuable paper, what quantity of the Superphosphate of Lime you would recommend put in each potato-hill, and how applied; the best description of early, as well as late potatoes, for planting; and whether one whole potato in each hill, or the potato cut in four parts, would yield the most prolific crop? Being anxious to establish a Market-garden in Barrie, do you consider I would run a risk in sowing seeds in ground, after it being ploughed and harrowed for the first time, this spring?"

Ans.—The Superphosphate should be applied at the rate of about a barrel per acre, when used in hills. It should be well stirred into the soil, so as not to come in direct contact with the potato set. We consider the Ash-leaf Kidney the best early potato, in the sense of its coming soonest to maturity. The Early Shaw is a good one to follow the Ash-leaf. Of late potatoes, there is a large variety, and the choice must depend somewhat on the soil. We think the Pink-eye the best in quality, but it is not a prolific bearer. The Meshannock, Cup. Carter, Clinton-Kidney, and Flake, are all good potatoes. There is dif-

ference of opinion as to whether whole potatoes or cut ones are the best seed. See an article on this subject elsewhere in this number. You can doubtless make a beginning in the way of market-gardening on such land as you describe, but you will not get the best results until the soil is subdued, and the soil is in good tilth.

GOOD MANGOLD CROPS, &c.—"G. W.," of Beamsville, writes:—"I have read in THE CANADA FARMER the number of bushels of roots grown per acre by many persons, but I do not remember seeing any description of their mode of growing them. Now, I will give my old-fashioned way of growing mangolds—(I grow carrots and turnips as well.) I manure well with stable manure in the Spring, about the time of planting, plough deep, harrow fine, and ridge up well with the plough, in ridges about 30 inches apart; make drills with the end of hoe-handle; sow seed by hand; cover lightly; keep clean from weeds; put on a little plaster, and by taking this course have gathered 860 bushels, or about 26 tons, from half an acre. Now, I wish to enquire how much of Cuc's Super-Phosphate of Lime to apply to an acre of ground that I mean to manure well with stable manure in spring, and what is the best mode of applying it—whether to sow broadcast and plough under with the other manure, or to sow in the drills with the seed, and cover? And whether it would do well to mix half and half with plaster, and drop in the hill along with seed corn, and cover, or what is the best way to use it with corn?"

Ans.—About 200 lbs. of Super-Phosphate per acre will do along with a liberal dressing of stable manure. We would recommend sowing in the drills. The phosphate must be well mixed with soil. Such a mixture of phosphate and plaster as you speak of, will be a good application to corn in the hill.

The Canada Farmer.

TORONTO, UPPER CANADA, MARCH 15, 1865

Salt as a Manure.

MR. LAWES of Rothhamstead, in a lecture before the Royal Agricultural Society of England, gave a detailed statement of experiments with common salt (chloride of sodium), with a view of ascertaining its manuring power. Its reputation as a fertilizer, Mr. Lawes thinks has been much overrated. It has been said to increase the production of grain, and to improve the quality of straw. It is believed to have great effect especially on root crops, such as mangold wurzel, which are of marine origin. It is said to fix ammonia in the soil, and also to preserve moisture in dry seasons. Mr. Lawes's own experiments have satisfied him that it is of little use.

The two plots of land, A and B, on which these experiments had been tried, had both received exactly the same amount of artificial manure, but A, unlike B, received, during 1851, 1852, and 1853, 3 cwt. of common salt per acre, per annum, in addition to the other manures. The parallel is exact with that exception. The mean produce of 1848, 1849, and 1850, the years previous to the application of the salt, was 32½ or 32¾ bushels per acre in each case; showing that the crops of wheat were extremely alike. There was in fact no difference worth mentioning between them. Again, in 1851, 1852, and 1853, the years in which A received 3 cwt. of salt per acre, per annum, and B did not, the produce of wheat per acre was almost exactly the same. During the next ten years also the produce was again nearly alike. The produce of sixteen years was in each case 37¾ bushels, showing that in the yield there was no trace whatever of the action of the 9 cwt. of common salt. Some persons may think that, although salt may not increase the quantity of produce, yet it improves its quality, what then was the weight of the produce per bushel? In the first three years the weight was a little higher

in A than in B; in the second three years, when the salt was applied, the difference was again slightly in favour of A, though not so much as it was before; and in the next ten years the weights per bushel were almost exactly alike. The total produce of the first three years was 5,988 lbs. against 5,976 lbs. a difference of only a few pounds. In the three years when salt was applied, the produce was, as nearly as possible the same; and in the ten years after salt was applied, the produce was 7,799 lbs. against 7,811 lbs.—again a difference of only a few pounds. In the total produce of the whole period of sixteen years the difference was only 12 lbs. - 7,222 lb against 7,234 lbs. Salt is supposed to strengthen straw, and to improve its quality. In the first period, before salt was applied, there was 57 lbs. and a fraction against 56 lbs. of grain to 100 lbs. of straw; therefore A was in that case rather superior to B. In the next period there was 42.6 lbs. against 41.7 lbs., there being again a slight difference in favour of A. Practically there was no difference in the proportions of grain and straw, taking the whole period.

For mangold wurzels, of which Mr. Lawes grows annually about 15 acres, he has been in the habit, which is prevalent, of applying a few cwt. of salt with the guano which he uses along with a half dressing of dung. But an experiment last year showed that the crop was unaltered when no salt had been applied, and was diminished when a double allowance of salt had been added. Of course, the experience of a single locality will not determine the truth for all England. But Rothhamstead, in Hertfordshire, is sufficiently inland to make one expect that there the full effects of salt would be seen. Though there are undoubted instances where salt has been applied with advantage as a manure, yet in an island like England, swept frequently by Atlantic storms, it can rarely be the case that the common salt of the soil is the body in *minimo*, where quantity, according to the accepted theory of manures, rules the crop.

The above trials, made by so careful and accomplished an experimentalist as Mr. Lawes, indisputably prove that on his land, salt can scarcely be said to possess any manuring power whatever; and there can be no doubt that its virtue in this respect, both in ancient and modern times, has been very much overrated. In islands, like the British, and along the coasts of continents, the atmosphere probably contains a sufficient amount of saline matters, for the purposes of vegetation; and in such situations it is found that the giving of salt to animals, is by no means so imperatively required, as in those at greater distances from the ocean. We are not justified in concluding, therefore, from the above results, obtained no doubt correctly, in the centre of England, that salt will not act beneficially on crops in this part of Canada, and a long way to the west of us; and as a condiment we know that it is necessary to the thrift and comfort of farm animals. When dirty salt can be purchased at a trifling cost, we are of opinion that the Canadian farmer may use it advantageously in his composts, or sometimes applied in moderate quantity, as a top dressing to crops in general, at an early period of their growth.

TILE-MAKING MACHINE.—We would call attention to an advertisement in our present issue, of a tile-making machine, manufactured by Mr. W. M. Sutton, of Claude, township of Chinguacousy. Mr. Sutton sent an account of his machine for insertion in THE CANADA FARMER, as a reply to the enquiry of D. Norton, which appeared in a recent number, but the communication failed to reach us. We learn that after a comparison of various machines, Mr. Norton has purchased one of Mr. Sutton's. Mr. Sutton desires us to state for the information of those who think of draining their farms, that he is prepared to furnish all needful information, respecting ditching, and tile-laying, operations with which he is thoroughly acquainted.

Transmutation of Grain.

READERS of agricultural publications have for years past, been occasionally startled with articles headed as above, and with communications from various persons who have professed to have seen oats transmuted into barley, and into wheat, these statements have hitherto been received with absolute unbelief, because not only did they seem improbable, but impossible, according to our ideas of what may, and what may not, happen. In each recorded case too, the experiment appears to have been a small one, and such an one as the parties might themselves have been deceived in. And although modern wonders and discoveries have left the public mind ready to believe anything, almost, yet the absolute change of one kind of grain into another, between the time of sowing and harvesting, seemed so far beyond nature, as to excite the most sceptical. The following article, however, cut from the *Derby and Chesterfield Reporter*, (English), gives an account of an experiment on a more extensive scale; it is written and attested by Elihu Burritt, not only one of the most intelligent, but one of the most observant of modern writers,—“The learned blacksmith,”—a man sprung from the people, one to whom the ordinary productions of the farm and the field must be as well known as to any farmer,—a man who has travelled widely, and on foot, not seeing with the eyes of others, but with his own, and one the least likely to be deceived.

The experiment being on a whole field, also makes the result of it more worthy of belief and attention, and we may yet find that our former scepticism, and that of others, has served but to delay wonderful results, which would now seem to be forced on our attention. The following is the article in question:—

BARLEY GROWN FROM OATS

“I saw also a curious phenomenon in the natural world on this farm, which perhaps will be regarded as a fiction of fancy by many a reader. It was a large field of barley grown from *oats*! We have recently dwelt upon some of the co-workings of Nature and Art in the development of flowers and of several useful plants. But here is something stranger still, that seems to diverge from the line of any law hitherto known in the vegetable world. Still, for aught one can know at this stage of its action, it may be the same general law of development which we have noticed, only carried forward to a more advanced point of progress. I would commend it to the deep and serious study of naturalists, botanists, or to those philosophers who should preside over the department of investigation, to which the subject legitimately belongs. I will only say what I saw with my own eyes and heard with my own ears. Here, I repeat, was a large field of heavy grain, ready for harvest. The head and berry were *barley*, and the stalk and leaves were *oat*! Here, certainly, is a mystery. The barley sown on this field was the first-born offspring of oats. And the whole process by which this wonderful transformation is wrought, is simply this and nothing more:—The oats are sown about the last week in June; and, before coming into ear, they are cut down within one inch and a half of the ground. This operation is repeated a second time. They are then allowed to stand through the winter, and the following season the produce is *barley*. This is the plain statement of the case in the very words of the originator of this process, and of this strange transmutation. The only practical result of it which he claims is this: that the straw of the barley thus produced is stouter, and stands more erect, and, therefore, is less liable to be beaten down by heavy wind or rain. Then, perhaps, it may be added, this oat straw headed with barley is more valuable as fodder for live stock, than the natural barley straw. But the value of this result is nothing compared with the issue of the experiment, as proving the existence of a principle or law hitherto undiscovered, which may be applied to all kinds of plants for the use of man and beast. If any English reader of these notes is disposed to inquire more fully into this subject, I am sure he may apply without hesitation to Mr. John Ekins, of Brunisham, near St. Ives, who will supply any additional information needed. He presented me with a little sample bag of this oat-born barley, which I hope to show my agricultural neighbours on returning to America.”

To those who bear in mind the statements made by former assertors of the same facts, it will be obvious that the result in all cases is from the same process

viz.: The stalks of the oats are cut down before they attain maturity, and are allowed again to spring up, they are then cut a second or a third time, and made to stand over the winter, after which, the original roots of the oats, bring forth the transmuted grain. In the foregoing instance, the process hardly seems to have been completed, for, although the grain became barley, the straw remained that of the oat. In other experiments of the kind, both grain and straw seem to have been changed, or if not, the difference is not recorded. A similar circumstance occurred to a Canadian agriculturist two seasons ago. He sowed a considerable number of patches of from a quarter to half an acre each, with different kinds of prize seed grain, such as, wheat, barley, oats, rye, &c., for the purpose of acquiring improved seed for the use of his farm—they were all sown in the spring. It happened to be a year in which the black grub appeared in amazing numbers. The land was newly cleared, and the grub made a clean sweep of several of the kinds of grain, as fast as the blades appeared; others of the patches were not to their liking, and they were never eaten off at all. Amongst the rest, was a remarkably fine sample of two rowed barley, the only two rowed barley sown—this the grubs showed an especial liking for, and after a time seemed to concentrate their forces on it, eating it off close to the earth, as fast as it appeared. As the season advanced, the grubs disappeared, and then the two rowed barley patch gave evidence that although eaten down, the roots were not eradicated, for it came up in large stools, often of 30 to 50 stalks to the stool, it having been carefully counted. Had it been grown by itself it would doubtless have been lost, but being amongst the other experiments, it remained till they were all cut and harvested. Late in the season these curious looking stools of grain shot out into head, and the result was, that they bore large and plentiful ears of *wheat*, of a new kind, different from anything on the farm—they were very late however, and but few of the ears came to perfection; but all bore more or less grains of wheat, although most of it was very thin and shrunken. It was cut before the frost, and produced twelve large sheaves of wheat, with a strangely shaped ear, and a barley-looking kind of straw. The grower was unwilling to believe his own senses, and as he did not wish to be set down as a wonder-maker, he only showed the ears and grain to a few friends, but did not make his experiment public. The next year some of the best of the grain was sown, and produced a spring wheat of a peculiar kind, but quite prolific, and very short in the straw. He intends to sow the produce again this coming spring.

Now these facts cannot be gainsaid, and therefore, it is well worth the attention of those who have time and opportunity, to follow out the experiments here-before mentioned. If this transmutation theory is true, it accounts for a great many things in agriculture hitherto inexplicable. We none of us ever heard of wheat, barley, or rye, in a wild state, and as indigenous productions; none of the great Asiatic, American, or European plains, produce these grains, in the state in which we use them. The origin of them is lost, in the mist of ages past. On the other hand however, oats, in a wild and indigenous state, exist in all quarters of the globe—in many places, nearly if not quite as good, as those now cultivated. Again, the different kinds of wheat, and barley, do not mix by their pollen, as is the case with Indian corn and other plants of similar generic qualities. This point alone would seem to show that wheat and barley, although perfect within themselves, are not an original species—since all original species of plants readily hybridize with others of the same species, though of a different genus. Altogether the matter is involved at present in mystery—is one which affords a large field for speculation, and useful experiment; and the results of which may be attended with the greatest importance to the good of mankind. We therefore commend the matter to our speculative readers, and hope to hear in the course of time, the conclusions arrived at, by such as may feel inclined to carry out experiments on the subject.

New Varieties of Oats.

CONSIDERABLE interest and discussion were awakened amongst the agricultural and scientific classes in England, at the close of the harvest of 1861, by an announcement in the newspapers of the discovery of some entirely new varieties of oats; while the peculiar circumstances of their appearance, throw new light on the much vexed question touching the limit of the remarkable vitality of the oat, when placed in favourable conditions. Apart, however, from the scientific interest

attaching to the discovery, the further cultivation and development of several of the varieties in question, during the succeeding harvests of 1862, '3 and '4, have warranted experienced agriculturists in awarding them the foremost place among all known varieties of the oat. The advent of the remarkable strangers, therefore, in all probability, marks a new era in oat cultivation, and already the yield of 1864 has been circulated in small quantities, among the more famous English growers, and will also be introduced to the alluvial plains of Holland by Dutch agriculturists.

A small parcel is on its way to Canada, to the order of Messrs. Swan & Galbraith, of this city, with a view to effect their introduction among Canadian cereals. Under these circumstances, it may prove interesting to our readers to be furnished with the prominent incidents of their discovery.

In the Northern division of Northumberland, and situated three miles to the east of the small market town of Alnwick, is the farm of Pepper Moor, forming part of the immenso landed estate of the Dukedom of Northumberland. The farm in question has been held by the forefathers of the present tenant, Mr. James Binks, for nearly a century; and from the death of his father, about 1820, up to the present time, it has been in the occupation of Mr. Binks himself. A picturesque ridge of the peculiar basaltic formation, characteristic of the whinstone, or mountain limestone, runs through the farm from west to east, forming a succession of bold hills and valleys, and terminating in the east with a bold promontory, which forms a familiar landmark to the North Sea mariner. This ridge forms a narrow, irregular field nearly a mile in length, the greater portion of which, from the extremely light covering of soil, and the outcropping rocks, has from time immemorial been covered by a dense growth of furze. The other portion has been covered with permanent grass at least for a century. For upwards of five and twenty years, peculiar interest has attached to the eastern and more elevated portion of the ridge, from the fact that a series of strongly marked mounds were visible there, and conveyed in silent eloquence to the antiquary the record of the existence of an encampment on the spot, long before the foot of the Norman had touched British soil. This idea was further confirmed ten years ago by the discovery of a peculiar hand millstone, and the exhumation of a stone coffin, containing the fragments of a warrior's breastplate and helmet. A better position for a camp and a post of observation, could not have been selected. Standing on that elevated ancient site, at a distance of two miles from the shores of the North Sea, the eye can trace fifty miles of coast—from Tynemouth Priory, on the South, to Holy Island on the North, while the immense amphitheatre is bounded on the West, by the dim blue summits of the Cheviots.

The existence and gradual spreading of the furze on this field-ridge, had been a fruitful source of annoyance to Mr. Binks for many years, and about the winter of 1854, he commenced operations with a view to effecting its extermination. Beginning at the western extremity, he burnt a portion each season, and afterwards had it carefully uprooted, the ground cleared being sown or planted, when sufficient depth of soil rendered it practicable. Following up this course with laborious pains, much perseverance, and fair success, the Camp Hill was cleared in the winter of 1860, and discovering that the soil was in some portions deep enough to admit of its being worked, he had it carefully ploughed, and sown with barley in the spring of 1861. About six weeks before harvest, when the ears of the barley began to appear, the attention of Mr. Binks and some of his agricultural friends, who had regarded his clearing experiments with great interest, was directed to the fact that a number of plants of “strange looking oats” were showing themselves among the barley crop. On permitting them time for further development, and submitting them to the inspection of competent judges, Mr. Binks felt himself warranted in allowing them to remain till they ripened, even if the barley should be partially wasted in consequence. The result proved, that while some of the plants were matured as early as the barley, others reached perfection at times varying from a few days, to three weeks, after the barley would, in ordinary course, have been harvested. Each of the specimens was carefully uprooted, and removed as it

ripened, and a memorandum of the respective date attached to each variety. In this way upwards of fifty well-marked, and apparently distinct kinds of oats, were gathered, among which the Wild Oat, the Common English Oat, the Hopetown, the Sandy, the Berlin, the Black Canadian, and the peculiar comb of the Tartar, had representatives; while the ears of others bore little resemblance to any known variety, and one, in particular, was of a globular form, somewhat resembling the seed-ball of the onion.

The details of the discovery were duly recorded in the newspapers, under the heading, "Roman Oats on an English Farm," and attracted general interest and curiosity. During the autumn, several eminent scientific authorities visited Pepper Moor, and inspected the cereal prodigies. Pending the result of another year's cultivation, however, any definite expression of opinion as to their respective merits, was suspended.

In the spring of 1862, Mr. Binks carefully selected and prepared a suitable piece of ground for their reception, and with the advantage of a favourable seed-time, they were sown in the usual month. Nourished by shower and sunshine, the tiny blades struggled into observation. Every stage of their growth, from their appearance up to the harvest, was anxiously watched; and at the time when the ears began to be developed, a steady succession of visitors, of all classes, from every portion of the British Islands, and in some instances from the Continent, were attracted to that hitherto almost unknown farm in Northumberland, and gazed on the strange looking oats with surprise and delight.

The best authorities, however, were unable to classify the more excellent kinds, with any variety of oats in cultivation; and, by particular request, selections from each variety, with the dates of sowing and gathering affixed, were exhibited by Mr. Binks, at the Show of the Royal Agricultural Society of England, at Battersea Park, London, with a precisely similar result; the Judges being of opinion that further cultivation was necessary before attempting to determine their rank and excellence. In the meantime, fabulous sums were offered with a view to induce Mr. Binks to dispose of all, or part of them; and one speculative Dutchman, in particular, offered £10 per pint for the entire sample. These tempting proposals he firmly declined, and subsequent results have confirmed the prudence of the course he took. The produce of the finer varieties alone, in the harvest of 1863, was found sufficient to sow twenty acres last seed time, a large portion of the produce of which has been eagerly secured by agriculturists during the present winter, as already intimated.

In the meantime, it had been deemed advisable by the distinguished savans, who, by request of the Duke of Northumberland, had carefully examined the Camp ground and its neighbourhood, and pronounced by them to be of Roman origin, that further portions of it, as well as that in which the oats originally appeared, should be cultivated for a further trial. This course was adopted under careful supervision, in the spring of last year, and a second crop of oats, less in quantity than the former, but showing some additional varieties, was secured last harvest. Not the least remarkable feature of the experiment was the appearance of some plants of wheat, which have since been pronounced an entirely new variety.

Publications Received.

SIMMERS' CULTIVATOR'S GUIDE.—This publication is issued annually by Mr. J. A. Simmers, seedsman, of this city. The present is the "Tenth Annual Edition," and contains a full descriptive catalogue of garden, field, and flower seeds; with ample directions for cultivation. It is in fact a book of sixty-four pages, and conveys a vast deal of useful information, while it advertises the author's extensive and well-chosen stock of seeds. A number of beautiful illustrations tempt the reader to attempt the culture of flowers. Mr. Simmers will supply his catalogue gratis to all applicants at his place of business; and to all correspondents who remit two cents to pre-pay the postage. We perceive by an advertisement on the cover that Mr. Simmers is agent for the sale of the well-known Morley Plough, and the Iron Beam Jointer Plough.

ONIONS, AND HOW TO RAISE THEM.—Massachusetts has long been famous for raising immense quantities of onions; in fact there are many residents in that State who, from their almost exclusive attention to this crop, may be styled onion farmers. We have received a thirty-two page pamphlet, on the culture of the onion, in which the method successfully practised by the best growers in Massachusetts, is minutely detailed. We recommend this publication to our readers, and especially to market-gardeners. It may be had by addressing the author, James J. H. Gregory, Marblehead, Massachusetts, and remitting twenty-five cents in American currency.

CATALOGUE OF GARDEN VEGETABLE SEEDS.—We have also received from Mr. Gregory, his annual catalogue, which, in addition to the usual assortment, contains a number of rare, novel, and desirable vegetable seeds. Among these are the Mason, Stone-mason, and Marble-head Mammoth Drumhead Cabbages, the Hubbard and Turban Squashes, Mammoth Sweet Corn, Extra-Early York, Tomato, &c. Mr. Gregory will send his catalogue to all applicants, gratis.

R. M. STARK'S CATALOGUE OF SEEDS.—We acknowledged the receipt late last fall, of a small collection of Dutch Bulbs, from the author of this catalogue, then just out from Edinburgh. They have proved good, and have borne excellent blooms. There is before us, as we write, a pot of Double Tournesol Tulips in full bloom, which are truly splendid. Mr. Stark now offers for sale a choice collection of kitchen garden, field, and flower seeds. Should they prove as good as the bulbs, as we have no doubt they will, no one will regret purchasing them. Mr. Stark may be found, or addressed, at 16 Exchange, Toronto.

J. A. BRUCE & Co.'s FOURTEENTH ANNUAL CATALOGUE.—This publication also, is on our table. It is a descriptive catalogue, and gives many useful directions, especially under the head of "Agricultural Seeds." The Messrs. Bruce not only advertise seeds, bulbs, and bedding-out plants, but the smaller fruits. They keep a large and varied stock of hardy native grapes, and also of select foreign varieties. Raising grapes in flower pots, is a specialty with this enterprising firm. They have now a fine stock of the leading varieties, growing in twelve inch pots, and capable of producing six to eight bunches of grapes. A season may be gained by planting vines of this size in vinery borders.

DESCRIPTIVE CATALOGUE.—James Fleming & Co. This catalogue bears on its Title page, "Established 1836." Its experienced author may therefore be supposed to know very thoroughly what is adapted to Canadian wants, and the Canadian climate. A pretty engraving of a new and excellent style of hyacinth glasses, adorns the title page, adapted for bulbs in winter and bouquets in summer. We are surprised they are not in more general use, especially as their cost is but trifling. This catalogue contains a valuable chapter of "Hints on sowing seeds, transplanting, watering, insects, &c.," besides informing the public of the varied assortment of seeds and plants for sale at the Agricultural Hall, corner of Yonge and Queen Streets, Toronto.

REPORT OF THE MONTREAL AGRICULTURAL AND HORTICULTURAL SOCIETY.—The Nineteenth Annual Report of this Society is before us, and records the steady progress of the society, a largely increased membership, extended influence, and healthy finances. We are glad to perceive that to encourage window gardening, a separate class of prizes is to be made for plants grown in a Cottage window, only a nominal entrance fee being charged the competitors. The Board recommends that a Pomological Convention be held during the Exhibition week, the present year, to obtain the results of the experience of fruit growers as to cultivation and adaptation to climate. A good suggestion, which we hope will be acted on.

SECOND ANNUAL REPORT OF THE MICHIGAN STATE BOARD OF AGRICULTURE FOR 1863.—This pamphlet, of 130 pages, is chiefly occupied with details respecting the establishment of the State Agricultural College. Our legislators and leading agriculturists might study it to advantage.

Act for the Protection of Insectivorous, and other Birds, beneficial to Agriculture.

By request, we publish this important Statute. As a rule, the birds are the friends and allies of the farmer, they are therefore entitled to the legal protection which this Act affords them.

WHEREAS the destruction of insectivorous birds is prejudicial to Agriculture, and the killing and capturing of singing birds, and other small birds, is a useless and cruel practice: Therefore, Her Majesty, by and with the advice and consent of the Legislative Council and Assembly of Canada, enacts as follows:

1. It shall not be lawful to shoot, destroy, kill, wound, or injure, or to attempt to shoot, destroy, kill, wound, or injure any bird whatsoever, save and except

eagles, falcons, hawks, and other birds of the eagle kind, wild pigeons, rice birds, king fishers, crows and ravens, between the first day of March, and the first day of August in any year.

2. It shall not be lawful to take, capture, buy, sell, expose for sale, or have in possession, any bird whatsoever, save the kinds above excepted,—or to set, either wholly or in part, any net, trap, spring, snare, cage or other machine or engine, by which any bird whatsoever, save the kinds above excepted, might be killed or captured, between the first day of March, and the first day of August, in any year.

3. It shall not be lawful to take, injure, destroy, or have in possession, any nest, young, or egg of any bird whatsoever, except of eagles, falcons, hawks, and other birds of the eagle kind, and king fishers, between the said first day of March, and the said first day of August in any year.

4. Provided always, that this Act shall not apply to any imported birds, or to any domesticated bird or birds commonly known as poultry; nor shall it be unlawful to buy, sell, expose for sale, or possess any bird taken or captured at a season not forbidden by this Act, but the proof that such bird was so taken or captured, shall lie wholly upon the party accused, whose oath alone shall suffice as such proof.

5. The violation of any provision of this Act shall subject the offender to the payment of a penalty of not less than one dollar; and not more than ten dollars, to be recovered in a summary manner, by Summons before one Justice of the Peace of the district in which the offence is committed, who shall award the penalty the offender may be condemned to pay to the prosecutor, with all fees and costs incurred; and in default of immediate payment thereof, the offender shall be forthwith imprisoned in the nearest common jail for a period of not less than two and not more than twenty days, at the discretion of such Justice of the Peace.

6. Any person may seize, on view, any bird unlawfully possessed, and carry the same before any Justice of the Peace, to be by him confiscated, and it shall be the duty of all market clerks and police officers on the spot to seize and confiscate, and if alive, to liberate such birds; and every person is authorized to destroy all nets, traps, snares, cages, or other machines or engines, set wholly or in part, whereby any kind of bird whatsoever, save the kinds above excepted, in the first and fourth sections of this Act, might be unlawfully killed or captured.

7. The Minister of Agriculture and all persons authorized by him to that effect, may grant written permissions to any person or persons who may be desirous of obtaining birds or eggs for bona fide scientific purposes, to procure them for that purpose during the close season, and such person or persons shall not be liable to any penalty under this Act.

8. No conviction shall be annulled or vacated for any defect in the form thereof or for any omission or informality in any summons or other proceedings under this Act, so long as no substantial injustice results therefrom.

9. The present Act and all its provisions shall be so construed as not to annul or vacate any provision of the Game Acts of Canada, or any amendments thereto.

March Cattle Fair in Guelph.

Mild weather, good sleighing, and a scarcity of fodder in some of the adjoining townships, contributed to make a large appearance on the Fair Ground on Wednesday last, not fewer than 300 cattle having paid market fees. There were quite a number of buyers on hand, but as the show of really prime beasts was small, and many holders of inferior animals had to sell on compulsion for lack of forage, sales were slowly made, and the prices realized were somewhat lower than last month, running from \$3 to \$1.25 per 100 lbs. live weight. About 200 head changed hands, the balance being carried over. We quote a few of the sales:

D. McFarlane, Puslinch, sold a bull for \$65; Michael Joseph, Pilkington, sold four head for \$190; John Awrey, Erin, 1 yoke of oxen, \$102.50; Thomas Easterbrook, Nassagaweya, 3 steers for \$180; Jos. Kirkloy, 1 ox for \$70; Alex. Carter, 2 steers and 1 bull for \$180; Jas. Laird, York Road, 6 head for \$190; Geo. Atkinson, Guelph, sold a bull weighing 2,140 lbs. for \$60; Gideon Hood sold a bull for \$92.

At the Elora Fair the day previous there were some 300 cattle on the ground, and prices averaged from \$3 to \$4 per 100 lbs. live weight.—Guelph Herald.

A Farmer's Club with twenty-one members as a beginning, has been organized at Glenvale.

GOVE AGRICULTURAL SOCIETY.—Wm. Porter, President; Thos. Bell, Secretary and Treasurer.

DATE OF FAIRS.—Frankford Spring Fair, will be held on the first Tuesday in April, and the Fall Fair, on the first Tuesday in October.



One Acre Enough—Sometimes.

An "Ex-Market Gardener" gives to the *American Agriculturist* the following illustration of what can be done on a small piece of land, by hard work and high manuring:—

"On a fertile acre, within sight of Trinity Church's people, New York, but in the benighted land of Jersey," lives a man whom not to offend his modesty, I will call 'John Smith.' John's neat cottage and acre cost him, some eight years ago, \$3,000—now worth \$6,000.

"In the spring of 1861, he planted on his acre 12,000 Early Wakefield cabbage plants, which, by the first week in July, were sold in the New York markets at \$8 per 100, for \$960. Between the rows of cabbage were planted, at the same time, 18,000 Silesia lettuce plants, which, at \$1.50 per 100, brought \$270. Both crops were cleared off by 15th July, the ground again thoroughly plowed and harrowed, and planted with 100,000 celery plants, which were sold before Christmas of same year, at \$3 per 100, for \$3,000, making the total receipts \$2,130."

"His expenses were:—Manure, \$150; keep of horse, \$300; interest on \$3,000, \$120; hired labor \$100; incidental outlay, \$100; amounting in all to \$1,370, which deducted from the receipts gave him the net profit of \$1,930.

"John is only a common-place man. Some might call him a clover-hopper. He has no particular skill or great share of 'brains'—his only prominent quality is untiring industry; but it would be difficult for any one, no matter how endowed with skill or brains, to make more of an acre than he has done."

Adirondac as a Wine Grape.

The following is a copy of a letter from G. H. Wheeler, Esq., President of the "Pleasant Valley Wine Company," from which it appears that this new grape gives high promise as to wine-making qualities:

HAMMONDSPORT, N. Y., Nov. 29th, 1864.

MR. J. W. BAILEY: Dear Sir.—Your favour of the 7th was received through due process of mail, but the answer was deferred in order to give an opportunity of examining the sample of wine made from your Adirondac grape. It had not passed through the first fermentation at the time. Our foreman racked it off today and placed it in bottles. There were four and a half bottles, and we have this day shipped by express to you two (2) bottles. The grapes came to us in very bad order,* and the sample being small, we do not regard the experiment a fair one, but Mr. J. F. Weber, (our foreman,) thinks the sample fully 25 per cent. better than the best Diana, which is thought to be superior to any other kind we have tried. I am of opinion that the Adirondac promises to be a superior wine grape, having all the essential qualities necessary to make one of the finest flavoured wines ever made in America. I think it would pay you well to raise enough of them to make a cask of wine, so that the public may have an opportunity of seeing wine made from the Adirondac, under reasonably favourable circumstances. It is impossible to make a fine wine in small quantities. You will please accept the best wishes of the P. V. Wine Company, and also the especial regards of your friend, G. H. WHEELER.

* The grapes were eighteen days on the way, by express, from Plattsburgh to Hammondport, while I will account for the very bad order in which they were received.

New Annuals.

Clarkia integriflora flore-pleno.—This magnificent double variety is by far the finest of its genus. The bloom is very double, large, of a rich magenta colour, and produced in the greatest profusion. We anticipate that this will supersede entirely every other variety of Clarkia in cultivation, as soon as its merits have been observed.

Nasturtium King of Tom Thumbs.—This variety is by far the finest of all; the lustrous blue-green foliage, contrasting vividly with the intense scarlet of the blossoms, produces an unequalled blaze of brilliance.

Nemophila maculata a purpurea.—An extremely pretty variety of this well-known tribe. The old variety of which is generally considered the handsomest of its race, colour, purple, with a dark violet blotch at the apex of each petal; altogether a very novel and desirable acquisition.

G. L. L. Lindleyana flore-pleno.—A novelty among this much admired profuse blooming class of plants. We are not aware that, previous to the variety now under notice, there has ever been seen any thing approaching to a double flower among the Godetias; its colour, like that of its parent, G. Lindleyana, is a rich, rosy-purple; the blossoms are perfectly double, and produce in the greatest profusion.—*Gardeners Monthly.*

Experience in Blackberry Culture.

To the Editor of THE CANADA FARMER:

Sir,—Some years ago the "American Agriculturist" in season and out of season, zealously advocated the culture of the Lawton blackberry, as a most abundant bearer, and hence as one of the most profitable of all the small fruits. The same excellent journal from time to time instanced numerous examples of abundant and profitable crops in localities chiefly in the New England states. I was, consequently, induced at a time when very small plants cost half a dollar each, to set out a considerable number, not only of the "Lawton" variety, but also the "Dorchester," and the "Newman's Thornless." I regret to say the whole have proved totally worthless. These sorts will not do without winter protection in this locality. I attempted this by laying them down and covering with soil, in the way often practised so beneficially with the raspberry, but I found the canes too strong to bend without breaking—in short, that this method was impracticable. I found likewise that protection by straw or pine tops, required more labour and trouble than the bushes were worth.

I have, however, learnt a useful lesson; I neither charge, nor insinuate that the *Agriculturist* intentionally deceived its readers, but it certainly failed to discriminate properly. It argued, very illogically, that because this fruit was profitable in New England, therefore, it would be equally so in Scarborough Township, Canada West, or any other given locality. *Neither did I discriminate.* I have now learned better. And it cannot be too widely known, that the success of a fruit in any given county or latitude, is no guarantee whatever of its success in another—a hundred, or even fifty miles distant. This must be ascertained from actual experiment. The principle applies alike to all fruits, and all localities. For example, the peach thrives well, not only at Niagara, but even West of Hamilton, while it is just as worthless as the Lawton blackberry here. W. S. Woburn.

Cultivation of the Carnation and Picotee in the Open Border.

We hail our correspondent F. W., as a brother florist of the old school; and we personally thank him for asking us the following question:—

Sir, I should feel much obliged by your publishing in the gardening department of *The Field* an article on the cultivation of the carnation and picotee in the open border. F. W.

We hope it is not the last that we shall receive on the subject, as the cultivation of these old-world flowers ["the flowers of our childhood"] is a subject dear to our hearts. Privately we indulge in this fancy, but very few do we get to admire our pets.

The books on their cultivation all go, or seem to do so, on the supposition that every one who grows or wishes to grow carnations or picotees grows them for exhibition, and therefore the instructions are given accordingly. Again, the soil for carnations and picotees needs peculiar preparation to insure the absence of all wireworms, &c.; and when the plants are grown in pots, the soil all goes through the potter's hands, and is necessarily examined very closely; besides, when grown in pots, they are more at command, and can be given, whenever required, the peculiar nourishment which will bring fine and well-marked blooms. Our own practice is this:—At the latter end of July or beginning of August we layer them, and layer one or two layers of every extra good kind, or any kind that we care to grow in pots, that we may be prepared in case of a very severe frost,

under which the hybrid kinds will occasionally succumb. These pots of layers we put away in any empty corner [in a cold frame, if we can spare one], where they can have a mat thrown over them in bad weather. About the end of March we plant out, and from the heap of prepared soil we get a barrowful, and, after digging out a spadeful or two of the natural earth, we fill the holes with compost, and plant as we go on. The soil is prepared thus:—Turves from an upland pasture well rotted, three parts; two-years-old cow-dung, one part; well-decayed leaf mould, one part—these, all mixed together, will make a compost which will give you very good blooms. To prevent an occasional wireworm from doing us harm, we thrust into the ground, round about the plants, a piece or two of carrot. By these means, with the summer attentions of tying and protecting, we never fail of having very good blooms. Of course, they are not so good and fine as those grown in pots; but they are by no means despicable blooms for all that. We trust these hints will encourage our brother florist in his attempts to cultivate those most beautiful flowers, the carnation and picotee.—*Field.*

Orchards in Ohio.

We have no reliable statistics of the orchards in Ohio, but from circulars sent out and answers received by the writer, a shrewd guess may be made as follows:—Of apple trees there are over 15,000,000. If these give a yield of three bushels to a tree, we have 45,000,000 bushels, that, at fifty cents a bushel, would give the snug little sum of \$22,500,000 for the apple crop of Ohio. Of Peaches there are 3,000,000 trees—these, yielding two bushels each in a peach season, would give 6,000,000 bushels, that may be estimated at one dollar a bushel. Of Pears and Cherries a safe estimate may be, \$1,000,000 in value. These give the snug little amount of \$29,500,000, which is probably a low estimate of the value of the staple or larger fruits grown in Ohio in legitimate orchards. The amount of such fruits as Strawberries, Raspberries, Currants, &c., is of course very large—while the value of the Grape crop cannot be less than one million six hundred and eighty thousand dollars, allowing seven thousand acres in vineyard, two tons to the acre, and six cents per pound the price. All these estimates we count very low, but they serve as shadows to show the importance of aiding, assisting, and furthering the matter, as a State benefit.—*Cor. of Ohio Farmer.*

Products of a Small Garden.

Messrs. Editors,—Last spring I sent you a description of a 1/2 of ground in my possession to be cultivated in vegetables, &c., to the best possible advantage, with a view to induce others to do the same, and also promised to make report this fall, which I shall now try to do.

The size of the lot, being a square of 150 feet, buildings included, which I have divided into 8 lots or beds, by walks of 3 feet in width. Bed No. 1, I planted in cabbage—No. 2 to squashes and tomatoes—No. 3 to apple seedlings and water-melons, this lot being also planted in dwarf pear and grape-vines—bed No. 4, planted in apple seedlings and grape cuttings—No. 5, to sweet corn and cucumbers—No. 6, potatoes, peas and onions—No. 7, parsnips, beets, onions and strawberries—No. 8, grass lot. Part of the above named lots I have bordered with currants, gooseberries, peach in bud, quince seedling, peas, beans, raspberries, &c. Now for the proceeds, viz:—

Squash \$9,	tomatoes \$6,	cabbage \$12	.....	\$27 00
Gooseberries \$5,	currants \$8,	cucumbers \$6	.....	19 00
Strawberries \$3,	raspberries \$1 50,	onions \$6	.....	10 50
Water-melons \$2,	parsnips \$2,	beets \$2	.....	6 00
Headings \$2,	beans \$1 50,	potatoes \$2	.....	6 50
Sweet corn \$1 50,	cherries \$3,	turkeys \$4	.....	8 50
600 one year grape stocks \$60,	apple seedlings \$50	.....	110 00	
500 peach in bud \$25,	hay \$1	.....	25 00	

Total\$191 50

On the same lot, and outside along the edge of the pavement, I have planted 19 plum, 18 peach, 11 cherry, 6 quince, 5 apple, 8 pear, 25 grape-vines, 3 lilac bushes, 3 snow-balls, 1 snow-drop, 4 evergreens, 13 varieties of roses, 1 sweet briar, besides a variety of flowering plants, such as fall roses, dahlias, floral king, chrysanthemums, lilies, tulips, pink, verbenas, &c.

This now is merely an experiment of what can be done on a small piece of land, being satisfied that at least one-third more can be raised on the same ground if properly arranged, as to what you plant, and manner of planting. How very strange it is I have cultivated a kitchen garden all my life (I am now sixty years of age), and the thought has never struck me until lately—How can a lot of ground be made to produce so that every foot will "tell" to the best advantage? I hope some of your readers will have made similar experiments and report likewise.—D. S., in Country Gentleman.

Grape Vine Culture.—No. IV.

THE ARM SYSTEM.

WHAT is called the arm system, is in extensive use, chiefly in the State of New York. The first and second year, only a single cane is allowed to be grown to a single upright stake, as described in our previous observations on the "single stem dwarf and renewal system." In this, as in all other methods and systems of grape vine culture, the pruning knife should at all times be kept very sharp, steadying the plant with the left hand, and then making a short, clean, quick cut with the right, so as not in anyway to disturb the roots. The appearance of the vine pruned and ready to lay down in the fall, at the end of the second year, is indicated by Fig. 14.

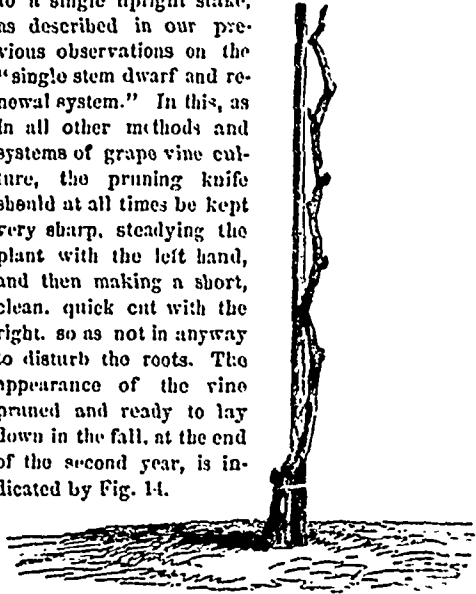


FIG. 14.

The third season, the vine should be allowed to grow two arms, somewhat in the form shown by Fig. 15. The same upright stake is to be used as before, but an addition must be made for a cross piece at the top and two side supports. Almost any kind of material will answer for this purpose. The following season, the vine will require a permanent support,

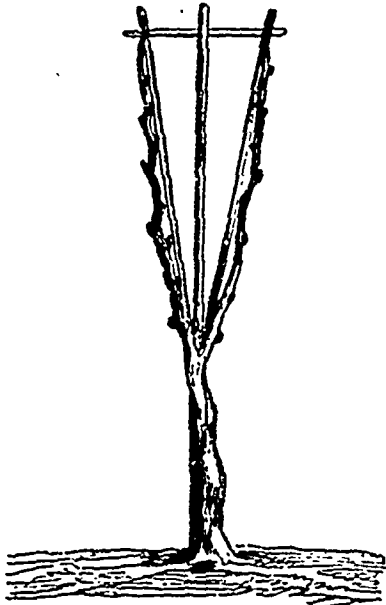


FIG. 15.

in the form of a trellis. This may be made by setting posts ten to fifteen feet apart, and wire may be stretched on these posts, in the way previously stated. But another kind of trellis, said to be somewhat more convenient, is made by nailing a horizontal slip of wood, two feet from the ground, and another on the top of the posts, and these strips are connected by other strips of wood precisely after the form of a picket fence. See Fig. 16.

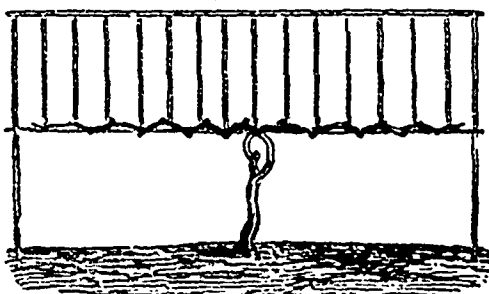


FIG. 16.

Spring is the best time to erect the fence. The arms it will be perceived, are reversed by bending round and this should be done about the 1st of May. These arms are to be firmly tied to the lower slip or bar, by soft twine, in order to keep them in position. The reason for this bending, is to retard the flow of sap to the extremities, and the buds are consequently materially strengthened near the centre. The first season, by this method, the vine will produce specimens of fruit, but not more than one bunch should be allowed on each shoot; the others must be taken off—and even this is quite a heavy crop for so young a plant. The shoots grow up as shown in Fig. 17; and

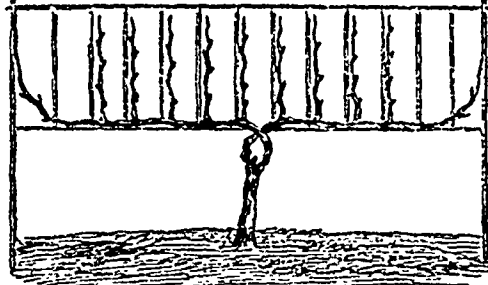


FIG. 17.

should be stopped when they reach the top of the trellis. The shoots shown in a slanting position at each end, are intended to form the extension of the arms. The ground should not be much trodden down, but kept loose, and free from weeds and grass, and perhaps a light dressing of well-rotted barn-yard manure, or bone-dust, ashes, or a compost of all three may be lightly forked in in the fall or early spring. During the growing season, weak liquid manure may be used to great advantage. At the end of this season, the shoots must be all pruned down, with the extension of the arms, as shown in Fig. 18.

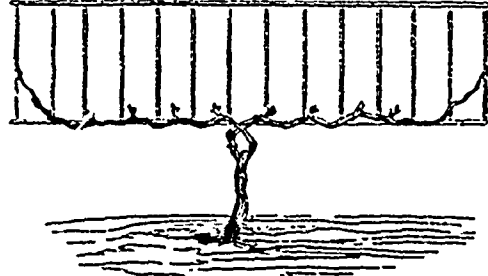


FIG. 18.

This system is said to answer admirably in the State of New York; the only difficulty with its adoption in Canada, would be in laying down the vines for winter protection. This would be a somewhat difficult matter, in order to avoid breakage, and for the purpose a large quantity of straw, or pine tops from the bush, would be necessary to cover them. The vine may now be considered as established. After a few years' fruiting, the arms will become unsightly, and require to be cut down, and a season's fruit will thus be lost, but the vine itself will be greatly improved. One season will again produce wood, and afterwards may go on every alternate year as before.

DR. KNOX'S METHOD.

One of the largest fruit growers in the United States is the Rev. Dr. Knox, of Pittsburgh, in Pennsylvania, who has, for instance, 50 acres in strawberries, and almost as many in grapes; who is, moreover, a nurseryman on an extended scale. His method of culture, abridged from his own speech at a fruit growers' meeting in New York, is as follows:—He thought grape culture had been injured by its friends, who advise the expensive methods of digging the soil three and even four feet deep, with heavy manuring. All this was not only useless and expensive, but positively injurious. It was well known that foreign sorts were not adapted to out-door culture on this continent, and neither were the methods of foreign cultivation; fifteen to twenty inches was as deep as the soil need be stirred. He invariably pruned his vines in November. The first season he cut down to

two eyes. The second year all but one cane; and the third fall, that one back to three eyes: these produce three strong fruiting canes for the fourth year, two of which are bent to form the arms, and the middle one trained upright, as shown in Fig. 19.

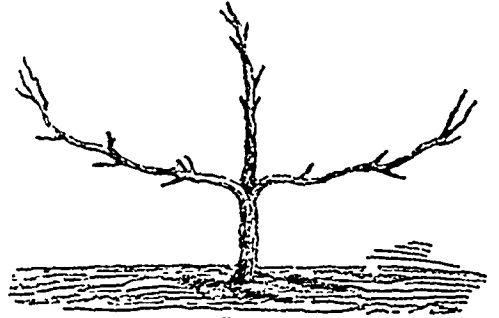


FIG. 19.

The trellis was not required to be erected until the fourth year, when he calculated that each vine produced not less than ten pounds of fruit, besides growing up alternate canes for future fruiting. The process afterwards consisted of cutting out each alternate upright shoot every year. Suppose eight vines in all,—four produce wood, and four bear fruit alternately. See Fig. 20; a a a, dotted lines, are

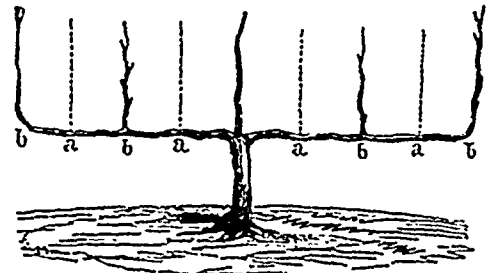


FIG. 20.

the wood producing canes, and b b b the fruit bearing. The following season, the canes are just reversed, see Fig. 21.

The wood canes are pruned every fall, and those that have borne fruit, cut down to two eyes. He planted eight feet apart in the rows, and the rows about six feet, thus requiring about one thousand

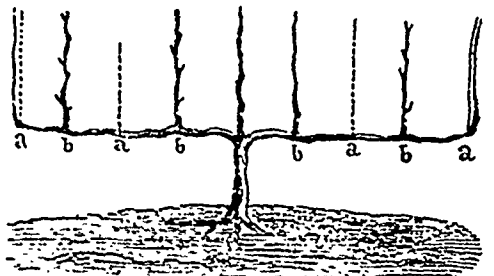


FIG. 21.

vines per acre. The trellis posts are about nine feet apart, fastened to upright slips of wood, somewhat resembling in appearance a picket fence. See Fig. 22. During the summer months, the new growth of

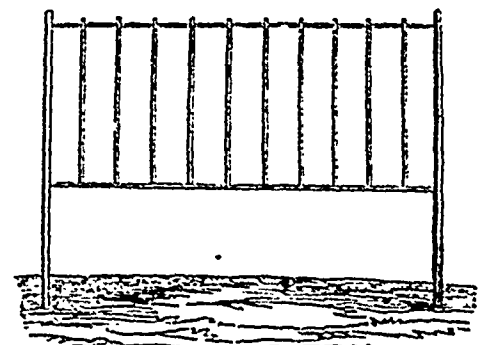


FIG. 22.

the spurs is pinched in, retaining as many leaves, beyond the last cluster, as there are clusters on the spur. This method is generally known as the "double spur system."

Poultry Yard.

Poultry Shows in Paris.

FIVE of the salons in the *Palais de l'Industrie*, the sides of which were covered a few months since with the productions of the artists of all nations, presented an extraordinary appearance on the 19th, 20th, and 21st instants. In place of history, battles, landscapes, and portraits, were collected the inanimate bodies of fowls, turkeys, geese, and ducks. The exhibition was a great success; there were more than five hundred contributors, and between two and three hundred specimens of poultry of one kind and another. Nineteen departments were represented. The arrangements were admirable; sloping tables were placed around, and double stands of the same kind in the centre of each room. These were covered with blue paper upon which the poultry was laid out, with ample space on all sides; the various lots, each consisting of four specimens, being separated by fillets of wood, painted red, so that every article exhibited could be seen perfectly. On the walls were neatly-painted devices, containing the names of the classes and localities of production, and hung about with laurel, intermingled and enlivened by a few coloured ribbons. The first day was devoted to arrangement; the second, till one o'clock, to the decisions of the jury; after which the public was admitted at a charge of half a franc, and the third, to exhibition and sale of the articles. The jury was composed of Comte Leopold, Le Hon. President, representative in the Corps Legislatif of the department of Ain, famous for its poultry; two Inspectors-General of Agriculture, four farmers, and four dealers in poultry. The sum of four thousand francs was devoted to prizes, besides medals in gold, silver, and bronze. The grand prize consisted of a large gold medal and a thousand francs. The awards were marked by means of oval cast-iron tablets, painted blue, with the raised letters picked out in gold colour. The fowls were divided into five categories—birds of the races of La Bresse, of La Fleche, of Houdan, of Normandy, and miscellaneous. The first of these was by far the most numerous, as the poultry is the most esteemed. One gold, one silver, and a number of bronze medals and honourable mentions were awarded in each class, and the grand Prix d'honneur was awarded to M. Gorgondet, of Trefort, in the department of the Ais, for four pullets of the race of La Bresse. The other five classes consisted of turkeys, ducks, geese, pigeons, Guinea fowls, and other poultry. The department of Seine-et-Oise carried off the first and second prizes for turkeys, that of Orne the gold medal for geese, and Rouen the same for ducks. The fowls of La Bresse were not so remarkable for size as for smallness of bone and plumpness; and the manner in which they are prepared for market is quite artistic. Some of the geese were truly gigantic, but the turkeys would not have borne comparison perhaps with those of Leadenhall market. The sale was very brisk, and the names of almost every celebrated gastronomic establishment in Paris were to be seen on tickets in all directions. Forty and fifty francs were asked and easily obtained for prize geese and turkeys; and fowls that had obtained medals were marked in the morning after the exhibition, as high, if not higher than, thirty-six francs each. Poultry is an article of great importance in France, and the rearing of fowls in La Bresse, Burgundy, is one of the staple occupations of the locality, but it is not carried on in large establishments, experience proving that the collection of large numbers of poultry in one place invariably gives rise to epidemics amongst them. The Bresse race is not, however, so pure as some others, the delicacy of the meat, and the rapidity of the fattening, being supposed to depend principally on soil and the mode of feeding. The Bresse pullet can be fattened at the age of three months, while those of other localities cannot be got ready for market till after the fifth or sixth month. The modes of rearing poultry differ in different localities. At La Bresse a pullet of three months is worth about two francs, and the fattening occupies from fifteen to thirty days. To produce what is called a fat pullet takes about five gallons of meal, made from maize and black wheat. This is mixed with curdled milk, and given to the poultry in balls, the greater part are, however, only half fattened. A fine fat pullet sells for six to ten francs, an ordinary one from three to five francs, at the local market of Bourg. The poultry of the Fleche race is fed in the department of the Sarthe, on barley and black wheat meal mixed in the same way with milk. Four young cocks, for which a prize was given, averaged eleven pounds (English) each, and were valued at 20s to 24s each.—*Journal of the Society of Arts, London.*

HEN MANURE AND NIGHT SOIL.—"L. R. T." of Onida, N. Y., wishes, in your paper of Jan. 5, to know how to prepare and apply hen manure, and I give below my method of doing so for years past.

Take good soil from the surface of a field, or woods earth, and put it under cover, with which compost the hen manure at the rate of one bushel of manure to twenty of earth, adding thereto the contents of all the privies and the chamber lye from the house daily, with a liberal allowance of ground plaster, and the spent ashes of the farm.

A month before using, cease adding to the heap, and turn it up once or twice a week, carefully breaking all lumps with the shovel. It will lose all unpleasant smell, and my men do not object to dropping it in corn hills with their hands or sowing it along turnip rows, &c.

As soon as one heap is finished, I begin another, and never fail, when planting time comes round, to have enough compost to give eighteen acres of corn a vigorous start, and some left for turnips and other vegetables. I think it much superior to anything I can buy—and it is made up from materials which are sadly neglected on many of our American farms. Try it, for it will repay all its cost.

Burlington Co., N. J.

INCUBATORS. I shall be most happy to give "Veritas" my small experience with an incubator, though I am not certain whether mine is like those at present advertised in your columns. Mine is somewhat like a small chest of drawers, with two shelves for the eggs, of which it can contain from twenty-six to thirty at a time. I first placed nine eggs in it on the 1st July last, seven were hatched, one was bad, and one contained a dead chick, which had apparently undergone eighteen days' incubation. The seven chicks are all alive, and very strong; one laid its first egg last week. I must now mention my numerous failures, of the cause of which I should like to gain some information. On the 1st September I placed thirteen eggs in the incubator; two were hatched (both doing well), and eleven contained dead chicks apparently of eighteen days' incubation. On the 1st October I tried nine eggs; all but one, which was bad—contained the usual dead chicks. On the 1st December I tried seven more eggs; two were bad, and five had my old friends, the dead chicks. Now, can you, Mr. Editor, or any of your correspondents, inform me the cause of my failures? I kept the heat from 100° to 106°, turned the eggs twice a day, morning and evening, leaving them exposed to the air about three minutes each time. You may remark that all went well till the yolk came to the abdomen of the chicks.—*Cor. of Field.*

The Household.

Cleanliness and Health.

THAT most startling results accrue, among the lowest classes especially, from a due attention to matters likely to affect health, is apparent in the very low mortality rate of the pauper schools placed under proper management. In the Central London district pauper school at Hanwell, the late Mr. Aubin succeeded in reducing the rate to less than two per cent., notwithstanding that the scholars were taken from the very heart of London, many of them being half-starved, stunted, scrofulous, and suffering from ring-worm and ophthalmia. It cannot be too widely spread abroad that the secret of this clever and philanthropic superintendent's rule, consisted in the practice and maintenance of extraordinary cleanliness. The eight hundred or nine hundred children under his care were well washed all over in warm water twice a week, as well as down to their waists twice a day, and the younger children were washed after every meal. Directly a garment was soiled, it was changed, although, perhaps, it had only been worn a few minutes, and, in the regular way, every elder boy was allowed three clean shirts weekly. The sheets of every bed, too, were changed weekly, and frequently oftener when required. The profusion of clean linen caused as many as fifteen thousand pieces to be washed weekly. But the system worked wonders. Instead of a hundred little graves being made in the graveyard yearly, the sexton was not called upon to dig many more than a dozen. Farmer children in country workhouses furnish a death-rate of twelve per cent. But this unpromising selection, with this management, yielded a smaller death-rate than the wealthiest communities in the land. Thus it will be seen that the secret of the preservation of health lies in one word—cleanliness. This quality, long and worthily held next to godliness, must be applied in its widest sense, and be

understood to mean cleanliness in our houses, our streets, and our towns, as well as in our food, linen, and persons. Air, earth, and water must be kept sweet and clean, and even our fires are not exempt from influences upon health, for we may burn substances that emit unwholesome odours. Sanitary reform, therefore, resolves itself into an old, old story. The patriarch Jacob gave the pith of it when he commanded his household to "be clean and change their garments," and Moses only enlarged the same command, when he declared that if a house should be unclean the priest should look upon it, and cause it to be thoroughly scraped and cleansed, and should signs of uncleanness again present themselves, it should be taken down—stones, timber, and mortar, and these materials cast out of the city upon an unclean place; and in the minute directions he issued respecting repeated ablutions. It will not be of much use to tell the story, even with its Syrian associations, to grown-up people—they know it already; but habit is second nature, and it is difficult for them to change their ways. Those to whom sanitary reform must be preached, are school-children. They should be taught, if we are dirty, we shall become diseased; if we sin, we shall suffer, as certainly as twice two are four, and twice four are eight. It is in the minds of little children that we should sow this seed.—*Chambers's Journal.*

Household Leaks.

OUR readers are indebted to Mrs Haskell's *Household Encyclopedia* for the following enumeration of household leaks. There are some, doubtless, who need no telling of this sort, while there may be others who will learn something by reading what follows:

Much waste is experienced in the boiling, etc., of meats. Unless watched, the cook will throw out the water without letting it cool to take off the fat, or scrape the dripping-pan into the swill pail. The grease is useful in many ways. It can be burned in lamps mixed with lard, or, when no pork has been boiled with it, made into candles. When pork has been boiled alone, it will do to fry cakes, if cleansed. Again, bits of meat are thrown out which would make hashed meat or hash. The flour is sifted in a wasteful manner, or the bread-pan left with the dough sticking to it. The crust is left, and laid by to sour, instead of making a few tarts for tea, etc. Cake batter is thrown out because but little is left. Cold puddings are considered good for nothing, when oftentimes they can be steamed for the next day, or, as in case of rice, made over in other forms. Vegetables are thrown away that would warm for breakfast nicely. Dish-cloths are thrown down where mice can destroy them. Soap is left in water to dissolve, or more used than is necessary. If bath brick, whitening, rotten-stone, etc. are used, much is wasted uselessly. The scrub-brush is left in water, pails are scorched by the stove, tubs and barrels left in the sun to dry and fall apart, chamber pails allowed to rust, tins not dried, and iron-ware rusted, nice knives used for cooking in the kitchen; silver spoons used to scrape kettles, or forks to toast bread. Rinsings of sweetmeats, and skimmings of sirup, which make good vinegar, are thrown out; cream is allowed to mould and spoil; mustard to dry in the pot, and vinegar to corrode the easier; tea, roasted coffee, pepper and spices, to stand open and lose their strength. The molasses jug loses the cork, and the flies take possession. Sweet meats are opened and forgotten. Vinegar is drawn in a basin and allowed to stand until both basin and vinegar are spoiled. Sugar is spilled from the barrel, coffee from the sack and tea from the chest. Different sauces are made too sweet, and both sauce and sugar wasted. Dried fruit has not been taken care of in season, and becomes wormy. The vinegar on pickles loses strength, or leaks out, and the pickles become soft. Potatoes in the cellar grow, and the sprouts are not removed until they become worthless. Apples decay for want of looking over. Pork spoils for want of salt, and beef because the brine wants scalding. Hams become tainted, or filled with vermin, for want of the right protection. Dried beef becomes so hard it cannot be cut; cheese moulds, and is eaten by mice or vermin, lard is not well tried in the fall and becomes tainted, butter spoils for want of being well made at first. Bones are burned that would make soap; ashes are thrown out carelessly, endangering the premises and being wasted. Servants leave a light burning in the kitchen when they are out all the evening. Clothes are whipped to pieces in the wind, fine cambrics rubbed on the board, and laces torn in starching. Brooms are never hung up, and soon are spoiled. Carpets are swept with stubs hardly fit to scrub the kitchen, and good, new brooms used for scrubbing. Towels are used in place of holders, and good sheets to iron on, taking a frob one every week,

thus scorching nearly all in the house. Fluid, if used, is left uncorked, endangering the house, and wasting the alcohol. Caps are left from lamps, rendering the fluid worthless by evaporation. Table linen is thrown carelessly down and eaten by mice, or put away damp and is mildewed, or the fruit stains are forgotten, and the stains washed in. Table cloths and napkins are used as dish wipers; mats forgotten to be put under hot dishes; teapots melted by the stove; water forgotten in pitchers and allowed to freeze in winter; slops for cow and pig never saved; china used to feed cats and dogs on; and in many other ways a careless and inexperienced housekeeper will waste, without heeding the hard-earned wages of her husband; when she really thinks—because she buys no fine clothes, makes the old ones last, and cooks plainly—she is a most superior housekeeper. The next time an unthinking husband is disposed to be severe because some trifling matter has been neglected, he should put that in his pipe and smoke it."

The "Twa Handed Wheel," and Hand Loom Weaving.

To the Editor of THE CANADA FARMER:

Sir,—When a man makes up his mind to go into any new undertaking, the first, and all engrossing question is, will it pay? Now, it can be shown beyond a doubt, that spinning with the "twa handed wheel," and weaving with the hand loom, will not only pay, but pay well in Canada. In order to show that this would be the case, I have made a very careful calculation of the Scotch flax reel, as compared with the cotton reel; and find that about two spindles of yarn of the Scotch reel, will give about as much warp as a bunch of cotton warp. Now, it was the common task for a lass in Scotland, to spin two and a half spindles of yarn every week; or ten spindles in four weeks. And ten spindles is equal to five bunches of cotton, so far as warp goes. Now five bunches of cotton costs fifteen dollars and five shillings. A bunch is five pounds weight. Well this would require twenty-five pounds of fine lint, to be equal to five bunches of cotton. And if five dollars is allowed as the price of the lint, there still remains ten dollars and five shillings. Now where is the Canadian lass who can earn as much as this in four weeks spinning wool? Would not this sum pay a farmer, even to his spinning of his lint and tow? But I would remark further, that if the farmer grew the flax, then the quantity of flax which would yield twenty-five pounds of lint, would also yield a good deal of tow, the value of which would go a long way in paying for scutching and heckling the flax.

Fine lint yarn, to take the place of number 8, 9, and 10 cotton warp, has been much wanted this good while back, for the winter dresses of women especially. A dress all cotton is too cold, and a dress all woollen is too heavy, therefore, they want the lint yarn, because they cannot get the cotton, it is so scarce and dear.

Sir, I was highly delighted in reading the article in your last number, headed "Hand Loom Weaving." I have always had the hand loom in view, but I thought that it was no use saying one word about it until it could be seen whether or not lint and tow yarns could be got to set it agoing. At the present time, there are as many hand looms as work up all the yarn that the people want to put into cloth. But where these looms were made, and the price of them, it would be hard to tell. The only supposition is, that when a district became a little cleared up, some handy, ingenious weaver either made the loom himself, or superintended the making of it. A Canadian carpenter, who never made a loom before, could not do it. In my own case, when I came to the place where I now live, better than twenty years ago, I and my son went to work and made a loom, and it wrought first rate. For the encouragement of others, and to get the "twa handed wheel" started, I may mention that I made it a point to clear a hundred dollars every winter, for a good number of years. In fact, all the payment for my farm, came through the eye of the shuttle. With regard to the price of looms, so far as I remember, they were about two pounds ten shillings sterling, before I left Scotland, all made of American pine. But the making of a loom appears to me to be such a simple matter, that I will show any man the way to make one, and give all the information I can to any one, about the manufacturing and weaving of flax, for I was engaged at the trade for more than thirty years in the old country.

JAMES BUTK.

Nichole, Feb. 23, 1865.

How to Keep Hop Yeast from Sotring in Hot Weather.—Stir into the yeast as soon as it is ready, to set away after being made, one tablespoonful of common salt for every quart of yeast.

A New Way of Cooking.—M. Rabinet, of the French Institute, is said to have discovered the means of cooking without fire. He has just laid before the French Academy the result of his experiments. His recipe is: Place your food in a black pot, covered with sundry panes of glass, and stand it in the sun. The water soon boils, and the food is said to be of better flavour than if cooked in the ordinary way.

PAPER-FILLED MATTRESSES.—Paper-filled mattresses when well made, serve as admirable beddings. They should be made thus: the paper must be torn up into a basket which will not tip over. It must first of all be folded, and then torn towards one's self, in the seams, into strips—each should be torn into bits no longer than half a postage stamp. The paper should never be torn double, and each bit must drop separately into the basket. This kind of stuffing is further said to be healthy.—Once a Week.

FROZEN POTATOES.—Those who are so unfortunate as to have potatoes frozen, may find comfort in the following from the Germantown Telegraph:—"If the potatoes freeze in the cellar, don't wait for them to thaw, but throw them into a conical heap, either where they are, or in the open air, and cover with dirt, straw, shavings, old clothes, or chaff, packing tight with them, and they are safe. The cover will prevent sudden changes, which causes all the mischief. I have saved frozen potatoes in this way; it may be new to some of your readers, and may be of use to them, as it has become to me."

Markets.

Toronto Markets.

"CANADA FARMER" Office, Friday, March 10, 1865

The weather for the past fortnight has been exceedingly favourable for the season, very few days of rain and discomfort visiting us to mar the general sunshine we have enjoyed lately. The markets, since our last report, show but little change in any of the articles offered. Breadstuffs have been rather dull, except flour, which has manifested some little activity within the last few days. Transactions in this, however, as in wheat and other grains, are light, and dealers are pailily awaiting the opening of navigation to relax the stringency of shipping facilities. Provisions generally have been dull and quiet, with little doing. Butter advanced slightly within the last week, and all other articles that are scarce and dear. Hay and straw will be scarce throughout the country this spring, and corn and oats are heard from every quarter of the want of fodder for cattle.

Flour—more active. No. 1 superfine at \$4 to \$4 10 per bbl extra, \$4 20 to \$4 35, superior extra, \$4 50 to \$4 65; fancy, \$4 65 to \$4 10

Fall Wheat—Steady at 1 1/2—not much doing, selling at 90c to 94c per bushel.

Spring Wheat unchanged at 84c to 87c per bushel.

Barley steady and in fair demand, at 60c to 65c per bushel.

Oats at 44c to 46c per bushel, from teams and in store.

Rye 60c per bushel.

Wheat active and advanced, at 75c to 85c per bushel.

Hay—Market poorly supplied at \$14 to \$20 per ton.

Straw in poor supply at \$13 per ton.

Provisions—Butter—Fresh, wholesale, per lb. 15c to 21c; retail, per lb. 18c to 22c, in tubs, wholesale, per lb. 10c to 15c.

Eggs—Wholesale, per dozen, 10c to 20c; retail, per dozen, 20c to 25c.

Hams—Wholesale, per lb. 9c to 10c; retail, per lb. 10c to 12c.

Fresh Bacon—Wholesale per lb. 8c to 9c; retail, per lb. 11c.

Cheese—Wholesale, per lb. 10c to 11c; retail, per lb. 14c to 15c.

Lard—Wholesale, 11c to 12c per lb., retail, 13c to 15c.

Beef in fair supply at \$4 50 to \$5 50 per 100 lbs., 6c per lb., wholesale; 8c to 10c per lb. retail.

Cattle \$4 to \$5 ea. b.; few in market.

Sheep, by the car load, \$4 to \$5.

Lamb, by the car load, \$5, very good bring \$3 50.

Pork \$6 50 to \$7 25 per 100 lbs., usual supply.

Hides (green) lower, per 100 lbs., \$3 50 to \$4 40, dry hides, 6c to 8c per lb., cured and tanned, 4c to 5c.

Tallow 6c to 7c per lb.

Wool, 30c to 40c.

Calfskins (green) 10c per lb., dry, 16c to 18c.

Sheepskins (green) \$1 75 to \$2 00 each; dry, 16c to 18c.

Lambskins \$10 to \$15 each.

Coal, Lehigh \$10, Scranton \$8, Bituminous \$7 50 to \$8.

Wood \$4 50 to \$5 per cord.

Salt \$1 80 to \$2 per bbl.

Water Lime \$1 50 per bbl.

Potatoes in better supply at 30c to 35c per bushel retail.

Apples, \$1 50 to \$2 00 per bbl.

Ducks, 35c each.

Chickens, 25c to 30c each.

Turkeys, 75c to \$1 each; \$1 50 asked for primo birds.

Geese, 30c to 50c each.

Oil, \$2 25 per ton, or \$1 75 per cwt.

Montreal Markets, March 8.—Flour—super, per lb. \$4 50 to \$5 00, extra, do \$4 60 to \$4 75, fine, do \$4 45 to \$4 55, sup. Canada do \$4 35 to \$4 45, do Western do \$4 10 to \$4 15, No. 2 do \$3 95 to \$4 10, fine do \$3 60 to \$3 70; bag flour, \$2 45 to \$2 50. Oatmeal, per 200 lbs. \$4 60 to \$5 00. Barley, per 50 lbs. 60c to 70c. Apples, pots, \$5 00. Peas, \$5 45 to \$5 50. Pork, mess, per lb. \$19 75 to \$20 00. Ham, mess, do \$17 60 to \$18 00, primo mess, do \$15 00 to \$15 50. Beans, covered, per lb. 10c to 12c. Butter, choice dairy, do 16c to 20c, medium, do 15c to 18c; inferior, do 15c to 16c. Lard, primo leaf, do 11c. Tallow, No. 1, do 8c to 8 1/2c. Dressed Hogs, per 100 lbs., \$7 25 to \$7 50. Petroleum, per gal. 30c to 35c.—Transcript.

Hamilton Markets, March 9.—Wheat, per bushel, fall, 35c to 60c. Do, do, spring, 80c to 84c. Barley, per bushel, 65c to 75c. Oats, per bushel, 45c to 48c. Rye, per bushel, 60c. Corn, per bushel, 55c to 70c. Clover Seed, per bushel, \$7 to \$8. Timothy Seed, per bushel, \$1 50 to \$2. Flour (best fall wheat), per 100 lbs., \$2 60 to \$2 62 1/2; do. (medium), per 100 lbs., \$2 37 1/2 to \$2 60, do. (spring wheat), per 100 lbs., \$2 to \$2 25. Oatmeal, per 100 lbs., \$2 62 1/2 to \$2 87 1/2. Potatoes, per bushel, 35c to 45c. Hops, per 100 lbs., \$4 50 to \$5. Pork, per 100 lbs., \$8 to \$7. Mutton, per quarter, per lb., 4c to 5c. Hay, per ton, \$14 to \$17. Hides, green (trimmed), \$3; do, dry, \$6 to \$7.—E.V. Times.

Kingston Markets, March 8.—Flour, superfine, per bbl. \$4 50 to \$4 75, do. per 100 lbs., \$2 20 to \$2 5. Spring Wheat, per bushel, \$1. Peas, per bushel, 65c. Barley, per bush., 65c to 72c. Rye, per bush., 60c to 61c. Oats, per bush., 40c to 45c. Potatoes, per bush., 30c to 40c. Beef, per 100 lbs., \$3 to \$6. Pork, fresh, per 100 lbs., \$7 to \$8 50. Mutton, per lb., 5c to 7c. Hay, per ton, \$12 to \$14. Straw, per ton, \$8 to \$7. Clover Seed, per lb. 8c to 10c. Wool, per cwt. \$2 25 to \$2 60. Wool, per lb., 45c to 37 1/2c. Hides, per 100 lbs., \$3 to \$3 75.—Whig.

London Markets, March 9.—Fall Wheat, per bushel, 85c to 90c. Spring Wheat, per bushel, 84c to 87c. Barley, per bushel, 60c to 65c. Oats, per bushel, 43c to 46c. Peas, per bushel, 75c to 82c. Corn, per bushel 60 lbs., 66c to 60c. Hay, per ton, \$15 to \$18. Dressed Hogs, per cwt., \$8 to \$7. Beef, per cwt., \$3 50 to \$4 25. Butter, fresh, per lb., 18c to 25c. Potatoes, per bushel, 35c to 40c. Flour, per 100 lbs., \$2 to \$2 50. Hides, dry, per lb., 6c to 7c. Sheepskins, fresh off, 76c to \$2. Wool, per lb., 43c to 45c. Provisions.—Beef 7c to 10c per lb. Mutton 3c to 5c per lb. Lamb 7c to 8c per lb. Ham, per lb., 11c to 14c. Bacon, per lb., 9c to 11c. Apples, 60c to 60c per bushel. Cordwood \$2 to \$2 25 per cord.—Prototype.

Chatham Markets, March 8.—Flour, per 100 lbs., \$2 50 to \$2 63. Grain.—Wheat, No. 1 white, per bushel, 85c to \$1; do. No. 2 white, per bushel, 85c to 90c. do. red, per bushel, 80c to 85c. Barley, per 100 lbs., \$1 25 to \$1 50. Oats, per bushel, 40c to 45c. Beans, per bushel, 75c to 80c. Potatoes, per bushel, 31c to 40c. Apples, per bushel, 60c to 75c. Mutton, per lb., 4c to 6c. Beef, per cwt., \$4 60 to \$5. Pork, per cwt. \$8 60 to \$7 75. Hay, per ton, \$16 to \$17. Wool, per lb., 40c. Sheepskins, 60c to 75c. Hides, per lb., 3 1/2c. Corn, per bushel, 62c to 65c.—Planet.

Woodstock Markets, March 9.—Fall Wheat, 60c to 82c. Spring Wheat, 78c to 80c. Flour, per 100 lbs., \$2 to \$2 25. Oats, per bush., 35c to 40c. Oatmeal, per 100 lbs., \$2 75 to \$3. Peas, 6c to 65c. Barley, 60c to 65c. Potatoes, per bush., 37c to 40c. Wool, per cwt., \$1 60 to \$1 75. Apples, 3c to 6c. Hay, per ton, \$13. Wool, per lb., 35c to 40c.—Sentinel.

Stratford Markets, March 9.—Fall Wheat, per bushel, 84c to 86c. Spring Wheat, per bushel, 80c to 84c. Oats, per bushel, 40c to 42c. Potatoes, per bushel, 37 1/2c to 44c. Peas, per bushel, 65c to 70c. Barley, per bushel, 62 1/2c to 70c. Timothy Seed, per bushel, \$2 to \$3. Flour, per bbl., \$4 to \$4 25. Mutton, per 100 lbs., \$4 50 to \$5. Beef, per 100 lbs., \$3 50 to \$5. Hay, per ton, \$17 to \$20. Sheepskins, \$1 25 to \$1 50. Hides, \$3 to \$3 50. Wool, 35c to 33c. Hogs, \$6 to \$8 50. Clover Seed, \$7.—Examiner.

Guelph Markets, March 9.—Grain.—Fall Wheat, per bushel, 85c to 90c, Spring do, per bushel, 76c to 80c. Oats, per bushel, 32c to 40c. Barley, per bushel, 60c to 65c. Peas, per bushel, 75c to 80c. Hides, per 100 lbs., \$3. Hay, per ton, \$13 to \$18. Straw per ton \$4. Butter (darker), per lb., 15c. Beef, per 100 lbs., \$3 to \$4. Pork, in hog, \$5 50 to \$7 25.—Mercury.

Barrie Markets, March 9.—Flour, per bbl., \$4 to \$4 50. Fall Wheat, 75c to 85c per bushel. Spring Wheat, 70c to 72c per bushel. Oats, 45c to 48c per bushel. Peas, 75c to 80c per bushel. Barley, 60c to 65c per bushel. Hay, per ton, \$14 to \$16 50. Mutton, per lb., 5c to 6c. Beef, per cwt., \$4 50 to \$5 25. Pork, per 100 lbs., \$6 50 to \$8 75. Sheep, \$3 to \$5. Potatoes, 35c to 40c per bushel.—Examiner.

Peterborough Markets, March 8.—Flour, per bbl., \$4 50 to \$5. Fall Wheat, per bush., 87c to 90c. Spring Wheat, per bush., 75c to 80c. Potatoes, per bush., 30c to 35c. Barley, per bush., 50c to 55c. Peas, per bush., 70c to 75c. Oats, per bush., 47c to 50c. Hay, per ton, new, \$12 to \$13. Hides, per cwt., \$3 to \$3 25. Wool, per lb., 35c. Beef, per cwt., \$4 to \$5 50. Cordwood, \$1 25 to \$1 75.—Examiner.

Ottawa Markets, March 9.—Flour—Extra \$5 20 to \$5 50; No. 1, \$5 to \$5 25; No. 2, \$4. Fall Wheat, per bushel 60 lbs., \$1 05. Spring Wheat, per bushel 60 lbs., \$1. Corn, per bushel 50 lbs., 60c. Peas, per bushel 60 lbs., 75c. Oats, per bushel 34 lbs., 40c. Hogs, per 100 lbs., \$7 to \$8. Beef, \$5 to \$8. Mutton, per lb. by the qr., 5c.—Union.

Chicago Markets, March 8.—Flour, from \$5 00 to \$5 50 market inactive but firmer. Wheat, in active request, No. 1 spring from \$1 37 1/2 to \$1 38 1/2; No. 2 do from \$1 24 to \$1 24 1/2; Winter Wheat, inactive and nominal. Barley, quiet and steady at former quotations, from \$1 00 to \$1 02 in store. Oats, demand active, and market firm and advanced, from 51c to 60c. Rye, inquiry limited, and market nominal at 93c per bushel. Corn, market dull and heavy, with a decline from 73c to 75c. Dressed Hogs, market quiet and offerings light from \$13 50 to \$14 00, per 100 lbs. Live Hogs, unchanged, at from \$11 25 to \$12 50 per 100 lbs.—Times.

Buffalo Markets, March 9.—Flour, quiet and steady, from \$9 00 to \$11 50. Wheat, dull, heavy, and drooping, no quotations. Oats, inactive, from 80c to 85c per bushel. Barley, no change, at \$1 60 to \$1 55. Rye, quiet and nominal, at \$1 40 from store. Peas, quiet, at \$1 65 to \$1 75. Corn, nominal at \$1 30 to \$1 40. Dressed Hogs, quiet and nominal, \$14 25 to \$14 50 for Canada, \$15 25 to \$15 37 1/2 for heavy Western.—Courier.

New York Markets, March 9.—Flour.—Market quiet, and in some cases firmer. Superfine State and Western Flour, \$9 60 to \$9 75; Extra State, \$10 05 to \$10 25, Choice State, \$10 30 to \$10 35, Common to medium extra Western \$10 15 to \$10 40, Western trade brands, \$11 05 to \$11 75; Fancy and Extra do, \$11 70 to \$14 50; Common Canadian, \$10 to \$10 30; Good to choice and extra, \$10 35 to \$11 75. Rye flour, superfine, \$8 40 to \$8 75; Corn meal, bls., \$5 75 to \$9 75. Wheat—Market also quiet, from \$2 10 to \$2 75 per bushel. Oats, dull and heavy, at from \$1 09 to \$1 14. Barley, dull and nominal. Corn, market quiet at \$1 70 to \$1 59.

New York Cattle Market.—The live stock markets all closed unfavorably for drovers. Total of beefs, 3,763, which, following an overstocked market, in Lent, proved quite as many as could be disposed of and the advance at the opening was about lost at its close. Sheep are 1/2c lower than last week; receipts, 2,346, trade slow. Hogs, foot up 4,018, and are in moderate request at 1/2c decline. The blockade which has so long existed on the New York Central Railroad is now raised, and it is expected that stock trains will henceforth come through regularly.—N.Y. Tribune.

Advertisements.

COE'S SUPER-PHOSPHATE OF LIME

AS A MANURE FOR BARLEY.

Letter from Mr. A. Maynard, of the firm of Maynard & Co., St. Hyacinthe.

SIR—I used the Phosphate of Lime manufactured by you last summer, and am in a position to certify that it is the most valuable manure which has ever come under my notice. I put nearly 300 lbs on an arpent and a half sown with Barley, sowing both together and harrowing them over. The Barley sprouted so vigorously and maintained such a beautiful healthy appearance, that I obtained the first prize for Barley above all other corn cultivated for the parish of St. Hyacinthe. The Barley in question was sown alongside another strip of land also containing Barley, manured in the ordinary manner, and yielded in return fully fifty per cent. more. I therefore sincerely believe that Phosphate of Lime is a manure which no farmer can do without and they should all use it.

A. COE, Esq., Montreal, February 15.

A. MAYNARD.

Sold by J. Fleming & Co., Toronto, O. W., and in all the principal towns throughout Canada.

Toronto, March 15

v2-6-11

ONE DOLLAR PER ACRE.

The Canadian Land and Emigration Company (CAPITAL £250,000 STERLING.)

ARE at present selling at the above price their excellent Land, and rapidly improving soil, in the

TOWNSHIP OF DYSART, CO. PETERBOROUGH.

For information, apply to the Secretary,

C. J. BLOMFIELD, Esq., Toronto;

or to

C. R. STEWART, Esq., P.O. Haliburton, Co. Peterborough.

March 15, 1865.

v2-6-61

ONIONS,

AND

HOW TO RAISE THEM

THIS new Work contains full and most minute directions, so invaluable to a beginner, giving every step in the process for raising Onions from the seed, from bulbs, from sets, Potato Onions, Shell Onions, Top Onions, &c. Old Growers will find in it facts of great value to them, including a full explanation of the method now in most sections, and the most profitable of all, of raising Onions in hills. Illustrated with thirteen Engravings of several varieties of Onions, seed sowers, and Washing Boxes.

Single copies sent by mail, post-paid, for 30 cents. Booksellers and Seed Dealers supplied at the usual discount.

JAMES J. GREGORY,

Maichead, Mass.

v2-6-11*

GROUND BONE MANURE.

REDUCTION IN PRICES.

FINE BONE DUST, 60 CENTS PER BUSHEL; Half-inch Ground Bone, 50 cents per bushel.

On all orders over \$25, a discount of 10 per cent. will be allowed.

PETER R. LAMB & CO.

P.S.—Delivered at the Railway Station free of charge.

March 1, 1865.

v2-5-81

FOR SALE,

AT THE

GRIMSBY NURSERY, 25,000 CHOICE APPLE TREES.

ALL of the best kinds of grafted fruit, 20 varieties of which took the first prize at the late Provincial show in Hamilton.

Price 15 cents each, \$10 per 100, \$30 per 1000.

Also a general assortment of other Fruit and Ornamental Trees, Shrubs, Plants, &c. In Lawar, Diana, Hartford Profile and Concord Grape Vines. All of which will be sold as cheap as they can be bought at any reliable Nursery in Canada. Farmers, club together and send and get your trees at wholesale prices.

Descriptive Catalogues sent gratis.

WOOLVERTON & SMITH, PROPRIETORS,

Grimsby, C. W.

v2-3-21

THE TENTH ANNUAL PUBLICATION

OF

J. A. SIMMERS' Catalogue of Seeds,

OR

CULTIVATORS' GUIDE,

IS NOW READY.

GIVING this Year's Prices of all the Vegetable and Farm Seeds suitable and in use in this country, with their mode of treatment, together with accurate descriptions of over thirty of the most important Flower seeds, illustrated by Numerous Artistically Executed Engravings, and a great variety of Information, useful alike to the professional Gardener, Farmer, or Amateur.

A COPY OF IT MAY BE HAD AT THE WAREHOUSE, WEST MARKET PLACE,

[GRATIS]

BY EVERY PURCHASER OF SEEDS,

And will be sent to any person remitting two cents (postage free, to the address of

J. A. SIMMERS,

Toronto, C. W.

v2-6-21

Toronto, March 15

ROBERT M. STARK,

SEEDSMAN & FLORIST,

(FROM EDINBURGH.)

HAS brought with him a large supply of VEGETABLE and FLOWER SEEDS, which he can offer at moderate rates. Catalogues on application. A large supply of GLADIOLUS and other Bulbs and Plants expected shortly.

16 EXCHANGE BUILDING STREET, } Toronto, March 15, 1865

v2-6-11*

First Prize, Provincial Exhibition, 1864.

IF Two Horse CULTIVATOR, Two-Sectioned LAND ROLLER, the one section running behind the other and Revolving Wooden HAY RAKE taking the above Prizes are manufactured by FAKINS & ASH, Unionville, Markham.

Orders addressed to WILLIAM EVANS, Unionville Post Office, promptly attended to.

Unionville, Feb., 1865.

v2-6-11*

BRANTFORD FAIR.

THE DIRECTORS OF THE

WEST BRANT AGRICULTURAL SOCIETY WILL HOLD A FAIR

ON

Wednesday, the 5th day of April next, ON THE SOCIETY'S GROUNDS, WEST BRANTFORD,

for the exhibition and sale of Horses, Cattle, Sheep, Pigs, Seed, Grain, Roots, and Farming Implements, &c., &c.

All parties desirous of purchasing, selling, or otherwise exchanging in the productions, would do well to give their attendance, as no fees will be charged for admission.

The Grounds will be open at 7 o'clock, A.M. The Fair to commence at 1 o'clock, A.M.

By order of the Board of Directors.

DUNCAN McRAY, Secretary.

Brantford, March 15, 1865.

v2-6-21

TILE MACHINES FOR SALE.

MR. SUTTON, Professional Tile Maker, has spared no pains in making up an improved Tile Machine—the best as yet out. This machine is of simple construction; a lad 14 years old can work it. Capable of making from 6 to 8 thousand tiles per day. Warranted not to break with fair usage.

Price, \$110 with 2, 3, 4, 5, and 6 inch dies. \$120 with improved insertion dies.

For purchasers Mr. Sutton will, if required, start the machine in operation, and for a moderate charge will burn the first kiln.

He is also prepared to start Tile Works in any locality with suitable inducements.

CLAUDE P. O. CHENECAOUST, Co. PREL, } March 15, 1865.

v2-6-11*

FOR SALE.

FOUR pair of improved Berk hure pigs; price \$16 per pair, from my sow, admitted by competent judges to be superior to any sown at the late Provincial Exhibition, 1er pigs have taken the prizes wherever shown.

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Box 398, Toronto.

January 30, 1865.

v2-3-61

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January 30, 1865.

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5-11

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