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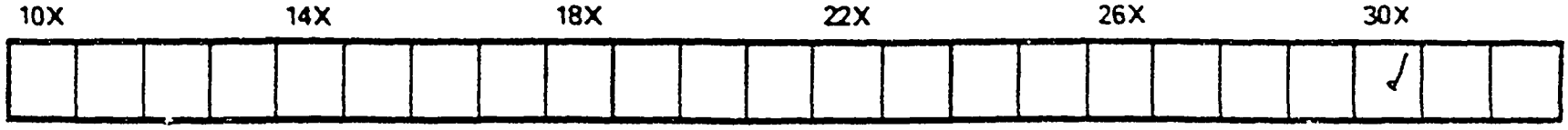


THE CANADA FARMER

VOL. I. No. 5.] TORONTO, UPPER CANADA, MARCH 15, 1864. [POSTAGE FREE.

Clean Seed.

THE maxim "whatsoever a man soweth that shall he also reap," is practically disbelieved by multitudes both as it respects agriculture and morals. Nevertheless it contains an important and immutable truth. Few farmers properly appreciate the necessity of care to have their seed grain unmixed with seeds of various grasses, chess, and pernicious plants in general. A good deal of the nonsense about wheat turning to chess, or being transmuted into oats, or barley becoming transformed into wheat, grows out of carelessness in sowing mixed seed. Chess may be completely eradicated from a farm, and the crops of weeds annually raised made "small by degrees and beautifully less," until they disappear altogether, by a little attention to cleaning the seed before sowing it. The improvements in fanning mills have now been carried to such a pitch as to leave the farmer no excuse for negligence. Modern machinery in the best grist mills for separating the wheat from all foul admixture before grinding it, tells many a disgraceful tale of carelessness, and also shows that even the cleanest wheat offered in the market has impurities and mixtures in it. When you reflect upon the wonderfully reproductive power of most weed seeds, and the rapidity with which a farm may be stocked with these pests, how can you avoid the conclusion that the utmost vigilance in this matter is the imperative duty, as it is the obvious interest, of every farmer?

A winnowing mill has recently been erected in Boston, and is described by the *Cultivator*, which is capable of separating almost any mixture of seeds, and deposits each kind by itself. As examples of what it will do the following may be cited:—326 bushels of rye were bought for coffee-making. It was seen to have some ergot among it, and was put through the mill in question. The result was, 306 bushels 37 lbs. clean rye; 21 bushels 20 lbs. heavy oats; 6 bushels 23 lbs. shrivelled rye and oats; 1 bushel small, black, worthless seed; half a bushel of peas; 2 bushels 27 lbs. of chaff; half a bushel of sticks and rags; and 8 lbs. of pure ergot, which was sold to a druggist at $1.50 per lb. The measure of the separated articles somewhat overruns the original mixture, it having been estimated by weight, and the standard for several of the articles being less than that for rye. To give other instances —4,702 lbs. of flax-seed were put through the mill; result, 173 lbs. foul seed and chaff, separated. 28,992 lbs. of California mustard subjected to the cleaning process, turned out 27,829 lbs. clean mustard, the balance consisting of foul seed, a great proportion of which was thistle seed, dust, chaff, and other refuse.

Mills, thus unerring and perfect in their operation are not accessible to every farmer, but thorough, vigilant use of the best fanning mills, washing, and other approved methods of securing purity of seed grain, cannot be too strongly urged upon every tiller of the soil. All such precautions will be amply repaid in the verification of the roverb "prevention is better than cure."

Experiments in Wheat Culture.

MR. LAWES, a celebrated English agriculturist, has recently made public the results of certain experiments tried by him in growing wheat year after year on the same land, with various kinds of manure, and without manure of any kind. Fifteen acres were set apart in 1843 for the purpose of these experiments. The field was divided into different plots. One plot was sown without manure of any kind, and the others were dressed with various artificial fertilizers, *e. g.*, superphosphate and salts of potash, soda, and magnesia, salts of ammonia, &c., ashes of plants, &c., while one plot was treated to 14 tons of barn-yard manure per acre, in addition to the mineral appliances.

Results:—1. The twentieth crop, just harvested, is the heaviest yet produced.

2 The plot which has been sown to wheat annually for 20 years without manure of any kind, but thoroughly tilled, has averaged 16¼ bushels per acre.

3 The plot which has been dressed with mineral manure has averaged 18¼ bushels per acre,—or only two bushels more than the unmanured plot.

4 The plot which received in addition to the mineral fertilizers a supply of barn-yard manure, has yielded on an average 34¾ bushels per acre. In some favourable seasons, the increase from the use of barn-yard manure was much greater than the average yield; once, when an extra quantity of dung was used, and the season was unusually favourable, the yield was 55 bushels per acre.

Lessons:—1. Tillage is manure. The word "manure" signifies "hand labour." To stir the soil, letting in air, moisture, sunshine, &c., is to manure it.

2. Thorough cultivation pays. The average yield on the unmanured plot sown year after year to the same crops well hoed, weeded, and pulverized, exceeds the average yield of land in Canada, with advantages of manure, change of crops, &c.

3. Mineral fertilizers are chiefly valuable from their combining with other elements such as common dung supplies. By liberating the ammonia especially, and bringing it into direct contact with the plant, they increase the crop.

4. Barn-yard manure made of as rich material as possible, well taken care of, and liberally applied, is the grand means to be employed for maintaining and increasing the fertility of land.

We should have liked to know the effect of barn-yard manure without mineral fertilizers, but this, from the account we have seen, seems not to have been tried. The above lessons are of the highest value, and cannot be too often called to mind by the farmer.

Wasted Wealth.

PARIS throws five million a year into the seas. And this without metaphor. How and in what manner? Day and night. With what object? Without any object. With what thought? Without thinking of it. For what return? For nothing. By means of its intestine. What is its intestine? Its sewer. Five million is the more moderate of the approximate figures which is the estimate that popular science gives. Science, after long experiment, now knows that the most fertilizing and the most effective of manures is that of man. The Chinese, we must say to our shame, knew it before us. No Chinese peasant, Eckeberg tells us, goes to the city without carrying back, at the ends of his bamboo two buckets of what we call filth. Thanks to human fertilization, the earth in China is still as young as in the days of Abraham. Chinese wheat yields a hundred and twenty fold.

There is no guano comparable in fertility to the detritus of a capital. A great city is the most powerful of stercoraries. To employ the city to enrich the plain would be a sure success. If our gold is filth, on the other hand, our filth is gold. What is to be done with the filth, gold? It is swept into the abyss. We fit out convoys of ships at great expense to gather up at the South Pole the dropping of petrels and penguins, and the incalculable element of wealth which we have under our own hand, we send to the seas. All the human and animal manure which the world loses, restored to the land instead of being thrown into the water, would suffice to nourish the world. These heaps of garbage at the corners, of the stone blocks, these tumbrils of mire jolting through the streets at night, these horrid scavengers' carts, these fetid streams of subterranean slime which the pavement hides from you—do you know what all this is? It is the flowering meadow, the green grass, it is the marjoram and thyme and sage, it is game, it is cattle, it is the satisfied low of huge oxen at evening, it is perfumed hay, it is golden corn, it is bread on your table, it is warm blood in your veins, it is health, it is joy, it is life. Thus wills that mysterious creation which is transformation on earth and transformation in heaven.

Put that into the great crucible your abundance shall spring from it. The nutrition of the plains make the nourishment of men. You have the power to throw away this wealth and to think me ridiculous into the bargain. That will cap the climax of your ignorance. Statistics show that France alone makes a liquidation of a hundred million every year into the Atlantic from the mouths of her rivers. Mark this—with that hundred millions you might pay a quarter the expenses of the Government. The cleverness of man is such that he prefers to throw this hundred millions into the gutter. It is the very substance of the people which is carried away, here drop by drop, there in floods, by the wretched vomiting of our sewers into the rivers, and the gigantic collection of our rivers into the ocean. Each hic-cough of our cloaca costs us a thousand francs. From this spring two results—the land impoverished and the water infected —hunger rising from the furrow and disease from the river. It is notorious, for instance, that at this hour the Thames is poisoning London.—*Victor Hugo.*

Directions for Flax Growing.

We are indebted to Mr. Woodside, of this city, for a circular issued by the North-East Agricultural Association of Ireland, and containing directions for the proper management of the flax crop. As spring is at hand, we publish for the information of our readers, many of whom, we hope, have already set apart a field for flax, that portion of the circular which has reference to the preparation of the soil and sowing of the seed, reserving for a future number the hints as to pulling, rippling, rotting, &c. Allowance must of course be made for the difference between the season in Ireland and in this country, as it respects the time for sowing. From the first to the middle of May is as early as the seed can be sown in Canada.

SOIL AND ROTATION.

By attention and careful cultivation, good flax may be grown on various soils; but some are much better adapted for it than others. The best is a sound, dry, deep loam. It is almost essential that the land should be properly drained and subsoiled; as, when it is long saturated with either underground or surface water, a good crop need not be expected. The subsoiling should be executed the year of the green crop, so as to be completed at least two years before the flax is grown.

The best rotation is to grow after wheat, on average soils; but in poor soils, where wheat does not succeed, it is often better to grow after potatoes. Flax should on no account be grown oftener than once in five years, and once in seven, or even ten, is considered safer.

Any departure from this system of rotation is likely to cause loss and disappointment.

PREPARATION OF THE SOIL.

One of the points of the greatest importance in the culture of flax is by thorough draining, and by careful and repeated cleansing of the land from weeds, to place it in the finest, deepest, and cleanest state. This will make room for the roots to penetrate, which they will often do to a depth equal to one-half the length of the stem above ground.

After wheat, one ploughing may be sufficient on light, friable loam, but two ploughings are better; and on stiff soils three are advisable—one immediately after harvest, across the ridges, and two in Spring, so as to be ready for sowing in the first or second week of April. Much will, of course, depend on the nature of the soil, and the knowledge and experience of the farmer. The land should be so well drained and subsoiled that it can be sown in flats, which will give more even and much better crops. But, until the system of thorough draining be general, it will be advisable to plough early in autumn to the depth of six or eight inches. Throw the land into ridges, that it may receive the frost and air; and make surface drains to carry off the rains of winter. Plough again in spring, three or four inches deep, so as to preserve the winter surface for the roots of the flax. The spring ploughing should be given some time before sowing, to allow any seeds of the weeds in the land to vegetate, and the harrowing in of the flaxseed will likely kill them, and save a great deal of after weeding. Following the last harrowing, it is necessary to roll, to give an even surface and consolidate the land, breaking this up again with a short-toothed or seed-harrow before sowing, which should be up and down, not across the ridges, or angle-wise. These operations can be varied by any skilful farmer, to suit peculiar soils or extraordinary seasons. The object is to have clean, fine soil, as like as possible to what a garden soil should be

The rotation we recommend is

RICH SOIL.	AVERAGE SOIL.	POOR SOILS
1. Grass.	1. Grass.	1 Grass.
2. Oats.	2. Oats.	2. Oats.
3. Flax.	3. Potatoes or Turnips	3. Potatoes.
4. Potatoes or Turnips	4. Wheat.	4. Flax *(on half only*)*
5. Wheat.	5. Flax *(on half only*)*	5 Hay
6. Clover Hay	6. Clover Hay.	
7. Pasture.		

* *Omit flax in next rotation on this half*

SOWING.

The seed best adapted for the generality of soils is Riga, although Dutch has been used in many districts of country for a series of years with perfect success, and generally produces a finer fibre, but not so heavy a crop as Riga. In buying seed, select it plump, shining, and heavy, and of the best brands, from a respectable merchant. Sift it clear of all the seeds of weeds, which will save a great deal of after trouble, when the crop is growing. This may be done by farmers, and through a wire sieve, twelve bars to the inch. These sieves can be had in Belfast. Home-saved seed has produced excellent crops; yet it will be best, in most cases, to use the seed which is saved at home for feeding, or to sell it for the oil mills. The proportion of seed may be stated at one Riga barrel, or three and a-half imperial bushels to the Irish or plantation acre; and so on, in proportion to the Scotch or Cunningham, and the English or Statute acre, viz., about 2¼ bushels for the Scotch acre, and about 2 for the Statute acre. It is better to sow rather too thick than too thin, as with thick sowing the stem grows tall and straight, with only one or two seed capsules at the top: and the fibre is found greatly superior, in fineness and length, to that produced from thin-sown flax, which grows coarse and branches out, producing much seed, but a very inferior quality of fibre. The ground being pulverized and well cleaned, roll, harrow, and sow. If it has been laid off without ridges, it should be marked off in divisions, eight to ten feet broad, in order to give an equable supply of seed. After sowing, which should be done by a very skilful person, as the seed is exceedingly slippery, and apt to glide unevenly from the hand, cover with a seed harrow, going twice over it—once up and down, and once across or angle-wise, as this makes it more equally spread, and avoids the small drills made by the teeth of the harrow. Finish with the roller, which will leave the seed covered about an inch—the proper depth. The ridges should be raised very little in the centre, when the ground is ready for the seed, otherwise the crop will not ripen evenly; and when land is properly drained, there should be no ridges. Rolling the ground after sowing is very advisable, care being taken not to roll when the ground is so wet that the earth adheres to the roller.

Wood Ashes Injurious.

To the Editor of The Canada Farmer.

Sir,—Under the above (erroneous) caption you have given us on page 41, No. 3, Vol. I, Canada Farmer, the communication of "A Farmer," who hails from Woodhouse, County of Norfolk. Now, Sir, I regret that your correspondent should have allowed "a large heap of leached ashes" to lie idle and wasting away, simply because his neighbour had "told" him that "*two bushels of leached ashes per acre*" had made his hay crop on a part of his meadow "very poor," "looking sickly," while at the same time, on a part of the same meadow, but where plaster was sown, "an excellent crop of hay was produced. Now, Sir, I cannot see why, "A Farmer" or his "neighbour" should attribute any injurious effects to the ashes, for the whole of their substance had been in plant growth before, and were in an improved condition as food for plants, the truth of which would have been apparent had he applied them with a more liberal hand; but the dose was so small that no appreciable good could be expected. Why, then, "A Farmer" may ask, was the crop good where plaster was sown, and why so bad where the ashes were sown? I answer because the condition of the land was such that without the aid of some fertilizer it would not grow a crop of hay; that auxiliary was contained in the plaster and not in the ashes, but that should be no reason for condemning the ashes. If a portion of the land had been left without either plaster or ashes, (which ought to have been done to make the experiment, if such it can be called, worth anything;) and if the portion so left had been in any marked degree better than the part sown with ashes, then there would have been some reason for supposing that the ashes had been ungenerous; as it is it only proves that the plaster did more good than the ashes. Although I apprehend there would be no great difficulty, yet I will not at this time attempt to explain or give any reason why the plaster acted so beneficially, but for the especial benefit of your correspondent, and to remove all fears and doubts about using his "large heap of leached ashes," I would state that I have seen large quantities of them used, always with good results. They were thrown from the waggon with a shovel, and probably about four or five loads per acre. The following extracts from a paper now before me are much to the point:—"My experience of soapers' ashes is confined to its application as a top dressing to grass land. I used to apply about *twenty loads per acre*." "My land never burned, but from the time of its application became of a dark green colour." "It has given me more, but never less, than two tons per acre when left for hay forty-two days, from May 31st to July 11th." This is but one of the many testimonies that could be adduced of the good effects of ashes, and I would advise "A Farmer," as Virgil did the farmers of his day, to be up and doing, "nor hesitate to scatter the dirty ashes over the exhausted soils."

York, Feb. 23, 1864. D

Experiments in Manuring the Turnip.

At a meeting of the Chemico-Agricultural Society of Ulster, on New Year's Day last, Mr. Robert Kennedy read a report on experiments with various manures on the turnip crop, which is worthy of attentive perusal. We give it nearly entire, together with some comments on it:—

"The soil on which the experiments were made is a sound, deep, naturally dry gravelly loam, with a gravelly clay subsoil, resting on sandstone; the previous crop, oats, after pasture; the variety of turnip, Skirving's purple-topped swede, sown 7th May, 1863, and taken up 27th November. The manures experimented with were as follows:—

Kind of Manure	Quantity of Manure per acre.	Cost of Manure per Cunningham acre	Produce per Cunningham acre.
	c. q. lb.	£ s. d.	c. q. lb.
Peruvian guano	6 1 0	4 7 0	29 3 0
Phospho guano	7 2 0	4 4 0	17 1 0
Peruvian guano	3 1 0	4 4 0	23 3 0
Ritchie's bone manure.	6 0 0		
Do. do.	12 0 0	4 4 0	29 0 0
Bone ash	12 0 0	4 4 0	8 0 0
Peruvian guano	3 1 0	4 4 0	30 3 0
Bone ash	6 0 0		
Farm-yard manure	30 tons.	8 0 0	27 9 9
Do. do.	30 tons.		
Peruvian guano	1 0 0	7 7 6	33 1 0
Ritchie's bone manure.	2 0 0		

The bulbs only were weighed.

"The crop on all the lots, except where farm-yard manure was applied, was perfectly sound; but on these lots it exhibited a considerable amount of disease. The foliage, also, was much more luxuriant on all the lots which had no farm-yard manure than on those which had. This latter circumstance indicates the tendency to decay in the crop grown on farm yard manure, whereas the numerous leaves and strong stem of all the others are symptomatic of perfect soundness in the bulb. It is worthy of remark, that there should be such a difference in the fertilizing effects of phospho-guano and the other manures experimented with, and to me it seems quite inexplicable, as it contained by analysis more phosphates than any of the other manures, save bone ash, besides the ordinary amount of ammonia generally found in this species of guano. Up to 1862, I found it to exceed in value any of the manures above named, even on various descriptions of soil. Since then the confidence of many intelligent farmers is shaken in its fertilizing qualities, and yet in the laboratory it still maintains its character.

"Perhaps Dr. Hodges, or some other of the scientific gentlemen present, could throw some light on the discrepancy which seems *now* to exist between its apparent or chemical value, and its *real* value as a fertilizer. The crop grown on it, for the first four weeks of its growth, exhibited more luxuriance, and at the end of that time had attained a greater degree of forwardness than that on any of the other lots. The plants then assumed an unhealthy appearance, with a yellowish tinge around the margin of the leaf, which appearance was never effectually thrown off. They became permanently stunted, and presented the appearance as if the manure had contained some substance inimical to healthy vegetation.

"I purpose noting the effects of the different manures on the succeeding crops.

"Dr. Hodges said the phosphate of ammonia which is produced in guano is rapidly and completely diffused through the soil, and becomes at once available for vegetable nutrition, while the soluble phosphate of lime is, especially on soils containing lime, rendered insoluble and slow in its action. Guano has also the advantage of facilitating the solution of the constituents of the soil. It would be necessary, to judge correctly of the different effects produced by the manures employed by Mr. Kennedy, that the character of the soil, and also the exact composition of the manures used, should be ascertained. This should be borne in mind in continuing the experiments next year."

Another Grass.

To the Editor of The Canada Farmer.

Sir,—After five years' experience, I can with confidence recommend you to add to your list of grasses worthy of cultivation (in the last number of your valuable paper,) "Alsike or Perennial Hybrid Clover." It succeeds well on cold moist soil, is less liable to suffer from severe spring frosts than red clover, and yields an abundance of nutritious herbage. I would recommend every farmer to try it. Verdict after trying it—*would not do without it.*

Ancaster, March 7, 1864 W. A. C.

The Turnip

To the Editor of THE CANADA FARMER.

SIR,- I enclose a slip from the leading journal of the North of Ireland, containing a report by an Irish farmer of the results of certain manures upon a crop of turnips:—

[See article headed "*Experiments in Manuring the Turnip.*"—ED. C. F.]

I would ask attention especially to his statement regarding the condition of one of these crops "for the first four weeks of its growth." It suggests to me the following inquiries:

1. Is it ascertained whether a crop requires the *same* constituents during every period of its growth?
2. Is it ascertained that it requires equal amounts of the same constituent in equal periods of growth?
3. Is it ascertained whether the same manure liberates equal amounts of its constituent portions in equal times?
4. Is it ascertained what the effect of different conditions (of soil, moisture, temperature,) is upon the speed of liberation of the constituents of manure?

I am aware that it is roughly known that there are differences in these respects; but my impression is, that in ascertaining them *exactly*, there is still much work to be done. Some of it, of course, by the chemist in his laboratory; but much, too, by the farmer who will *observe* and *register* before he *writes*. His report of experiments on the large scale is needed to complete the information required for successful scientific farming.

Perhaps the word "experiments" may terrify some of your intending correspondents. I beg, therefore, to assure them that in the sense of *trying what is altogether new*, I should expect it from no man who is not prepared to bear the expense of a total loss. But in the sense of carefully trying what has been found of value elsewhere, and giving the results *with accuracy*, there is no farmer in Canada who has it not in his power to be of service to his brethren.

ERIGENA.

Guelph, Feb. 10, 1864.

Rot Proof Potatoes.

To the Editor of THE CANADA FARMER:

SIR,—Seeing a few remarks in the second number of your valuable paper, on cultivating potatoes, has led me to give some of my experience with this much neglected crop. That potatoes degenerate is a fact pretty generally admitted. The pink-eye and many other old kinds are seldom seen in the market now. But fortunately we have other kinds as good to take the place of them. The rot has had a great deal to do with the failure of these old varieties. Colonel O'Brien, in his article, would lead us to understand that the cause of the rot has been ascertained; if so, I think the public does not generally know it. If we knew the cause we might apply some remedy; but where you see two kinds of potatoes growing side by side, one blighting, turning black, and dying in a few days, and the other continuing to grow and maturing a fine crop, you encounter a mystery not easily understood. Most of our early potatoes are subject to rot more or less. The Ash-Top, ripening first, is very liable to rot. Mexican, the best early potato we have, rots unless planted on sandy soil. Flukes rot more or less. Mountain June, a fine, large, early potato, rots very early in this locality.

If it is not intruding too much on your space, I will give the names of a few kinds that have withstood the blight, proved quite free from the rot, and matured a fine crop where other kinds have failed. The Large Rough, an early variety, a fine cropper, and of good quality; Davis' Seedling, originated in Ohio, is of the finest quality, and the best potato for garden purposes among twenty varieties that I have tested, being large, early, and suitable to all soils; Snow Ball has proved to be a fine potato; Painted Lady succeeds well in this part of the country; Garnet Chili has proved a valuable potato for farm purposes, growing very large, somewhat ill-shapen, but of good quality; Jersey Peachbloom is one of the best for light soils, growing to good size, very fair and fine quality; Gold Nugget is an English variety, growing even in size, sometimes weighing a pound, and valuable for its late keeping qualities, not being inclined to sprout, like most potatoes, late in the season. By the introduction of new kinds from other parts of the country occasionally, and the raising of seedlings, we may be well supplied with varieties free from disease to fill the place of old kinds that appear to be failing.

Cobourg. B. LOSEE.

Farm Pests.

To the Editor of THE CANADA FARMER:

SIR,- As you intend THE CANADA FARMER to be the medium through which farmers may learn from the experience of others, I will, with your permission, give some of my own practical experience on the treatment of those "farm pests," Canada thistles and Red-root.

I see in my last FARMER that "R. B.," of South Dumfries, is afraid they will "outflank" him, and well he may. If he had seen a ten-acre field covered almost totally, as I have had them, up to the chin with Canada thistles, he might well be frightened.

My treatment is to plough early in June, six to eight inches deep, harrow thoroughly, turn on all the sheep to keep clean, plough again the 1st of July, when they will be coming up, and harrow again thoroughly; plough twice in August, and harrow after each ploughing, and when I come to ridge up, the 1st of September, nothing can be seen but the dead leaves and stalks, which act as fertilizers to the young wheat. In the harvest following I can rake and bind without gloves or fear of being pricked. This plan I have used with great satisfaction and recommend it to my brother farmers. As to red-root, I would say that though your "deep ploughing" may be all right, yet to sow with fall wheat is hardly to be recommended. Red-root is only an annual, and will not grow from the roots, as the Canada thistle does, but only from the seeds, and that only in the fall Thus, in sowing with fall wheat, it comes up with it in the fall, and in the spring "outflanks" it entirely, or so much so as to make it difficult to exterminate.

My plan is (and I have had it tested frequently during the last six or seven years) to harrow thoroughly after harvest, keep the field closed until all the seed grows, then as late as is safe for frost plough deep, and sow in the spring with peas or barley, *but never summer fallow*. Continue this treatment for three years in succession, and then seed down clover with a barley crop. If, however, any odd stalks should show themselves in the clover keep it shut up until the blossom appears, and then plough it under eight inches; that will do the land good and destroy the seed; but be careful that there be no seed ripe, as it will be in bloom at the ends, and, if left too long, at the first joints, matured. D. E. H.

Middle Road, Appleby.

NOTE BY ED. C. F.—Our correspondent seems to overlook an important item in our prescription for getting rid of Red-root, viz: that very deep ploughing (at least eight inches), would throw the seeds beyond vegetating influences so that the pest *would not* come up with the crop of fall wheat. His method however seems to be a good one and would no doubt work well, if thoroughly carried out.

Flax Thread.

To the Editor of THE CANADA FARMER.

SIR,—I was very glad to see the notice which you took in your first number, of the Flax Works of the Messrs. Perine. Now if these gentlemen or any other parties could be induced to turn their attention to spinning flax thread I think it would pay them as well as render a great service to the good wives of Canada and the public at large. The article called flax thread now in use in Canada is very weak stuff and not fit for the purpose to which it is applied. In fact I have a strong suspicion that a great deal of it is not flax at all, but made out of the sea weed which is brought from the shores of India and known by the name of Jute Hemp. This article has no wear in it, and yet it spins as straight as a ribbon and takes a beautiful dye. I will not positively affirm that lots of our thread is made of this stuff, but I want to call public attention to the subject. I have an old tow bag which is very stout. It has been in use 40 years and is a good bag yet. I do not know how many Jute Hemp and cotton bags it has outworn. It has occurred to my mind that a great number of our Canadian girls would be well employed at the "twa handed wheel." It was the fashion in old times for a lot of young girls to spin the "lea lang day" in the barn singing like laverocks. While I have been writing this scrawl my wife went "ben" the house to her "kist" and brought her fine linen sheets which she spun more than 60 years ago with her own hands. I would say, let us by all means pay a little more attention to flax-growing.

JAMES BUIK.

Nichol, Feb. 29, 1864.

Potato Growing.

To the Editor of THE CANADA FARMER:

SIR,—As you wish your readers to give their experience in farm matters, I will give you a plan I have adopted for planting and growing potatoes, which I think will be approved by all who make trial of it. I plough my land in the fall very deep, say ten or twelve inches, and then in the spring I cultivate with a two-horse cultivator as deep as the horses can pull without blocking the teeth of the cultivator up. I let the land lie one or two days and then harrow, let it lie one more day, choosing, if possible, sunny days for the operation, so as to kill all weeds, and then cross again with the cultivator, then harrow as before. Having thus prepared the ground I mark my rows out three feet apart each way; one way with the plough, about four inches deep, the other way with a marker, with teeth three feet apart. I plant the setts at the corner of each square, and cover about an inch deep. When the potatoes are beginning to break the soil, I take a pair of light harrows well filled with teeth and go cross-ways of the plough marks. It will never disturb the potatoes in the least. It will kill all the weeds and loosen the soil around the setts. They will grow very fast. After the first rain I sprinkle on each hill an equal quantity of ashes and plaster of Paris, then loosen with the hoe. I next cultivate with a one-horse cultivator each way in the rows, and then about a week after, hill up with a double mould-board plough, always making the hills a little flat on the top. I choose large potatoes for seed, and cut them in two sets, and plant two in each hill, which I find to be the best, as I have tried all plans. The more sets you put in a hill the more small potatoes you will have. I have raised potatoes in this way for five or six years, and have always had abundant crops.

Aldershott. JAS. R. IRELAND.

Advantages of Draining.

To the Editor of THE CANADA FARMER.

SIR,—I see in your number of February 1st, an article entitled, "The Prime Principles of Farming," the first being "The ground ought to be kept dry." But it does not state in what way it should be kept dry or which is the best way of keeping land dry. I conclude, however, that it is meant to be kept dry by under-draining. A few remarks from one who has done some under-draining may not be unsuitable for the columns of your very valuable paper. In the first place, a field thoroughly under-drained will always be moist, but never so soft as to prevent a team of horses going on to it to plough, thereby giving the farmer the great advantage of getting on his land to work at any time after the frost is out.

I under-drained a piece of land in 1860, putting the drains about twenty feet apart; it was a piece of land I usually kept in hay, as I never could go on to it in time in the Spring to get it ploughed till it was too late for the crop to mature properly. The Spring of 1861 was a very wet one, yet I could go on to that piece of land to plough when I could not go on to the dryest piece of land on my farm. The oats which I sowed on it were fully six inches higher than those in the field next to it. Secondly - No matter how dry the season may be, the land will never become baked, and can be ploughed at any time during the summer. Thirdly—In consequence of being able to get on to the land so much earlier than undrained land, the farmer has fully two weeks more time in which to do his Spring seeding, and the Spring time in this country every farmer will acknowledge is too short to put in all his seed properly. In a wet season it is next to impossible to get it in in anything like a proper manner. For these reasons, I subscribe myself,

AN ADVOCATE OF UNDER-DRAINING.

York Township, Feb. 26, 1864.

LODGED GRAIN.—Lodged grain is an evil. Always remember that lime and salt stiffen the straw. Harrow your lime in with your grain, and sow your salt, or as soon as the last ploughing is done. Your straw will be the brighter and the harder, and your grain the better, as well as a nice increase of bushels. John Johnston, the noted New York farmer, says he applied, in 1814, two hundred bushels of lime on two acres, before sowing the wheat, and it was a magnificent crop—over fifty bushels to the acre. And he says he can see the effect of the lime to the present day.—*Valley Farmer.*

Popular Breeds of Hogs.

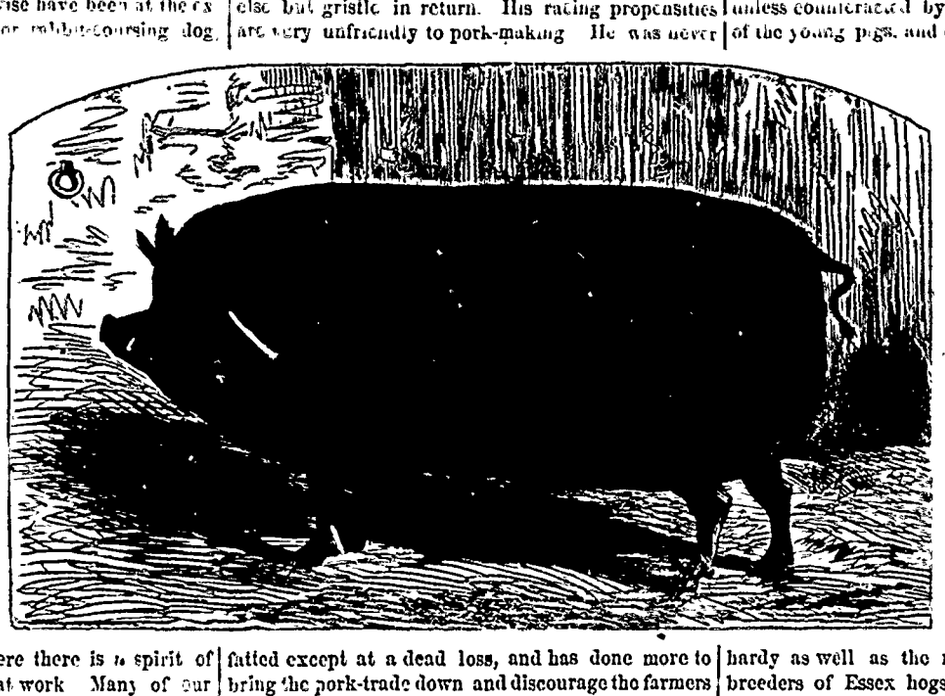
All our varieties of swine have descended from the wild hog, a creature as different from his pork and bacon-producing progeny as can well be imagined. The wild boar is everything almost that a pig raised for meat and profit should not be:—unprolific, of slow growth, thick-skinned, deficient in loin and ham, coarse in hair, large-boned, and as for his flesh, it has been well said, it is "much praised, but rarely eaten." In texture and flavour the flesh of the wild hog is as different from that of the domesticated animal as can well be imagined. Much attention has been directed of late years to the improvement of every species of farm stock, and in no direction has progress been more marked or success more triumphant than in that of the domestic hog. By judicious crossing and careful breeding a complete revolution has been brought about in the appearance, quality, and even habits, of this animal. The old English hog, generally yellow-white in colour, sometimes spotted with black; a coarse and ugly brute, though hardy, prolific and sometimes with high feeding reaching a great weight, has been almost extinguished in the old country, and now every county has its favourite breed which is cherished with high favour, and exhibited with just pride. Great emulation exists even among British labourers, in the production of the finest specimens of the porcine race. In some localities, there are periodical pig-shows at which prizes are given for pigs belonging to working men, with rules that exclude shop-keepers and small tradesmen, as well as the entire body of farmers, both proprietor and tenant. The West Riding of Yorkshire is the theatre of the keenest competitions for pig-rearing fame, and a pig-show in that region is said to be a spectacle well worth going far to see. A row of hogs of fine build, in first rate condition, as white as soap and water can make them, stretched on beds of clean straw, awaiting inspection and award, and often puzzling the judges how to decide the question of superiority, while the respective owners and their friends and neighbours hold animated discussion and wait the issue in eager suspense, altogether makes up a scene of no little interest, while the practical results have been most beneficial in various ways. Not only has a very general improvement of this species of stock been brought about but many weavers, wool-combers, and artizans keep a good pig in the sty, who would otherwise have been at the expense of keeping a fighting or rabbit-coursing dog, or mayhap a lot of game fowl for cock-pit purposes. Good flitches of home-fed bacon and large well-cured hams adorn the cottage walls and supply the family table with many a relishing meal. Money is saved to buy fine young sows *with a pedigree*, and those who cannot do this will save up their guinea for the use of a prize boar for their common sow, and gradually work up her progeny to a high pitch of excellence.

We should like to see more of this spirit manifesting itself among the farmers of Canada. We have referred to the case of the British peasantry whose earnings are extremely small in the great majority of instances, to show what can be done even in straitened circumstances, where there is a spirit of improvement and emulation at work. Many of our farmers plead poverty as a reason why they cannot buy improved animals for breeding purposes. This may, in many cases, apply so far as the larger descriptions of stock are concerned; but it is within the power of every industrious farmer to improve his breed of pigs if he will. There is plenty of choice stock within reach at moderate prices, and we know of several enterprising pig-breeders who complain that they meet with very little encouragement in this branch of agricultural enterprise, so limited is the demand for improved hogs. After importing valuable animals at great expense, their neighbours will drive their sows a considerable distance to be served by a wretchedly coarse boar at half a dollar, rather than give a couple of dollars or so, for a service to be had at their own door, that would treble the value of a single litter besides laying a foundation for the permanent improvement of their herd of swine. Meantime what wretched caricatures of the genus "Sus" do we often meet with, wandering the highways, breaking down fences and always managing to intrude themselves just where they are not wanted. We present above a cut which every candid reader must acknowledge to be a faithful likeness of the animal he has often met in his travels up and down the country.

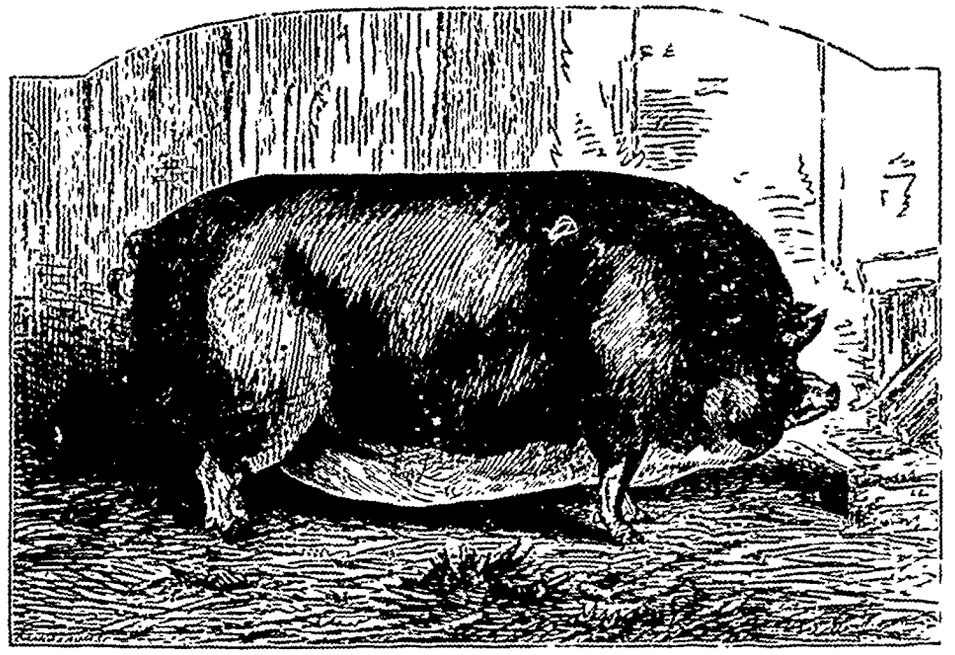
We are ashamed to say that this must be adduced as the first on the list of *popular breeds of hogs*. It is popular in the sense of being widely-diffused, just as we speak of popular errors and popular delusions, of both which, by the way, this "critter" is an example. We must suppose moreover, that this breed is popular in the sense of being generally esteemed,—else why is it so prevalent? As for its name, it is variously known as "land-pike," "racer," "alligator-hog" "shingle pig," and —must we say it,—in some sections of the American Stock Market these pigs are styled Canadian runts! This notable animal, sporting so many aliases, will consume an almost endless amount of corn or peas, and afford little else but gristle in return. His racing propensities are very unfriendly to pork-making. He was never fatted except at a dead loss, and has done more to bring the pork-trade down and discourage the farmers from raising pigs for market, than he ever did towards feeding the hungry or increasing the returns from productive industry. Ugly as sin itself, what a degeneracy he exhibits from the model pig of the creation which his Maker pronounced "good," and which was included in the truthful declaration, "He hath made everything beautiful in his time." This brute may be seen in perfection by any California-bound traveller as he crosses the Isthmus of Panama, and if he must exist anywhere, let him be doomed to poke his horrid nose for ever into the slimy mud of a tropical swamp and inhale its reeking malaria!

We turn with a sense of relief from the mongrel, worthless animal just described, and would now call attention to some breeds that are deservedly popular among intelligent and experienced breeders of farm stock. We confine ourselves to such varieties as have been tested in this country, and can be readily had by all who wish to become possessed of them. It may be as well to state here that pigs are divided by farmers and butchers into three classes, viz.: large, medium or middle, and small, which are represented by something like the following weights: Large breed, from 600 to 1,000 lbs.; middle breed, from 400 to 500 lbs.; and small breed, from 200 to 300. There are improved varieties in all these classes that may be selected according to the taste and circumstances of the breeder. Our next illustration represents a handsome and fat specimen of the Improved Essex breed.

This variety is one of the best of the small breeds, and justly celebrated as producing pork and hams of the first quality for fashionable markets. It is very valuable as a cross for giving quality and maturity to pigs of a coarser kind. The original Essex pig was a very different animal from his improved progeny. The late Lord Western made the first improvement by the introduction of Neapolitan blood, and the celebrated Mr. Fisher Hobbs followed up his lordship's good beginning, until the present excellencies of the breed became established and recognized. Ever since 1840, when a boar and sow bred by Mr. Hobbs carried off the first prize in their respective classes, the Improved Essex breed has taken a high position in the estimation of all competent judges. Early maturity and an excellent quality of marbled meat are the chief merits of this breed. With age they attain considerable weight, and often make 500 lbs. at two years old. But they are most profitable fatted at half that age or less, when they readily make porkers of 200 to 300 lbs. The chief defect of this breed is an excessive aptitude to fatten, which, unless counteracted by exercise, retards the growth of the young pigs, and diminishes the fertility of the breeding sows. Indeed, an Essex sow cannot be depended on for a large litter unless she is in low condition. A prejudice has in some quarters arisen against them from ignorance of this fact. This breed is quite hardy in this country, standing the winter well, and may doubtless be considered at the head of the small breeds. The Suffolks, a well-known white variety, are preferred by some to the Essex, chiefly, perhaps, from the colour. This is, however wholly a matter of taste, since the Essex, when scalded and cleaned, is as white as any other hog. These two breeds are about the same size, and have many characteristics in common, but our impression is that the Essex is the more hardy as well as the more profitable. The chief breeders of Essex hogs in this country are Daniel Tye, of Wilmot, J. Cowan, M. P. P. for Waterloo, Thomas McCrae, of Guelph, and Henry J. Boulton, of Humberford.

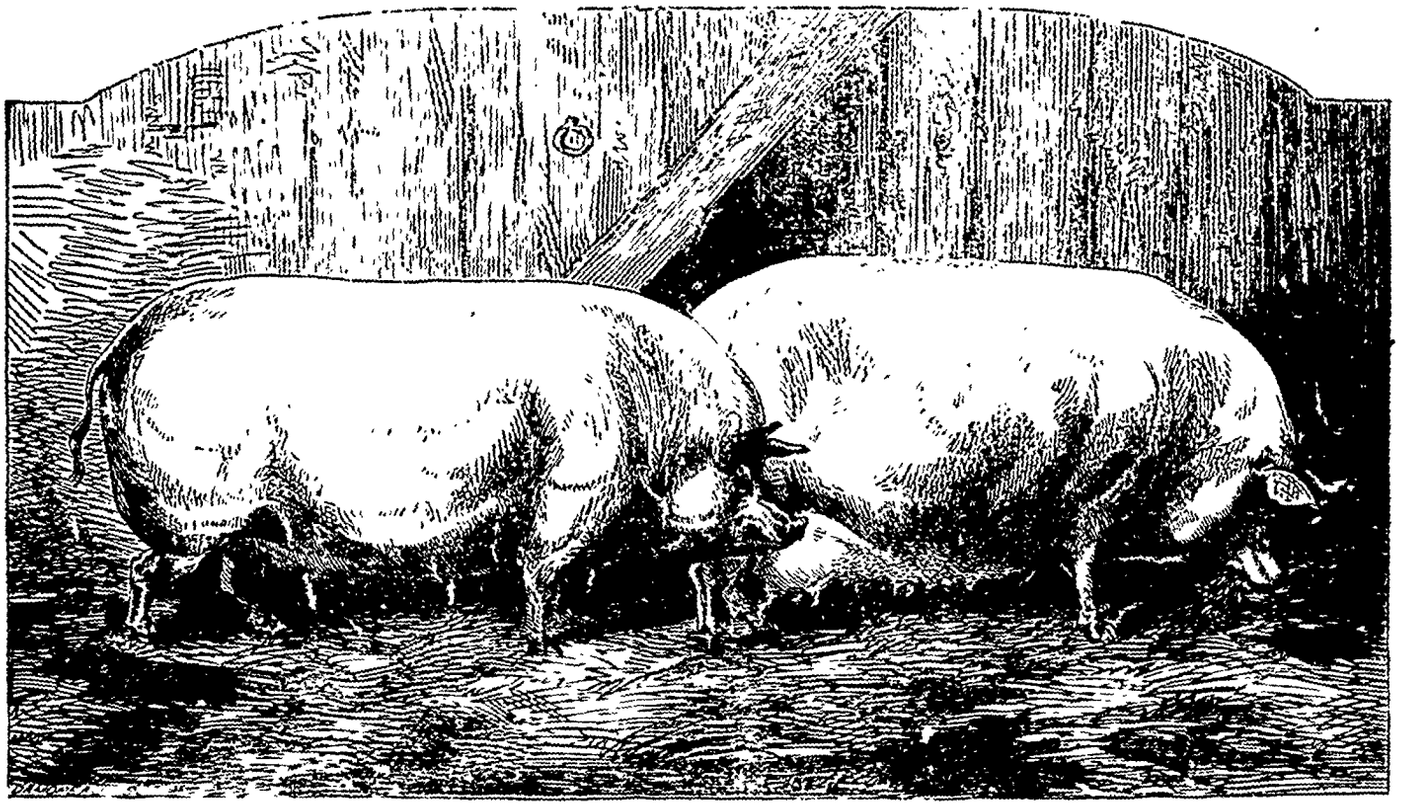


We now present an illustration of a medium or middle-sized breed of hogs—the Berkshires. There are two classes of Berkshires, the large and small breeds. The small-bred Berkshires are about the same size as the Essex and Suffolk. The large Berkshires are without question the most valuable variety of medium-sized pigs we have. The improved Berkshire is traced back to the herd of Lord Barrington, who died in 1829. Since his day, Mr. Sadler, of Bentham, Mr. Hewer, of Southampton, and others have become eminent as improvers of this breed A first-class Berkshire pig should be well covered with long, black silky hair, so fine and soft that the impossibility of "making a silk purse out of sow's ear" might be regarded as contradicted by it. There should be some spots and patches of white upon the carcase, the rule being "four white feet, a white spot between the eyes and a few white hairs behind each shoulder." Berkshires have been made upwards of 800 lbs. weight, but the usual average is about 400 lbs. The general opinion of feeders is that they pay best at moderate weights. The Berkshire does not fatten so quickly as the Essex, but he is of peculiarly vigorous constitution, and is justly celebrated as a bacon hog. He is very valuable as a cross with coarser breeds. Among breeders of this variety in this country we may mention F. W. Stone, of Guelph, R. L. Denison, of Dover Court, Toronto, and T. Penton, of Paris. All these gentlemen have distinguished themselves as prize-takers for pure-bred Berkshires, and some of the specimens exhibited by them would be hard to beat.



As our last illustration of the subject treated in this article, we give a splendid cut of a pair of Yorkshire hogs. Yorkshire stands in the first rank as a pig-breeding county in England, and possesses in her own right a large, medium, and small breed of hogs, all white, and very justly celebrated all the world over. The large Yorkshires are said to be equally valuable for making large or small bacon, that being only a matter of age. As porkers of a few weeks old they are unsurpassed, their flesh being very tender, rich and well-flavoured, though not so fat as the smaller breeds. Their skin is fair and white, and Yorkshire pork is much esteemed on this account for boiling. Mr. Harrison, of Heatland Norris, and Mr. Wainman, of Carhead Farm, stand high among the Yorkshire breeders. This variety is very widely diffused, has attained a permanent character, and is deservedly celebrated. The medium and large Yorkshires reach weights of from 400 to 800, or even 1,000 lbs. As remarked in reference to the Berkshires, however, these pay best at moderate weights. Among those who keep this variety in Canada we may mention Geo. Miller, of Markham, C. A. Jordison, Sidney, and J. P Wheeler, Scarboro'.

Other good breeds of pigs might be described did our space permit, but we have specified the leading, and as we believe, the best varieties, and trust all our readers who keep swine will seek from one or other of these sources to improve their herds. Whatever excuse there may have been heretofore for neglecting this description of farm stock, it is now removed by the brightening prospects of the pork trade in Canada.



☞ We clip the following from the *Scientific American*.—We do not generally find room to record all the achievements of our agricultural friends, in the way of huge vegetables, prize animals, &c.; but, for once, we are compelled to confess ourselves unable to do justice in type to the most enormous hog we ever set eyes upon. This beast looked (he is dead now) more like a polar bear than a pig, his live weight being 1,355 pounds, and his age four years, his back was waist high to an ordinary man, and his length nearly six feet. His ham would not go into a barrel, and must have been a heavier load than any ordinary person could stagger under. Two tusks curved gracefully outward from the under jaw of this hog, and would have been very long, no doubt, if they had not been broken off. The hide and hair of this ponderous animal alone remains for mankind to gaze upon, his flesh is scattered among the "gentiles." In the *American Agriculturist* office his swineship's stuffed effigy may be seen, at morning and at evening, gazing at the California pear, a fit companion in size for him This big pig was raised by Mr. Benham, of McLane County, N. Y., and is part Berkshire and part Byfield stock.

The Dairy.

Cheese Factories.

These are establishments in which cheese-dairying is prosecuted on a large scale. They are of very recent origin, the first having been started only some ten years ago, by Jesse Williams of Oneida Co., New York. Practical dairymen know very well that the process of converting milk into curds and preparing them for the press is of such a nature that with proper facilities, it is scarcely more work to attend to the milk of fifty cows than the milk of ten and comparatively little more trouble to attend to that of five hundred instead of fifty. Improving upon this circumstance, the individual above-named, conceived the idea of making up his neighbours milk into cheese along with his own. The plan was found to work so well that he increased his facilities so as to manufacture the milk of four hundred cows or more. The advantages of this plan were so evident that the number of these establishments quickly increased until there were in operation last season no fewer than 37 cheese factories in the single county of Oneida, each making up the milk of 200 to 1000 cows, and altogether employing the lacteal product of 16,450 cows. In the adjoining county of Herkimer, long celebrated for its excellent cheese, there are several of these establishments in operation. In Cortland County one has been lately erected large enough to require 1,500 cows. Nor are these factories confined to the State of New York. They are being rapidly introduced throughout the entire North. Ohio especially is going into the new method with great vigour. Dairying may be said to have undergone a revolution among our American cousins, the new system being already widely diffused, and every where regarded with much favour. We do not change old established customs and practices with quite the same facility as our American neighbours, but already a pioneer cheese factory is announced as just ready to begin operations in the township of Norwich, and it will doubtless be in full blast by spring. We also hear of others being in contemplation. Dereham, the banner dairy township of Canada, will not consent to be left behind, and we doubt not that soon a number of these institutions will be actively and successfully at work among us.

When it is proposed to commence one of these factories in a given locality, a number of farmers who are neighbours, and feel inclined to promote the undertaking, meet together for consultation. Sometimes an association is formed, the members agreeing to put their dairy material into a common stock, the business being managed by an executive committee and the factory carried on by a superintendent or agent. In other cases, some one individual proposes to erect the necessary buildings and fit them up on his own account, binding himself to manufacture and take care of the cheese at so much per pound; while the rest enter into a contract with him to supply the milk of the requisite number of cows for a certain term of years. The milk of about 400 cows is believed to be the smallest quantity that will yield profit enough to afford a living to a manufacturer who makes cheese-dairying his sole business, while the milk of 1,000 cows can be manufactured at comparatively little extra expense.

It is of course desirable that a cheese factory should be located in as convenient and central a position as possible, as it respects the parties from whom the supply of milk is to come. Another important matter is an abundant and unfailing supply of pure, cool, spring water. It is deemed an advantage to have a considerable stream passing under the manufacturing room, so as to carry off all refuse matter, and keep an air of sweetness about the premises. Where practicable, the manufacturing room is so located as to have a bank on one side, several feet in height, and forming a road on which the teams drive and deliver the milk through receiving windows, whence there is a convenient descent to the weighing and measuring apparatus, and thence to the vats. Where the bank is lacking, a platform must be built for the purpose. The buildings necessary for a cheese factory are a manufactory or place for making the curd, a press room, dry house or curing rooms, and an ice-house. At one of the establishments recently erected near Rome, N.Y., and where the milk of 600 cows is used, the buildings are of the following dimensions: Manufactory, 26 by 26 feet, story and a-half; press room, 39 by 12 feet; dry house, 26 by 100 feet, two stories high. These buildings are of frame, covered with rough siding and shingled, but not lathed and plastered. They cost, with fixtures, about $2,500. One of the best arranged factories is the new one in Cortland County, already mentioned, and designed to consume the milk of 1,500 cows. We quote a brief description of it, as furnished by the superintendent, Mr. Smith:—

'The manufacturing room is 32 by 40 feet, and contains seven vats, 15 feet long by 3½ feet wide, of six hundred gallons capacity each. There are two places by which the milk can be emptied, so as to keep the waggons waiting the least possible time. The milk is *weighed* instead of being measured. Adjoining the work room is the press room, 50 by 16 feet; there are ten presses on each side. The sink containing the curd stands on rails, so as to be run into the press room opposite the presses. There is a space of four feet behind the sink, so the hands can work the curd and not interfere with those who are dipping it out.

"The engine, of eight-horse power, stands in a separate building. There is a (horizontal) main steam pipe, six feet from the floor, to which are attached six steam pipes connecting with the vats; the hands can in this manner go around either end of the vats.

"The buildings are on a level so that the cheese can be run from the press room on trucks into the curing house, between the counters. This obviates all carrying of the cheese.

"The back side of the work room is built of masonry, and the water, fifty feet fall, brought into a large reservoir directly under the platform upon which stand the receiving cans. Under the work room is laid flagging, over which flows a stream of water to keep it free from any matter that might collect there if the soil under the building was soft.

"The whey vats are a long distance from the buildings, for we believe the milk will absorb any impurities of the atmosphere. Hog pens are dispensed with entirely, for past experience proves to us that if cheese is properly made there is not enough nourishment left in the whey to make it profitable for pork raising.'

In the factory just described, and in many others, steam is used for warming the milk and cooking the curd. Sometimes only a steam boiler, set in brick work, and provided with distributing pipes, is used, but in others there is an engine usually from four to eight-horse power. There are, however, vats contrived with a heating apparatus attached to them, which many prefer as cheaper, unattended with noise, and free from risk of explosion and other accidents. Ralph's Oneida Vat and Heater is highly spoken of by those who have tried it. Very simple presses are employed in most of these establishments, consisting of a stout iron screw with the necessary attachments for holding it in position, and receiving the hoop containing the curds. The screws are turned down on the cheese with an iron lever from time to time until the needed amount of pressure is obtained. Some are, however, adopting a species of press that is of a self-acting nature and does not need watching. The screw is, however, cheap, strong, and requires but little space. Wooden hoops or moulds are in general use; but a firm in Utica have recently invented a metal hoop which is thought to be superior to the wooden ones. Tables and racks of convenient height for handling the cheese are arranged in the curing house. On these the cheese is placed when it leaves the press, and there it remains until the curing process is finished. The cheese rack described in a former issue of this paper is much used. Without going into minute details at present, and reserving for future consideration the advantages and disadvantages of cheese factories, we close this article by quoting an estimate of the cost and profits of one of these establishments, as furnished by the Secretary of the Maine Board of Agriculture in his report for last year:—

"The factory charge for manufacturing cheese is one cent per pound; rennet, salt, bandage, annatto and boxes, as well as the carting of cheese to market, being charged to the association and paid by each dairyman in proportion to the quantity of milk furnished during the season. All other expenses, including the care of the cheese while curing, &c., is paid by the manufacturer.

"To run a factory using the milk of six hundred cows will give constant employment to at least four persons, half or more of whom may be females.

"At one of the factories near Rome, New York, in 1862, the price paid for the services of a man and woman, who were the foremen of the establishment, was one dollar each per day and board; others received from two dollars to four dollars per week; and I was informed that the actual cost of manufacturing the milk of six hundred cows for the season was seven hundred dollars. It is presumed this sum did not cover interest on capital invested for buildings and fixtures, but was the amount paid out for labour, board, fuel, etc.

"From these data it will be easily estimated what amount of money can be realized from the business of manufacturing. Allowing that the 600 cows produced on an average 400 pounds of cheese each, there will be in the aggregate 240,000 pounds. The cost of a well-constructed factory will not be far from $3,000.

We have, then, 240,000 lbs. at one cent -		$2,400
Cost of running factory - - - - - - -	$700	
Interest on buildings, &c. - - - - - -	180	
Annual wear and tear, or depreciation of property - - - - - - - - - - -	200	
		1,080
Profits - - - - - - - - -		$1,320

Statistics of Cheese Factories.

The following statements are from reports made at the late Cheese Manufacturer's Convention at Rome, Oneida Co., N. Y.:—

Alfred Buck's Factory, Vernon, Oneida County.—Number of cows, 470, for six months; 145,695 pounds cheese made; 10 10-100 pounds milk made 1 pound dry cheese; cheese sold for 13 cents per pound; the cost of boxes, bandage, salt, &c., 40½ cents for 100 pounds; price charged by cheese-maker (he furnishing his own help) for making cheese, $1 per 100 pounds—making whole cost $1 40½.

Williams, Adams & Dewey's Factory, Hampton, Oneida Co.—Number of cows, 350; pounds of milk, 976,378; pounds of cured cheese, 95,959, sold for $12,279.73; 10 pounds 2 ounces milk made 1 pound cheese; price of making cheese, at $1 per 100 pounds, $959 59; incidental expenses, $386 92; total, $1,346 51.

Whitesburo' Factory, Oneida County.—Number of cows, 650; eight months milking; number of pounds of milk was 2,122,855; number of pounds of cheese, 207,313; sold for 12 cents and 88-100 per pound. Thirty cords of wood, used costing $90; 3 tons of coal, costing $24. Expense of bandage, salt, boxes, &c., 45 cts. per 100 pounds; shrinkage of cheese 4 per cent.

Clark's Factory, Vernon, Oneida Co.—Number of cows (not reported;) pounds of milk, 955,915 for four months; number of pounds of cured cheese, 101,694; number of pounds of green cheese, 107,083; 9.399 pounds of milk for 1 pound of cured cheese; expense of boxes, &c., 40 cents per 100 pounds cheese.

Miller's Factory, Constableville, Lewis Co.—290 cows; 871,515 pounds milk; 100,089 pounds cured cheese. Net sales of cheese, $11,011.64; 9 7-10 pounds of milk for 1 pound of cured cheese—the amount of shrinkage was 6 17-100 per cwt.

Deerfield and Marcy Factory, Oneida Co.—700 cows; 1,949,215 pounds of milk: 193,335 pounds cheese; 10 82-100 pounds of milk, 1 pound of cheese; cheese sold for 13 611-1000 cents per pound, delivered at Utica.

Lowerills Factory, Lewis Co.—600 cows; 1,763,934 pounds milk; 172,162 pounds dry cheese; shrinkage 8,754 pounds; cheese sold for 13 7-10 cents per pound; cost of bandage, boxes, &c., 43 cents.

Georgetown Factory, Madison Co.—435 cows; 1,538,204 pounds of milk; 156,911 pounds of cheese; 9¾ pounds of milk for 1 pound of cheese; shrinkage 3¾ per cent.; cheese sold for 12½ cents per pound.

The Breeder and Grazier.

The Durham or Improved Short-Horn.

This invaluable breed of cattle has for many years obtained a world-wide reputation, following the tract of agricultural improvement in all countries, and adding materially to the wealth both of individuals and of nations. The breed did not originate, as is commonly supposed, in the County of Durham, but is unquestionably of Dutch descent. Upwards of a century ago it was the practice of many graziers along the eastern coast of England, occupying the richest pastures of that country, to make trips to Holland and select there the best bred stock with a view of improving their own herds. We are mainly indebted to Sir William St. Quinton, of Scampster, and the Dobinsons, for the first great changes effected by their importations and judicious crossings; and to these gentlemen it may be said we owe the present improved breed of short-horns. Much had been done in the way of improvement, particularly in the Valley of the Tees, before any trust-worthy record of pedigrees was published.

Since the appearance of the bull "Hubback," calved in 1777, with which the *Herd Book* commences, many breeders in the County of Durham, on the banks of the Tees, seeing the good effects of proper selections, and the improvements made on their own stocks by importations from Holland, were led seriously to turn their attention to the new breed, now first known as "Short-horns," a name given from the animals being shorter in the horns than any other large breed. The appellation of "Teeswater," or "Durham" breed, was acquired from their having been first improved in this part of England. The first great step of the breeders in these districts, in improving the breed was by selecting bulls and cows of the most perfect form and symmetry, with fine bone; while the object of the Lincolnshire and Yorkshire breeders was the selection of large animals. From this cause, the Short-horns on the Tees obtained pre-eminence over those of other parts of the country. Among the most distinguished improvers of this breed the Messrs. Charles and Robert Collings occupy the foremost rank, who did more to develope its peculiarities and good qualities than all the breeders who preceded them; their famous bull "Comet" sold for a thousand guineas, and their stock generally, whether hired or sold, fetched very large prices. At Charles Colling's sale in 1810, seventeen cows, seven heifers, five heifer calves, eleven bulls, and seven bull calves, in all forty-seven animals, were sold for £7,115, averaging upwards of £151 each. At Robert Colling's sale in 1818, thirty-four cows, seventeen heifers, six bulls, and four bull calves, in all sixty-one animals, sold for £7858, or near £129 a piece. In 1810 the well-known herd of Earl Spencer, including bulls, cows, and calves, averaged £69 each. More recently Mr. Bates's sale at Kirkleavington, including all ages fetched £67 each; and in 1823 Lord Dacre's averaged £150 a-piece. Coming down to within the last half-dozen years, we find that the average price of well-known herds including aged animals down to calves ranged from £50 to £81 each. Col. Townley sold his bull, "Master Butterfly," to a Society in Australia for 1,200 guineas!

These prices sufficiently indicate the high value placed upon the breed. A still more extraordinary estimate is placed upon certain families of short horns; and the names of particular breeders, as those of Bates, and Booth, and Townley, confer a high market value upon stock descended from their herds. Each of these families has certain permanent characteristics which by careful breeding are transmitted from one generation to another. A brief review of the history of the "Duchess" tribe of Short-horns will afford an illustration. More than half a century ago, when Mr. Charles Colling's herd was sold, a young heifer named "Duchess" was bought by Mr. Thomas Bates, of Kirkleavington. From her descended a tribe of Short-horns known as Duchesses, which are believed to possess all the leading merits of the breed in an extraordinary degree. In particular, they are possessed of a remarkably soft and silken touch, of abundant hair and other indications of vigour,—of most symmetrical form, great and equal breadth of back, well-arched ribs, and prominence and width of bosom. It is not only in the pure bred Duchesses that this extraordinary merit appears, but whenever a cross of the same blood has been given it appears to have unusual influence. This is one of the results of what is called in-and-in breeding. Animals which have inherited again and again in the course of their pedigree the qualities which relationship in blood has conferred in common, possess those qualities much more energetically than others do in whom they are observed for the first time. A cross bred run may have a very desirable coat upon his back, and a very well made carcass of mutton within that coat, but it is exactly a toss up whether his progeny acquire the character of his sire or that of his dam. If sire and dam for generations back have exhibited constancy and uniformity of character, then that character is certain to reappear in their offspring, which in his or her turn will possess still greater power of transmitting good tendencies to the following generation. It is thus that not only in the Duchess blood, but in other tribes descended from the Kirkleavington herd, we have as the result of Mr. Bates' resolution, patience, skill and constancy, qualities which reappear in generation after generation, until an animal may now be safely characterized as good if known to be of Bates' blood. In this breeding from the most approved types of the same family, care must of course be exercised not to push this system too far, so as not to endanger the constitution and procreative power of animals. It is well known that when evils of any kind are inherited, as a tendency to disease or weakness of any kind, breeding in-and-in will intensify, and hand that down with as much certainty as any other quality; but the natural law of breeding, which obtains amongst gregarious animals, where the strongest sire is the father of the herd or flock, to the almost entire disregard of previous natural relationship, is a safe one to follow. It is natural law of this kind that gives to particular herds and flocks, when they have long been under the control of one man, their uniformity of character from year to year. The thing is as true in flocks of sheep as in herds of cattle; and Mr. Webb's flock of Southdowns, which has only been recently scattered by the auctioneer to all lands, will no doubt perpetuate and extend the influence of his skill and character just as those of Mr. Bates are felt on both sides of the Atlantic at the present day.

Of the adaptation of the Shorthorn to the climate, pastures, and markets of Canada, we have already sufficient evidence in the trials that have been made by a number of enterprising agriculturists in different sections of the Province. The late Hon. Adam Fergusson was among the first to introduce the Duchess blood, of the superior excellence of which he had a high appreciation. The names of Wade, Miller, Snell, Stone, Hodgskin, &c. are familiar to our readers in connection with this important department of stock farming. We trust that as our financial prospects brighten, such enterprise will receive a more ample reward. For early maturity, weight and symmetry of carcases and aptitude to fatten, the modern Short-horn may, perhaps, be affirmed to be without a rival. We say this without the least desire to disparage other breeds, of whose excellencies and adaptations we shall take occasion to speak hereafter.

Large Six-year-old Steer.

To the Editor of THE CANADA FARMER.

SIR,—As you invite correspondence on everything connected with farming, I venture to trouble you with the dimensions of a six-year-old steer I am now feeding:—

Height, 6 feet 3 inches.
Girth, 8 feet 11 inches.
Length, 6 feet 4 inches.

On comparing his size with that of those shown at Smithfield, as given in your first number, you will see that he girths nine inches less than the largest of them, but is nine inches longer. He will require ten or twelve months more feeding; and if he gains at the rate he has done the past four months, he will by that time girth several inches more than the largest of them. Good judges estimate his weight at present at from 2,700 to 3,000 lbs. Could you or some of your readers give the rule for computing the weight of animals from their measurement?

A. S. MILLIGAN.

Clarke, March 7th, 1864

Production of the Sexes at will.

In our second issue, we referred in a brief paragraph to the speculations of Professor Thury, of Geneva, on the above subject. We are now enabled to give a somewhat more particular account of the matter. The Professor believes he has discovered the "Law of the Production of the Sexes," and his theory may very properly be labelled, "Important if true." He was guided to his conclusions partly by analogies furnished by the natural history of the Bee and of Poultry. It has been observed, he says, that in bees the fecundation of the ovum, when it takes place early, results in the production of workers (females), while if it be retarded beyond the 22nd day all the eggs deposited are male eggs. So, in the case of poultry it has been observed that the eggs last laid nearly always furnish the cocks of the clutch, and he has thought it probable that the last eggs which detach themselves from the ovary of the fowl are those which have had the most time for maturation. The following accordingly are among the conclusions at which he arrives:—

1. Sex depends on the degree of maturation of the ovum at the moment of its fecundation.

2. The ovum which has not attained a certain degree of maturation, if it be fecundated, produces a female; when this degree of maturation is passed, the ovum, if fecundated, produces a male.

3. When, at the rutting-season, a single ovum separates from the ovary to descend slowly through the genital canal (as in uniparous animals), it is sufficient that the fecundation takes place at the commencement of the rutting-season to produce females, and at the end to produce males—the turning-point of the ovum occurring normally during its passage in the genital canal.

Then follow instructions sufficiently obvious as to the application of these principles in the case of the larger mammalia.

The following certificate, however, from a practical farmer, Mr. George Cornaz, of Montel, in the Canton de Vaud, is what will have most interest in the eyes of breeders. He says, under date of February 10, 1863:—

"I received from M. Thury, Professor in the Academy of Geneva, under date of the 18th February, 1861, some confidential instructions, the object of which was an experimental verification of the law which governs the production of sex in animals. I have applied to the management of my herd of cows the data furnished to me by M. Thury, and obtained at once, without any uncertainty, all the expected results.

In the first place, in twenty-two successive cases, I wished to obtain heifers; my cows were of the Schwitz breed, and my bull a pure Durham; the heifers were in demand amongst breeders, and the bulls were only sold to the butchers. I obtained the desired result in all cases.

Having subsequently purchased a cow of pure Durham breed, I desired to obtain from her a new bull, which might replace the one which I had bought at great cost, without waiting for the chance of the birth of a male. I operated in accordance with the directions of Professor Thury, and the success again confirmed the truth of the process which had been communicated to me—a process, the application of which is direct and very easy.

Besides my Durham bull, I obtained six other bulls, of a cross-breed between the Durham and Schwitz, which I intended for work; by selecting cows of the same colour and size, I obtained very well-matched pairs of bulls. My herd consists of forty cows of all ages. To sum up, I have made in all twenty-nine experiments according to the new process, and all have given the desired product, male or female; I have had no case of non-success. All the experiments were made by myself, without the intervention of any other person. I can consequently declare that I regard the method of Prof. Thury as real and perfectly certain, hoping that he will soon be able to profit all breeders and agriculturists in general by a discovery which will regenerate the business of cattle-breeding."

This certificate will certainly have sufficient interest in the eyes of intelligent stock-breeders to induce them to experiment according to M. Thury's instructions.

KIDNEY WORMS IN SWINE.—The presence of kidney-worm may generally be known by the animal appearing weak across the loins, and sometimes by a weakness in one or both hind legs. As soon as these symptoms appear, give the animal corn soaked in lye of wood ashes, or strong soap-suds: at the same time rub the loins with spirits of turpentine. We have heard of arsenic being given for this complaint, but do not know the proper quantity for a dose

Theory of M. Thury.

To the Editor of The Canada Farmer.

Sir,—In the propagation of our domesticated animals, it would doubtless be very much to the advantage of breeders and farmers if they could control the union of the sexes so as to produce either male or female, as it might suit their wants or wishes. The theory of M. Thury, adverted to by you in No. 2, page 22, Canada Farmer, would, if found correct, go far towards effecting so desirable an end. But I very much doubt (ingenious as the theory appears,) its being correct. Last year we had twelve cows that had calves; four of the cows were sent, as soon as they were found to be in season, to bulls that were stabled; the others were milch cows, and ran in the same pasture with the bull. In this case copulation would take place at the commencement of "œstrum," and in the former case, it took place at an earlier period in its development. The whole of the cows had bull calves. The theory of M. Thury, and the above facts, are too much at variance with each other to be reconciled by

Yours truly,

York, March, 1864. M.

Note by Ed. C. F.—We publish in another column a fuller account of M. Thury's theory. The subject is one of great interest to stock raisers, and we shall be glad to receive the testimony of all who have carefully noted facts that bear upon it.

Pork Packing in Canada.

To the Editor of The Canada Farmer:

Sir,—This business has recently occasioned a little discussion in connection with the late prohibition of live hogs into Canada on the part of the United States.

Some are of opinion this restriction was put in force in consequence of the enterprise of a few individuals engaged in this business in Hamilton, and who had been getting a large portion of their live hogs from the States for want of sufficient supply nearer home. That could hardly have been the cause, for at present the trade is almost too insignificant to attract jealous notice, besides it is only fair to give our neighbours credit for more commercial liberality. But that pork packing is destined to grow and flourish, prohibition or no prohibition, and that it will ultimately become a great and important interest in the Province, I have not the slightest doubt. There needs no great sagacity to foresee this—the thing is quite plain.

Canada offers to the packer for English account greater advantages than can be found elsewhere in America. Canada pea-fed pork is admitted to be the very best on this continent, and with a little more attention in breeding and feeding, it will rival that of Ireland. It is true that just now the supply is far short of the demand, but that will soon increase with good encouragement to the farmers to feed hogs. Salt can be bought at Montreal for a trifle over the amount charged by the United States for tax on that article, to say nothing of the first cost. Labour is readily obtained, and cooperage and packages of all kinds, and of very good quality, can be had at moderate prices.

To meet the present requirements of the English market, bacon must be of mild cure and new, and arrive there through all the months of summer the same as in winter. For summer curing we have that which is indispensable, fine cheap ice in abundance, and the cool northern outlet by the St. Lawrence is no small advantage to the perishable products of the hog. Farmers will do well to take care of their young pigs and keep this matter in view.

SAMUEL NASH

Hamilton, 9th March, 1864.

More Durham Beef.—Mr. Robert Milne of Lockport, Will Co., Ill., brought six head of cattle to this city last week, which weighed in the aggregate 9,840 pounds, or an average of 1,640 pounds. He sold them to Mr. Hazlewood at 7½cts per pound gross weight. They go to supply the Philadelphia market. The majority of these fine animals were thorough bred Durhams, though one or two were grades. Mr. M. says he would as soon have the latter as the former for beef making purposes.—*Prairie Farmer.*

Sheep Husbandry.

Heavy Leicester Fleeces.

The *Mark Lane Express* mentions that some attention appears to be given, and with success, to Leicester sheep in South Australia, and cites, in support of the statement, an account given in late Adelaide papers of the weight of some fleeces shorn from the flock of Mr. James Rankine, in September last. Part of the account we subjoin:—

No. 1. Leicester ewe, seven years old; has produced nine lambs within the last three years. Weight of fleece, 9¼ lbs.

No. 2. Leicester ewe, six years old; has been well kept. Weight of fleece, 14½ lbs.

No. 3. Leicester ram, about same age as No. 2. Ran with the ewes six months of past year, and during that time was badly kept. Weight of fleece, 13½ lbs.

No. 4. Leicester ram. Ran four months with the ewes; not well kept; 14 months old. Weight of fleece, 11¾ lbs.

No. 5. Leicester ram. Same age as last, and treated in same manner. Weight of fleece, 12½ lbs.

No. 6. Leicester ram. Same age as last, but well kept. Weight of fleece, 17 lbs.

No. 7. Leicester ewe. Same age as above; well kept. Weight of wool, 15¾ lbs.

Buckwheat Straw and Sheep.

To the Editor of The Canada Farmer.

Sir,—On reading the article in your second number with the heading "Buckwheat unfit for Sheep," the thought struck me that "Mr. Peck" may have been mistaken, and that he drew wrong conclusions as to the *cause* of the disease, and death of so many of his sheep, and I could not easily divest myself of the idea that he blames the straw when he himself is to blame. It seems never to have occurred to him that dry straw of itself was insufficient to keep sheep in health, and it does not appear from his statement that they had anything else until more than half his flock were dead. Then it was he consulted some works and periodicals on the subject, "but could find no light thrown on the matter." Now, Sir, I think Mr. Peck could have received light from those works had he looked at them through another medium. They would at least have told him that "prevention was better than cure," that to keep sheep in a healthy state they must have something more than *dry* buckwheat straw to subsist on: that he ought to have given his "salt and sulphur" to them once a week during the winter; that his sheep should have free access to water, that a few of his "turnips and carrots" given once or twice a day would have been good for digestion, and that one dollar's worth of mixed *peas and buckwheat* to each sheep, given to them (a little daily) during winter would have "increased the weight of their wool two pounds each, besides adding a dollar's worth of meat each to their carcases." John Johnson, the great apostle of American farming says, that "one pound of buckwheat per day given to sheep, with straw will keep them thriving, provided they have *water*." I have grown buckwheat pretty largely of late years, and have thrown the straw to all sorts of stock. I have yet to learn that it was injurious to them, but they got a few *roots* and a little of the *grain* daily, and occasionally a feed of hay. I could enlarge on this subject but the above must suffice for the present.

I am, Sir, yours respectfully,

York, Feb. 27, 1864. D.

How to have Twin-Lambs.

To the Editor of The Canada Farmer.

Sir,—In an article on sheep in No. 4 of The Canada Farmer, we are informed that to get twin-lambs the best way is to flush the ewes before the rams are put with them, but allow me to say that I do not quite agree with this method. I have but lately come from England, and out of Mid Kent, where a great deal of pride is taken in raising lambs, and I never knew any way to answer better than the following plan, viz.: always to save twin ewe lambs and twin rams. I knew a farmer well that always did this, and out of 150 ewes, for four or five years running he never had less than 110 that had twins. I believe that if the ewes are twin ewes, it does not matter much about the rams. I have also observed that where there is a ewe that has three lambs, should there be a ewe lamb among them, that three years out of five she will have three lambs.

A LOVER OF SHEEP.

March 3rd, 1864.

More of the Evil Effects of Buckwheat.

To the Editor of The Canada Farmer.

Sir,—In your second issue I notice a valuable communication from Mr. Peck, of Prince Edward's Co., on the bad effects of feeding buckwheat straw to sheep, and with your consent, will add some further remarks. A few summers since a neighbour of ours grew some eight acres of buckwheat for the purpose of ploughing in green as a manure. When the field was in bloom, being situated by the road side, he threw open the fence to the different kinds of stock that might happen to enter the field; his object being to have the buckwheat trodden down to facilitate ploughing it under. We had a large flock of sheep at the time on the common, and of course they shared the luxury. In the course of four or five days, on the sheep coming home one evening, we noticed something wrong with them—they acted much as Mr. Peck describes, standing separately, with heads down and ears drooping, and scarcely noticing any one calling them. On examination, we found a breaking out about the ears and neck; and attributing the malady to eating the buckwheat, we immediately enclosed them in good pasture, when they soon recovered. There were also some swine that partook too freely, and were similarly affected; and I have been told by reliable men that they have known hogs to be killed by eating too much of the green crop. The grain, also, I believe not to be without its bad effect, although some farmers think much of it for feeding purposes. I have found that those families in which it is used as "the staff of life," towards spring, when the warm weather sets in, will care but little for the buckwheat cakes, and will generally have a breaking out, more or less, over the whole body, accompanied with a disagreeable itching, which is evidently the effect of the kind of diet used.

If we look at buckwheat in its botanical relations to the other grains, we find it is not very closely allied to them, as it belongs to a different tribe of plants entirely, viz., *Polygonaceæ*, the same order to which rhubarb and sorrels belong; whilst the other grains all belong to the grass or to the leguminous tribes of plants. Now, to the order of *Polygonaceæ* belong several plants that are of a decidedly poisonous character, and it is worthy of remark, that there is a possibility that buckwheat may contain some of the same qualities, as plants so closely allied generally possess the same characteristics. These facts suggest the question, viz.: Ought buckwheat to be grown as a field crop? This plant, which is a native of Asia, was at one time cultivated to a certain extent in Great Britain, but has gradually fallen into disrepute; and there is, I think, no doubt but that it is too highly valued in Canada, except perhaps as a green manure.

JOSEPH J. G. FERRILL.

Wooler P. O., Co. Northumberland.

Buckwheat and Meal for Sheep.

To the Editor of The Canada Farmer.

Sir,—Having noticed in the second number of your valuable paper a communication headed, "Buckwheat unfit for sheep," over the signature of Jas. F. Peck, and as you kindly permit the discussion of such topics through your journal, I beg leave to offer a few suggestions. We began yarding our sheep about the 20th November, they being at that time in good condition. Since that time they have had free access to buckwheat straw and chaff, but I find they prefer corn stalks, pea straw, or oat straw, to it. I have never known them to eat it unless they were without other food. I have also used buckwheat, whole and ground, and find that they improve very readily on it. Mr. S. Herrington, a farmer residing in Ameliasburgh, says he has used buckwheat for feeding his sheep without any injury to them. In the *Genesee Farmer* for November, 1863, there is a communication on wintering sheep, from John Johnson, who may be considered good authority on this subject. He says:—"There is nothing better for fattening sheep than buckwheat. One or one and a-half pounds to each sheep per day makes fine sheep."

There is also in the same number an article on fattening cattle and sheep in winter, in which the same writer says:—"Ground buckwheat is ordinarily the cheapest feed for sheep and cattle." I do not think Mr. Peck treats the subject fairly, as he says nothing about feeding buckwheat meal—only the straw and chaff. Now in this place buckwheat straw is considered very poor food, and is seldom used, unless feed is extremely scarce.

A FARMER.

Consecon, February 18th, 1864.

Correspondence.

HEDGE PLANTS.—In reply to a question from J. H. L., Maidstone, we may state that plants of two years' growth are suitable for setting in a hedge. They can be obtained from our nurserymen

SUBSOIL PLOUGHS.—"G. Y.," of Ormstown, C. E., enquires where a good subsoil plough, to be drawn by two, or if necessary, three horses, can be bought. We do not know any parties in Canada who manufacture subsoil ploughs. If there are such, they would do well to advertise their wares.

AGRICULTURAL SCHOOLS.—A correspondent in Canada East writes to enquire if there are any schools at which the young farmer may acquire a sound practical and scientific knowledge of agriculture. He adds: "If there are any such, the proprietors might find it to their advantage to make known through THE CANADA FARMER their whereabouts."

DEFERRED COMMUNICATIONS.—We are highly gratified at the manner in which our readers are responding to the invitation given in our first number for communications. So many indeed have come to hand, as to compel the postponement of some, and we beg that those who do not as yet see their contributions in print, will accept this intimation with our best acknowledgments for their favours, and the assurance that they shall appear as soon as our space will admit.

SEEDS WANTED.—John Paton, writing from Mersea, says: "A subscriber to THE CANADA FARMER wants to know where he can get pure Virginia thick-set tobacco seed; also Chinese sorghum sugar-cane seed. This information would benefit a great many persons here."

ANS.—James Fleming & Co., of this city, can supply you.

ALSIKE CLOVER.—"Halton" asks. "When is the proper time to sow Alsike clover, and how much seed per acre: will it do sown on spring grain or fall wheat, same as common red clover?"

ANS.—It may be treated in the same way as red clover. The quantity per acre, if mixed with timothy, which is a good plan, is about 1 lbs. per acre.

LUCERNE.—"Halton" enquires further: "Can you give us any light on the culture of Lucerne? When should it be sown? how should the ground be prepared? what quantity of seed per acre, and if it has ever been tried in Canada?"

ANS.—Lucerne is a perennial French clover; does very well in Canada; should be sown in spring, after turnips or other well-tilled green crop; quantity of seed, from 2 to 4 lbs. per acre. Its chief fault in this country is its liability on stiff, clay soils, to be heaved by the frost, in consequence of which, if pastured, sheep and cattle bite off the protruding crowns.

FLAX SEED.—"C. J. T," of Otterville, South Norwich, asks—"What kind of flax is the best to sow, where can the seed be procured, and at what price per bushel?"

ANS.—Newly imported Riga seed is considered the best. We are not, however, aware of any party who imports it year by year. There is some likelihood, we hear, of the Provincial Board of Agriculture doing so after the present year. In the meantime good Canadian flax seed, the product of imported Riga seed, can be had of J. Fleming & Co., of this city, at $2 50 per bushel.

ESTIMATING THE WEIGHT OF FAT CATTLE BY MEASUREMENT.—A correspondent enquires, "Could you or some of your readers give the rule for computing the weight of animals from their measurement?"

ANS.—Many experiments have been made by graziers and salesmen to ascertain the net weight of cattle by measurement, and a number of rules and tables have been formed from the results obtained. None, however, can be regarded as absolutely correct. With the most accurate measuring is required a practical acquaintance with the points and form of animals, and allowance must be made according to age, size, breed, mode and length of time of fattening, &c.;—conditions which require a practical eye and lengthened experience to correctly appreciate. We have found the following method to lead generally to trustworthy results:—

Measure carefully with a tape line from the top of the shoulder to where the tail is attached to the back; this will give the *length*. For the *girth*, measure immediately behind the shoulder and fore legs. Multiply half the girth by itself in feet, and the sum by the length in feet, and the double sum will give the *net* weight in stones of 8 lbs each. For example, with an ox or cow 5 feet in length and 7 feet in girth, the calculation will be as follows:—

Multiply half the girth by itself in feet	3.5 × 3.5
	12.25
Multiply by the length in feet	5
Weight in stones	61.25

Back Numbers.

IN reply to several enquirers, we would repeat the announcement made in our second issue, that as THE CANADA FARMER is stereotyped, back numbers can always be had in any quantity.

Unavoidable Delays.

WE have received a number of letters from subscribers complaining of the tardy arrival of their papers, or of their not having come to hand at all. By way of explanation we may state in the first place, that many who give in their names to parties who are getting up Clubs, do not allow for the time it takes to complete the Club, forward the names to this office, and get the papers to their destination. Secondly, such has been the pressure upon our employees by the unprecedented demand for THE CANADA FARMER, that it has been quite impossible to avoid some delays arising from the necessity of printing repeated editions of the same number. We hope henceforth to be so prompt and punctual as to give no just cause for complaint, and in any cases in which parties fail to receive their papers, we shall cheerfully correct mistakes and supply deficiencies on their being brought to our knowledge.

The Canada Farmer.

TORONTO, UPPER CANADA, MARCH 15, 1864.

Agricultural Legislation.

ON the 4th instant an important motion was made in the Legislative Assembly by the Hon. Mr. Brown, which will we trust lead to practical results fraught with great good to the farming interest of Canada. The motion was for a Select Committee of eleven members to enquire and report as to the adoption of measures for the advancement of Agriculture in the Province. In support of the motion several weighty considerations were urged, a brief summary of which may be given. Mr. Brown stated that indications of partial exhaustion of the elements of fertility so abundant in the virgin soil of a new country, were showing themselves in various quarters, and required a change of system. The Legislature could draw attention to this condition of things, and by circulating valuable information and inspiring new ideas, promote a better system of husbandry. A more thorough collection of agricultural statistics was greatly needed as a basis of operation. The powers and duties of the Bureau of Agriculture should be enlarged. Many sections of the Province need drainage on a large scale, and if the townships were enabled to construct main drains, into which each settler could conduct smaller ones, much benefit would ensue. There is also a vast quantity of unimproved land in the hands of speculators. Something should be done to secure their settlement and improvement. Specially heavy taxation should be levied upon lands that are unoccupied. These lands ought not to be kept back from culture. It is locking up a vast mine of wealth to do so. There are a hundred million dollars' worth of farm stock in Upper and Lower Canada: 132,064 professional farmers in Upper Canada, and 105,764 in Lower Canada. There are also 96,453 farm labourers in Upper Canada, and 41,984 in Lower Canada. These figures give some idea of the importance the agricultural interest has assumed among us. Whatever can be done to increase the profits of so large an industry, will be highly advantageous to the country. A moderate amount of Legislative aid would greatly help to promote the improvement of farm stock. Judicious encouragement of this kind would soon double the value of the stock kept. There are many poor animals in the country, but it is as cheap to feed a well-bred creature as a badly-bred one,—in many instances cheaper. By raising the character of farm stock an impetus would be given to this branch of agricultural economy, and a far larger annual income be attained by the Province. Mr. Brown suggested that three Commissioners be appointed, one from Upper Canada, one from Lower Canada, and a third by the Government, and a Legislative appropriation put into their hands of from $50,000 to $300,000 to be expended in the purchase of choice breeding stock, carefully selected in the United States, England, France, &c. These animals might be brought to Canada and sold to the highest bidder on condition of their being kept in the country. Russia adopted such a plan some years ago, and it succeeded admirably. The establishment of Model Farms in Upper and Lower Canada is another mode in which the Legislature might greatly aid in the promotion of Agriculture. A judicious distribution of liberal prizes for the best farm products, implements, &c., &c., is most beneficial, and might be so managed as to tell more powerfully as a stimulus to this important branch of national industry.

Other members of the House warmly supported the motion. Mr. Pope dwelt on the beneficial results that might be expected from the construction of roads and drains in sections of the country that were possessed of great resources of fertility, but at present were inaccessible and unavailable. Mr. Dickson urged as a cogent argument for special taxation of lands held by speculators, that it was by the toil and hard-ships of the actual settler that they rose in value and made the holders rich. He also pleaded for earnest steps being taken in the directions indicated, in order to retain the emigrants already in the country and to attract more. The Premier, (Hon. J. S. Macdonald), cordially supported the motion, but intimated, that the state of the public funds would compel rigid economy even in wise and necessary channels. Mr. McKellar recommended that public lands be given to municipalities for the purpose of having them drained. He stated that there were three and a half millions of acres of land in Upper Canada locked up from settlement in the hands of speculators, and probably not less in Lower Canada. This amount of land would give homes to 700,000 souls, but it was held at prices that prevented purchase. He was in favour of taxing them heavily while in their present state. Other members spoke on the subject, and the motion was unanimously carried.

We regard this movement with much interest and hopefulness and trust it will receive encouragement from all who can extend a helping hand to it. Let the Farmers of Canada especially be alive to their interests and urge upon their representatives such practical measures as will surely tend, if properly carried out, to promote the public and universal weal. "The profit of the earth is for all."

FARMING IN THE VICINITY OF HAMILTON.—On this subject the report of the City of Hamilton Electoral Division Agricultural Society, makes the following statements:—"A great many farmers pursue a good system of husbandry and stock their farms with the most approved breeds of live stock. Yet there are others, probably the majority, (resulting from the want of a proper knowledge of husbandry or the want of capital,) who continue to

slovenly cultivation of white crops in succession, whereby the land has become impoverished and overrun with thistles. The live stock of this class of farmers correspond with their system of husbandry. The principal products of the County are wheat, barley, oats and peas. Indian corn and buckwheat are not cultivated to any considerable extent, and turnips, carrots and mangold wurtzel are confined to the best class of farmers. Wheat has for many years been subject to the ravages of the midge, and for the last year or two barley has also suffered from the same cause. It appears, however, that the Mediterranean fall wheat, and the Fife spring wheat, when sown late, do not receive any injury. This does not appear to arise from any peculiarity in the growth or formation of the wheat, but simply from the time of ripening. The Mediterranean wheat ripens very early, and the Fife wheat very late, and the midge is only destructive during the interval. The average produce per acre of the principal crops in this County for 1863, may be stated as follows:—Wheat 15 bushels; barley 20 bushels; oats 30 bushels, and peas 20 bushels. A fair crop of wheat on good average land may be stated at 25 to 30 bushels per acre."

The Crop of 1863 in England.

The *Mark Lane Express* publishes its usual tabulated statement of the cereal and potato crops from each county in England, derived from the returns of over six hundred correspondents. The following is a summary of the results:—

Averages of the Crops of Wheat, Barley, Oats and Potatoes of the Harvest of 1863.

	Wheat	Barley	Oats
Under average	5	15	64
Average	95	245	268
Over average	503	261	200
Total	603	521	532

Of those reported "over average," the following statement shows the numbers that specify certain proportions above a usual yield:

	Wheat	Barley	Oats
Over average	251	170	147
One-sixth above average	5	—	—
One-fifth above average	19	56	37
One-fourth above average	124	16	7
One-third above average	40	11	7
One-half above average	25	7	2
Two-thirds above average	4	1	22

The following are the returns as regards an esculent of scarcely less importance than the cereals:

Potatoes.		Quality of crop.	
Under average	17	Sound	135
Good average	300	Slightly diseased	216
Abundant crops	241	Much diseased	202
Total	558	Total	553

Our contemporary remarks:

"Upon a review of the results, it will be seen that the late season has been a very productive one, while much of this success is to be attributed to the improved state of agriculture and the increased use of artificial and special manures. Still these alone could not have produced such results, had not an extraordinary season come in aid, favorable from the autumnal seed time to the period of the ripening of the crops, thus seconding the efforts of the husbandman. The wheat crop especially exhibits a most extraordinary result; and the weight of the grain has frequently exceeded all precedent, instances being known of 67, 68 and 69 lbs. per bushel. Complaints have reached us that the *quality* of the flour from the new wheat is not good, and that it cannot be used without a large mixture of foreign. In the meanwhile it is rather a favorable circumstance than otherwise for the country that a large stock of English wheat should be kept over, and the foreign wheat substituted for it in the general consumption. The present state of the world, whether we look to the East or the West, to Europe or America, is by no means assuring in the interests of peace. Already are some of the ports of the Baltic blockaded, which will materially interfere with the trade of Northern Europe; and it is impossible to say what may be the result from or the extent of the outbreak of war in that quarter."

It is also stated that the prospects of the growing crop of wheat are at present quite as good as those of last year at about the same period.—*Country Gentleman.*

Cirencester Agricultural College.—Five hundred acres of land near Cirencester, Gloucestershire, chiefly on the calcareous stone crash of the Cotswolds, though here and there a stiff calcareous clay, surround an imposing Gothic structure, including accommodation for upwards of 100 residents. There is a house for the Principal, and laboratories, theatre, museum, classrooms, chapel, and every other provision for the residence and professional education of agricultural students. The Institution stands in the midst of a well-cultivated district, in a healthy country, by a good market town. A clergyman presides over it—able and efficient teachers and professors are engaged in it—a disinterested and public-spirited Council, including men of the highest rank in the agricultural world, hold the final authority over it. It is the only institution in Great Britain professing to qualify for what is the most popular profession of the day. Agricultural students are not a very numerous class in the census returns; but they must in reality include a very large number of young men, many of whom expect to have the direction of large amounts of capital upon large farms. They come from almost every social rank. Sons of tradesmen, professional men, of farmers, landowners, and peers, all seek the knowledge and the skill by which agriculturists turn land to profitable account. It is absurd to suppose that one Institution of the kind whose help they need will suffice for all this number. The Cirencester Agricultural College will no doubt ultimately have many prosperous rivals. Meanwhile it stands alone, and ought to be a most prosperous, as it is a most efficient educational institution.—*Agricultural Gazette.*

Injudicious Cropping: Farmers' Debating Societies.—The Directors of the Dereham Agricultural Society remark as follows on crops and agricultural discussions:—"The practice of cropping the same piece of land year after year, without regard to the consequent exhaustion of the elements necessary to nutrition, is gradually giving way to a system of tillage, rotation, manuring, draining, &c., founded on the experience and researches of many years, which will not fail to promote the well-being of the agriculturists of this Township. We would recommend the establishment of a society for the discussion, every three months or oftener, of agricultural subjects, as we believe such discussions would be attended with beneficial results. They would elicit the experiences of many farmers, create a stimulus for agricultural reading and a desire to study more deeply agriculture in all its bearings, and thus to some extent bring into view the importance of the calling and promote its interests generally. This, together with the educating of young men expressly for the farm, would stop the growing evil of farmers' sons forsaking their profession for some other, as they seem to think, more honourable.

Entomology.

Mischievous Insects.

To one looking on the outward appearance, it may seem very small business that a man should spend his time in gathering beetles, moths, and little crawling worms, in watching their movements and studying their ways of living. It is all in keeping with childhood to be chasing bees and butterflies, but a man is expected to put away childish things. If it be thought unseemly that the energies of manhood should be devoted to such trifling employment, what shall be thought of the Government that inserts in the yearly estimates the stipend of such a man, to be drawn annually from the public Treasury, and of the Parliament that annually votes such an appropriation and receives with all gravity a lengthy report, in which is set forth with great minuteness at what season a tiny fly, not as large as a mosquito, lays her eggs, and where she puts them, what the likeness of the maggot, so small that, unaided, human vision can scarcely see it, that is hatched from out of each of those eggs, and what it does from babyhood until maturity, until weary of its wriggling life, it digs a seeming grave, and there, drawing the drapery of its couch around it, lies down for a season, to come forth in due time—a fly?

There is another stand-point from which to look at this subject. A few years ago the farmers of certain parts of Canada found their crops of wheat suddenly diminished. Where they had been reaping twenty, thirty, and even forty bushels from each acre, they now harvested but ten, or five—or nothing. It was not that an untimely frost had whitened the heads of the standing grain; nor did any rust discolour the clear, bright straw; nor the breath of the east wind blast it with blight and mildew. To the passer-by the fields seemed to be ripening for an abundant harvest; but the close observer would notice that the heads stood ominously erect, and when the time of ingathering came, many who had hoped to reap their thousand bushels were compelled to buy their bread. Samson's foxes may have left behind them in the blackened and smoking corn-fields a more appalling scene of desolation, but hardly a more wide-spread and complete disaster.

A little fly, so small one may scarcely see it, so feeble and frail it may be blown to the ground by the breath of the nostrils, so trifling and contemptible as to be beneath man's notice, has hovered over these white fields in numbers so myriad as fully to compensate for individual littleness, and broken the whole staff of a people's bread. Surely it is an enemy that has done this, and perhaps it is the part of wisdom to set a watch over such an enemy, if perchance some way may be found to work its destruction, or to ward off its ravages.

Yet the wheat midge is not the only enemy. These insect-devourers of human industry till garden, and orchard, and field. Some are laid at the root of every vegetable, and weeks of toil and patient waiting, in a night are cut down and withered. Some crawl upon the stalks and the growing seeds, which are the gardener's hope for another season, are taken with careful nicety as so many tit-bits to their repast. Some bite the half-formed plums, and the fruit drops unripened to the ground; others bore unsightly holes in the pears and apples; and some are found as disgusting maggots coiled around the kernel of the cherries. Some set up their tents in the trees, whence they issue in bands armed for destruction; others within concealed cell, pursue in solitude their work of death. Long, indeed, would be the story that should set forth their many deeds of mischief and their many ways of working; that should picture their various forms, now of beauty and loveliness, flashing in the sunbeams or flitting among the flowers, and then of crawling loathsomeness, as if touched by Ithuriel's spear.

It must not be inferred, however, that all insects are injurious. On the contrary, many are the firmest friends of man, spending their whole life in doing him good by waging a relentless war on the consumers of his toil. They are, as it were, the carniverous insects, never injurious to vegetation, but preying upon those that are. These little parasites serve to keep the others in check, and prevent their numbers from increasing to such an extent as seriously to disturb the equilibrium of insect life.

In the hope of enabling the readers of The Canada Farmer to become familiar with the forms of those insects most injurious to vegetation, with their manner of life, with the best known means of defence against their ravages, and with the appearance of those parasite insects whose lives it is desirable to guard and protect, this department of Entomology is now introduced.

Our readers are invited to send for insertion in this department any results of their observation that will serve to enhance its interest and usefulness. We hope to get contributions from eminent Canadian Entomologists, of whom there are several, and as a Society has recently been formed to promote this branch of natural History, we trust our readers will derive practical benefit from that source. It has been estimated that the information derived from the labours of the State Entomologist of New York, and disseminated among the people, has been the means of an annual saving to them of many thousands of dollars. Should the information contained in this department be productive of a corresponding benefit to the Province of Canada, the object of its establishment will have been fully realized.

Grasshoppers in Winter.

The following conversation took place at a meeting of the Farmers' Club, held at the Cooper Institute, New York, on the 23rd ult.:—

Mr. Robinson—"I have here a communication saying that a farmer's club has been formed on Long Island, and, at their first meeting, the crop of a crow was presented, and it was found to be full of grasshoppers."

Mr. Carpenter—"I saw the crop, and I think there was a mistake in calling them grasshoppers. I should say they were crickets."

The President—"Will the naturalist of New Jersey please tell us whether grasshoppers live through the winter?"

Dr. Trimble—"I have seen the crop, and should call them grasshoppers not fully developed; they had only the rudiments of wings. In this state they live through the winter. They lie at the roots of the grass, where they are partially protected, and afford a favorite food for crows. One morning, during the cold weather this winter, I found, on the paved walk at my house, a fully formed katydid, frozen as hard as a bone. It was a striking object at the time, as you know the colour is a bright delicate green. I took him into the house and put him into a box, and he soon came to life. I then put him into the greenhouse, but in a few days he disappeared."

Veterinary Department.

Baulky Horses.

In this country the most prevalent and troublesome of vices in the horse is that of baulking. It may be very fairly classed as the worst feature of our Canadian horses. But it is not so common in the Eastern as in the Western Province. In the neighbourhood of Quebec one of the hilliest spots of the Provinces baulking is very little known; and the foremost of questions accompanying the purchase of a horse in Western Canada is, "Will you warrant him good to draw?" is in the vicinity of Quebec omitted.

Two of the principal causes are here selected, though in direct variance with each other;—that of overloading, and injudicious treatment with only a light waggon. Curious and incredible as it may seem to many readers, all horses have been taught to baulk. The first, most common and most effectual mode of teaching is that of overloading. The practice of cheering or whipping up to the collar a horse, after he has had one fair trial to start the load, and has come back of his own accord, is bad, and will, if continued, result in producing obstinacy and baulkiness. It is very easy to baulk a young horse with a light waggon. The better bred, the higher spirited, the more willing generally become the bad drawers. The young horse, eager to start, is checked by a cruel jerk of the mouth, which so bruises it that he is forever after afraid of so severe a punishment. Perhaps immediately after one of these jerks his driver chucks to him to start. He is about to start, when against his wounded mouth, the bit is pulled. He flies back in sheer trepidation. Then, most likely, the whip is vigorously applied, and the poor beast is flogged and rated until, with fear, pain and exhaustion, he becomes dull and heavy; and the unreflecting driver fancies he has made a conquest. The next time this horse is in good spirits and starts of his own accord, the chances are, if the reins are not tightened, he starts off at full speed, and thus becomes a runaway; or if the reins tighten, he flies back from the pressure of the bit, stamps and paces in his excitement and nervousness, and ultimately looks round at his load and master. From the moment that he has once thrown his head round he has become a baulker. The more he is flogged the more stubborn he becomes. The driver who has ever had a baulky horse under his care, must be aware that flogging will not make him draw. Nay, if he is knocked down, and the blood, as he staggers to his feet, flows freely from his nostrils, still he will not start. If the barbarous practice of setting fire to a bundle of straw beneath him is resorted to, he will not. Harsh treatment will not cure a baulky horse.

According to the temperament of the horse will be found his willingness or reluctance to draw. All draft horses have been taught to draw. The horses of a circus would never have gone through the figure of a quadrille if they had not been taught. The horse at plough would never have moved to the right when the ploughman cried "Gee," or to the left when he said "Haw," if he had not been taught. Conclusively, a horse in his artificial life, when there are no reacting causes, does only that to which his master has accustomed him, be it baulking or drawing. Many people are surprised to see a horse suffer the most severe punishments and yet persevere in baulking. But still they only do what they have been taught. The horse, with all his nobleness and docility, is ever subservient to the will of man; but it is questionable if man is true to his subserviency.

"It is more difficult to cure than to prevent." Man, with his power of reflection, is enabled to leave alone or not practice the things he has been taught; though even with him custom becomes second nature. To the horse, which does not reflect, what he has learned cannot be untaught him by any other means than disuse, or that which will produce forgetfulness; if that which a creature under certain circumstances has been accustomed to do, he can under the same recurring circumstances not perform. No horse baulks until he has been baulked, neither does he draw till he has been broken in. He is no more willing to baulk than he is to draw. Taught by man, he does both. He is as often flogged for drawing as he is for baulking. From careful observation, it can truthfully be said, by flogging and other abuses good workers are as often taught the vice of baulking as a baulker is made a trustworthy drawer. When a horse baulks, a careful and observant man will immediately see where lies the difficulty, and cause; and in the future he will studiously avoid it. The first time a horse baulks he is very nervous; afterwards, as too often happens, he—as the good drawer—bears with dumb-like sullenness and resignation the application of the lash. If neither the whip nor any harsh usage was practiced to the horse that baulks, ultimately, with loads in keeping with his strength, he would not baulk. Before he has to work, he should know what is required of him. How can he know this if he tries to pull a waggon that will not follow him when he is told to go on. If at first he is not willing to pull, he should be encouraged with light loads or an empty waggon. To the place whence he has refused to start, he should be brought and started from, until he has gained not only confidence in himself, but in his ability to draw the waggon, and assurance in his master's command. When he understands what he is to do from his master, rest assured that as certain as he is a horse he will do it if it is within the bounds of reason. But if he is cowhided and bullied until he is thoroughly confused, he will not, as he has no alternative.

With patience, gentle treatment, good feeding, comfortable collar and harness, fair loading, with words of command kindly and distinctly spoken, we would have no baulkers. It is impatience, unkind treatment, poor feeding, pinching collars and harness, over-loading, harsh, abrupt voices, and the cruel lash that produces what is here complained of in the horse.

Treatment of Wounds in Horses.

A correspondent recommends the following remedy for the healing of wounds upon horses:

"Saltpetre should be dissolved in warm water, in such proportions as to be moderately strong to the taste and blue stone added until the solution is *slightly* tinged. This, and nothing else, is to be used as a wash, two or three times a day. It purifies the wound destroys the proud flesh, produces granulations immedately and heals the wounds in a suprisingly short time. I have had a horse badly kicked and otherwise hurt, in midwinter and midsummer and their cure was equally rapid, and afterwards no scar was visible. The wound requires no covering—flies will not approach it, and dressing it with a mop of rags tied to a stick, is very little trouble. Wounds do not require to be sewed up under this treatment, at least I never saw any advantage from it, as the stitches have uniformly torn out."—*Michigan Farmer.*

Swelled Legs in Horses.—This disease takes on several forms. Sometimes it is simply a slight enlargement of the legs, consequent upon standing on a hard floor, with lack of exercise. This often occurs when a horse is first taken in from pasture and confined in the stable. The obvious remedy is a little hard rubbing of the affected parts, feeding with grass or other light food, and plenty of daily exercise. A worse form of this is when a horse, somewhat feeble and diseased in other parts, suddenly develops swollen limbs. This is apparently the shifting of disease from the other organs. It is accompanied with a lack of healthy circulation, with fever, soreness, and lameness. Sometimes abcesses are formed, and the heels are affected with "scratches." The treatment required is a mild physic and bleeding, if the horse is not much reduced. Warm bathings should be used, and bandages. If this trouble arises from weakness and low living, the horse should have better food, and all means should be tried to improve the tone and vigor of his system.—*American Agriculturist.*

The Apiary.

The Wants of the Bee.

We have knowledge of no animal in whose nature are embodied the elements of self extermination to so great an extent as the bee. Since the instinct for gathering and storing honey predominates over all else with the workers, they very soon fill any ordinary cavity in which they are placed. Indeed, so strong is their determination to work when honey is abundant, that if they enter the hive laden with the product of nature's richest store of sweets, and there find all the cells filled, either with honey previously gathered or with young brood, they vacate cell after cell containing newly laid eggs, larvæ, or sealed bees, till the entire hive is filled with honey; in consequence of which breeding is wholly suspended, and since the life of the worker is of short duration during the season that honey is most abundant, the colony suddenly becomes reduced in numbers, and not unfrequently are they entirely lost, leaving a hive almost, and sometimes wholly, filled with honey and bee-bread. Hence were it not for the swarming instinct imparted to them at certain periods, they would in a few years become extinct.

The fact that workers are short-lived having been but recently discovered, may require some demonstration to satisfy the minds of many who are just beginning to give practical bee culture the place of importance that it demands. This matter is considered at some length in the *American Bee Journal*, 1861, page 9, also the same, page 148, where we find the following: "We may esumate that during the height of the honey season, they do not on the average live longer than five or six weeks."

Also see *Taylor's Manual*, London, 1860, page 15. He says on the authority of Dr. Bevan and his own experience, that "there is no doubt that every bee existing after Christmas was bred during the latter part of the summer or autumn." And on page 150, "They are short-lived and periodically renewed; a large proportion of the bees at the close of the season are those produced in the latter months."

Many other references are at hand, but the fact must suffice for the present. An Italian queen was given to a vigorous stock of native bees on the 15th of July, and in sixty days after I could not find any native bees in the hive, but it contained a numerous colony of Italian bees. This, with many other facts, coming to my knowledge, satisfies me that the life of the worker, during the height of the working season, is less than fifty days. Hence, we may conclude that the excess of honey stored early in the breeding chamber of the hive is quite fatal to success in bee culture.

A large majority of bee keepers not being familiar with the habits and instincts of the bee, depend wholly upon luck for success with their bees. And many suppose if they can get their bees into some new fangled notion for a hive, that has been patented by some one who has studied much more on bee hives than on the habits and nature of the bee, then their luck is favourably turned, and their fortune secured. But let it be fully understood that no hive in existence can make a man a bee-keeper.

Hence we must conclude that bees require the intelligent care of the apiarist bestowed upon them at the right time.

Moths may infest a weak colony. They must be removed from the combs where they do their mischief.

A stock may be reduced in numbers so as not to be able to generate heat enough to keep up a hatching temperature in the hive. They must be strengthened by supplying bees or maturing brood from strong ones.

They may lose their queen and can be saved only by giving them another, or supplying them with comb containing newly laid eggs, or young larvæ from a hive that has a prolific queen.—*Valley Farmer.*

Italian Honey Bee

This new species of honey bee is highly commended by those who have had the opportunity of observing and experimenting upon its habits. Its superiority over the common bee seems to be well established. Its chief peculiarities and excellencies are said to be the following:—It is a tough, hardy creature, will stand the cold of Northern winters better, collect honey much faster, work earlier in the morning and later at night, than our native kind. The queens are more prolific, and will brood much faster than the common species. They will collect honey from flowers which other bees pass by. Their proboscis is a trifle larger, and as they are strong and more active, they will frequently tear the anthers of flowers open to obtain the sweets, which the common bee will never do. Their size depends on the size of the cells in which they are reared. If the comb of the common bees' make is used, they will be about the size of common bees; but if allowed to build their own brood comb, they will be considerably larger. They differ somewhat in colour and shape from the common bee. They are larger, and their bodies taper nearly to a point. The workers are marked by a series of gold bands, encircling their bodies just under the wings. The drones are not so strongly marked. The queens vary in colour, some being dark brown, and others quite light, approaching to near a gold-colour.

Growing Cauliflower Plants.

It is not desirable to raise the seed in an early hot-bed, because they then come into heading in the heat of summer, so that instead of forming large, compact heads, they grow small and branched. If grown in the open ground, select a bed on the north side of a building or high board fence, else the *fly* will be very sure to thin the plants out much more than is desirable. The very best way is to raise them in a cold frame, say a foot high at the back and nine inches in the front. The seed can be sown about the 20th of April, in drills three inches apart, and when up should be aired freely, and the earth between the rows frequently stirred. The plants will be ready for transplanting about the 1st of June. For an early variety the Early Paris is usually preferred, and as a later sort the Lenormand is esteemed much the finest variety in cultivation.

Culture of the Grape Vine.

The Grape, in all ages the symbol of happiness and abundance, is at once the most nourishing, the most refreshing, and the most delicious of all the products of this earth. Its cultivation, in soils and climates adapted thereto, is a delightful and profitable occupation.

Are the soil and climate of Canada adapted to grape growing in the open air? and if so, would its culture here be profitable? We have seen the grape growing in various parts of the Province in the utmost luxuriance and of the richest flavour, indeed, equal to any we have ever seen imported from Ohio, or any other of the United States; therefore, we have no misgivings on these all-important preliminaries, that proper location, proper soil where needed, proper drainage, proper selection of sorts, and proper cultivation, must each and all be attended to and ever borne in mind; that nothing, in short, be left to chance, will be apparent to every person of observation and common sense.

The works that have been written on the culture of the vine, generally speaking are calculated more for the use of wealthy amateurs to whom expense is a secondary consideration, than for those who would cultivate the vine more or less, provided they had some reasonable prospect of success. Indeed, it is notorious that many persons are deterred from attempting grape culture by the expensiveness of the methods recommended—trenching and heavy manuring to a depth of three or four feet—an expense not only useless but absolutely injurious. We shall aim briefly to note what we believe, from our own experience and observation, to be useful to persons of limited means, or to those who would willingly *try* the culture of the grape, provided it could be done without involving any considerable pecuniary risk. We repeat, grape culture will pay, and have no doubt of its becoming in a few years a most important branch of Canadian industry. Of the many methods of training we recommend as the best adapted for Canada what has been termed the

SINGLE STEM DWARF AND RENEWAL SYSTEM.

From observation and experience we can safely affirm it is in every way calculated to develope the better qualities of our native grapes. It is simple, easily understood, involves no expense, and is far superior every way to the elaborate and expensive plans recommended in many popular books.

The method is simply to fruit the vines in alternate years on a single short cane, and with very short lateral branches, cutting down at the end of the season to two or three eyes, and the following year allowing the strongest one of these eyes to grow, expecting it to bear fruit the next year. If you have twenty vines, for example, *ten* of them produce fruit and *ten* wood each year in rotation. The entire strength of the roots is thus concentrated upon a small quantity of fresh and vigorous wood, and hence larger and finer bunches of fruit are produced than by any other method. This is the whole system in a nut-shell.—A whole row may be in fruit and the adjoining one growing wood for next season's fruit, or the plants may be fruit and wood alternately, in the same row. This method is alike admirably adapted to foreign as well as native kinds, and perfectly suited to the wants of grape growers in this northern climate of Canada, whether in graperies or vineyards, or on arbours or trellises.

We emphatically enjoin shallow planting, not more than four or five inches deep, in borders dug not more than twelve to eighteen inches, in moderately rich soil. Surface manuring and mulching are necessary to insure sufficient moisture at the roots during the droughts of summer, and even with the hardiest kinds as a protection from the extreme frosts of winter.

The situation should have a southern aspect. The ground must be well cultivated. It ought to be ploughed and subsoiled to a depth of from twelve to eighteen inches and thoroughly pulverized, and if not thoroughly dry, be made so by drainage. Above all, good shelter is indispensable. A few vines may be advantageously planted on the side or gable of a house or a high board fence. A vineyard should be well protected with high fences, and to the north and north-east with a strong fence or belt of evergreens. Our common pine, if carefully planted, will do well. The middle to the end of May is the best season for planting it. But still better the Norway spruce, American or Silesian arbour vitæ, or the hemlock; and to insure a yet more effectual shelter a single or double live fence might be run across the garden or vineyard from east to west, at right angles, dividing the ground into squares or parallellograms.

Woburn. W. S.

[More about vine-culture in our next.]

About Planting Apple Trees.

To the Editor of The Canada Farmer:

Sir,—Having had some experience in planting and taking care of apple trees I venture to send to The Canada Farmer a few words on the subject. In the summer of 1860 I gave an order for 40 apple trees to be delivered in the fall. The trees came to hand in November, and as it was rather late and my ground not prepared, I concluded not to plant until spring. Having dug a shallow trench in the garden I laid the trees in carefully, beginning at one end by laying a few trees about half their length in the trench, putting a little earth about the roots, and the next with their tops resting on these, and so on until all were in, and then shovelled in the loose earth, leaving only the ends of the twigs out. On the 25th April following, having good wide holes dug for my trees, I began to plant. Found my trees in beautiful order on taking them out of the trench. Taking a few to the orchard I laid them down and threw a little earth on the roots, only having one out at a time. In planting I was very careful to spread out all the roots, nicely filling in the mellow earth with my hands at first, working the tree up and down a little to make the earth settle around the roots, then shovelled the earth in and tramped firmly until the tree was about two inches deeper in the ground than it was in the nursery row, leaving the surface slightly rounded about the tree. After all were planted I took a sharp knife and cut back the tops about one-third, taking out any limbs that were not wanted. Then I brought two or three loads of strong manure from the barn yard and put a few forksfull around each one to keep the roots moist during the summer. Now the result, *I did not lose one tree;* they all made a splendid growth, and some of them had one or two apples each the second summer, while one of my neighbours who got about the same number of trees from the same man, at the same time, and planted in the fall *did not save one.* I have also got trees from the nursery in the spring and lost none after planting, but they did not seem to thrive quite as well as those taken up in the fall. The reason I think is this, in the fall the sap has gone down to the roots and if the tree is then taken up and put in a trench it lies dormant until planting time when it is prepared to send up the sap from its full roots and go right on without check, while those standing in the nursery all winter begin to grow in the spring before being taken up and then if transplanted they *don't seem to like it.*

TAKING CARE OF APPLE TREES.

Having got an orchard planted and growing, don't imagine that your work ends there; a tree requires food and grooming as well as a good horse and will not bear neglect any better. The first three or four years the ground should be kept clean by raising some kind of seed crop, taking great care not to injure the roots or stems of your trees when working the ground. After that it is almost impossible to use the plough without mutilating the roots, therefore I would recommend that the orchard be sown with a crop of spring wheat or barley and seeded down with a mixture of clover, timothy and cocksfoot, or orchard grass, top-dressing every year with good manure.

To keep mice from your trees draw out very short manure every fall and make a conical pile about 18 inches high around each one, patting it firmly with the back of a shovel. This will also support the tree against the heavy winds of autumn and winter. In the spring spread the pile around the tree.

To keep the tree free from bark lice and other insects, and give them beautifully smooth, healthy skins, wash them all over every spring with weak lye and soft soap. Thin out the tops well when small and then you will not kill your trees by cutting out big limbs afterwards.

SOIL FOR AN ORCHARD.

The very best soil for an orchard is a strong loam with limestone in it. Next, a dry sandy loam. Avoid a wet bottom or one of pure gravel.

J. A. S.

Cherry Bank Farm.
Burford, Feb., 1864.

Ripening Pears.

To the Editor of The Canada Farmer.

Sir,—It has been a study with me for some years back, to discover the best method of securing the highest excellence in the pear. One of the chief ends to accomplish this desirable result is the plan adopted in ripening them, and one by no means the least important. In the ripening process I have been in the habit of testing various ways. But the one most successful is as follows, namely, to cut a pear open (either summer or fall) and finding the seed colouring and at the same time observing a state of maturity in the leaf (but this requires a nice discrimination with which I find few acquainted,) the pear is then given a further test by raising it up rather briskly and if found to come away with its stem clean and smoothly separated from its spur in an easy manner, showing that nature is loosing its cohesion at the junction; these signs being favorable, the fruit is carefully hand picked and placed in heaps one upon another in a dark, close and warm room, not higher than 80 or lower than 70, on shelves made for the purpose with a guard nailed upon the front edge to keep it from rolling off. It is essential that this room or closet be subject to no draught or air, and also dark. Here it is allowed to remain undisturbed until a certain natural process of exhalation or sweating ensues, which makes itself known by a ravishing aroma sent forth to greet us with a silent, irresistible invitation to seize the golden fruit (and we will eat without persuasion from mother Eve), all the while secretly wishing our neck a mile long and a palate all the way. Try it reader. Yours respectfully,

Hamilton, Feb. 2, 1864. W. H. M.

Yield of Apple Trees.

To the Editor of The Canada Farmer.

Sir,—Will you allow me a few lines in explanation, with reference to a "Note by the Editor," in your second number—"That trees planted 18 feet apart will yield more bushels per tree, than if planted 40 feet apart"—*other things being equal*—will, I apprehend, be a "new idea" to most people! I regret should anything in my observations have led to the conclusion that I meant anything of that kind. I certainly did *mean* to say that trees planted 40 feet apart *with the ordinary system of culture,* would yield less, very much less, per tree, than if planted 18 feet apart with *proper culture,* in every respect—and I pointed out, as I thought, emphatically, that no *other crops* should be allowed to occupy the ground, whether weeds, grass, roots, or cereals,—and, of course, with due care and culture in every other respect. And bearing all these conditions in mind I do not think such an idea need excite much surprise. I did not go into all the minutiæ—all the *modus operandi* of good culture, but *all* were implied. It was such a system I endeavoured to contrast with the ordinary methods pursued in connection with planting 30 to 40 feet apart. The benefit of *shelter,* for instance, to fruit trees is very little understood, and very far from being generally appreciated.

Woburn, March 1, 1864. W. S.

Hedges for Canada.

To the Editor of THE CANADA FARMER:

SIR,—In the second number of your valuable journal I see some remarks on hedge plants The Buck Thorn is the best plant for hedges in Canada, in my estimation. I have tried the Osage Orange, and find it too tender to stand even in the seed bed. The English Hawthorn is subject to insects, slug especially has a particular taste for it. The Barberry has some very good points, as you will soon find by coming near it, unless you have the best buck mitts to defend yourself. This seed is very slow to vegetate, requiring two winters' freezing before it will germinate. The best way to manage it is to put the seed in a box and set it just below the surface as soon as gathered, and let it remain there two winters; prepare the seed bed, and sow in drills a foot apart, and you will have plants in two years fit to set out.

SOMETHING NEW.

The Red Plum has formed a fine hedge by chance, having been left in a row where the pits were planted. They stand thickly and have formed a perfect hedge in three years, four feet high, without any care or clipping, except stopping some of the leading branches. The rapidity of its growth and easy culture, growing as it does on any soil, except that of a very wet nature, render the Canadian Wild Plum well worthy a trial as a hedge plant in this country.

Cobourg. H.

TRAPPING GRUBS IN SANDY SOIL.—Prepare the soil for planting cabbage plants, and two or three days previous to transplanting, pluck a leaf from each plant and strew them over the prepared ground; and in the evening go with a lantern and pick up the loathsome plant destroyers; do this two or three evenings, and your plants will do well if properly attended to.

Meaford. M. A.

A PROFITABLE ORCHARD.—A gentleman from Chester informs us that Mr. Joseph Robinson, of that town, has an apple orchard, planted and reared by himself covering but two acres of land, the product of which this year is nine hundred bushels, exclusive of a second picking of inferior quality. Mr. Robinson has sold four hundred bushels for cash down at $1 per bushel, reserving five hundred bushels for future use. The entire income this year will not be below $1,000, and at far less labour than is bestowed upon a small farm.—*N. H. Statesman.*

PRESERVE THE SLOPS.—English husbandmen attribute a most important value to sink-slops for manuring purposes, and with good reason, for liquids of this description are rich in fertilizing properties, and in the most suitable condition for furnishing immediate food for vegetable life. With a very little outlay, a suitable receptacle can be made for receiving those house-slops which are allowed to go to waste by so many. One method recommended to us by a friend is, to set an old oil-cask in the ground on the north side of your house under the spout, and cover it with a lid; a little charcoal thrown into it once a week will prevent all unpleasant smells. From this tank the wash can conveniently be applied every few days to cucumbers, melons, squashes, raspberries, grape-vines, &c. Another plan pursued successfully is to conduct the slops into a vault where they will be absorbed by muck, leaves, and other suitable ingredients of a compost-heap. This is made by digging a hole, two or three feet deep, and eight or ten feet square, laying up the sides with stone or brick, laid in water-cement. If too expensive, firm clay, slabs, or old timber will answer for walling purposes. A layer of saw-dust, leaf, or muck should be placed on the bottom, and absorbents added from time to time as they are needed.

VITALITY OF TURNIP SEED.—The London *Agricultural Gazette*—most excellent authority—says:—"After extensive experiments, we can declare, as their result, that turnip seed of one year old will only germinate about 50 per cent.; two years old, 30 per cent.; three years old, 15 per cent.; four years old, 5 per cent."

☞ NEVER waste animal or vegetable refuse. The very soap suds from the laundry are rich manure.

☞ A good quality of tea grows wild in the mountainous regions of Pennsylvania, and a company has been chartered to engage in its cultivation.

Poultry Yard.

Management of Poultry.

ALMOST every family, however poor, has or can have its own chickens and eggs. And the following hints will prove useful to all such of your readers as wish to raise chickens successfully:—

HEN HOUSE.—Your hen-house should be roomy, say 16 feet long, 10 feet wide, 10 feet high, where it leans against a stable, barn or wagon shed, and seven feet high at its lower side. Its front face—which should face the South—should have glazed windows on hinges to let in the sun's warmth and light in winter, and for the admission of fresh air in summer. The hen-house may, if desirable, be built at the end of the hog-pen, or over it.

2. ROOSTING PLACE.—The roosting place of your hens should consist of a ladder-like frame, (whose slats are about eighteen inches apart,) that can be leaned against the rear of the house at any desirable inclination. As the hens in roosting, always occupy the highest places first, this will bring them close together, and keep them warmer in winter. And in summer this ladder may be raised up to a level, so as to keep them farther apart and cooler then. The floor should be made of stone, sand, and lime, concreted or cemented together so as to form a hard and dry floor, and keep out rats. A few shovelfuls of dry, pulverised clay sprinkled over this floor every week or two, will absorb all the moisture of the hen dung or droppings, and so keep the house free from bad odour.

3. BREED OF CHICKENS.—Carefully avoid breeding your chickens from the same stock of fowls, or from fowls closely allied to each other. This will invariably produce a small, delicate and unprofitable stock, while cross-breeding of choice different kinds of poultry will just as certainly yield you a large, strong, healthy and very profitable supply of hens and roosters.

4. EGG NESTS.—The butter or lard boxes or tubs, procurable at any grocer's, put on shelves raised two or three feet above the floor, at the rear end or sides of the hen-house, make the best laying nests, as their well soaked greasiness will keep the hen-lice entirely away, as no hen-louse can live on or in grease. And hence it would, for the same reason, be well to give the entire roosting ladder an occasional greasing. The boxes aforesaid should be frequently cleansed and supplied with fresh straw or hay

5. YOUNG CHICKENS.—As the earliest hatched chickens, provided they have a dry, warm and sun-exposed house or coop, free from lice, generally do the best; the hens should be set to hatching about the middle of February or the first of March, but have fewer eggs than common, so that they may cover them well and keep them equally warm. The young chicks should be kept off the cold ground and out of the wet, and in a dry, warm place, and fed with warm food, until they are old and strong enough to do without warm food. If a sitting hen looks pale about the head, it is a sure sign that she is lousy. To remedy this evil, clean out her nest—wash her eggs in warm water—and grease her under her wings and on her breast and belly, and put her back again and feed her well, and she will soon improve and do well.

6. EGGS IN WINTER.—To make your hens lay eggs in winter, they must have a clean, dry and warm house, and be fed on scraps of flesh or unsalted meat, fat, finely powdered bones, oyster shells and refuse lime, green cabbage leaves, &c., and have a proper supply of pure and unfrozen water to drink. Hot Indian corn, buckwheat and oatmeal, contain a large amount of heat-producing qualities, and so form the best winter food for laying hens.

7. GAPES IN CHICKENS.—Holding gapy chickens in or over tobacco smoke until they have inhaled smoke enough to make them sneeze two or three times, is said to be an infallible cure for this disease.

SUNFLOWER SEED.—Chickens are very fond of sunflower seeds, which not only fatten them very quickly, but make their flesh very tender, juicy and fine-flavoured. Therefore it will be well for you to plant sunflowers in some corner of your grounds for this purpose.—*Cor. of Dollar Newspaper*

Poultry Keeping.

B. J. CAMPBELL, in the *Country Gentleman*, says:—"I have not seen an egg story in the *Gentleman* for a long time. I must tell mine, if it is on a small scale, for I have kept a very careful count from last New Year up to this week, Christmas.

"I kept five hens—no rooster about the premises. Got five hundred and sixty-one eggs, being one hundred and twelve eggs to each hen.

"After a three years' trial, I am satisfied it is pretty safe to reckon from one dollar to one dollar and a half profit per hen, if they are properly cared for."

DE SORA'S GREAT POULTRY ESTABLISHMENT.—From time to time very wonderful statements have appeared in the newspapers concerning a mammoth poultry establishment near Paris, France, carried on by a M. De Sora, at which 22 dead horses are said to be daily minced into chicken feed, 100,000 hens wintered, 10,000 dozen eggs sold per week, &c. The *Country Gentleman* draws attention to the fact that these accounts have never been authenticated in any way, and says that a gentleman who was in Paris two winters ago enquired in vain for the celebrated institution. Further investigations are to be made, and it would be indeed remarkable if the whole affair should prove to be a hoax.

POULTRY AND POULTRY HOUSES.—My plan for a poultry house is a plan which will be the most fitted for the easy management of fowls, as well as being the least expensive. For a hen house, it may be built on one side of the barn, or if you have no building suitable, get four posts, hew two sides; let them be for the high side, say 9 feet; for the low side, say 6 or 7 feet, which will be enough pitch of roof, provided the house is not more than nine feet wide. Twelve feet by nine will be large enough for twenty hens. Plant your posts firmly in the earth, so as to keep your house firm and steady; get second quality pine or hemlock boards; nail them on lengthwise. If you do not choose to get plates, so as to have the boards run up and down, a shingle roof will be the best, though a good board or slab roof will do well. —*Ex.*

LARGE GEESE AND DUCKS.—At the late Birmingham (England) poultry-show—said to have been "the greatest show ever seen"—the three first prize white geese weighed 67 lbs.; those which took the second prize, 62 lbs.; and those which took the third, 53 lbs. Young geese of the same breed weighed 52 lbs. and 50 lbs., the trio. Of grey and mottled geese, the first prize lot of three weighed 77 lbs.; those which took the second prize, 75 lbs.; and those which took the third, 70 lbs. Young geese in the same class weighed 63 lbs. and 57 lbs. the trio. The three first-prize Aylesbury ducks—a drake and two ducks—weighed 25 lbs.; those which took the second prize 21¾ lbs.; and those which took the third, 24¼ lbs. The three first-prize Rouen ducks weighed 23 lbs.; the three which took the second prize, 22½ lbs.; and those which took the third, 22 lbs.

Rural Architecture.

Barns.

WHEN barns are scattered about the farm some thirty yards from each other, and as many more from the house, it *pays* better to move and arrange them in a more convenient manner, as the time would soon amount to enough to pay all expenses, to say nothing of what better care the stock will receive when near the house, than they used to at the further barn. Also, *it pays* to put a good stone wall (laid up with mortar) under every frame building, except corn-houses and cheese-houses, which should stand upon posts set solid in the ground, with a large tin pan bottom side up placed upon the top of every post to prevent mice and rats running up. Remember and have the mason leave several small holes at the top of the wall to let the air in; for if closed tight it will cause the sill and sleepers to decay. When you build a bridge in front of the large doors, of stone and dirt, do not put any *dirt near the sill*, as the water from the roof will soon cause decay. I believe thousands of dollars are wasted in this way every year. *Remedy* —build your bridge of dirt or stone within two feet of the doors, and place a stick of timber four inches from the sill, and four short pieces from sill to embankment, and place two planks upon this foundation, and your sill will not decay here before it does anywhere else. Do not nail a board on the front side of the sill where the doors are, as this will cau decay—*Colonial Farmer.*

The Household.

Smoking Meat.

Not a little has been written on the subject of preparing meat, in the best possible manner, for domestic purposes, previous to placing it in the smoke house, but little or nothing has been said of the manner of smoking it. To appearance, it has been taken for granted, that this process (so important in itself, and that it be done with care) could be performed by any one, who knows enough to build a fire. Those, who have eaten bacon smoked as it should be, and afterwards partaken of that which has been scorched, heat-burned to a crust on the outside, as is too frequently the case with the meat of many people, will detect a remarkable difference, and often denounce the latter kind, as fit for nothing but soap grease. The process of smoking meat should never be left with those who have not a faculty of excercising proper care and judgment in this business. It is not necessary that the smoke be driven in, by heating the smoke-house like Nebuchadnezzar's furnace, seven times hotter than it ought to be heated; a smoke sufficient to fill the space occupied by the meat, is the great desideratum. Log heaps, back-logs and fore-sticks should be dispensed with, because after they get once on fire, there will be too great a degree of heat. And besides this, in wooden smoke-houses, there is a great danger of setting everything on fire. Such instances I have known to occur; and loss of the meat was the consequence.

The best, most effectual, cheapest and neatest manner of smoking meat that has ever come under my observation, is, to place a shovel of live coals in an old pan, or some low dish, and lay on them a few sugar maple chips. Dry ones are the best, for it requires too much fire to use green ones. No other wood will produce so sweet smoke as sugar maple, and the coals of it will keep alive as long or longer than the coals of other wood. In the absence of chips, we use corn cobs, which are nearly as good as chips. Three or four laid on a few coals will produce smoke sufficient, to fill any ordinary smoke-house.

As a substitute for a smoke-house, we have been accustomed to use a molasses hogshead, covered with board on the top, and a hole sawed in the side near the bottom, large enough to admit a small pan of coals, with a cob or two, or a few small chips. Thus we avoid all danger of setting fire to the smoke house, and consuming meat and all, and our meat is not 'half baked,' but presents a clean copper coloured appearance.

Let those, who have been accustomed to smoke their meat over a log heap adopt the mode of smoking I've gently, and then say which way is the best. *Cultivator.*

Note by Ed. C. F.—The above hints are well worthy of being heeded. It is not heat but smoke that is wanted to cure meat well. The suggestion about the molasses barrel is a good one, and may be of service to those who think a regular house necessary for smoking meat. We have known a dry-goods box used in a similar manner, and with complete success. Such a box, raised off the ground, having a cast-iron pan or old kettle let into the bottom to hold the smouldering chips, and having a door hung with leather hinges, will answer a better purpose and hold more meat than many who may be tempted to smile at this note would suppose. We have seen meat hanging in the tops of wattled chimneys, in new localities, but this is a slovenly, unsatisfactory plan, and with such cheap, easily adopted contrivances as are named above, is rendered quite unnecessary.

To render Feathers fit for use for Beds, Pillows, &c.—Put them in strong paper bags, and these in the oven as soon as the bread comes out; remaining there till the next day, they will be sufficiently dry to prevent the animal juices decomposing and causing a most disagreeable smell. After this, strip the feathery part from the quill of all those whose points are sufficiently strong for pressure to cause their piercing the bed-case. They should be again put in the oven for twelve hours to render them quite sweet and safe from moth, whose eggs might possibly have been deposited among them.

The Art of Walking.

In a graceful human step the heel is always raised before the foot is lifted from the ground, as if the foot were a part of a wheel rolling forward; and the weight of the body, supported by the muscles of the calf of the leg, rests for the time on the fore part of the foot and toes; there is then a bending of the foot in a certain degree. But when strong wooden shoes are used, or any shoes so stiff that it will not yield and allow the bending of the foot, the heel is not raised at all until the whole foot rises with it; so that the muscles of the calf are scarcely used, and in consequence, soon dwindle in size and almost disappear. Many of the English farm servants wear heavy, stiff shoes; and in London it is a striking thing to see the drivers of country waggons with fine robust persons in the upper part, but with legs that are fleshless spindles, producing a gait which is awkward and unmanly. The brothers of these men, who are otherwise employed, are not so misshapen. What a pity that, for sake of a trifling saving, fair nature should be thus deformed! An example of this kind is seen in Paris, where as the streets have few or no side pavements, and the ladies have to walk almost constantly on tip-toe, the great action of the muscles of the calf has given conformation of the leg and foot to match which the Parisian belles proudly challenge all the world—not aware, probably, that it is a defect in their city to which the peculiarity in their form is in part owing.—*Scientific American.*

Chapped Hands—Waterproof Blacking.—"Enquirer" asks: "Mr. Editor,—If not deemed unfit subjects for your paper, would you, in your next issue, kindly give me a way to cure *chapped hands*, and also what you would recommend as a good *waterproof blacking*, which will at the same time *polish* well and *preserve* the leather?"

Ans. Pure glycerine, which may be obtained of any druggist, is a very good application for chapped hands. Better still is the following lotion: Glycerine, half an ounce; tannin, 20 grains; whisky, half an ounce; rose-water, one ounce; mix and shake well before using. The following is said to be a good recipe for waterproof boots and shoes. Take three ounces of spermaceti and melt in an earthen vessel over a slow fire; add thereto six drachms of India rubber, cut in slices, and these will presently dissolve; then add of tallow eight ounces, hog's lard two ounces, amber varnish four ounces; mix, and it will be fit for use immediately. The boots or other materials to be treated, are to receive two or three coats with a common blacking brush, and a fine polish is the result.

To Clean Britannia Metal.—Rub the article with a piece of flannel moistened with sweet oil; then apply a little pounded rotten stone or polishing paste with the finger, till the polish is produced; then wash the article with soap and hot water, and when dry, rub with soft wash-leather, and a little fine whiting.

How to Drive Cut Nails.—It is often difficult to drive common cut nails into hard timber, boards, &c. They will never "fly out," however, if first rubbed with soap—common bar or any hard soap will answer. Screws treated in the same manner may also be driven with much greater ease. Soap is much better than oil, and at the same time more convenient.

A Happy Home.—Six things are requisite to create a happy home. Integrity must be the architect, and tidiness the upholsterer. It must be warmed by affection, lightened up with cheerfulness, and industry must be the ventilator, renewing the atmosphere and bringing in fresh salubrity day by day; while over all, as a protecting canopy and glory, no hand will suffice except the blessing of God.

How to Fold a Dress.—The following is said to be a good plan to fold a dress. Our lady readers ought to know:—"Take the exact quarters of the dress, from the bottom of the skirt to the sleeves, double them together with the bosom out; then, on a bed lay the skirt perfectly smooth, and begin at the bottom to fold it up just the width of the trunk or drawer. The waist and sleeves will fold nicely together."

Window Gardening in Denmark.—Grave's recent "Cruise in the Baltic," tells us: "In Copenhagen every window is filled with pretty flower pots, in which roses, pinks and fuchsias seem to thrive to perfection. These beautiful plants give a neat effect to the fronts of the houses, and tell the passing stranger of the deeply rooted love of flowers which forms part of the national character of the Danes as well as of the Swedes."

☞The farmers' library need not be large or expensive. It need not be purchased all at once. The reading of it need not detract one hour from the important labours of the field. But every farmer should, by all means, *have* a library. He needs one for his own benefit. He should have some scientific knowledge of the various operations he is daily performing, both for his own enjoyment and so as to be able to give a reason for everything he does on his land. His children should be taught the philosophy of agriculture more or less thoroughly, that they may be attached to the calling, and may make improvements in it.

Candles.—Take of alum five pounds, dissolve entirely in ten gallons of water, bring the solution to the boiling point, and add twenty pounds of tallow, boiling the whole for an hour skimming constantly. Upon cooling a little, strain through thick muslin or flannel; set aside for a day or two for the tallow to harden; take it from the vessel, lay aside for an hour or so for the water to drip from it, then heat in a clean vessel sufficiently to mould; when moulded, if you desire to bleach them lay upon a plank by the window, turning every two or three days. Candles made strictly by the above receipt will burn with a brilliancy equal to the best adamantine, and fully as long.

Our Bed-Rooms.—Our bed-rooms are too often fit only to die in. The best are those of the intelligent and affluent, which are carefully ventilated; next to these come those of the cabins and ruder farm-houses, with an inch or two of vacancy between the chimney and the roof, and with cracks on every side, through which the stars may be seen. The ceiled and plastered bed-rooms, wherein too many of the middle classes are lodged, with no other apertures for the ingress or egress of air but the doors and windows, are horrible. Nine-tenths of their occupants rarely open a window, unless compelled by excessive heat, and very few are careful even to leave the door ajar. To sleep in a tight six-by-ten bed-room, with no aperture admitting air, is to court the ravages of pestilence, and invoke the speedy advent of death.

A Word about Chairs.—An eminent physician speaking of our chairs, remarks that they are too high and too nearly horizontal. We slide forward and our spines ache. The seats should be fifteen or sixteen inches high in front for men, and from eight to fourteen inche for children and women. The back part of the seat should be from one to three inches lower than the front part. This last is very important. The depth of the seat from front to back should be the same as the height. The chair-back is likewise unphilosophical. The part which meets the small of the back should project furthest forward. Instead of this, at that point there is generally a hollow, this is the cause of much pain and weakness in the small of the back. The present seats produce discomfort, round shoulders and other distortions.

Curing Meat.—To one gallon of water, take one and a half pounds of salt, half a pound of sugar, half an ounce of saltpetre, and half an ounce of potash. In this ratio the pickle is to be increased to any quantity required. Let these be boiled together until all the dirt from the sugar rises to the top, and is skimmed off. Then throw it into a tub to cool, pour it over your beef or pork, to remain the usual time, say four or five weeks. The meat must be well covered with pickle and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpetre, which removes the surface blood, &c., leaving the meat fresh and clean. Some omit boiling the pickle and find it to answer well; though the operation of boiling purifies the pickle by throwing off all the dirt always found in salt and sugar. If this receipt be properly tried, it will never be abandoned. There is none that surpasses it, if so good.

How to make a Good Stew.—Pieces of indifferent meat, such as when fried are uneatable, can be made into a most acceptable stew. A neck piece of mutton will furnish an excellent meal, cheap, and good enough for anybody. The meat in a stew should be thoroughly done until it is tender. If there is much fat, cook the meat the day beforehand with water only, let it cool, and remove the fat from the surface. The vegetables may be added and cooked just before the meal at which the stew is wanted. By managing in this way, a thoroughly cooked stew can be had for breakfast. For a breakfast dish take meat and potatoes only—with a seasoning of salt and pepper. For dinner the vegetables may be varied; mutton with potatoes and onions, makes the celebrated Irish stew; with carrots, a delicious dish; with tomatoes, it is superb, and with green peas and tender bits of asparagus, it is fit to set before a king. Beef instead of mutton, will give another series of dishes.

Miscellaneous.

The Road to Poor Farming.

As the road to *poor farming* is not generally understood, though it is crowded with travellers, we throw up the following landmarks from the Springfield *Republican*, for the common benefit:

1. Invest all your capital in land, and run in debt for more.
2. Hire money to stock your farm.
3. Have no faith in your own business, and be always ready to sell out.
4. Buy mean cows, spavined horses, poor oxen, and cheap tools.
5. Feed bog hay and mouldy corn-stalks exclusively, in order to keep your stock tame; fiery cattle are terribly hard on old, rickety waggons and ploughs.
6. Use the oil of hickory freely whenever your oxen need strength; it is cheaper than hay or meal, keeps the hair lively, and pounds out all the grubs.
7. Select such calves for stock as the butchers shun -beauties of runts, thin in the hams and pot-bellied; but be sure and keep their blood thin by scanty herbage; animals are safest to breed from that hav'nt strength to herd.
8. Be cautious about manufacturing manure; it makes the field look black and mournful about planting time; besides it is a deal of work to haul it.
9. Never waste time for setting out fruit and shade trees; fruit and leaves rotting around a place make it unhealthy.

Winter Roads in Lower Canada.

To the Editor of THE CANADA FARMER.

SIR,—The winter roads in Lower Canada are destroyed by the *habitans traineaux*. I have always found the *habitans* civil and quiet, provided you do not interfere with their *traineaux*. I had made several unsuccessful attempts at different times to get a double road past my own farm, and had long abandoned it as hopeless, when the boon, at the beginning of winter, seemed suddenly within my grasp. It happened that my next neighbour, Jean Baptiste, had a quantity of fuel to cart to market, and that I had a splendid yoke of oxen and a large wood-sled idle in my yard. Jean called on me to discuss the terms on which he could have them; he agreed with me in the superior advantages of wide roads and driving double, and entered so fully into my oft-expressed views, that I thought at last I had made a convert. My delight at the prospect of a double road induced me to be generous. He bound himself, in writing, to make a daily trip with the oxen, (weather permitting,) drawing wood to market. I, in consideration, lent, for nothing, my oxen, yoke and sled as longas the winter roads should last. Soon after there came on one of the Lower Canada old-fashioned storms, which filled the road inconveniently full of snow. Now I expected to realize the advantage of my bargain, and waited for Jean to pass with the oxen. Bye-and-bye he passed, sure enough, with Buck harnessed to a *traineau* in front, and Star attached to another behind. I sallied forth to tax him with breach of contract. "Pardon," says he, civilly,—"Monsieur forgets I only bound myself to make a daily trip with the oxen, and I am an honest man, and will stick to my bargain."

MEM.—I shall try no more conversions.

ALEX. WELLSOLD.

Lower Canada.

FARMING A POOR BUSINESS.—We have often heard our farmers complain about "their business," remarking that in Vermont there was nothing to be made a-farming, especially since the war broke out. Well, it does seem to be an up-hill business, very much like country publishing; but after all, we are inclined to think that labour and capital expended on a farm is about as good as anything now-a-days. The other day we conversed very freely with a Northern Vermont farmer, and he gave us some statistics that we wish to put on record, for the benefit of all concerned. He said that last fall he drove up to the barn 370 sheep to winter. In March last he sold 84 lambs and fat sheep for market, for $556. In July he sold his clip of wool for $754, and then had a flock of 70 head more than he had in the fall! He also informed us that his flock was by no means an extra flock of sheep. Now, if one farmer can do this in Vermont, others can. These things being so, why is farming an unprofitable business? We can't see it. —*Newport News.*

A New Home Wanted.

To the Editor of THE CANADA FARMER.

SIR,—Although the advice given in a recent number of the CANADA FARMER, under the heading "Westward Bound," is very good yet, however industrious the bees may be, the hive is often found too small for all, and some must seek a new home. I thank Providence I have as comfortable a home and homestead as most Canadian farmers on one hundred acres, but I cannot purchase land for my boys in this section of the country, and do not like to expose them to the temptations they might meet with as clerks, &c., in towns or cities. Now, though very much attached to home and its surroundings, I would rather part with it than part with its inmates. My attachments have prevented my thoughts from being "Westward bound." I prefer the rugged clime of Canada, under the old flag. If I knew of any place where sufficient land for a large family (not afraid of the bush) could be got at a moderate price, I would, though not without reluctance, part with home and neighbours to keep my family under my eye.

Any reliable information relative to the wild land now available for settlement in this Province, would be thankfully received by many of the readers of THE CANADA FARMER, as by,

Yours, &c.,

A SUBSCRIBER.

Biddulph, March, 1864.

☞An urchin suffering from an application of the birch, said: "Forty rods are said to be a furlong; I know better, let any one get such a licking as I've had, and he'll find out that one rod makes an acher."

SNOW.—The thick bed of snow, which in boreal regions—or in those where the height above of the atmosphere is considerable—covers the soil during great part of the year, cannot fail, in consequence of its want of conductibility, to prevent the extreme cold of winter from reaching the earth, or, at least, from descending in it to depths which it would reach if the surface was not clothed with this kind of envelope. Snow, strange as the result may appear at first sight, is then, on the whole, in regions where it makes a long stay, a really warming influence.—*Arago.*

☞An individual is told of as doing business in one of the markets, who is down on customers who don't speak properly. "What's eggs, this morning?" says the customer. "*Eggs*, of course," says the dealer. "I mean, how do they go?" "Go where?" "Sho—!" says the customer, getting up his fury, "what for eggs?" "Money, money, sir! or good endorsed credit!" says the dealer. "Don't you understand the English language, sir?" says the customer. "Not as you mix and mingle it I don't," responded the egg merchant. "What—is—the—price—per—dozen—for—your—eggs?" "Ah, now you talk," says the dealer. "Thirty cents per dozen is the price, sir!" They traded. But it appears that another customer, who on asking "what's eggs this morning?" was answered "eggs, of course," responded, "well, I'm glad of that, for the last I got of you were half chickens."

Markets.

Toronto Markets.

"CANADA FARMER" Office, March 15, 1864.

Since our last report very little business has been transacted on the street. The bad roads and the decrease in price have evidently kept farmers from bringing their produce by team to market. The news from Europe of a depression and dullness in bread stuffs had the effect of rendering prices in our market rule lower.

Flour—Superfine at $3 80 for shipment per barrel, $3 75 to $3 95 for home consumption, Extra $4 25 to $4 65, Fancy $4 10 to $4 20; Superior $4 75 to $5 10; Bag Flour $4 00 per 200 lbs. Very little of the higher grades in the market.

Fall Wheat, 85c to 95c for common to choice per bushel, 96c to $1 00 for good to choice; $101 to $1 02 for Extra.

Spring Wheat in good demand at 75c to 80c per bushel for good, 82c to 84c for extra, occasionally a load brings 86c

Barley at 70c to 80c per bushel

Oats at 38c to 48c per bushel.

Peas 45c to 60c per bushel.

Hay $9 50 to $10 50 per ton

Straw $5 to $6 per ton.

Bran $10 a ton at the mill.

Shorts $13 to $15 per ton.

Hides (green) at 4½c to 5c per lb, the latter are for extra

Calf-skins at 7c to 9c per lb.

Sheep-skins at $1 25 to $1 75.

Lamb-skins at $1 25 to $1 70.

Coal $7 25 to $9 per ton.

Wood $4 25 to $5 50 per cord.

Provisions—Hams $9 50 to $10 per 100 lbs, Bacon $6 50 to $7 per 100 lbs; Cheese $9 50 to $10 per 100 lbs, wholesale, 12c to 13c per lb. retail.

Beef in the market, inferior 3½c per lb. second 4 and 4½c per lb, extra 5c per lb. wholesale; 3½c to 6½c per lb. for ordinary, 6½c to 7c for superior, retail.

Calves scarce at $4 and upwards.

Sheep at $4 50 to $7 50 each, according to size and quality

Pork—Dressed $6 to $6 50 for common to extra.

Butter—Fresh, wholesale, at 11c to 15c per lb.; retail 13c to 20c per lb Tub butter, dairy packed, 16c to 18c according to quality. Tub butter, common, 11c to 12c per lb

Eggs—12c to 13c per dozen, wholesale; retail 16c to 20c per doz.

Chickens—Plentiful at 25c to 40c per pair

Ducks—30c to 45c each.

Geese—30c to 55c each.

Turkeys—55c to $1 50 each

Salt—$1 75 to $2 per barrel.

Water Lime—$1 50 to $1 60 per barrel

Potatoes—25c to 40c per bushel, wholesale, 50c to 62½c per bushel, retail

Fresh Fish—17c and upwards each

Apples—Common to good, $2 to $2 75 per barrel; extra $3 per barrel.

Coal Oil—29c to 35c for Canada, 45c to 55c for Pennsylvania.

Wood—scarce at 35c to 41½c per lb.

Montreal Wholesale Cattle Market.—BEEVES—The market has been better supplied for the last week, and prices are rather easier say 1st quality $6 25 to $6 75, 2nd do., $5 50 to $6 25, 3rd do., $4 50 to $5 50. Refusals of lots $29 to $45 *Milch Cows* continue scarce and common high prices, say $35 to $45. *Yearlings* none. Two year-old none. *Sheep* continue very scarce, and prices have advanced, say 1st quality $5 to $10, 2nd do., $7 50 to $8; 3rd do $6 to $7 50. No spring lambs yet offering. *Calves* coming in more freely, and prices have a downward tendency, say 1st quality $9 50 to $8, 2nd do $5 to $6 50, 3rd do $1 to $5. *Hogs*—Market sparingly supplied with Dressed Hogs price ranging from $6 to $6 50, according to weight Live Hogs, some few offering, and bring from $5 to $5 50 *Tallow* scarce, and not much demand at rough 5½c to 5¾c Lard realized 10½c. to 11c *Hides*—Few offering, but demand slack, prices $5 50 to $5 75. *Sheep Pelts* scarce and in demand at $2 25 to $2 75 *Beef Barrelled*—Rather more enquiry at prime mess $9 50 to $9 75; prime $6 to $6 50, tierces $16 50 to $17.—*Herald*, 11th

Hamilton Markets.—We are unable to supply these, as the Hamilton papers of Saturday evening and Monday morning do not contain a report

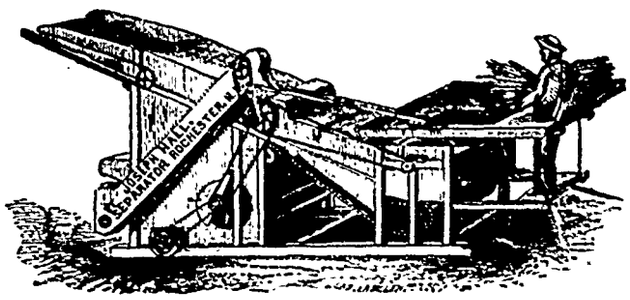
London Markets—MARCH 12TH.—There was a good general supply on market to-day Grain quiet and steady at recent quotations. Hay and Straw in large quantities. Potatoes and Apples in liberal supply and cheaper Maple Sugar to any extent Wholesale prices no change GRAIN—*Fall Wheat*, per bushel, 90c. to 95c. *Spring Wheat* 75c to 80c *Barley*, per bushel, 75c to 85c *Oats*, per bushel, 35c to 40c *Peas*, per bushel, 42c to 45c *Corn*, per bushel, 50c. to 52c *Buckwheat*, per bushel, 30c. to 35c *Rye* 56c PORK—*Dressed Hogs* $5 25 to $5 75 VEGETABLES—*Potatoes*, by the load, 60c to 70c per bushel PROVISIONS—*Butter*, in lots, 20c per lb *Fresh*, by the basket, 16c to 20c per lb *Eggs* 12½c per dozen HIDES, &c.—*Green Hides*, per 100 lbs., $4 50 to $5 *Sheep-skins* $1 50 to $2 each *Calfskins*—Green, 8c per lb *Wool* 38c. to 40c per lb., matted and unwashed subject to a deduction of one-third of the weight HAY, &c.—*Hay*, per ton, $9 to $10 *Straw*, per load, $2.—*Free Press*

New York Markets—MARCH 14.—FLOUR—Receipts 12,047 barrels, market dull and 5c lower Sales 5,200 barrels at $6 35 to $6 45 for *Superfine State*, $6 65 to $6 75 for *Extra State*, $6 80 to $7 10 for *Choice do*; $6 25 to $6 45 for *Superfine Western*; $6 50 to $7 15 for *Common to Medium Extra Western* $7 10 to $7 20 for *Common to Good Shipping Brands Extra Round-Hoop Ohio* *Canada Flour* dull and a shade easier Sales 300 barrels at $6 75 to $7 for *Common*, $7 05 to $8 for *Good to Choice Extra* *Rye Flour* steady at $5 50 to $6 25 GRAIN—*Wheat*—Receipts 3,643 bushels, market one cent lower, moderate demand Sales 23,000 bushels at $1 62 to $1 64 for *Chicago Spring*; $1 62 to $1 64 for *Milwaukee Club*, $1 64 to $1 65 for *Amber Milwaukee*, $1 69 to $1 70 for *Winter Red Western*, $1 72 to $1 74 for *Amber Michigan* *Rye* quiet, sales 800 bushels Eastern at $1 37. *Corn*—Receipts—24,617 bushels, market rather more steady, sales 21 000 bushels at $1 31 for shipping mixed Western in store *Oats* dull at 69½c. to 90c for Canada, 90c. to 90½c. for State, 90c. to 91c for Western PROVISIONS—*Pork* quiet and steady. *Beef* very firm.

Albany Markets—MARCH 11TH.—GRAIN—With a moderate milling enquiry for *Wheat* the market is firm, with a good supply offering Sales 400 bushels *Winter Red State* at $1 65, and 4,000 bushels *White Michigan* at $1 93. *Corn* steady, with sales 400 bushels *Round Yellow* at $1 26, and 400 bushels *Western Mixed* at $1 30 *Rye* and *Barley* quiet. *Oats* in active request at rather better prices Sales 3,500 bushels *State* at 84c to 85c, part delivered on Monday next. FEED—A firm market. Sales 20 tons *Middlings* at $1 95 to $2. SEED—The market is rather easier for *Clover* Sales 10 bbls *Medium* at 12c., and 21 bags do at 13c. *Timothy* is steady but rather quiet.—*Journal*

Cincinnati Markets—MARCH 11TH.—*Red Wheat* was in fair request, and prices were sustained at $1 30 to $1 32 for prime. *White* was held at $1 35 to $1 40, but it was not much inquired for. *Corn* is flat at 80c. to 85c for car in bulk. Distillers are not buying, and prices tend downward There was a fair demand for *Oats* in sacks at 90 cents, but bulk were dull at 78 cents. *Rye* steady at $1 30 on arrival *Barley* dull at $1 15 to $1 20 for Spring, and $1 20 to $1 25 for Fall There is a heavy movement in *Provisions*, and prices are fully sustained, though a speculative feeling does not show itself to any great extent. The heaviest demand was for *Bulk Hams*, which advanced to 11c. The supply is light. *Bulk Shoulders* sold at 8¼c to 8½c for medium, at close heavy averages were held at 8½c to 8¾c *Mess Pork* firm but not active at $22 for best brands of country, and $22 50 for city *Lard* fell back to 12¾c for prime city.

Chicago Markets. March 11.—GRAIN.—The *Wheat* market was less active, at $1 14 to $1 16½; and No. 2 Spring at $1 07 to $1 10½,—the market closing at $1 14½ to $1 15 for No. 1 Spring, and $1 09½ for No 2 Spring *Oats* were in good demand and firm, but there was no actual advance in prices—No 1 selling at 63½c to 64½c., and No. 2 at 62½c. to 63c, according to the date of the receipts. *Rye* was more active, with sales of No. 1 at $1 in store *Barley* was dull and nominal—trading sales having been made at $1 15 to $1 16. PROVISIONS.—The *Provision* market was less active, but there is no material change to note in prices Mess Pork was in demand at $20 to $20 25, but sellers were asking higher prices, and we have no transactions to report. There are still buyers of Prime Mess Pork at $18 50, but it is held firmly at $19 A small lot of country packed changed hands at $18 25. There was a better demand for English Meats on account of the recent advance in sterling Exchange, at 9¾c. to 10c. for Short Rib, and 9¾c. to 10c for Cumberland Middles. SEEDS.—*Timothy Seed* remains dull as a shipping—with light transactions at $2 65 to $2 80 Clover is still an nominal *Flax Seed* is scarce and firm



JOSEPH HALL,

OSHAWA, CANADA WEST.

MANUFACTURER OF

Hall's Improved Threshing Machines, Horse Powers,
Hall's Celebrated Ohio Reaper and Mower combined,
Brinkerhoof Self-Raking Reaper, Hubbard Mower,
"Cayuga Chief" Mower and Reaper combined,
Birdsall's combined, Clover Thresher, Huller and Cleaner.

I DESIRE to call special attention to my IMPROVED THRESHING MACHINES." Several important improvements have been made in the Thresher and Separator, until I feel confident that it cannot be equalled by any establishment in Canada.

Parties wishing to purchase would do well to examine my machines, or send for my new descriptive catalogue, just published, which will be sent to all persons enclosing a postage stamp.

JOSEPH HALL.

Oshawa, March 15, 1864. 5-1t

SPLENDID FARM PROPERTY

FOR SALE.

CONSISTING of parts of Lots 13, 14, and 15, 1st Concession PICKERING, and containing

150 ACRES,

of which about 110 Acres are cleared, and fenced with a board fence put up two years since. Duffin's Creek runs across parts of Lots 13 and 14, affording an abundant supply of water at all times.

The land is of the finest quality, and the greater portion well adapted for wheat growing.

A COMMODIOUS BARN

was erected two years ago, and a house 36 x 28 is now being built.

This fine property adjoins the Duffin's Creek Station of the Grand Trunk Railway, and is only half a mile from the Pickering Post Office and Mills, and the village of Duffin's Creek.

For terms, &c., apply to

A. HENDERSON,
Or to JOHN LEYS, *Barrister*,
Church-street, Toronto

Toronto, March 15, 1864. 5-1t

FARMER & GARDENER WANTED.

FARMER must be a good ploughman, and understand the management of green crops. Gardener must understand the management of a Market Garden. Must be single men. References required.

Address (post-paid) Box 316, Post Office, Kingston.

March 15, 1864. 5-2t

FLOWER SEEDS,

JUST imported, including many novelties. Twenty packets, free by mail, for One Dollar. Warranted fresh and genuine. Parcels up to 1 pound in weight can be sent by post for 25 cents. Send for a list.

W. T. GOLDSMITH,
St. Catharines, C. W.

March 15, 1864. 5-1t

IMPORTANT TO AGRICULTURAL SOCIETIES AND FARMERS.—"THE COMET," a three year old Clydesdale Stallion, imported last October, is open to travel during the coming season in any County in Canada West where he is likely to meet with liberal encouragement. He has, besides local prizes, taken *two first* at the Royal Northern Agricultural Society's Exhibition at Aberdeen in 1862 and '63, and was generally admitted to be as fine a colt as Scotland could produce. He may be seen at the residence of Patrick R. Wright, Esq., near Cobourg, and any communications addressed to his owner Robert Copland, care P. R. Wright, Cobourg, C. W.

Cobourg, Feb. 1, 1864. 2-4t

LANDS FOR SALE.

TWENTY THOUSAND ACRES OF LAND, both wild and improved, and at all prices, for sale in various townships throughout Upper Canada, cheap and on easy terms.

For lists and particulars, apply to the proprietor.

T. D. LEDYARD, *Barrister, &c.*,
South-west cor. of King and Yonge-sts., Toronto.

Toronto, March 15, 1864. 5-tf

A PERSON OF GOOD EDUCATION, accustomed to labour, wishes to engage with some thorough Farmer for a year or two, to get an insight into Canadian Farming and habits. He will give his services for his board, washing and lodging.

Address "ENGLISHMAN," at the office of THE CANADA FARMER, immediately.

Toronto, March 15, 1864. 5-2t*

PEACH-BLOW POTATOES.

250 BUSHELS PURE PEACH-BLOW POTATOES for sale, at **$1.00** per bushel, by

JAMES R. IRELAND.

5-2t Aldershott P. O., C. W.

FARM FOR SALE,

LOT No. 19, in the 16th Concession, Township of Mersea, County of Essex, containing 100 Acres, 60 Acres cleared and under good fence, good Dwelling House, with other suitable buildings, and good bearing Orchard.

Price, $1,600—$600 down and the balance in four equal annual instalments. Title indisputable.

Address

ROBERT ELLISON,
Mersea P. O., Co. of Essex.

March 1, 1864. 4-1t

FOR SALE,

THE SYKES' RATTLER, a three-year-old Roadster Stallion, by "Shales Rattler," imported, dam by "Sir Tatton Sykes," colour jet black, height 15 hands, beautifully formed, and perfectly docile. Besides local prizes, he took first prize as a two-year-old Roadster the last Provincial Fair at Kingston; can be seen at subscriber's residence.

For further particulars, apply to the owner,

SAMUEL HATTON.

Port Hope, March 1, 1864. 4-3t

THOROUGHBRED STOCK FOR SALE.—I have for sale Six Durham and Four Galloway Bulls, from 9 to 23 months old, and a few Females of the above Breeds. Cotswold and Leicester Sheep, male and female.

JOHN SNELL,

1-tf Edmonton, C. W.

J. A. SIMMERS,

SEEDSMAN,

WEST MARKET PLACE, TORONTO, has much pleasure of informing his friends and the public that he is now ready to meet all Wholesale and Retail demands for Seeds of every description.

The *ninth edition* of his Annual Catalogue, or "Cultivator's Guide," is just issued. It contains, as usual, besides a large array of old valuable varieties, a true and reliable description-list of everything new and of merit in Vegetables and Flowers. It should be in the hands of every farmer, gardener, and amateur florist, and may be had *gratis* on application.

March 1, 1864. 4-2t

LIVE HOGS.

FARMERS will please take notice that the undersigned have established Pork-Curing Houses in Hamilton, and will be prepared to buy a large quantity of Live well fatted Hogs, during all next summer. Weights, from 180 to 250 lbs. *Alive preferred.*

Highest cash prices will be paid, and present indications are that better rates will rule than during this winter.

A Steady Market all the time, both Winter and Summer, is now established at Hamilton, and public market scales have been erected for Weighing Hogs Alive, situated at the corner of King and Wellington Streets.

J. T. DAVIES,
Ontario Packing House Hamilton.
SAMUEL NASH,
Corner MacNab Street and Market Place.

March 1, 1864. 4-2t*

ST. CATHARINES NURSERIES.

MY CATALOGUE OF SEEDS will be sent to all applicants. It contains a select assortment of the choicest FLOWER AND VEGETABLE SEEDS, with full directions for sowing the seed and cultivating the plants. Flower Seeds and the smaller Garden Seeds sent, *post-paid to any part of Canada*, on receipt of the catalogue prices.

D. W. BEADLE,
St. Catharines, C. W.

IMPORTANT TO FARMERS.—The Subscribers, with every confidence, recommend to the Farming community generally, CORSS SUPER-PHOSPHATE OF LIME, a *Standard Manure* for all Field Crops, its effect being to mature the crop from two to three weeks earlier, and at the same time *greatly* to increase the yield.

Lands exhausted by long cultivation are made productive by the use of this Super-Phosphate, and the effect of the Phosphate will be evident in the improved crops for sucessive years.

It gives Wheat *a firmer stalk*, so that it is not liable to lodge before ripening; produces a large head and plump berry; and in consequence of its ripening the crops from a *fortnight to three weeks* earlier than by the use of other manures, they are rarely affected by either *rust or midge*. The yield will be increased fully *one-third*. Rye, Barley or Oats are equally benefitted.

It quickens the growth of Turnips, *the oils contained in it protect them from the grub and insects*; and the increase of yield is remarkable. The same is true with Carrots, Beets, and other Root Crops.

Circulars, containing directions for its use, and Testimonials, will be sent, on application to

JAMES FLEMING & CO.,
Wholesale and Retail Agents for the Manufacturer.
AGRICULTURAL HALL, Toronto. 4-2t

GREAT WESTERN NURSERIES,

TOLEDO, OHIO.

WE have a very large quantity of the following Trees:—

APPLE,
DWARF PEAR,
ORANGE QUINCE,
And NECTARINES.

Also, GOOSEBERRIES,
BLACKBERRIES, GRAPES,
CURRANTS and STRAWBERRIES.

EVERGREENS of various sizes, several times replanted.

HARDY ORNAMENTAL SHRUBS.

All of of which will be sold at very low prices. Catalogues and Trade List mailed to applicants.

REITER & MADDOCKS, Toledo, O.

March 1, 1864. 4-2t*