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THE CANADA FARMER

VOL. I. No. 7.] TORONTO, UPPER CANADA, APRIL 15, 1864. [POSTAGE FREE.

Hop Culture.

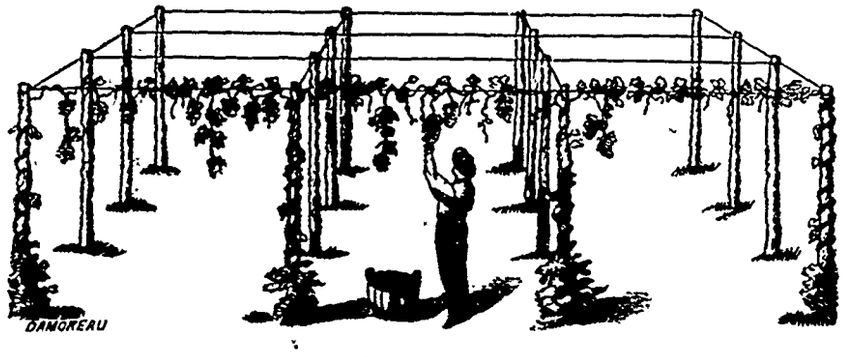
THERE are several varieties of hops, and intending cultivators should endeavour to adapt the kind to the nature of the soil at command. Some of the coarser varieties will flourish in land where the more delicate sorts will not grow at all. The Canterbury, Farnham, and Golding varieties require a deep soil, as their roots have a tendency to strike downward. Other varieties, as the Grape or Kent, and Cluster, will do well on a lighter soil, since they are more shallow-rooted. The best position for a hop-yard is a somewhat protected one. If too much exposed, the wind will often make sad havoc in it. But a low-lying situation must be avoided, lest the hops rot and mould. In reference to planting and managing a hop-yard, a correspondent of the *Rural New Yorker*, writing from Hamilton, N. Y., says :—

"The manner of planting in this region is to thoroughly pulverize the soil, mark the ground into squares seven feet one way and eight the other, or 4 by 14, where wires are to be used. The last plan is not advisable in either case, as the hills are too near each other in the row. The first is preferable. The roots are prepared by cutting in pieces—each piece containing two joints. Two or more small holes are made where the hill is to be, and two pieces of root placed in each hole, the operator being careful to fill all space around the roots with fine dry soil. The intervening space is usually planted to corn, hoed thoroughly—no weed being allowed to seed. In fall, after the ground is cleared of corn, each hill should receive a liberal supply of manure. In spring, as soon as the frost is out of the ground, the manure should be drawn off from the hills to allow the plants to get a vigorous start. Care should be taken to break off none of the earliest vines; for experience has taught that the earlier they start the sooner they will ripen, and thus escape the mold and lice which affect them late in the season."

We cannot do better than give an extract from a letter addressed to the *Country Gentleman*, on the after treatment of a hop-garden :—

"After the first year's crop, commencing with the second years' crop, before the poles are set, the earth, by grubbing around the hills, should be removed so as to expose the vines of the preceding year down to the crown of the roots; the old stalk and suckers and offsets which may have sprung from the preceding year should be cut off closely with a sharp knife, leaving the crown of the hill in a convex shape. Cover the hill again with a thin coating of fine earth mixed with manure or other fertilizer, as may be, care being observed at the time to stick up a mark to hills which are weakly, and will require smaller poles. Grubbing and pruning should be strictly adhered to in order to secure a good crop, and prevent the worm increasing. I have experimented on a few acres of hops in order to save labour by not pruning and grubbing, but trying to subdue the worm by using materials that I knew were not injurious to the hop vines. The effects were, the hop began to decrease by the worms working and eating the vines, so much so that the vines were entirely eaten off after they had reached the top of the poles. I know no better way than pruning and grubbing, for it helps very much in subduing the worms, although many times the worm makes such havoc on the vines that it becomes necessary to go through the yard the second time, which is done by working the worm from the hill by a sharp stick. As a general thing, the worm is found where the best and thriftiest vines grow, near the bed roots. In the management of hop grounds, it may be laid down as a positive rule that the ground should be kept clean from worms and weeds, and the soil kept well enriched."

In some localities, the scarcity of suitable poles is a difficulty in the way of hop-growing, but this country is so well supplied with cedar—the very best timber for the purpose—that Canadian cultivators need be at no loss on this account. The lack of poles and the injurious effects of high winds have led to the invention and introduction of a mode of culture which is illustrated in the accompanying wood cut:



This "stake and string yard" was patented in December last by F. W. Collins, of Morris, Otsego Co., N. Y., and is usually designated "Collins' Horizontal Hop Yard." Though only recently patented, the invention has been tested for several years, and is highly spoken of by competent judges. The *Hop Growers' Journal* commends it in very strong terms. It says :—

"The plan referred to is not a new or untried experiment, but excellent and experienced growers, who are disinterested witnesses, state the results of several years' use of this method in terms of high commendation."

Its chief advantages as set forth by the inventor and patentee are,—

1. Cheapness. One stake from 8 to 10 feet high suffices for a hill. The poles necessary for one acre by the old plan will suffice for four acres on this plan. Broom-makers' twine is used to connect the poles at the tops.

2. The hops ripen earlier, and are less liable to rust.

3. The yield is greater, and the hops are of better quality.

4. The labour of tending and picking is less than on the long poles, or the patent hop frames.

5. There is much less danger of their being injured by high winds, whipping against each other, the stakes giving away, or being blown down, than on the long poles or high frames.

6. The ground being much less shaded, the sun warms the earth, and matures the fruit not only earlier, but more perfectly.

7. The hops can be gathered without cutting off the vine near the ground, which always causes such a flow of sap from the root as to materially weaken, and in some cases entirely destroy the hill.

As already remarked, parties who have tried this mode of hop culture praise it very highly. One extensive hop grower states that the yield was at least fifty per cent. greater on the horizontal plan, than by the ordinary method of cultivation. He adds that in the breaking of the arms and blowing down of the poles, there is a saving of at least ten per cent. more. Another says of it :—"In the first place, it is better, because you get, I think, about one-third more hops per acre than you can from long poles. Secondly, it is better, because it is a great saving of labour. A boy 14 years old can perform any part of the labour, or all of it, from setting the poles to harvesting them." Many other testimonies of a similar nature might be quoted.

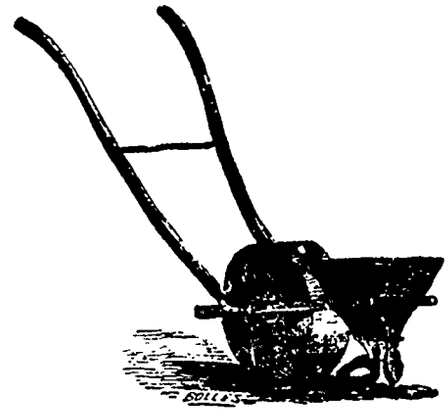
The yield of hops in this country is far less than the demand for them. According to the last Provincial Trade Returns, there were imported into Canada, in 1862, 356,508 lbs. of hops, at a cost of $58,165. Of this amount, $7,571 went to Great Britain, and $50,594 to the United States. Every dollar thus expended might very easily be retained in Canada.

Salt as a Manure.

WE have received several inquiries on the above subject, in reply to which we may state, that much difference of opinion exists at present among agricultural authorities respecting the utility of salt as a fertilizer. It has long been considered that the action of salt was beneficial in various ways, but this view has lately been questioned, and some weighty

facts have been urged against it. The agricultural journals and leading men in Britain, and on this continent, are canvassing this matter just now with much interest. At a recent meeting of the Royal Agricultural Society, Mr. Lawes read a paper, in which he detailed a series of experiments, extending over a period of sixteen years, the results of which did not encourage the use of salt, but led that eminent agriculturist to conclude that the large amount of money which is expended annually on salt as a manure throughout the British isles, is not returned in produce Mr. Fisher Hobbs is of opinion that in his locality—the east of England - where the climate is dry, the action of salt is decidedly beneficial. Dr. Voelcker thinks that on light soils, salt is often used with great benefit, while on heavy soils it is attended with no advantage whatever, or with decided disadvantage. The chief reason why he considers salt beneficial on light soils, is that it retards growth, prevents too speedy maturity, and by prolonging the growing season, increases the crop. On heavy soils he recommends the use of superphosphate and other fertilizers, tending to quicken growth and hasten maturity. In opposition to these views is the testimony of Mr. J. Hooker, Walton-on-Thames, who found that the use of salt on a stiff clay, largely increased the yield both of wheat and mangolds. A commission, employed by the French government to investigate this subject, has reported that *salt is of no value as a manure*. This result has reference to the application of salt by itself, but has no bearing on its action when applied along with other fertilizing materials. Many experienced farmers on the continent of America entertain a high opinion of the merits of salt as a manure, but how far that opinion is the result of careful experiment, or is borne out by facts, we are unable to say. There is a general impression that salt tends to stiffen and brighten the straw of wheat, and to improve certain other crops, especially mangolds. This was the impression of Mr. Lawes, until actual experiment induced other conclusions It is quite possible, however, that salt might benefit soils of another character, though it produced no good results upon his farm A correspondent of the *Country Gentleman* thus writes to that journal: "Premising that the general soil hereabouts is mica, it may generally be said, as the result of many years' trial, that six bushels of salt per acre at seeding time is a preventive of rust, that it very much increases and strengthens the straw, that it adds to the weight of the grain; and that it matures the crop earlier. Especially is it beneficial in our hot, dry seasons to that crop so difficult to be reasonably successful with, the oat crop." The *Journal of Agriculture* of 1863 states that at a meeting of the Cheadle Agricultural Society, a mixture of salt and lime, in the proportion of one ton of lime to half a ton of salt, well mixed together for some weeks before being used, and then applied to an acre of land, was strongly recommended by several of the members as a preventive of wheat falling down, and also of its being permanently injured by mildew—of increasing the clover crop and of saving it from the attacks of the slug." In the compost heap in combination with lime, salt is generally considered helpful in decomposing muck and other material. On grass land it is thought to check rank vegetation and sweeten herbage.

Such are samples of the varied and conflicting opinions which we find floating about in our exchanges in reference to this matter. When doctors differ so widely, it is not easy to arrive at settled conclusions. On the whole, we are inclined to think the subject needs more thorough investigation and more extensive experimenting, before positive opinions can be ventured. In some soils, there may be chemical affinities with the chloride of soda of which salt consists, which may render it useful in decomposing and combining materials of fertility and ingredients of plant food. In other soils where no such affinities exist, it may be of little or no value. Something may also depend on the nature of the season, and upon the distance from or nearness to the "briny ocean." Salt enters slightly into the composition of most plants,—it also exists in limited proportions in the bodies of animals. The rainfall is known to supply salt to the soil to some extent. It seems reasonable to suppose that the use of salt as a manure would be more needed by a country like ours, mostly removed far from the sea, and less likely to receive without artificial means the supply of saline material demanded by vegetable and animal life. One of our correspondents asks what quantity of salt will do per acre, and whether it will kill Canada thistles? Various quantities are recommended by those who advocate the use of salt. About four hundred pounds per acre is an ordinary application along with other manures—from five to ten hundred weight is however sometimes applied. No moderate dressing of salt would kill Canada thistles. It is doubtless possible to put on enough to kill that inveterate weed, but the effect would be to kill everything else, and render the ground unfit to yield a crop of any kind



Seed Drill.

Among implements that save time and labour on the farm, a good Seed Drill deservedly takes high rank, especially now that the cultivation of roots is so generally practised. As the time for sowing is just at hand, we present our readers with an engraving of a new and improved machine known as the Wethersfield Seed Sower, which after careful inspection and trial, we cannot help regarding as most effective and complete in its arrangements for dropping seed of all kinds with regularity and certainty. Instead of the usual wheel-shaped brush, this drill has a strong spring operated by means of pins placed at intervals on the side of the wheel. This spring acts upon the reed through which the seed drops into the ground, causing the reed to slide backwards and forwards with such force that it is quite impossible for the seed to miss. All clogging or failing to act is out of the question. The inventor claims for this implement that it is the "*ne plus ultra*" of seed drills, and we must own that we have seen nothing that surpasses or even equals it. It adapts itself to every form and size of seed, makes its own drill, distributes with perfect evenness, can be regulated to sow any quantity of seed per acre, protects the seed from wind and rain covers thoroughly and gently presses down the soil, thereby securing the close contact which is necessary in order to quick germination. Eight reeds go with each machine, guaged for seeds varying in size from the minute celery, to corn and beans. The soil must be well prepared, level, pulverized, and dry enough not to pack upon the wheel,—conditions necessary in the case of every similar implement.

This Drill is for sale by, J. Fleming & Co., of this City; Price Six Dollars.

Vetches.

Vetches or tares, are much cultivated as a green forage crop in Great Britain, and might we have no doubt be grown to good advantage in this country. There are two varieties of them; winter vetches which, like winter wheat, are sown in the fall and make the earliest of green feed for summer, selling purposes; and spring vetches, sown in the early spring which of course come forward later in the season. This crop is much esteemed by British agriculturists for its valuable feeding qualities; the excellent condition in which it leaves the land, its dense growth effectually smothering down weeds of every kind; and the addition it makes to the manure heap when fed in summer and autumn to stabled or yarded stock. A rich well-manured soil is needful to grow vetches in full luxuriance and abundance. In a poor soil, the crop is apt to be thin, and the land becomes foul. When they are stout and rank there is danger of their spoiling by becoming lodged, but this may be very considerably obviated by sowing oats with them. Two bushels of vetches, with one of oats is a very suitable proportion. They may be sown either broadcast or in rows. The latter is considered in Britain the better plan, the rows or drills being from 12 to 15 inches wide, to afford room for hoeing. Even where hoeing cannot be afforded as is the case in this country, there are some advantages connected with drilling this and other grain seeds. But vetches do very well sown broadcast provided the land be in good condition and properly prepared. Vetches are excellent feed for sheep, and they may be folded upon them by the use of moveable hurdles, as suggested in our last issue, to advantage. A correspondent of the *Scottish Farmer* suggests the following mode of feeding vetches to sheep. In this case, a space is first mown across the field, sufficiently large to afford room for the sheep, and hurdles, having upright instead of horizontal bars, are put up close to the growing crop. A swathe is then mown and put close to the hurdles, to allow the sheep to get at the food; and as this is consumed the hurdles are shifted forward over the cleared space, another swathe mown, and so on until the field is gone over, allowing the sheep liberty to go back over the cleared space. Artificial food may be given along with the vetches, with advantage both to the sheep and to the land, and it will be as well that they have a command of water. The result is that a piece of poor land, which in ordinary cases would maintain a very small number of sheep if laid down in grass, will be raised to an equality with, if not rendered superior to, the best pastures in point of its capability for feeding stock. Vetches are sometimes grown for winter fodder and used instead of hay for horses. When grown for this purpose they must be allowed to become nearly ripe, then mown, and turned in the swathe once or twice to dry them thoroughly. In stacking them, it is recommended to lay them in alternate layers with hay or straw. Horses are very fond of this description of fodder, and may be kept in working condition on a less allowance of oats, than when fed on hay, in consequence of the seeds preserved in their pods, and which are somewhat of the nature of peas.

Failure of Turnips, &c.

The importance of pure, fresh and sound seed cannot be over-estimated. But it often happens that the want of success in raising turnips, mangolds, carrots, &c., is more the fault of the cultivator, or the unfavourable character of the season, than the inferior quality of the seed. These small seeds especially require a deep, well-prepared and manured seed-bed, to ensure healthy germination, and a genial growing season to ensure a good crop. In Ireland, of late years, root crops have declined in productiveness from various, and to a great extent unknown, causes; but the farmers seem to attribute the want of success to the growers and dealers in seeds, and cases of expensive litigation have in consequence become somewhat common. The *Mark Lane Express* makes the following suitable remarks in reference to this matter, which will be found applicable to this side of the Atlantic also:—

"We cannot dismiss this subject without drawing a comparison between the conduct of the farmers in England and those in Ireland under similar circumstances. By the latter the loss of the turnip crop is at once ascribed to the badness of the seed, and the seedsmen are involved in a series of actions at law, or of compromises, which, if suffered to go on, or be repeated, must inevitably end in their abandoning

the Irish growers altogether. In many cases they *know* that the seedsman is not in fault, although they prosecute him for damages; whilst, in many other instances they themselves are the real delinquents, by their neglect of proper tillage, or want of manure. On the contrary, the English farmer knows that the turnips, as well as the mangolds, have of late become precarious, and less able to withstand the casualties of the season. The cause of this no one is able to determine; but certainly it is not owing to defects in cultivation or want of manure, and the farmers themselves are too well informed on the subject to ascribe it to the badness of seed. The subject, however, has been well ventilated this season, and we hope that no further attempts will be made to insist on the return of money from the seedsmen, who are as free from blame in the matter as the farmers themselves, and in many cases much more so."

Harrowing by Steam.

We learn from the *Scottish Farmer* that the Messrs. Howards, of Bedford, have, in addition to their well known steam plough and cultivator, invented a most efficient harrow, which was recently put to work on the farm of Mr. Hope, of Fenton Barns. "If our forefathers," observes the *Farmer*, "had a peep at the agriculture of the present day, they would certainly feel a little astonished. In the Drem district of East Lothian, no less than three or four 'iron horses' can be seen any day digging, ploughing, and cultivating the land; but it was not until last week that *bona fide* harrowing by steam was ever, we believe, attempted in Scotland."

The harrow in this instance was preparing for beans, the tines sinking six inches into the ground, making admirable work, and avoiding the treading of horses, which is always felt to be a serious disadvantage, particularly in wet land and rainy weather. The pace was about twice that of horses, and the engine and windlass were placed in an adjoining grass field.

"The width of the harrow is ten feet, and it is divided into three jointed sections of Howard's well known zig-zag, about twice or three times heavier than those made for horses. There are four guide wheels, two in front and two behind, with a seat over each, upon which sits the steersman. Many may wonder how a harrow possibly can be steered; but this operation is nevertheless fully accomplished by means of a lever connected with the front wheels, and reaching back to the harrowman's seat. The cost of the harrow is £20."

The progress which steam culture is making must be regarded as full of promise, every year bringing about some improvement of structure and increased facilities of operation. In our small, and in most cases but partially cleared, enclosures, the principle of steam tillage is not yet applicable; but in the course of improvement is it doubtless destined some day to play a conspicuous part, and will probably obtain its greatest triumphs on the broad prairie lands of the West.

An Ohio Flax Crop.—The following report of a small field of flax was sent by a farmer in Ohio to his local paper, and is worthy attention as showing what can be done, under peculiarly favourable circumstances, with this crop.

PRODUCT FROM THREE ACRES.

1440 lbs. dressed flax, at 17 cents	$244 80
70 bushels seed at $1 60	112 00
Total	$356 80

COST OF RAISING.

Two and one-half bushels seed sown	$10 00
Plowing	4 00
Harrowing	2 00
Pulling, at $5 per acre	15 00
Threshing off seed and rotting	10 00
Dressing, about 3 cents per lb	34 00
Total	$75 00
Profit	$281 80

This exhibit shows an enormous profit, and though it is only in rare cases and under special circumstances such a return is obtained, we are satisfied that nothing the farmer can raise is more sure to be remunerative than flax.

☞ It is the law in Japan that no fir or cypress tree can be cut down without the permission of a magistrate, and for every full-grown tree that is felled a sapling must be planted.

Smut in Wheat.

To the Editor of The Canada Farmer.

Sir,—As the time for sowing wheat is near at hand I would suggest a few hints gathered from my own experience, which I think may be of use to some of your readers. I would recommend, in the first place, to procure seed as free from smut as possible, as, I believe, sowing smut, in the seed, will infect the crop, and also infect the land on which it is sown.—That there is infection in the land as well as the seed, is in my mind beyond a doubt. I will give you my reasons for the statement. In the year 1852, I fallowed about 26 acres of land for fall wheat. Sixteen acres of this field had been under good cultivation for many years, while the rest of it had never been broken up since it was first cleared up from the bush, but was covered with briers and rubbish of every description. We ploughed the field three times, and bestowed the same amount of labour per acre on each part of the field. The seed sown was extremely smutty, but was prepared in the following manner: one half was washed in a solution of blue vitriol, the smut and dirt skimmed off, and the wheat dried with wood ashes. The other half was washed in a solution of arsenic, and dried in like manner. Running short of seed, prepared in this manner, and having about a quarter of an acre to sow, we used the seed just as it was. Now for the result:—I could see no difference in the wheat prepared from the two different recipes; but there was a vast deal of difference in the grain grown on the land which had lain so many years in an uncultivated state. It was very smutty, while the other part was free from it. With respect to the small quantity sown without preparation, it was nearly all smut, showing that the infection can be carried to the land, in the seed, in a great measure.

But that there is infection in the land, as well as the seed, is a matter I firmly believe. For instance—I have never seen smut in a field of what we call new-land wheat, where it has been properly burnt off; but if there should be places which have escaped the fire, covered with leaves and other rubbish, there, no matter now the seed has been prepared, I have invariably seen more or less smut. Now the only hints I can give towards ridding the land of infection, is to cultivate carefully—see that there are no corners left here and there unploughed; and when fences require repairs, pull them down and build them up on a fresh place, then plough up the site of the old one, for it is my opinion that while there are fences crowded with bushes, and weeds, and stone heaps, that the farm will never produce crops free from smut. I have had a good chance to observe what has been going on among our farmers for the last ten years, having threshed among them two or three months each year. During that time, I have generally observed, that where they have sowed their wheat in a careless manner, on land but poorly handled, that, to use a common expression, they had a little wheat among the smut. On the other hand, I know farmers who cultivate thoroughly, and prepare their seed carefully, and such a thing as a ball of smut is rarely ever seen in their grain. Now, as every head of smut is a loss to the person raising it, (for he might make sure of a head of good wheat in its place if he tried,) I would recommend great care in the selection of seed, and always to prepare, in some way or other, before sowing. I will give you one or two recipes which I have used with good success:—Take strong lime water, sufficient in quantity to wet the wheat nicely, stir it up thoroughly, to see that it has been well mixed, then dry it to your mind with lime. Or take blue vitriol, arsenic, or any ingredient that will destroy animal life, and use it in the same manner as the lime water, and you will have the desired result.

T. BRETT.

Mono Mills, March 22nd, 1864.

Management of Manure on Clay Farms.

To the Editor of The Canada Farmer:

Sir,—Upon clay soils, where wheat forms a principal part of the crop, where great quantities of beans are cultivated, and few turnips sown, unless for the use of milch cows, the rotting of dung is not only a troublesome but an expensive affair. Independently of what is consumed by the ordinary farm stock, the overplus of the straw must be rotted by lean cattle kept in the yard, who either receive the straw in racks or have it thrown across the yard, to be eaten and trodden down by them. According to this mode of consumption, it is evident that a still greater necessity arises for a frequent removal of this unmade dung. To prepare it sufficiently upon farms of this description, is at all times an arduous task, especially in dry seasons, for if it once gets *fire-fanged*, it is almost impossible to bring it into a suitable state of preparation, and, at all events, its virtues are thereby considerably diminished. It is therefore recommended, upon clay land farms, especially those of considerable size, that the yard be frequently cleared, and that the greatest care be taken to mix the stable or horse dung in a regular way with what is gathered in the yard, or made by other animals, in order that a gradual heat or fermentation may be speedily produced.

The heap or pile, in the case of turnip dung, should be formed in a secluded spot, if such can be got at hand, because the less it is exposed to the influence of the sun and wind, so much faster will fermentation proceed. Separate heaps are necessary, so that too much may not be deposited at once. By shifting the mass frequently, and allowing each covering or coat to settle and ferment before laying on any more, the best effects will follow. All such heaps as are completed before the 1st of May may reasonably be expected to be in a fit condition for applying to the summer-fallow fields, in the end of July or first of August.

If the external parts get dry at any time during the process, it will be proper to water them thoroughly, and in many cases to turn over the heap completely. Upon large farms, where the management of manure is sufficiently understood and properly practised, it is considered an important matter to have dung-hills of all ages, and ready for use whenever the condition of a field calls for restoratives.

As to the proper quantity of dung to be used, no more ought to be given at one time than is sufficient to render the ground capable of producing good crops, until the time arrives when a fresh dose can be administered. N. B.

Grantham, April 3, 1864.

English Horse Beans.

To the Editor of The Canada Farmer:

Sir,—I was somewhat surprised to see the statement of J. Ewing, in the sixth number of The Canada Farmer, of his bad luck with the above named beans, and the only way that I can account for it is that he must have sown them on a small scale, and rather thinly, in which case the sun would have a bad effect on the flowers, and as the lower ones would be most shaded, they would be likely to thrive while the others withered. I have grown them myself for several years and have always had a pretty fair crop

The way I cultivate them is as follows:—I rib about an acre sixteen inches apart, so as to allow room to hoe or scruffle them. I generally sow two bushels to the acre, which makes them come up pretty thickly, and the tops keep the sun from the flowers. The best soil is a black loam, with a clay subsoil. I sow them as early as possible in the spring, as the frost will not affect them. By this means I generally get from 15 *to* 20 *pods on the stalk*, which will yield from 25 to 30 bushels per acre. The beans are superior to those grown in England, as the black ones there rot, but here they keep as long as the white. A damp season suits them best the last was very favourable for them. They are generally ready to cut about the middle of September, and I cut them with the reaping machine, bind them with straw bands, and stand them in ruckles until they are dry enough to lead into the barn. R. G. T.

Malton, C. W.

The most Profitable Variety of Potato.

At a recent meeting of the Farmers' Club of the American Institute, Mr. Carpenter gave his experience with Goodrich's potatoes. He said that he had cultivated all four varieties, and he believed that the Cuzco-white, with good culture, would yield 300 bushels to the acre.

Mr. Williams said that in 1862 he tried all four varieties in comparison with some of the best old kinds, carefully measured the ground and the crop, and having his note-book with him he could give the results. The ground, manuring and culture were the same in all cases. The rate per acre of the yield was:—

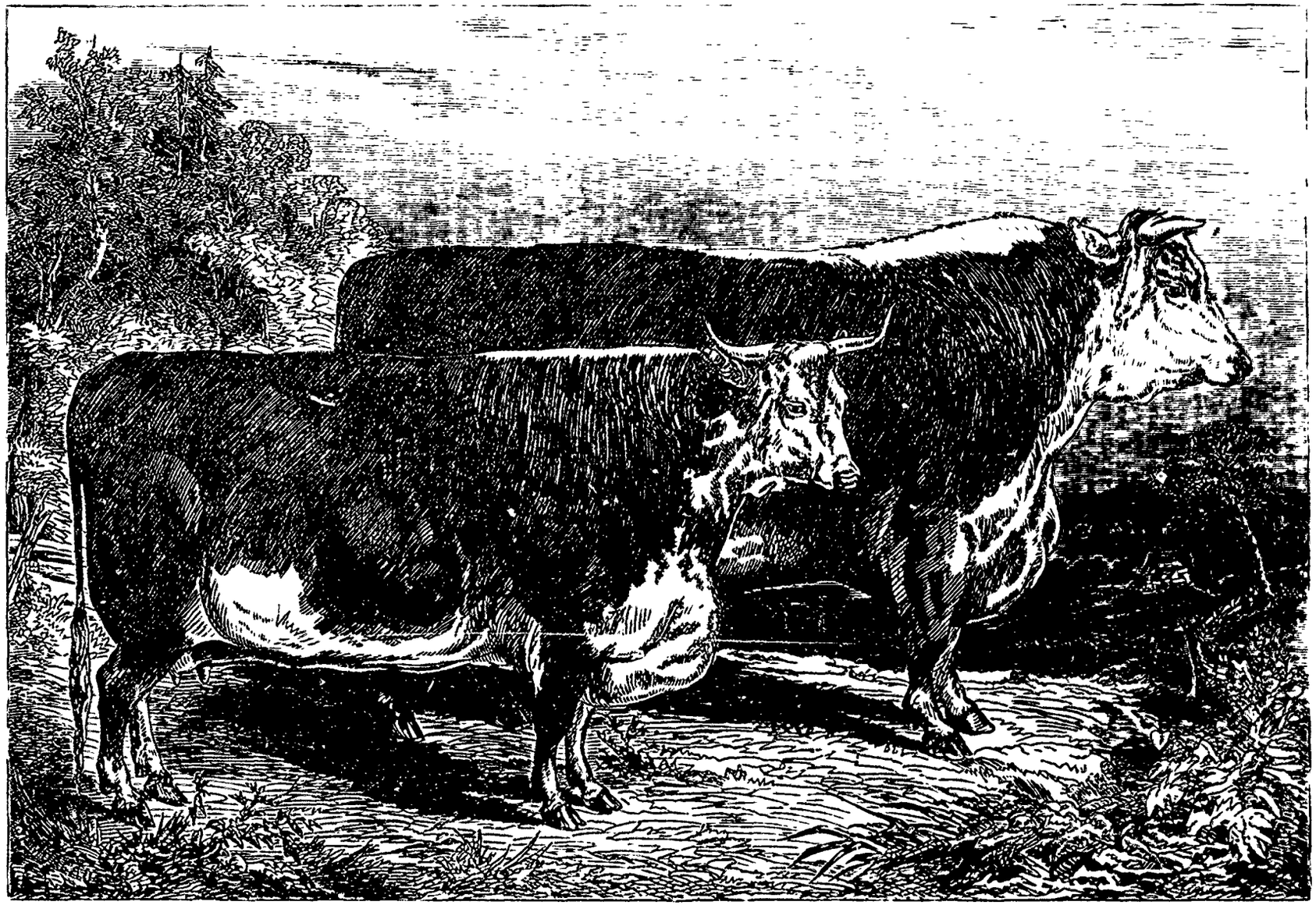
Prince Albert	86 bush. 6 quarts.
Jersey Mercer	91 bush. 18 quarts.
Nova Scotia	163 bush. 20 quarts.
Peach-blow	114 bush. 3 quarts.
Garner-Chili	120 bush. 3 quarts.
Coppermine	199 bush. 2 quarts.
Rusty-coat	216 bush. 6 quarts.
Cuzco	240 bush. 7 quarts.

The last four are Goodrich's.

Mr. Williams thought that the Cuzco surpassed all other varieties of potato in the abundance of its yield, and though in quality it was not perhaps quite equal to the Mercer, it brought the same price in the Newark market.—*Scientific American.*

The Herefords.

In the picturesque and fertile county bordering on Wales, resting on what geologists denominate the "old red sandstone," a very valuable race of cattle has existed for many centuries, subject to such modifications as to size, milking and fattening properties, as differences in elevation, pasturage and state of cultivation would naturally produce. "Herefordshire was of old a part of the country of the Cambro-Britons, but at a very early period fell under the dominion of the Anglo-Saxons. Yet, although it has thus for a vast period been connected with Wales only by contiguity of situation, its cattle retain the traces of a common ancestry. They have that orange-yellow colour of the skin which distinguishes the Pembrokes and the Devons, and also that medium length of horns which separates these breeds and their varieties from the race termed Long-horned."



HEREFORD BULL AND COW.

It is not now possible to trace with any minute degree of accuracy the early progress made by the several varieties of cattle that belonged to this interesting district; but it may be justly said that we are indebted for the present improved Hereford breed to comparatively modern times—a few details in relation to which cannot fail to be interesting to the reader. About the year 1769, Mr. Benjamin Tomkins commenced a system of breeding from apparently accidental causes, that materially affected the character and economic value of the stock of this part of England. It appears that two cows had been bought for the dairy at a fair on the confines of Wales, which exhibited several remarkable properties, among them a superior symmetry of form, and great tendency to fatten. These two cows formed the foundation of the improved breed of Herefords. The one with more white was called Pigeon, and the other, of a rich red colour with spotted face, was designated Mottle; and it is remarkable that the marking of these two cows may be distinguished in their descendants at the present day. Mr. Tomkins appears to have exercised much care and judgment in selecting his cows and bulls, all of which, with but slight exceptions, were taken from his own stock, thus adopting the principle so successfully pursued by Bakewell and Collings in long and short-horns, viz., breeding-in-and-in, a principle attended by the happiest results when kept within legitimate bounds. By careful selection and intermixture, Tomkins ultimately succeeded in imparting to his herd the permanent characteristics of a distinct breed. "In this latter respect," observes an able writer, "he was no less successful as Bakewell, as many of the Herefords deviate considerably from a common type. Tomkins, indeed, had what he termed his different tribes of stock, as his Mottle line, his Pigeon line, or Silver line from which we [illegible] merely to show that his animals had not been so amalgamated as to acquire a permanent class of common characters." Tomkins, it appears, was a man of most unassuming and retired habits, and although he devoted a long life to the improvement and establishment of his breed, he seldom exhibited any specimens away from home, and like those eminent breeders, Bakewell & Collings, he managed to keep his method of proceeding pretty much of a secret. Little is known with any degree of certainty but the fact of the two cows before mentioned, and the confining of himself chiefly to his own herd for the means of its improvement. Some have thought that the Herefords have certain resemblances to the Devon, and that they are a sort of variety of that

breed. A cursory examination, however, will show that they have distant features and points, and the resemblance is merely such as may be supposed to arise from a common and distinct ancestry. There is, in fact, nothing to show that Tomkins had recourse to any races than such as had become naturalized in his own district. He died at an advanced age, having honourably acquired considerable wealth and distinction. His breed slowly, it is true, acquired a distinct character and reputation, but the progress and results have proved real and abiding. Many breeders in that locality followed in Tomkins' steps, and have been instrumental in bringing up the Hereford cattle to the present high state of excellence and unity of character, which command the admiration of the most discriminating judges of the present day.

"The modern Hereford is a breed of the larger class, the oxen attaining a weight scarcely surpassed by any other in the kingdom. The colour is a dark red, or reddish brown, with white faces, and more or less of white on the back and belly; and the aim of modern breeders has for a considerable period been to promote more of the white colour, which is characteristic of the Pigeon or Silver line of Tomkins, and to which the preference has long been given. The horns are of medium length and spreading, but sometimes very short in the butts; the forehead is broad, and the countenance open and mild; the shoulder is well formed, and the chest broad and deep. Their beef brings a good price in the market, although it is not so well marbled as that of some other breeds, even of the lower country. They tend to accumulate fat upon the rump, but not in the same degree as the Long-horns. They fatten readily, and on ordinary food, and hence the general estimation in which the oxen are held for the purposes of grazing. Although a docile race, the bulls frequently become vicious when old. The cows, like the Devons, are small as compared with the size to which the oxen attain. They are likewise indifferent milkers, so that this breed is rarely employed in the regular dairy. This must be ascribed to the exclusive attention bestowed by modern breeders on the fattening property, for the unimproved Herefords do not seem to be deficient in this property, and the Glamorgans, which are nearly allied to the Hereford breed possess it in a high degree."

Such has been the improvement effected of late years in this valuable breed, both as regards size and fattening properties, that not a few persons have become inclined to rank it nearly, if not quite, on a level with the world-renowned Short-horns. It is perfectly true that at some of the principal British Fat Cattle Shows the Herefords have occasionally, of late, carried off the palm against all other kinds; and none but such as are ignorant of subjects of this nature, or warped by prejudice or self-interest, will withhold the meed of praise that is so justly due to the modern improvers of this fine race. To quote again from a high authority, Professor Low:—"By the acquisition of this beautiful breed, Herefordshire has become a breeding rather than a grazing district. Comparatively few of the Herefords are fattened in the county itself. They are bought by the graziers of other districts, and thus fattened for the London and other markets. Numbers of them, after being worked for several years, are carried to these markets, presenting as fine specimens of the matured and fattened ox as are to be seen in any country. The Hereford breeders naturally set a high value upon this breed. They esteem it to be the finest in England. It has, indeed, many excellent properties for the grazier; but the general judgment of the breeders has long been pronounced in favour of another breed, likewise perfected by the skill of the breeder,—the Short-horned Teeswater, or, as it is now generally termed, the Durham breed. This has for many years been progressively extending, and been carried even within the native districts of the Herefords. The Herefords will frequently pay the graziers better than the Durhams; but the value of a breed is to be determined, not by the profit which it yields between buying and selling, but by that which it yields to the breeder and the feeder conjointly from its birth to its maturity, and taking into account the early maturity of the Short-horns, and the weight to which they arrive, it may without error be asserted that they merit the preference which has been given to them. The two breeds have sometimes been crossed with one another; but, although finer animals are produced by a first cross, the future progeny rarely equals the parents of pure blood. Unless, therefore, the Herefords were to be crossed until they became Short-horns, the proper course seems to be to preserve the two breeds in a state of purity, the breeder and the grazier contenting themselves with the excellencies which each has acquired."

The specimens of Hereford Cattle which we had in this Province previous to Mr. Stone's importation in 1860, were in point of number very few and of decidedly inferior quality. And this, we believe, has been the case in the United States, till within a comparatively recent date. The breed, however, is steadily making its way on this continent, and from its aptitude to fatten, with ordinary care, will attain to heavy weights on good pastures. We certainly think that the Herefords are deserving a fuller trial than they have yet received in Canada, and we shall be glad to chronicle the results at which any of our breeders may arrive. Mr. Stone's stock is from the best blood that could be obtained in England; we saw at the Royal Agricultural Society's Show at Canterbury in 1860, several prize animals which he afterwards imported; and such of our readers as have seen them at our own Provincial Exhibitions will admit, with us, that they are infinitely superior to any Herefords that have hitherto made their appearance in this Province.

Breeding and Feeding Hogs.

To the Editor of THE CANADA FARMER:

SIR,—If Canada is to retain and improve its high reputation for pork, too much attention cannot be given to the breeding and feeding of hogs. The necessity for this was very prominently set forth in a recent number of THE CANADA FARMER. The popular breeds of the small and medium-size Yorkshire, Berkshire, Essex and Suffolk, were jointly commended on the one hand, while that miserable caricature of a pig known by a string of names—"land-pike," "racer," "alligator-hog," "native," "Canadian runt," &c. was as deservedly condemned on the other.

An opportunity is now offered to Canada to secure to itself a share of the large and increasing trade in bacon between America and England, at present amounting to from fifteen to twenty millions of dollars annually, and upon proper breeding and feeding will greatly depend the success of the enterprise. The hog that will weigh, when fat, 200 to 250 pounds, alive, 9 to 12 months old, with fine bone, firm flesh, and thin skin, is just the animal wanted to make bacon for the English market. Heavier pork will, no doubt, continue to have many admirers at home.

For feeding, nothing yet tried, that I know of, is equal to peas, and the drier and harder the better; next come barley meal, milk, and dairy leavings, and after these may be named chopped stuff, and old Indian corn. In Ireland excellent pork is produced from boiled potatoes, mixed sometimes with a little coarse meal or bran. Turnips, mangold wurtzel pumpkins, and such things, are bad feed for hogs; worse still are distillery slops, and nuts generally, and beech nuts are the very worst of all.

SAMUEL NASH, Pork Packer.

Hamilton, March 22, 1864.

Better Stock and More of It.

To the Editor of THE CANADA FARMER:

SIR,—I have had the pleasure of receiving each number of your valuable paper thus far, and consider it to be just what we need in this section of country. Farmers here have paid very little attention to stock-raising; the great object has been wheat-growing. They have not clovered enough; when they do get a good crop of clover they will shave the ground of it nearly as close as a man could get his face shaved, cart the hay to market, and allow their stock to go shivering around an old straw stack, scarcely daring to venture to the watering-trough for fear of being shipwrecked by the wind. I believe THE CANADA FARMER is destined to do a great work for us, as a farming community, in advocating the breeding and management of stock. Farmers are already pricking up their ears and making enquiries about the Durham, Devon, Galloway, and Ayrshire cattle, and the Leicester, Cotswold and Merino sheep. Let me say, arise one and all, and further the interest of stock-raising and feeding. We have the land to do it with, and we can grow as big sheep and cattle as a Miller, Stone or Snell.

Burford. A YOUNG FARMER.

How to make Domestic Animals Wild.

A WRITER in the *American Stock Journal* gives his experience in the treatment of a calf, which became wild, and all her descendants, down to the third or fourth generation, as follows:

Some years since I had a calf, half Durham and half native, of very quiet and gentle stock. When the said calf was about five weeks old, we loaded it into the harvest waggon, which, by the way, had but one board of about a foot wide for the bottom. The calf was held in the waggon by two men, its legs frequently falling through the bottom and sides of the waggon bed, until it was somewhat bruised and very much frightened.—We took it to a distant field and turned it out amongst a lot of feeding steers, which immediately made chase and run the calf round the field somewhat like a pack of hounds after a fox, till the calf was so much exhausted as to be scarcely able to stand and I thought it would die; it lived, however, and ever after appeared wild as a deer whenever a man would go into the field. At three years old it had a calf, and with considerable coaxing the women got it so quiet as to milk, but a man could scarcely get within twenty feet of her, always wild and fearful when a man was near. This calf was also raised, and was nearly as wild as the frightened mother, yet treated gently. In due time this calf also had a calf, which was raised, and inherited the same wild disposition of the grandmother. The cow No. 1 afterwards had two other calves, which evinced the same wild disposition, from three days old to their death. We attempted to make a work ox of those calves, but could never *conquer its prejudices.*

☞ In the spring of 1849, a pair of yearling calves were bought for $20 50. They were sold in two years for $53. Two years after that, they brought $90. Two years later, they sold as fat cattle for $196.

☞ A CORRESPONDENT of the *Mark Lane Express*, who highly extols the cabbage for feeding milch cows, store cattle, sheep and swine, and especially for spring feeding of lambing ewes, says that the average product per acre in England may be stated at twenty five tons.

OIL CAKE.—This cake, on which cattle are fed, is nothing more than vegetable oil seeds, which have been crushed for manufacturing purposes. The spurious nuts, which grow on the top of the palm-tree, are crushed at Harburgh, on the Elbe, and the oil extracted from them is converted into a toilet soap, which is largely consumed in Germany. The crushed nuts are exported to England as oil cake for cattle. The crushed seeds of the poppy form a valuable il cake, as it causes that tranquillity and sleepiness which conduces to the rapid growth of young cattle. Walnuts are crushed extensively in France to extract a juice for culinary purposes, and the crushed nuts form a useful oil cake, but it gets rancid too rapidly to be of use when exported. Oil cake is also formed from crushed doddor, sesame and cotton seed.

QUANTITY OF PORK A BUSHEL OF CORN WILL MAKE.—At the meeting of the Farmers' Club of the American Institute on the 1st of March, a communication was received from a man in Illinois, giving an account of some experiments made by him to ascertain the quantity of pork which could be produced from a bushel of corn, fed in different states. As young pigs require food other than corn, he took for experiments swine more than four months old. He says that, with hogs in clean comfortable pens, supplied with plenty of dry straw—

50 lbs.	of corn,	whole and raw	will	make	10 lbs.	of pork
50 "	do	ground	"	"	15 "	"
50 "	do	ground and fermented	"	"	17 "	"
50 "	do	cooked and fermented	"	"	21 "	"

HAMBURG FAT CATTLE SHOW.—The second International Show of fat stock was held in Hamburg, commencing on the 16th ult., and extended over the 20th. The numbers entered were—106 cattle, 60 sheep, and 8 pigs. In the cattle classes, for British breeds, there were six entries, all generally good, and comprising the Short-horn ox shown by the Messrs. Martin, of Aberdeen, at Liverpool, in December, which there took 1st prize in his class, and the £30 cup as the best animal in the yard. This animal was bought by Mr. Brown, and kept over for exhibition at the above show. Mr Brown also showed two prime Polled bullocks in the same class, which went originally from Mr Stewart, of Aberdeen, and were much admired for their symmetry and quality. The exhibitors in this class were—Mr John Honck, London Mr R G Brown, Hamburg, and Mr. Gelhardt, London 1st prize, £30, to Mr. Honck, 2nd, £15, to Mr Brown; 3rd, £7 10s., to Mr Brown. Highly commended Mr. Brown. In the classes for English breeds of sheep—where only two pens were exhibited—the 1st prizes were withheld. The successful exhibitors in the respective breeds and classes were the above gentlemen, and also Mr. Mertens, of London. In the classes for native breeds were some remarkable North German March oxen, some of which combined both weight and quality. For quality the Polled and Jutland oxen excelled everything. In the sheep classes the crosses excelled the pure breeds. The total value of premiums was £375, and on the whole the show was a decided success.—*North British Agriculturist.*

The Dairy.

The Advantages and Disadvantages of Cheese Factories.

One of the most intelligent and experienced dairymen in the State of New York, Mr. X A. Willard, of Little Falls, briefly enumerates the advantages of cheese factories thus: "The advantages claimed for the factory system are—superior quality, uniformity, higher prices, saving by buying at wholesale such materials as salt, bandage, annatto, boxes, &c., and finally, relieving the farmer and his family from the drudgery of the manufacture and care of cheese." That these claims are just there can be little doubt, and they certainly go very far to commend the establishments in question to public attention and favour. It is easy to see that a factory superintendent thoroughly understanding his business, giving his entire time and attention to it, and having every facility for doing things in the most approved manner, is likely to produce an article of cheese far superior in quality to that made under many difficulties, it may be, in the farmer's family No doubt, with special care, as fine an article of cheese can be made by the individual farmer as by the factor, but it is an unequal contest, in which the obvious advantages of the factory must have their influence. Cheese manufactured in small parcels varies much in quality, and to command a good price, it is necessary to have the quality as uniform as possible. The factories have already established for themselves a reputation in these respects which secures for their products the highest price in the market. The produce of single dairies is always bought by large dealers with an allowance for imperfect or unequal cheese. But it is affirmed by competent judges that an aggregate of one hundred thousand pounds of factory cheese is frequently so uniformly excellent in quality that the most practised eye can scarcely detect any difference in the manufacture. It is said that factory cheese sells at a price above that of single dairies equal to the whole cost of manufacturing. In November, 1862 good cheese of family manufacture sold from ten to twelve and a-half cents per pound, while Oneida factory cheese brought fourteen cents, and the large sizes, weighing from 700 to 1,000 pounds each, brought in some cases as high as seventeen cents a pound. A better price, too, can be afforded by the wholesale dealer for the factory-made article, because less time, trouble and expense are consumed in the purchase It is as easy to buy the produce of six hundred or a thousand cows as that of a twenty cow" dairy, so far as time and trouble are concerned Passing over the saving effected in the materials used in cheese-making, it appears to us that the relief afforded by the factory plan to the farmers' wives and daughters is an important consideration. This argument is even more weighty in Canada than in the United States, where the men assist in dairy operations more largely than is the case in this country Here the entire burden rests on the female members of the family, and many an over-taxed wife and mother finds the care of her dairy a very serious addition to her toilsome household duties. That eminently practical medical writer, Dr. Hall, in an article on the health of farmer's families, expresses the opinion that many a farmer's wife is literally worked to death in an inadvertent manner, from want of reflection or consideration on the part of her husband;" and Mr Willard, whom we quoted at the outset of this article, says —"It is believed, and we speak advisedly, that the old method of cheese making has done more to injure the health of women in cheese-dairying districts than any other cause" He styles this the most important advantage to farmers in this union arrangement," and adds: "it would be difficult to estimate this in dollars and cents," since the value of health and life is not to be thus computed

The drawbacks connected with the cheese factories are briefly these. the difficulty of detecting adulterated milk; the trouble of carrying it to the factory, the danger in hot weather of its becoming sour; the difference in the quality of milk, arising from the manner in which cows are fed and managed; and, finally, the loss of the whey. It is evident that a dishonest person furnishing a large quantity of milk could easily add a proportion of water, and thus increase the amount paid or credited to him. No effectual mode of readily detecting such admixture has yet been discovered. Some cases of this sort have been found out, and the dishonest persons have been summarily expelled from the association, and have justly become objects of contempt among their neighbours. We see not why such dishonesty is not punishable by law. If not, it ought to be. The daily delivery of milk at the factory, at a regular hour, is doubtless attended with trouble; but the question is whether that trouble be not well repaid? As to the liability of the milk to sour, extra care and cleanliness in all the vessels used in milking, straining, and carrying to the factory, will effectually prevent this. The loss of the whey is regarded by some as an important item, but the thorough manner in which the work is done at the factory, is said to lessen very much the value of the whey, while, of course, it increases the yield and profits of the cheese On the whole, therefore, the advantages of this system would seem greatly to outweigh the disadvantages, and we cannot but wish to see the cheese factory become a popular and prevalent institution in Canada.

Unquiet Milch Cows

One of the greatest errors in overcoming cows that are unquiet while being milked, is to whip, beat, kick, and bawl at them. This is generally done, and the cow becomes afraid or angry, instead of becoming better, grows worse. Milch cows cannot be whipped or terrified into standing quietly and gently during milking. They dislike to be milked, for they know that hard words and hard blows always attend the operation. They dread to see the milker as a little urchin dreads to see the birch in the hands of the angry pedagogue, when he expects to feel it applied to his back. A cow, kindly and properly treated, is pleased to see the milker, gladly awaits his or her approach, and submits with pleasure to the operation of being milked. Every one having experience with cows knows this to be true. But the cow is opposed to a change of milkers; she soon becomes attached to one person who performs the operation, and does not willingly and freely give down her milk to another person: therefore, have one regular milker to certain cows, and bear in mind if you change milkers it is at the expense of a loss of milk and of an injury to the cow.

All animals are appreciative of kind treatment, and resent abusive treatment, Therefore, if you would have them gentle and quiet, treat them gently and kindly. See that those who milk them can control themselves, govern their passions, speak low and kindly under any provocation, and soon the cows will learn that they are not going to be abused, and will submit to the operation. Milking should be performed at regular hours, not varying fifteen minutes from one day to another. No talking or laughing should be permitted at the time, and it should be done as speedily as possible.

Products from two Cows.—Our friend B. J. Rolla, of Cicero, has two cows—one native, and the other part Durham—which, with ordinary fare, have produced the past season *seven hundred and fifty pounds of butter*, besides furnishing milk and cream for a family averaging four persons. The butter was weighed when ready to pack, and a strict account kept of each weighing—so this is no guess work. Such butter as his wife makes, would bring twenty-five cents per pound quick at the door, and then the account stands thus:—

By 750 lbs. butter at 25 cents	$187 50
Milk and cream used in family	11 00
Milk fed to pigs, worth	10 00
Two calves at 75 cents	1 50
	$210 00

Or $105 per cow. Who has done better?—*Correspondence of Country Gentleman.*

A Profitable Cow.—Produce of cow owned by Mr. D. Webb, Hamden, Conn., from April 1st to December 31st, 1862:—

Total weight of milk given in nine months	8,998 lbs.
Butter made, 266 lbs., at 25 cents	$64 00
Milk sold 1,502 quarts, at 4 cents	60 08
Produce, besides milk and cream used in family of four persons	$124 08

Cor. of Country Gentleman.

Care of Heifers selected for Milking Cows.—Those heifers which are intended to become milch cows need not be quite so highly fed, at least with artificial food, as those which are being pushed on for the meat market, at the same time, they ought not to be allowed to retrograde at any part of their course; and we would remark that the greatest care should be exercised in the selection of those heifers which are to be retained as breeding cows. Some people keep all their heifers for this purpose, whilst we have even met with some who sold the best because they got a better price for such cattle than they would for the ordinary run of their stock. When all the heifers, good, bad, and indifferent, are kept, the stock will never be regular, and it will be difficult to improve its general character and value; and of course, if the best are sold, the difficulty is rendered not only infinitely greater, but almost insurmountable. Judicious selection of heifers is a most important point in stock management, and every defective animal should be removed, either sold off at once, or fattened for the butcher. Of course, the particular characteristics of the breed must be taken into consideration in making the selection. Thus, in a purely dairy breed, such as the Ayrshire or Jersey, the breeder will consider those points which indicate the likelihood of the animals being good milch cattle, although even this may be pushed too far, which we find has actually been the case in Ayrshire cattle. On the other hand, the man who rears merely for grazing purposes, such as the breeders of Herefords, Galloways, West Highlands, &c., will study those characteristics which denote aptitude to fatten, and laying on meat on the best parts, &c. In every way the breeder has certain points to consider in the selection of his heifers, and if he is careless in this respect he will ultimately be a loser.—"*Cattle Management," by R. O. Pringle.*

The Round Cheeses that we See in Shops.—They are Dutch cheeses; they are made of skimmed milk, and the curd is well washed and saturated in salt and water before it is pressed into the mould; which operation, while it rather spoils the flavour of these cheeses, gives them the valuable quality of keeping well in all climates. In Germany a small cheese is made by turning the milk sour by the heat of the fire; the whey is then pressed out, and the curd is broken fine with the hand in a tub; in this state it remains till the putrid fermentation begins, when it is made into little balls, and dried. Sometimes caraway seed are added, and these little cheeses are often smoked in the chimney. They are not bad in flavour, but have a most unpleasant smell. In Switzerland a small green cheese is made, in which the curd is mixed by the dried leaves of the melilot reduced to powder. When to be eaten it is grated, and the powder mixed with fresh butter is spread on bread. The Swiss also make a common cheese from the curd left in the whey after better cheese has been made; it has very little flavour, but serves the people on the mountains for bread; they cut slices of it, spread butter over it, and a thin slice of cheese over that, and wash it all down with a cup of fresh or fermented whey, or, if they can afford it, a glass of Kirshwasser, which is a spirit distilled from cherries or gentian brandy.

Good Produce from an Alderney Cow.—The following is a good account to give of an Alderney cow which I purchased from Mr. Fowler, who imported her in 1852:—My cow calved in August, 1851, and proved barren afterwards. She continued in milk until September, 1862, when unfortunately she broke her leg and was killed, much to the grief of my children. The first item of milk sold in my wife's house-keeping book is August 13th, 1861, 1*s.* 6*d*; and the last is dated September 27th, 1862, milk 2*s.*, butter 14*s.* 4*d.* The sum total received during the sixty weeks as above is £29 14*s.* 7½*d.*, or 6*s.* 6¾*d.* per week; butter used in the house, say 1½lb. per week, ; at 1*s.* per pound, £4 10*s.* Milk used, at the very least two quarts per week, at 4*d.*, or 2*s.* 4*d.* per week, £7. This makes a sum total of £31 4*s.* 7½*d.*, or 10*s.* 4½*d.* per week. Besides the above there was cream used, and we were never sparing of that, especially during summer time, and it was always used at tea-time. I think your readers will allow this is a good account for a cow twelve years old. At the best, and during the early summer, I have known 19 lbs. of butter made from her in one week.—*Henry L. Ensor, The Shrubbery, Woodville, Burton-on-Trent.*

Bells on Sheep.—I am a great believer in bells on sheep to keep dogs away; have kept sheep twelve years and never had any injured yet. Three or four bells of small sizes and different tones, in a flock to make a variety of music. The best bells are those of brass with staples in to put straps through. I also prefer those with links in the clappers. My neighbors have had sheep killed by dogs all around me. I think the bells have kept them away from mine.—*H. N. W. in Ohio Farmer.*

Sheep Husbandry.

Sale of the Sarsden Flock.

The *Oxford Journal* observes that the sale of the celebrated Cotswold flock of the late Mr. Langston, M.P., "attracted an assemblage of agriculturists which may safely be declared unprecedented in this county, and, as may be supposed, the stock will be very widely dispersed. Not only were there purchasers from all the neighbouring counties, but from Dorset, Essex, and Norfolk, *and several lots of the Cotswolds will find their way as far as Canada.*" Mr. Stone, of Guelph, we are happy to find, is among the purchasers. "As regards the sheep, Mr. Tomlinson, the late lamented agent of Mr. Langston—perhaps one of the finest judges ever known—laid the foundation by splendid ewes from the flock of Mr. Charles Large, of Broodwell, and other eminent breeders; and since that time the great judgment of the present manager Mr. Savidge, with an unlimited purse, had resulted in such a flock as that now submitted for sale." We congratulate Mr. Stone on the acquisition of animals from this splendid flock, which cannot but prove highly advantageous to this Province. Already we possess fine animals of this rising breed, in the hands of Messrs. Snell, Miller, and others.

The Best Sheep to keep for Profit.

To the Editor of The Canada Farmer:

Sir,—As you wish your readers to give their experience in rearing stock, I would state that I have tried different breeds of sheep, but of all breeds I find the pure Leicester the most profitable, not only in their produce, but being the easiest to keep fat. They eat as little food as a Merino or Southdown. I will give you an account of my profits for last year, saying nothing about the keep. In 1863 I wintered 10 ewes, 4 ewe lambs, and 2 rams, one a lamb and the other a yearling. My 10 ewes reared 14 lambs last spring, 10 tup lambs and 4 ewe lambs.

Sold 10 tup lambs, $12 each.....	$120 00
" 1 ewe lamb, $20.....	20 00
" wool from 16 sheep, average 10 lbs., 160 lbs., at 45c. per lb	72 00
" 4 ewes, $11 each.....	44 00
" 1 two-shear ram for.....	35 00
" 1 yearling ram for.....	39 00
Use of ram.....	40 00
Three ewe lambs left.....	45 00
	$415 00

I have now ten ewes and three ewe lambs left My ewe lambs are worth $15 each, $45, which I have added to the account; when added up it makes the nice little sum of $415. Adding $19.50. prize money, at the show held in our county, which are nearly all first prizes, raises the amount to $434.50. Any one can judge what it would cost to keep 10 ewes, 4 ewe lambs, 1 ram lamb, and one yearling, from the first of January, 1863, till October, the month in which my principal sales were made. When I commenced breeding, I bought some of the purest Leicester ewes I could find, for which I paid from $20 to $35 a-piece. I have since procured the best rams I could get, some imported, and some direct descendants from imported stock. I did not regard the price so long as I got a ram to suit me. I would advise breeders to buy the best, and never mind the cost.

Aldershott. A SHEPHERD.

A Merino Sheep Speculation.

To the Editor of The Canada Farmer:

Sir,—Many of our farmers influenced by the recent large importation of fine-woolled, or Merino Sheep; and the present high price of wool, are just now discussing the probable profit or loss of sheep-husbandry. And as an intelligent conclusion can only be arrived at by a careful comparison of facts collected from experiments in Canada, permit me to lay before the readers of the Farmer my experience for '63. In the fall of '62 I concluded to try the much defamed *dirty little Merino*. I selected accordingly from some of the best flocks of Central New York, a flock of 53 Pure Spanish Bucks of the finest wool, 13 French and Spanish Ewes, 10 also pure, and a flock of 30 Spanish grades Ewes and Wedders. Divided them out and hired them; kept by three different parties. Sold 8 ewes in the winter. Left one buck and one ewe unshorn. Sold one buck for $10 and one pair of lambs at the Kingston Exhibition for $20 From two French ewes took 20 lbs. wool. From one flock of eight took 68 lbs. My sheep were washed. In figures it may stand thus:—

Original cost of flock		$300 00
For keeping one year		50 00
Interest on investment		17 00
Shearing 40 sheep $3; Lost 5 $30		33 00
		$400 00
Sold Wool	$125 00	
Sheep sold.....	140 00	
Prizes and rent	35 00	
		300 00
Balance.....		$100 00

for which I now have 31 head, worth at lowest cash price $400.

W. W. NELLE.

Norwich, Co. Oxford.

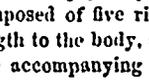
Entomology

Grubs in the Heads of Sheep.

We have received a small vial containing a number of grubs recently taken from the head of a sheep, and have been requested to give some information respecting the cause, prevention, and cure of this ailment. These grubs are the larvæ of the sheep gad-fly or bot-fly (*Cephalemyia ovis*), which lays its eggs in the nostrils of sheep in the summer. The eggs are quickly hatched by the warmth and moisture of the sheep's nose, and the young maggots crawl up into the hollows in the bones of the forehead. They fasten themselves to the membrane, lining those hollows or cavities by means of tentacula or hooks which grow from the sides of their mouths, and remain feeding on the mucus until the following year. When warm weather comes, they crawl down the nose, drop on the ground, burrow into the earth, take the chrysalis form, and at length hatch forth in the perfect winged condition.

The sheep gad-fly is of a brownish colour, its body composed of five rings, with wings nearly equal in length to the body, and prettily striped and marked The accompanying cut will enable our readers to

FIG.1 FIG.2



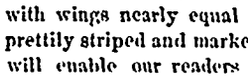
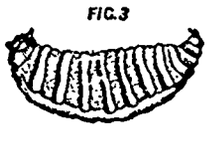


FIG.3



identify this insect in all the stages of its existence. Fig. 1 represents the grub or larva about half grown. It is then white, except two brown spots near the tail. Fig. 2 exhibits the full-sized grub. The rings, particularly those nearest the tail, are now dark brown. Fig. 3 shows a full-grown larva turned on its back.

These insects are a source of considerable annoyance to flocks of sheep, and are no doubt injurious to their health, although "grub in the head" is with many sheep farmers the explanation of all mysterious ailments, especially those caused by poor feed, want of shelter, carelessness, &c. Many French and English writers consider these larvæ to be the cause of serious evils and of frequent death; while others are of opinion that the extent of the injury they inflict has been exaggerated. Randall appears to think they are not very hurtful to sheep in good condition and vigorous health, though he owns that his personal knowledge of the disease has been limited.

Various appearances indicate when the flies are busy among a flock of sheep. In midsummer, sheep often gather in dense clumps with their head turned inward, and their noses held down to the ground. If driven away, they run without raising their heads, or quickly thrust them down again. Occasionally they stamp or strike violently with their fore-feet near their noses. Sometimes the animals appear as if distracted, dashing wildly about the field, stamping, snorting, tossing their heads, and giving evidence of irritation and excitement.

To get rid of grubs in the head, several means have been recommended. Blowing tobacco smoke up the nostrils is said to be effectual. It is blown from the tail of a pipe, the bowl being covered with cloth. Tobacco-water syringed up the nostrils is also said to answer very well, but care must be taken to prevent the liquid entering the throat in any considerable quantity. A correspondent of the *Wisconsin Farmer* suggests the following remedy:—"About the first of March, make a mixture of one quart of tar, one pint of spirits of turpentine, one pint of linseed oil; simmer well, and when cool, mix two ounces of black pepper ground fine. Make a small swab by winding tow or flax on a small, tough stick, dip it in the mixture and gently slip it up the nostril to the bridge of the nose. Go through the flock in this manner. If on the barn floor, you will find grubs there in a little while. The turpentine kills, the oil loosens, the pepper makes the sheep sneeze them out, and the tar is healing. I never knew a sheep to die of grub in the head after being treated as above." As a preventive this writer says: "Take the above mixture without the pepper, and go through the flock as above in October, or prior to putting them into winter quarters, as it will destroy all the parasites, and the sheep will do well through the winter." Ploughing a furrow or two in different portions of their pasture-fields is considered to be a good precaution. The sheep thrust their noses into the loose earth when troubled with the fly. Smearing their noses with tar is recommended by some Randall suggests that those fish oils which repel the attacks of flies, might be resorted to with good effect.

The Farmer's Insect Enemies.

To the Editor of The Canada Farmer.

Sir.—I see with great pleasure that amongst the headings of The Canada Farmer Entomology takes a place. Until a very lat period the science has been greatly neglected. At the present time its importance has given it a place in the education of farmers. Allowing this to be so, we cannot but deplore the fact that farmers are not more conversant with the natural history of insects, many of which annually do damage to an immense amount.

The education of farmers in England, especially as practised at the Royal Agricultural College, Cirencester, entomology is a science, to the knowledge of which great importance is attached.

Yearly, nay, I may say, daily, insects before unknown and unheard of, are being brought to light, and their habits and way of living, whether for good or for evil, are being published to the world. When we look at the fearful havoc which such an insignificant insect as the wheat midge or turnip fly may make in a few acres, we, as farmers, must indeed give our unqualified thanks to the discoverers and promoters of this science. Now, if these two species alone can do so much damage, how much must we lose by the ravages of some fifty different species of insects as fairly called "farm pests" as those above quoted! Nor can any man, when he has once attained even a superficial knowledge of entomology, fail to see the immense advantages which may accrue from a study of this science.

It leads us to the very head of many a formerly styled disease amongst our crops, and so clearly points to the cure, that in a few years our wheat, instead of yielding 6, 7 and 8 bushels per acre, will give us 20, 30, and even 50.

Apart from all such considerations as these, this science is one very full of interest, and one that will never die out; it is a young, progressive, and interesting science—a science without end. There is no entomological work yet known to which fresh discoveries may not be added, and even the youngest of its students has many an opportunity of making additions, which, though small, are far from unimportant.

An Old Countryman.

Glandford.

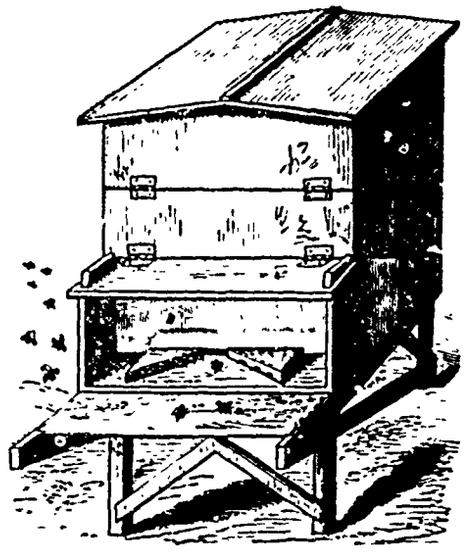
The Apiary.

Apiary in April.

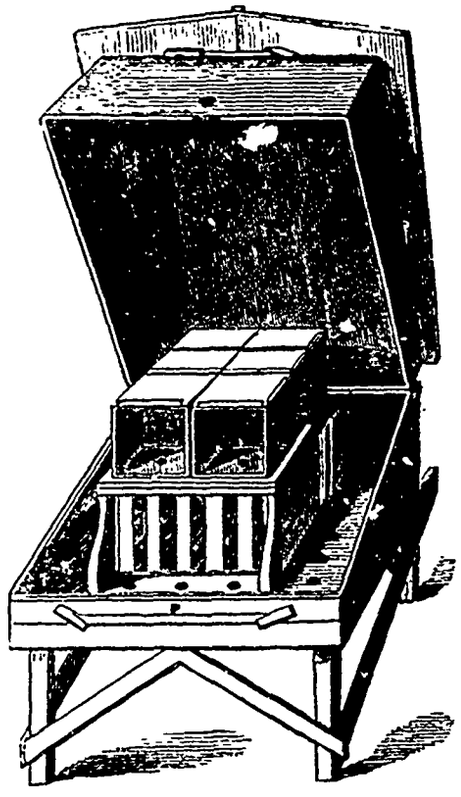
In this latitude the labors of the season fairly commence with bees this month. They will range far and wide in search of pollen, honey not being yet obtainable to any extent. An untimely frost may destroy most of the flowers, and in such case care will be needed to prevent robbing. Unbolted rye flour spread in the vicinity of the hives will give employment, and at least a partial supply of food. In the hive, as in society, idleness is the parent of mischief; strong stocks not being in the fields, are very likely to make forays upon their weaker neighbours. Weak colonies may need guarding by contracting the entrances to the hives, so that only one bee can pass at a time. Robbing may be easily detected toward evening, when bees that should be quiet at home are very busy pillaging from a weaker hive. Sprinkle flour upon them as they leave with their plunder and they can then be readily followed to their own quarters. Do not mistake fighting for stealing, while there is contention on the outside of the hive, it is an indication of strength within, and contracting the entrance will usually be a sufficient precaution. To determine with certainty, whether the bees are plundering kill one or more of them as they leave the hive, and examine their honey sack in the abdomen: if it is full of honey, the evidence is against them. If the bees from only one hive are stealing, change the stands, setting the hive of robbers in the place of the sufferers. If the entrance has been contracted, and the plunderers are so briskly at work as to threaten all the stores before night, close the hive at once. At sundown open the hive to allow the robbers to leave and those belonging there to retire. But should the robbers inside much exceed in numbers the others, you may keep them enclosed and remove the hive to some dark room or cellar, four or five days, by which time the raiders will take the oath of allegiance, and join in defending the common stores. If, during this time, the weather has allowed the bees to search and become discouraged in looking for more plunder, they may be returned to the stand: unfavorable weather for bees to fly might make it necessary to wait. When practicable, move them a mile or two away for a few weeks. Honey is needed by the older bees, and as this cannot yet be obtained in the fields, some colonies may need feeding: this may be ascertained and the matter attended to. The labors of the hive will be greatly lightened and the health of the community promoted, by cleaning out all filth and refuse from the bottom boards, and removing dead bees from among the combs. If the combs have become mouldy from neglect, remove them as well as the decaying bees. The living inmates can be quieted for this operation by blowing tobacco smoke among them. Examine the floor of the hives frequently for moth worms, and destroy them. Wren boxes put up in the vicinity of the hives will be of much service in keeping the parent millers in check.....Avoid opening the moveable comb hives on cold mornings or in chilly weather, lest the brood be injured.—*Quinby.*

A Good Bee Hive.

Several correspondents have written us enquiring what is the best style of bee-hive, where it can be obtained, and how it is managed. We have been at some pains to collect information on these points, and as the season for active operations in the apiary has now arrived, we proceed without further delay to give the results of our investigations, in the hope that they may be of service to intending or actual bee-keepers. We present herewith two illustrations of a hive, which, without hazarding the assertion that it is absolutely the best in existence, we have no hesitation in pronouncing a very good one, and on the whole, the best that has come under our observation. It is manufactured by Mr. P. A. Scott, an ingenious mechanic of this city, and may be seen by parties desirous of examining it, at the Agricultural Hall, corner of Yonge and Queen-streets. This hive bears a strong resemblance in its leading features to the Langstroth hive, but embodies improvements suggested by other eminent apiculturists, as well as some peculiarities of Mr. Scott's own devising. A very fair general idea of its outward appearance and internal arrangements may be gathered from the accompanying cuts, but a few explanatory remarks may not be wholly useless.



The above engraving shows the hive in its usual closed state, and it will be seen that it has an independent stand and is well contrived for protection against the weather. There is no danger of its being blown over, and it is furnished with lock and key so as to be safe from unnecessary disturbance. It is made to slant towards the entrance, to facilitate the carrying out of dead bees and other useless substances. Traps for the bee-moth are made in the moveable blocks at the entrance of the hive. A strip of cloth is tacked across the front, so that the bees when they come home heavy and clumsy with their load of honey, may not be bruised and injured by striking against a hard board. Ventilation is provided for on the outside of the hive, and it can be regulated without disturbing the occupants. The ventilators are covered with wire-cloth, so as to exclude the enemies of the bees. Dampness is carefully guarded against. The exterior of the hive is painted to preserve it from the weather and give it a neat appearance.



The second cut exhibits the interior of the hive, which is so constructed as to give the bee-keeper entire control over the combs without injury to a single bee. It may be well to observe that the accompanying illustrations present two different sizes of the hive. Three sizes are made,—those represented are the medium and largest sizes. The closed hive as will be seen by the two sets of hinges, is double-storied. The open hive is one-storied. The lower part of the open hive, which may be considered the main portion of this bee-dwelling, is fitted up with moveable comb frames, while above there is a set of boxes into which the bees can be admitted at pleasure. The moveable-comb principle may now be considered as fully established. All intelligent and experienced bee-keepers regard it as a most valuable addition to the facilities for managing bees. The frames shown in the cut are so made as to guide the honey-comb in a straight line, and any one of them can be taken out and examined without disturbing the rest. They save labour to the bees, and give the bee-keeper full management of the internal activities of his insect family. The comb may be removed from the frames without cutting, and if desired, the honey can be taken from the comb, and it returned to the hive to be re-filled, or good pieces of worker comb may be put in the spare honey boxes. The condition of the bees can be inspected at all times with perfect ease, the chambers being enclosed and partitioned with glass. This hive is adapted either for a strong or a weak colony. It can be either swarming or non-swarming, as may be preferred. Two swarms can be united in one hive, if it be desired. Artificial swarming can be readily accomplished in them, and the uncertainty of natural swarming may be entirely obviated.

Correspondence.

California Potatoes.

To the Editor of The Canada Farmer:

Sir,—"H. M.," of Brantford, wishes to know where California potatoes can be got for seed.

I desire to inform him that I have about 150 bushels of this variety to part with. I may add that from my experience in this variety of potato, I have no hesitation in saying that it is superior to any other kind in this section of Canada for a general crop. I have had a potato of this variety that weighed over three pounds, and six that weighed over fourteen pounds. I lost none this season by the distemper, but a great many by frost on 1st of January.

L. HOLMES.

Holmesville, April 9, 1864.

Mules and Jacks.

To the Editor of The Canada Farmer:

Sir,—As you are supposed to know everything, we would like to know through your paper if it would be profitable to raise mules in Canada for farm labour, and if we could get a Jack at Toronto, and what would be the probable price? N. T.

Middleton, April 11, 1864.

Ans.—We are unable to give an opinion as to the profitableness of breeding mules in this country, nor can we answer the question of our correspondent respecting a jack. Perhaps some of our readers can do both.

The Wheat Midge.—Our friend who sends us a brief notice of this pest of the farm is informed that we purpose shortly to advert fully to the subject, and give illustrations of the insect and its ravages.

Corn in the Cob.—"A Subscriber" enquires—"How much corn per bushel will corn in the cob yield?"

Ans.—About half the quantity.

Coal Oil for Sheep Ticks.—"J. M. S.," of Barrie, says: "I have used coal oil to destroy ticks on sheep for two years past with success, and without the slightest harm to the sheep."

Subsoil Plough.—Mr. George Bryce, of Mohawk, writes to say that he can supply this plough, and that the one he makes has taken prizes at the Provincial Exhibition.

RIGHT OF VOTING.—"A Subscriber" enquires whether the Secretary-Treasurer of an Agricultural Society has a right to vote at the meetings of such societies?

ANS.—Certainly.

WHITCHURCH SPRING FAIR.—The Secretary-Treasurer of the Whitchurch Agricultural Society writes to say that the Whitchurch Spring Fair and Ploughing Match will be held at Bogart Town on Thursday, April 21st.

COMBINATION SOWER AND HOE.—"Agrarius" is informed that an implement such as he enquires for is made by S. W. Hall, of Elmira N.Y. It is styled "The Yankee Farmer," and costs about $50 American money.

ITALIAN BEES.—A correspondent enquires about the qualities and suitability to Canada of *Italian Bees*, and *where* they can be obtained? Can any of our readers give information on these points, especially the latter? Some remarks on these interesting and useful little creatures will be found in our last issue, page 75.

VIRTUE OF LEACHED ASHES.—J. P. Cockburn, of Berwick, says:—"We have 30 acres of heavy clay land, which has been cropped every year for the last ten years without having any other manure than leached ashes, of which we have a large quantity yearly, and which yields as good a crop now as it did when first broken up."

WHITE CROPS.—"T. W. Boddy," of Aldbro' writes, "Please inform me what by Agriculturists is designated as 'white crops'—if bean and corn is included?"

ANS.—The cereals are termed "white-crops." Corn would be included, but beans take rank among leguminous vegetables.

DARLINGTON SPRING FAIR.—R. Windatt, Secretary West Durham Agricultural Society, writes to say that the Spring Fair and Exhibition of Stallions and Bulls in connexion with that Society will be held at Bowmanville on Friday, May 6th. He adds that at a recent meeting of the Directors, it was decided to exclude from competition at future shows all sheep not properly shorn subsequently to the 1st of April.

DISTILLERY MANURE.—A correspondent wishes to know if the manure of cattle in distillery sheds is put to use on land without mixing with any other material, and should it be used as a top-dressing only, or may it be ploughed into the arable land?

ANS.—All manure is the better of being mixed and composted with other material, and none should be used until well-rotted. When fit for use, it may be applied to the land in either of the methods named.

"AN AMATEUR FARMER" asks a question or two respecting the preparation of night soil, to which he will find replies on pp. 17 and 83, in articles on "Manure-making" and "Home-made Poudrette." He also enquires for a fertilizing application to corn in the hill, in a locality where for want of railroad facilities for transportation, prepared manures cannot well be had. A mixture of wood-ashes, poultry dung, and plaster, answers well for this purpose.

MUSTARD OR CHARLOCK.—"W. W. Scott," of Darlington, writes:—"Will some of our practical, scientific farmers inform me through the columns of THE CANADA FARMER (so that other people may benefit thereby as well as myself) which is the most effectual method of destroying the well-known noxious weed termed mustard or charlock? Many farmers in this vicinity, as well as elsewhere, are infested with it; and from what people tell me, of all weeds (thistles included), this is the most difficult one yet known to get rid of."

"LARGE GALLOWAY CALF."—Mr. Arthur McNeil has written us respecting the weight of the Galloway calf sold by him to Mr. Kerr, of Westminster, and referred to in our last issue. He says:—"The calf was weighed upon the public weigh scales of Weston, and weighed 900 lbs.—not 600." He adds, "I can quite understand that people who are not acquainted with the breed should be surprised. But the statement that the calf weighed 900 lbs. is correct, and can be proved. I can also give you two instances of Galloway calves bred in this township which, at eight months old, weighed 600 lbs. each."

GOOD THRESHING MACHINES.—"A YOUNG CANADIAN" says:—"I would advise your Lower Canadian correspondent, *John Bull*, to attend our next Provincial Exhibition, where he will see a dozen of machines that will thresh more in one hour than his endless chain ones will do in a day. In our township there are at least thirty 8 and 10-horse power separators that are capable of threshing from 300 to 500 bushels of good wheat per day. They are manufactured in different first-class shops throughout Canada West, but I would recommend those made by Joseph Hall, of Oshawa for lightness of draft, durability and excellence of work, before any of the rest. Two of my neighbours purchased one from him in the fall of 1860, and since that time they have threshed for themselves and their neighbours over 25,000 bushels of grain. Their machine is as good now as the day it left the shop, and they never yet had to send to a foundry for repairs, which is more than can be said of most machines after running the same length of time. It requires six men (a driver, feeder, and band-cutter, with two in the mow to forward the sheaves, and another to carry off the clean wheat,) independently of those required at the straw, to work one of these machines. Parties who travel with their machines, furnish two men and two span of horses, and thresh for 2½ cents per bushel. The machines generally cost about $300 complete."

The Canada Farmer.

TORONTO, UPPER CANADA, APRIL 15, 1864.

To Correspondents.

WE must still ask the indulgence of many who have kindly sent communications for our columns, which, though graced with a goodly array of letters, are too limited in space to publish all we receive. Some communications which have been kept back for some time are of the essay character, and on topics which, though important and interesting, will be quite as much so hereafter as now. These we shall gladly publish, so soon as the pressure upon our space abates, which we may naturally expect will be the case when our readers get busy with their spring work. We renew our thanks for all favours of this kind, and hope for a continuance of them.

Liability of Railway Companies in the Matter of Fences.

A TRIAL of some interest to proprietors through whose domains railways are laid, came off recently before the Scottish Court of Session. An action was brought by Mr. W. H. Brown, of Ashley, against the Edinburgh and Glasgow Railway Co., to compel them to put the fences on his property adjoining the railway into a safe state. The Company is bound by Act of Parliament to erect and maintain sufficient fences to prevent farm stock from straying on the line of railway. The plaintiff, or as the Scottish term is the pursuer, alleged that the fences were inadequate, and that in consequence some of his stock had got on the line and been killed. The defendants pleaded that they had erected and kept up sufficient fences, to which the pursuer objected, that they were not of proper height. It appeared in evidence that the fences were dry stone dykes about four feet high. The defendants alleged that when originally built the pursuer had made no objection to them,—had in effect assented to them as they were; to which the pursuer replied, that when the fences were found to be inadequate to the purpose intended, it was incumbent on the Company to raise them higher. The Court held that the defenders were bound to have the whole fences erected of a height of 4½ feet above the original level of the ground, and they ordered the defenders to make the fences on the pursuer's property of that height throughout.

Donation to the Agricultural Museum—Wheat Midge, &c.

THE Board of Agriculture, at its meeting reported in our last, thankfully acknowledged the receipt, from Mr. Walter Riddell, of Cobourg, of samples of grain for the Museum, consisting of Nursery Wheat, Two-rowed Barley, Black-eyed Marrowfat Pease, Potatoe and Berlin Oats, and Field and Horse Beans.

The oats and pease are excellent specimens, as are also the beans. The latter crop is not considered a very remunerative one in Canada, though in the eastern section and Nova Scotia and Prince Edward's Island they are more commonly raised. More West, the horse-bean appears not to succeed so well, the hot dry weather that usually prevails during the flowering of the plant often seriously affects fructification. We shall be glad to receive information from those who have experience with this crop. The bean contains more nitrogenous matter than any of the farm cereals, and is the most nutritious food for working horses.

The nursery wheat is a very good sample, and apparently pure. As a spring wheat, this variety is well thought of in Europe, but it has not found its way over the Atlantic till quite recently. Mr. Riddell, who has only had one year's experience with it, informs us, in a communication on the subject, that he sowed both Fife and nursery wheat April 22, 1863, the soil and treatment alike; the latter was cut on the 3rd of August, and the former on the 15th. The nursery nearly escaped the midge, and yielded about 28 bushels per acre; while the Fife was injured to an extent probably of 50 per cent., and yielded only 12 bushels. Mr. Riddell's next neighbour sowed some nursery wheat about ten days afterwards, and it was so badly affected by the midge as scarcely to be worth harvesting. The chief thing, therefore, appears to be with this variety early sowing.

With respect to the prevention of the midge, Mr. Riddell is of opinion that the burning of chaff, &c., after cleaning, would be attended but by little benefit, unless the practice was general throughout a district; and as most threshing is now done by machines, which bring out the straw and chaff together, the whole would have to be burned to produce any sensible effect. He has never seen any advantage in burning the stubble, as before that operation can be performed most of the larvæ have burrowed into the ground. Deep ploughing is advantageous, especially when a skein-coulter and mould-board are used to bury two or three inches of the surface at the bottom of the furrow. A good soil, well cultivated, and when necessary, properly drained, will doubtless, under all circumstances, materially increase the crop; but however perfectly these conditions may exist, they will not in all cases prove a prevention of the midge. If, however, good culture will produce 30 bushels an acre, and the midge destroys 10, there is then left the pretty respectable amount of 20 bushels; but if, from inferior farming, only 15 are grown, the miserable pittance of 5 only would be left. This, our correspondent thinks, is the case between what is termed a good and a bad crop, as far as the midge is concerned.

Mr, Riddell, we trust, will excuse us for thus making public use of the opinions and facts expressed in a private communication: but the subject is so important, and as we know our respected correspondent has devoted much patient attention to this matter, we hope that this will be the means of drawing him out more fully in the pages of THE FARMER.

Sale of the Towneley Herd.

THIS world-renowned herd of Short-horns was disposed of by auction at Towneley Park farm, Burnley, Lancashire, on the 17th of March, and attracted one of the largest assemblages of persons interested in stock breeding (upwards of three thousand) ever got together on such an occasion. This herd has been more distinguished for its high average merit than mere numbers, and for the last fifteen years it has won at the principal shows of the United Kingdom upwards of £2,000 in money prizes, and more than twenty costly cups; besides hundreds of medals in gold, silver and bronze. Col. Towneley, a few years since, obtained the highest price ever given for a

short-horn or any other bull. *Major Butterfly*, for which an Australian Agricultural Society gave the magnificent sum of 1,200 guineas! *Royal Butterfly*, a brother of the above, and considered by some to be even a superior animal, was not sold, the reserve price being 1,200 guineas. Two calves little more than a month old fetched the unprecedented price of 100 guineas each! This sale is unquestionably among the most successful of modern times, and the whole of the stock is said to have been in the healthiest and best breeding condition. *Royal Butterfly's Pageant*, red and white, calved August 6th, 1862; got by Royal Butterfly, dam (Pageant) by Count Gloster was knocked down to Mr Eastwood for 590 guineas! The total of the sales is as follows:

46 Calves and Heifers, at average £123 19s 4d	£5,702 11 0
10 Bulls, average at £148 12s 0d.	1,486 16 0
Grand total	£7 189 7 0
Average	128 7 7½

With the exception of the Earl of Ducie's sale, a few years since, we believe that there is nothing compared with this since the time of Collings. The *Mark Lane Express* observes:—

On reference back, we find that Robt. Collings holds the third place with his average of £128 14s. 10½d. for 61, thus winning by 7s 3d., while Chas. Collings still stands A1, thanks to Comet, with £151 5s 5½d. for 47. It must also be remembered with respect to this "nearly a dead heat for third place," that eighteen of the Towneley lots were under a year, and seven born within the year. Colonel Towneley has bought back that ancient matron Roan Duchess 2nd, at a handsome profit, and also tried for two more mementoes, but the new owners would not part. Taking the greater sales in order since Lord Ducie's, they stand thus:

	Lots	Average
Lord Ducie's	62	£150 19 11
Mr Marjoribank's (1857)	59	90 2 4
Mr Ambler's	50	83 4 0
Mr H Combe's	63	80 12 8
Sir Charles Knightley's	77	80 1 0
Mr Tanqueray's	101	77 13 5
Mr Marjoribank's	80	74 3 4

The average of the four leading bulls at Towneley was thirteen Royal Butterflies at £252, the same number of Dukes of Wharfdale, of all ages, from July 12th, 1863, to Feb. 29th, 1864, at £69 4s., and seven Baron Hopewells at £115 1s. The six tribes averaged as follows:—

1 Mantalini	£105 0
6 Pearlies	106 1
6 Vestris 3rd	103 19
9 Second Roan Duchess	179 11
28 Barmpton Rose	121 16
5 Alice Second	138 12

Pleuro-Pneumonia in Britain.—The immense losses resulting from this disease in Great Britain are constantly attracting more attention. It is felt that measures must be taken to stop or limit its ravages if possible; and Sir George Grey has stated, from his seat in the House of Commons, that two bills are to be introduced into Parliament by the Under-Secretary for the Home Deparment, having reference to the prevention of disease, to the sale of diseased meat, and the importation of diseased cattle. The *Scottish Farmer* states that in Scotland, pleuro-pneumonia is becoming alarmingly prevalent. "At the rate of about a score of cattle, effected with the lung disease, have been killed every week in the Edinburgh slaughter-houses, and many more have had their throats cut in the private slaughter houses, beyond the city boundaries. Both in Perth and Dundee the disease has been raging, and Glasgow has formed no exception. * * Not only has the number of outbreaks which have come to our knowledge exceeded the number of last year, but their severity has been remarkable. On one farm eleven animals have died within three weeks. On a second dairy farm the half of a large stock has been already swept off. We are not in possession of the exact number, but about a dozen are dead, and several others sick. On a third farm five animals died within a week, and the remnant stock was disposed of a fortnight back in the Edinburgh market. Where this remnant stock is gone to disseminate disease we are left to conjecture. On four other farms we have been engaged in carrying out preventive measures, and in every instance the disease has been checked in its course." This is from the Veterinary Editor of that paper, and the writer believes that traffic in diseased animals must be prevented in order to check the course of the plague, and this as we understand is to be one main object of the proposed legislation on the subject.—*Country Gentleman.*

☞ Probably the wittiest saying in the language is Douglass Jerrold's definition of dogmatism—that it is puppyism come to maturity.

Cultivation of Cranberries.

There are so many acres now lying wholly neglected, covered with moss, rushes, coarse grasses and stunted bushes, and yet so well adapted to the growth of cranberries, that we place before our readers such information as we have upon this subject, believing that these now waste and worthless swamps may, by the application of a little labor and capital, be made to yield a handsome revenue. Cranberries sell in the cities of this continent at from eight to ten dollars per barrel, and when the supply shall have increased sufficiently to meet the demand here if that should ever happen, the unsupplied cities of Europe will afford a market for all our surplus, which can be put up in barrels and shipped across the Atlantic with less risk of damage than if the fruit was apple.

The first consideration is the selection of a suitable place for planting the vines. As at present advised, we have no confidence in an upland cranberry plantation. It is yet asserted by many that some varieties grow well in a deep soil, but there are reasons apart from the mere growth of the plant for choosing a piece of ground that can be overflowed. If it be possible to secure a piece of ground so lying that there can be always held in reserve a sufficient body of water above it to overflow the land at any time, it will be found to be a great advantage. This may in many instances be secured by building two dams, the one above the land upon which the plants are to be set, the other below. By means of the upper dam a body of water is always at hand with which the cranberry plants can be covered in a short time, and so used to protect them from late spring frosts that would kill the blossoms, or the early frosts of autumn, that threatened to injure the fruit before it was ripe. And with gates properly arranged the water can be kept at any desired level, and the vines so covered through the winter that the water will not be frozen through, which will protect the vines from the severity of the climate.

Having made selection of a place for planting, it is recommended to clean off the land, not only to take off the bushes and rubbish there may be on it, but to take off the turf to such a depth that there shall be no roots left of sufficient strength to sprout up again. This turf, if taken to the barn-yard and composted with manure; or where that is not convenient, if placed in heaps and rotted, will often be worth as a dressing for other parts of the farm all the cost of taking it off. After the ground is thus all cleared off, it is best to make it as smooth and nearly level as possible. If the whole piece of ground is level, when the water is let on it will be of an equal depth throughout, otherwise some of the plants might be entirely out of the water when other parts of the plantation are sufficiently submerged.

It is possible the ground may need draining in order to be in a fit condition for working, especially in bog and peaty soils. One main ditch can be cut through the centre, and laterals running into it at sufficient intervals. If there be very cold water running from the higher ground upon the cranberry meadow, it may be necessary to cut a ditch all along the border in order to receive this flow of water, which, if allowed to run among the vines in summer and autumn, would retard their growth and the ripening of the fruit. Of course it is necessary to have the outlet at the dam low enough to allow all the water to run out of the main drain.

The ground having been thus prepared, it is found very desirable, wherever practicable, to cover the entire surface with clean, coarse sand, to the depth of three or four inches. This will keep down weeds and prevent the grass from growing. If sand cannot be had gravel may be used instead, but it is not recommended to put it on so deep as sand, not more than half the depth. The purer the gravel can be had without any mixture of loam the better.

The ground being wholly in readiness, the next work will be the planting of the vines. This should be done the last of May or first of June. The plants may be set in rows eighteen inches apart, and about eight inches apart in the row. If weeds make their appearance it will be necessary to hoe and weed them, not a very easy task when once the runners begin to take root and cover the ground. Now will be experienced the benefit of having taken off the turf and surface of the meadow, and covered it well with sand before planting the vines. If that has been well done very little labor will be needed to keep the ground clean.

Should the summer be dry it is advised to let on sufficient water from the reservoir above to give moisture to the roots. About the end of October is the proper time to let on sufficient water to overflow the ground, and cover the vines to such a depth that the water will not be frozen through to the ground during the winter. This should remain on until sunshine in May, or until the weather begins to get mild, when it may be drawn off just to the tops of the vines. This will give the plants the benefit of increased warmth, and yet protect them from frosts. The water can be allowed to remain at this point until some time in June, when the danger from frosts is passed, and then be let off entirely. When there is an upper reservoir of water at command, the water can be drawn off from the vines some days earlier than would otherwise be prudent, and thus the benefit of a little longer season secured, for when there is a danger of a frosty night the water from the upper reservoir can be let on to a sufficient depth to cover the vines, and so keep them perfectly secure. Again in autumn, as unripe cranberries are injured by severe frost, the plants and fruit can in a short time be covered with water when danger of frost is apprehended, and so preserved from injury. Besides this, whenever the cranberry worm makes its appearance in numbers sufficient to become injurious, it can be wholly drowned out by flooding the meadow for a few days from the upper reservoir.

Cranberries should not be gathered before they are ripe. When taken off too early the flavour is inferior, with a disagreeable, bitter taste. It will pay to gather nice fruit by hand. The cranberry rake injures the vines, bruizes the fruit, and does not gather clean. Cranberries put up clean and well assorted will command from fifty cents to a dollar and a quarter per bushel more than when carelessly put up. When well ripened, carefully gathered and assorted, the fruit can be kept as easily as winter apples, and for a much greater length of time. When first gathered they are usually put in barrels and placed on the north side of a building until there is danger from freezing, when they can be removed to the cellar. They are often put into clean casks, which are afterwards filled with pure cold water, made tight, and can then be sent safely to any market in any climate.

The cranberries cultivated for market are all considered as varieties of one species, but they may be divided into three distinct classes known as the Cherry, Bell and Bugle classes, with several varieties in each class. There must needs be more done in cranberry culture before we shall know which class has the advantage, and possibly each possesses some quality that makes the fruit of that class preferable, under certain circumstances. Doubtless there is a large field for improvement here, and the judicious cultivator may yet be rewarded for his careful selection and raising of new varieties, by the production of cranberries as much in advance of anything we now have, as the Triomphe de Gand and Russell's Prolific Strawberries are in advance of the wildlings of our meadows. But meanwhile, even as they now are, they are in great demand, and sell at prices which give a good return for the labour and capital invested.

Where to Plant Fruit Trees.

Judging from what may be seen, very little attention is given to the consideration of the nature and condition of the soil upon which trees are planted. It would seem that it is thought sufficient to get the roots into the soil somewhere, that if that is done the trees ought to grow, and if they don't, somebody is to blame. Yes, somebody is to blame, though in the usual self-complacency of human nature, the planter never thinks it can be himself. One may be heard to say, "I took every pains, I bought the best trees from the best nurserymen, I planted them carefully

according to directions, but see, they do not grow, some are dead and the rest are dying" It never occurred to him that this is just what he ought to expect of trees planted in such a piece of ground The surface soil is not more than a foot in depth, and the subsoil is stiff and retentive. The field is nearly a level, with greater and lesser pond holes scattered over it; and the coarse grasses and rushes tell of abundance of water. If a hole two feet deep is dug in any part of it, the water soon fills it nearly to the surface. As a necessary consequence, the soil is cold during a great part of the year, and when in summer it does get dry, it cakes and hardens almost into stone Trees that are healthy and fit to be planted have been raised in land that is either naturally free from all surplus water, or has been made so by thorough draining, and to place them now where the roots shall be soaked in cold water during two-thirds of the year is subjecting them to a treatment that they ought not to be expected to endure. Cold water has its uses, but this is not one of them. Fruit trees were not so formed as to thrive with their roots in the water; nor will the most systematic training, begun in the earliest infancy of tree life, educate them to endure under such circumstances.

The very best location for an orchard is to be found where the surface is a little rolling or broken, affording ready drainage for all surplus surface water; where the soil is deep, and the subsoil of that porous nature which admits of perfect natural under-drainage. For apples and pears it is desirable that the soil should be a strong loam, yet not so strong but that it can be easily kept mellow. For Cherries and Peaches a light soil is to be preferred. In such a location, from which the water runs readily off; in such a soil, in which the water can not stand by reason of the porous subsoil beneath, and if of the character best suited to the kind of tree planted, the very best results possible to the climate may be expected. Whoever can combine all these advantages in his selection of a site for an orchard is peculiarly fortunate.

Having thus seen what is to be sought for in the place where to plant, there will be no great difficulty in making the selection judiciously. The first object will be to decide upon the piece of ground from which the surface water flows readily, then to ascertain whether the soil is so full of water that it will run into a hole dug two feet deep, and stand there. If the water thus shows itself, it will be necessary to under-drain the land, if the best results are to be obtained. The more abundantly the water flows into such a hole and the longer it stands there, the greater the necessity of under-draining. If it is decided to under-drain, the drains should be laid not less than three feet deep. If the soil be shallow, it can be deepened with the subsoil plough, and if it be not sufficiently rich to yield a good crop of wheat or corn, it can best be enriched by getting a good growth of clover and ploughing it under. The *direct use of manure* to enrich ground *for planting trees* is to be avoided. Having secured a location thus thoroughly drained, the soil deepened and brought into good tilth, the chief objects have been gained. If, in doing this, it has been possible also to secure that quality of soil in which the trees to be planted most delight, the planter may rejoice. But even if the soil be not exactly what he could wish it were, he will find that with it thus drained, deepened and enriched, the apple, pear, plum and cherry can well adapt themselves to quite a variety of soil, and that they will soon repay him a hundred fold for his forethought and providence. Subsequent cultivation, intelligently directed, can do much towards remedying defects in the composition of the soil, but no cultivation, however skilful, can give health and vigor to trees while their roots are rotting in a wet, cold ground. We venture the opinion that more is charged upon the severity of the climate than is wholly attributable to that cause. Trees rendered unhealthy by too wet a soil are so enfeebled that they are unable to withstand severe changes of temperature, and perish outright in some unusually cold winter, which is straightway charged with the death of the trees. Perhaps there would be less complaint of the severity of the climate if the trees were planted in suitable soil. Accustomed, as the farmer is, to the growing of crops whose roots do not as a whole penetrate so deep, and which generally do not pass the winter in the ground, he forgets that turnips and Indian corn may grow where fruit trees would gradually die out. Corn is planted for one season, and though the soil may be but badly drained, such may be the meteorologic conditions during that season, such the warmth and dryness, that a good crop is harvested. Fruit trees are planted for many years and for all the seasons, they must endure drouth in summer, frost in winter, the rains of autumn, and the melting snows of spring. May it not, then, be well to consider *where* to plant?

The Best Kinds of Standard Pears.

THERE are but few persons who recognize the great benefit that the Upper Canada Fruit Growers' Society is conferring upon the farming and fruit growing portion of our country, in ascertaining the adaptation of certain fruits to particular localities in reference to soil and climate. Thousands of dollars would be annually saved, and much disappointment prevented to parties intending to plant, if they would but consult the reported proceedings of that body, especially in regard to the more delicate kinds of pears, cherries, and grapes. When your correspondent began planting, he had no experience of that kind to consult, and could only arrive at such knowledge by planting a great many varieties, and after fruiting them change the undesirable ones by grafting them over. Living in a favoured locality, there are but few kinds that do not succeed well with us. But many kinds are not suited to the market, and although fine in themselves, are unprofitable as a commercial speculation. Other kinds are poor growers, and take a long time and much care to make a good tree, if, indeed, they ever do. Now other things being equal, a fine rampant grower is much to be preferred to a poor scraggy, sprawling one; it is more pleasant to look at, and there is more "money in it."

As the time for planting is drawing near, those intending to set out standard trees will not regret their choice, if they procure the following kinds, which will give them a succession from the end of July to the end of December:—For a sweet pear, the Doyenne d'Eté; for a subacid, the Madaline;—these are both very pleasant, little, early pears, and good growers. Osband's summer and Dearborn's seedling come next; and anywhere south of Lake Ontario, that prince of pears, the Bartlett, will do well; its principal fault is, that, if allowed, it bears too young, and too heavily, which ought to be prevented by picking off the fruit when small. The Flemish Beauty is well worthy of attention; from its large size, its productiveness, its hardiness, and fine growing habits, it deserves a prominent place in every collection. The white Doyenne needs no recommendation, but I cannot say how far North it will succeed; but it has never shown any tenderness here. For a northern locality, where nothing better will grow, the Bon-Chrétien is a very desirable variety.

Our winter pears do not come up to the earlier kinds in flavour; yet, the Beurre Diel is a magnificent looking pear, grows well, ripens through December, and makes a fine show at Christmas dinner. The Beurre d'Aremberg is not quite so hardy, nor yet so good a grower, but bears profusely, and when grown in a good warm aspect, is a very pleasant pear, with a high vinous flavour, and will keep till New Year. The list might be greatly extended, but those who have plenty of the above varieties will not be badly off, yet the Belle Lucrative and the Seckel might be added with advantage. The latter, though a slow grower, lives to a good old age, and is without doubt the best flavoured pear as yet known.

As to soil, a light clay, a clay loam, or a loam with a clay subsoil, is the best adapted to the pear tree, yet it will grow with proper treatment in any soil, from a brick clay to a sharp sand. Of course the land should at least be well surface-drained. It is not necessary that the land should be made *very rich;* any soil that will bring good wheat or corn will do for Pears. It is not well to form too rampant a growth, as it renders the trees more liable to disease.

Niagara, March, 1864. R. N. B.

Half-hardy Ornamental Shrubs.

As a continuation to my former communication, I will now give a list of shrubs which cannot be accounted *perfectly hardy*, as they require slight protection during the winter throughout the greater part of Canada, in order to insure a good show of bloom; they are, nevertheless, valuable adjuncts to the border, or shrubbery, and deserve attention.

Spiræa prunifolia. fl. pl.—Double Plum-leaved Spiræa.—This well known and beautiful variety should be in every garden, and receive kind treatment. If well covered through the winter with ever green boughs, or long straw, its beautiful wreaths of white, daisy-like flowers, appearing before the leaves, are perfectly charming; unfortunately, however, they are rather transient, and are sometimes spoiled by late spring frosts.

Forsythia viridissima.—Green Forsythia, so called, I imagine, on account of the green colour of the wood. This is another early-flowering spring shrub, and on that account liable to injury from late frosts. The great profusion of yellow bell-shaped flowers, produced at a season when white is the predominating floral hue, makes this plant desirable, but it must be well protected, or disappointment will be the result

Amygdalus nana. fl. pl.—Dwarf double-flowering Almond, a beautiful and striking plant, with double rose-coloured flowers, produced in abundance in long wreaths, every single blo-som being as perfect as a rose—an old favourite, but now seldom seen. It should not be allowed to disappear from cultivation, being too good to lose.

Tamarix Indica. Indian Tamarix, a most distinct and graceful shrub, which should be found in every garden, on every lawn. Its light, feathery foliage and graceful outline make it particularly desirable. The flowers are a delicate pink, and the leaves a beautiful light green, contrasting pleasantly with the surrounding vegetation.

Kerria Japonica.—Japanese Kerria, a robust and rapid grower, but apt to be winter-killed. The wood has a peculiar green colour, which gives the plant a striking appearance. Flowers produced singly, but in sufficient abundance to be showy, are dark yellow, and very double, being quite spherical in shape. It is sometimes called the Japan globe flower.

Magnolia Soulangeana—(Soulange's Magnolia.)—This may properly be classed among the shrubs, as it never grows to a great size. A good thick coating of straw or boughs is necessary to protect it through the winter. The flowers are large, measuring sometimes six inches in diameter, and are produced in early spring before the foliage is fully developed. In colour they are creamy white, with a purplish blotch at the base of each petal. A good specimen presents a truly magnificent appearance. There is another variety, *M. conspicua*, which is nearly as showy as the foregoing. All the Magnolias are somewhat difficult to transplant.

W. T. G.

Ripening of Grapes in Open Air.

I FIND the little Delaware stands at the head of the list, both as to ripening and quality. I have had it in bearing for four years, and find it ripens from the 15th to 20th Sept. The Northern Muscadine, Rebecca, and Hartford Prolific follow immediately after; then Concord, Allen's Hybrid, Ontario, and Union Village. The Isabella, Diana and Louisa follow about the 1st Oct. The Anna, Canadian Chief, and Taylor or Bullit seldom ripen at all, and ought to be discarded from all catalogues. It seems to me surprising that such men as Dr. Grant, of Iona, should devote a page and a-half to a panegyric on such a worthless grape as the Anna. I cannot ripen it in the favourable position my grapes occupy. I am satisfied it cannot be ripened in this latitude. The following is a memorandum taken from my diary:—

Sept. 20, 1859.—Isabella, Concord, and N. Muscadine ripe. "Catawba never ripe. Isabella 6th Oct., against house, never on trellis. Diana 1st Oct., with difficulty."

Sept. 15, 1861.—Delaware, N. Muscadine, Rebecca, and Concord about equally ripe. 17th—Picked two bunches Delaware ripe. 17th—N. Muscadine and Rebecca ripe, Concord not quite. 26th—Concord fully ripe, Isabella not quite ripe, and gone; Anna, Taylor, Diana and Louisa not ripe. Oct. 1—*Isabella ripe.*

Sept. 20, 1862. Delaware and N. Muscadine ripe; Rebecca, Diana, and Isabella just colouring; Concord nearly ripe.

Sept. 16, 1863.—Delaware, H. Prolific, Rebecca, N. Muscadine, Concord, Allen's Hybrid, all pretty ripe; Delaware best and ripest, Isabella and Diana colouring. Sept. 18—Concord and Ontario ripe; also, Blood, Black, and Union Village. Oct. 1—*Isabella ripe;* Anna and C. Chief did not ripen at all.

St. Catharines, March, 1864. J. T.

☞Put some powdered charcoal around the roots of your roses. It will improve their colour.

MARKING TREES. The *Gardener's Chronicle* has hit upon a happy way of identifying trees, namely, to cut the name of the fruit into the bark. A decent scratch is sufficient. It will last the lifetime of the tree.

Apples for Chateauguay County.

To the Editor of The Canada Farmer.

Sir,—Will you be kind enough to state what varieties of apple you would advise us to plant in this locality, where the thermometer falls as low as forty degrees below zero, and where the object would be merely to supply a family of half-a-dozen persons, with a liberal allowance for friends The St Lawrence apple has of late years proved altogether too tender, the Famense a little better, but also rather tender.

The subsoil is a cold, wet clay, and the general plan of planting is to lay out the orchard with a ditch around the outside, and to throw the land into ridges of from twenty to thirty feet in breadth, with a dead furrow between the rows to carry off the water, and the trees planted on the crown of the ridges. The after cultivation consists of seeding down with timothy, and occasionally top-dressing with manure. Most of the orchards so treated, after a few years present a rugged and unthrifty appearance Is there no better plan, or would under-draining be of any benefit?

Yours, &c, G Y.

Ornestown.

Note by Ed. C. F.—There is much yet to be learned about the cultivation of fruit trees in the colder parts of Canada. It may be that there are sections where the Siberian Crab alone can be made to live and bear fruit. But such inquiries as the above are very gratifying, for they help by adding to the stock of our information, while they show a determination to contend with the difficulties of the position

From the tenor of our correspondent's letter, we infer there has been a time when the St. Lawrence Apple was not as tender as it is now, and it might aid us very much to be informed to what cause he attributed this change. Does the thermometer range lower than formerly? Are the apple trees more exposed to the sweep of long-continued frost-laden winds? Or has the vitality of the trees been impaired by their standing in a cold, wet soil? Our views of the effect of such a soil are expressed in another column, under the heading "Where to Plant."

The Red Astrachan, Northern Spy and Famense are classed among the most hardy varieties we have, and if these fail, it is desirable to ascertain the causes of this failure; and if every other condition of success be secured, we shall be obliged to admit that the climate is too severe for them, and seek in the Siberian Crab, and its seedlings a race of apples sufficiently hardy

Will our correspondent inform us whether any experiments have been made with the various kinds of apple grown as dwarfs, by working them on the Paradise stock: and whether they give any indications of being more hardy than standard trees.

The Destruction of the Peach Crop.

I have given a good deal of attention to the question whether the destruction of the peach crop is occasioned by an excessive degree of cold or by the changes in the weather. I find universally that when the thermometer reaches 10 or 12 below zero, the gum of the peach blossom is destroyed, but, on the contrary, no matter how severe or changeable the weather, no such result follows unless, as I said before, the thermometer falls to a certain point, *about 10 degrees below zero.* To confirm my idea, I send you an extract from my diary relative to this:

1860-1.—Peach-buds destroyed Ther. 8th Feb. down to 12 or 14 below zero. This winter, and also the present, were not marked by any remarkable changes, such as that of 1861-2.

1861-2.—Good peach year Ther not lower than 2 below zero. In March, 1862, a remarkably severe rain-storm occurred, freezing on the trees destroying a great many.

1862-3.—Good peach year Ther not lower than 3 or 4 below zero.

1863-4.—Peach-buds destroyed Ther as low as 10 or 12 below zero on 1st Jan.

St. Catharines, March, 1864. J T

Common Method of Raising Young Orchards in Canada.

To the Editor of The Canada Farmer.

Sir,—I presume that most of your readers are familiar with the treatment of young orchards as generally practised in this country, yet there may be some who are uninitiated, and for their benefit I will give a description of the *modus operandi.*

In the first place, select your ground as near to the house as possible, so as to have it handy to gather the fruit. No matter whether the soil is adapted to fruit or not, if it is only "handy by." See that there is a good stiff sod on the ground; if not, sow it to wheat and stock it down. The sod holds the tree firmly in its place, and prevents the wind from moving it. Get your trees of the first agent or tree pedlar that comes along; the farther he has to bring his trees the drier the roots will be when you get them. Don't stop to see whether he is agent for any responsible nursery, if you can only get them *cheap,* and don't try to ascertain whether the varieties you are getting are adapted to your soil and climate; it might cause you some trouble. When you get your trees, let them lay out in the sun, while you dig post holes to set them in; or if it should be frosty nights, leave them out doors over night; it will help them get used to the climate. Mind, not dig your holes too large, it will be more trouble to fill them up. If the roots are bruised or broken, don't cut them off, it will take time, and they will decay quicker Don't cut off any of the top, you would loose some of the tree; the roots will likely be cut short enough. Don't be particular about straightening the roots out in planting; double them into the hole, you can fill it up quicker. Let all the weeds and grass grow around them that will during the summer; it will shade the roots, besides making a good harbour for mice during the winter. Leave your fences down, and gates open, so your sheep and cattle can get to the trees; they are fond of young trees, especially when they don't get much else to eat. If you have occasion to plough among your trees, don't be particular about the whiffletrees hitting them, they will bend easily, and if you do bark them, it will be no more than the sheep and mice have done. If the plough catches the roots, it won't hurt them much, only help *raise* them. Pursue this method for a few years, and your orchard will be *raised,* or at least ought to be. If it isn't, lay the blame on the nurseryman who supplied the trees, he can bear it—he is used to just such blame.

Yours at any time,

PETER PRUNING KNIFE.

Grimsby, March 8th, 1864.

To keep Grubs off Cabbages.

To the Editor of The Canada Farmer.

Sir,—In the fifth number of The Canada Farmer, "M. A." recommends strewing a few leaves over the ground prepared for cabbages and then picking them off at night, when the grubs are out feeding. Last year we had a bed of onions and cabbages, which the grubs attacked, and we used to go out every night with a lantern, between ten and eleven, pick them off, bring them in and burn them. Well, I think that was nearly the same and I must say that that did not answer, for they did not seem to decrease in number. We planted the cabbages four or five times and they were always eaten up in a few nights, until we were told of a plan which effectually keeps the grubs from them. It was merely to wrap a piece of paper, about 1½ inch broad, round the plants when planting, leaving about half an inch above ground. If any one objects to cutting the pieces of paper, I would ask him which is likely to give the most trouble, planting once with paper or half a dozen times without, and the loss of plants each time?

Malton. C. W. R. G T.

Christiana Musk Melon.

To the Editor of The Canada Farmer:

Sir, Allow me to recommend to your readers who know how to appreciate a good melon, the one above named. It is a luscious, green-fleshed, nutmeg melon, and extremely early. I sowed it last season on the 3rd of May, protected it with a hand glass until settled warm weather, and cut the first ripe melon on the 25th August,—not so bad for the climate of Guelph which is generally supposed to be too arctic for melon-growing.

DESSERT

Guelph.

Veterinary Department.

Pleuro-Pneumonia in Cattle.

This disease consists, as its name indicates, of inflammation of the lungs and their covering the pleura, affecting at the same time most of the structures within the chest, and assuming a typhoid and chronic form Pleuro pneumonia, in an epizootic form, made its appearance in Great Britain in the year 1841, and has prevailed ever since in some districts to an alarming extent—hundreds of cattle having fallen victims to this disease. It is also common in large cities where cattle are kept in a highly artificial state, and with an inadequate supply of fresh air. Of late years it has appeared in Australia, and has made sad havoc amongst the great herds of cattle in that country. It has also prevailed extensively in some of the States of the American Union. The disease comes on insidiously, and often makes considerable progress before any symptoms are observed;- the animal gets dull, the mouth hot and dry, the hams and legs hot, or alternately hot and cold, and there is a short involuntary cough; the circulation and breathing is also quickened. As the disease advances, the breathing becomes more laboured, and accompanied by a grunt. If the ear is applied to the chest, a crumpling, crepitating noise is heard. The animal, when standing, arches its back, and somewhat turns its fore extremities; and when lying, rests on its broad, flat sternum, thus increasing the laternal expansion of the chest. The blood is imperfectly aerated, digestion is impaired, leading to tympanites or diarrhœa, and death occurs usually in from ten to twenty days.

Pleuro-pneumonia is very unsuccessfully treated, but has gradually become more amenable to treatment, and under rational management, more than one-half the cases now affected recover. In a late number of the *Scottish Farmer,* we observe considerable attention devoted to the present agitation existing amongst stock raisers in Britain regarding the "cattle diseases preventive bill" and "importation bill" In the House of Commons. Mr. Bruce, in moving the second reading of these bills, said: "As far as could be ascertained, there were in the United Kingdom of Great Britain and Ireland nearly 8,000,000 head of cattle, and the value of these cattle, reckoning them as worth £10 a head, was no less than £80,000,000. Disease among cattle had broken out with peculiar virulence during the last twenty years. In 1844 the first insurance office for cattle was founded, when it was estimated that a premium of from 3 to 3½ per cent. would cover the risks of loss. Several insurance offices were started, but although the premiums were gradually increased from 3 up to 7 per cent., the largest offices came to a stand. From statistic tables, it was computed that in the United Kingdom the average loss from disease was about 375,000 head a year, and the most fatal of these diseases was pleuro-pneumonia. In 1848, the annual report of the Agricultural Insurance Company stated that in some districts thousands were carried off by this disease; so great, indeed, were its ravages, that nearly three-fourths of the losses for which claims were made on the Company were the result of that malady."

A Case of Garget.

To the Editor of The Canada Farmer:

Sir,—Is there any cure for garget after it has become a settled disease? I have a fine young cow that has been troubled for several months with one of her front teats. Sometimes it is so bad that it is hard to milk, it being so clotted. It seems to affect her health, as she is getting quite poor, although well housed and fed. She has never been hurt, as some might suppose. I have tried several remedies, but without any good result. Many tell me to let her run to beef, as there is no cure, but as she is much prized by the family, any information from you or any of your readers would be thankfully received.

ENQUIRER.

Brantford, March 23, 1864.

Ans.—Inflammation of the udder in cows receives the names garget, mammitas, &c, and occurs as a primary affection, or in conjunction with other diseases. It is most common in milch cows, and usually attacks them soon after calving, especially cows that have been good milkers, but it also occasionally affects young heifers that have never had a calf. It

occurs in two forms; one form is when the skin and mucous membrane lining the udder becomes inflamed, and the cow is said to have a cold in the udder, which feels hard, dry and knotty, and the milk invariably curdled and bloody, and accompanying these symptoms is a great degree of fever. In the second form there is not so much fever, the milk is not curdled, and the udder is not so sore, the more deep-seated vascular textures are inflamed, such as the secreting cells and lactiferous tubes, when hard swellings may be found amongst the softer structures, affecting one, two, or perhaps all four quarters of the udder. In both forms of garget the abdomen becomes drawn up. The most common cause in milk cows is the teat not being properly milked, or being at pasture in hot days and heavy dews at night, or exposure to sudden chills, over-driving, and allowing her to carry her milk too long. It also often occurs as a sequel of indigestion and milk fever. In many cases this disease terminates in suppuration of the gland, abcesses form which point and burst. This may occur in one or more quarters, and lead to the loss of the quarter affected.

When the disease comes on suddenly from causes acting on the general system, a good dose of purgative medicine is useful, as Epsom salts, combined with molasses and ginger, and the kidneys should also be kept active by occasional doses of nitre. As regards local treatment, this must be regulated according to the parts affected. When the inflammation is deep-seated, indicating that the glandular substance is affected, heat and moisture are necessary. Place a broad web of cloth round the cow, and secure it by tape passing around the quarters, and make holes in the cloth for the teats to pass through, then apply tow or wool between the cloth and udder, which should be constantly kept saturated with hot water. The application to be of any service must be persevered in for at least a couple of days. When pus forms in the deeper seated parts, it must be eradicated by free incisions. When the inflammation is subdued friction and various ointments are used. When the udder is hot and tender, showing that the mucous structure is inflamed, cold applications are preferable to heat and moisture, apply a bandage as already mentioned, and keep the parts cool with applications of cold water, ice, or a solution of chloride of ammonia, or nitre and water. This also must be persevered in for some time to be of any benefit. In all cases the milk should be drawn away every three or four hours, and if milking should be attended with much pain, the teat syphon should be used.

Alsike Clover Injurious to Horses.

We observe in the December number of the *Veterinarian* a communication from A. J. Shorten, M. R. C. V. S., on some supposed deleterious effects of the eating of Alsike clover by horses. A gelding was affected with great tumefaction of the lips and nostrils, which quite incapacitated him from feeding. These symptoms were accompanied by a slight swelling with great lameness of the off hind-leg, which was exceedingly painful and tender when pressed. It was considered a case of derangement of the liver and digestive organs, and treated accordingly. Another horse became affected in the same way, the swelling of the lips and nose being still greater. In both cases there was a considerable discharge of viscid matter from the heels, and assumed the characters of a most decided case of grease; and it was some considerable time before the animals were restored. Three other horses were similarly affected in a lesser degree, but there were three or four others feeding on the same pasture that showed no symptoms of being injured. On removing the diseased animals from the clover ley, they slowly recovered under medical treatment Mr. Shorten is of opinion that the mischief was occasioned by the alsike clover, but offers no reasons or explanation. He mentions some similar cases that occurred a few years since in Suffolk, and observes: "At the time I examined the field, I found that the flowers of the plants in question were just beginning to show signs of forming seed,—a period, botanists tell us, when the active principles of a plant are concentrated in it."

As the Alsike clover has recently been introduced into Canada, and, we believe, very generally approved, it being hardy, productive and enduring, we should like to be informed should any similar cases occur here. The facts above stated are not sufficient to deter our farmers from giving this new variety of clover a fair and full trial; and further investigation may show that the conclusions drawn from them are premature.

Poultry Yard.

How to Raise Geese.

Mrs. S. Pillsbury, of Derry, N. H., furnishes the *New England Farmer* with her mode of raising geese. The old lady's ideas may prove useful to some of our readers:—

"I recently found some inquiry in the *Farmer* about raising geese, and as I am an old hand at it, I thought I would reply. When they commence laying, which is usually April or May, a box with bran or cotton on the bottom should be provided, so that the eggs will not roll about. As often as there is an egg laid in the box, the rest of the eggs should be turned over carefully. When the goose is done laying and wants to sit, she will make her nest, feather it, and set on it; the nest should then be taken out very carefully and a nest made with about four quarts of horse manure, and some chaff on that; let it be made large and commodious, and then lay the nest that the goose made on the other very carefully, not disturbing the straw nor feathers. Fill in all around the nest, making it about level, so that the goose can go on and off with ease.

The goose sits four weeks; mind the time correctly. Two or three days previous to the time of hatching, place the eggs in a broad, deep thing, with milk-warm water enough to let them swim, and those that have live goslings in them will bob round and swim, and those that have not, will sink or be still; the gosling will break the shell on the end that stands out of the water.

Do not put the eggs in water after the shell is broken, but drop some water on the gosling's bill, when the gosling is hatched and is nest-dry. Take it in the hand, and with the thumb and finger press the bill open and drop in a pepper corn, and then some sweet cream; have ready some green turf, place it round the nest, and sprinkle on it some Indian dough, where the goose will pick, and teach her young. They are a very tender fowl, and require care till their feathers are grown; after that they need not be fed, if they run in the road. They can be plucked three times the latter part of the summer months; some think it very wicked to pick them, but they shed all that you pick, quills and feathers; they can be tried, and if they come hard, wait a week or two. Do not let the young go to water too soon; have a short thing for them to drink out of; if they should get chilled, take them to the fire and put warm ashes on their back, and feed them with cream with a teaspoon.

Two geese are better than three, and one is better than two, as they are apt to beat each other; and unless they hatch altogether, they will beat the young. When I kept geese, I fed them on corn till the grass grew, and not after that till they were fatted in the fall.

Sex of Eggs.

In a late number of your paper I notice a statement that long eggs produce male chickens and short ones female. You ask your readers to try it another season. To save them the trouble, I will say that a similar statement went the rounds of the papers twenty years ago, and at that time I thoroughly tested the statement and found that the shape of the egg does not indicate the sex.

Perhaps some of your readers will be benefitted by knowing that an egg placed under a setting hen for some two days and then exposed to a strong light by being held to an aperture through some opaque substance, so as to place the egg between the light and the eye, will exhibit lines of blood, if it is not addled. At a later period the egg becomes opaque and, of course, cannot be tested in this way. When I had the care of hens I used to place simply a nest egg under a setting hen until three hens were wishing to sit at the same time. Placing eggs under each at the same time, in due season I tested them as above described, and took away the poor eggs, placing the good ones under one or two hens, thus securing a large number of chickens from each hen that was permitted to spend her time in sitting, and brooding chickens. —*Aroostook Pioneer.*

Game and Brahma Fowls Compared.

To the Editor of The Canada Farmer:

Sir,—I am quite delighted with your paper, more especially as I am a lover of poultry. Every one has his own fancy for fowls, and I see in your issue of March 1st that "Game Cock" thinks there is no variety like the game fowls. I wish to compare my Brahmas with the games. "Game Cock" keeps 23 hens and 2 cocks, at a cost of 20 cents per week; I keep 12 hens and 1 cock, which cost me 20 cents per week; and which, I think, is very little. I feed upon corn, buckwheat, and sometimes barley; I prefer corn. My hens get a regular allowance three times a day, with plenty of good clean water, and their house is cleaned and swept every morning. Our notes compare as follows:—

Game (23 hens.)—January, 26; February, 14; March, 237; April, 255; May, 237; June, 191; July, 272; August, 267; September, 208; October, 210; November, 84; December, 28; total, 2,029—169 dozen, or 88 eggs to each hen.

Brahma (12 hens.)—January, 86; February, 159 March, 229; April, 201; May, 204; June, 136; July, 124; August, 102; September, 97; October, 70; November, 23; December, 51, total, 1,482—123 dozen, or 123 to each hen.

Now, Mr. Editor, you will see that I got 123 eggs from every hen, while "Game Cock" got 88. I also raised 70 chickens; of course it cost a little more when feeding so many chickens. I reckon the cost of keeping fowls at a little less than one penny per week each fowl. JOHN VEITCH.

Brockville, April 2, 1864.

The Household.

About Whitewashing.

The time for cleaning, and fixing up, has come, and one of the most important items is whitewashing. We often wonder that people do not do more at this. How much neater and more cheerful a whole place looks, if a few hours are spent in whitening the fences the out-houses, the cellars, etc. It changes the whole appearance of the homestead. One day's work thus expended will often make a place twice as attractive and add hundreds of dollars to its saleable valuation. Whitewashing a cellar with lime not only makes it lighter and neater, but more healthful also. *For Cellars*, a simple mixture of fresh-slack lime is best. *For House Rooms*, the common "Paris White," to be bought cheaply, is very good. We take for each 2 lbs. of whiting, an ounce of the best white or transparent glue, cover it with cold water over night, and in the morning simmer it carefully without scorching, until dissolved. The Paris White is then put in *hot* water, and the dissolved glue stirred in, with hot water enough to fit it for applying to the walls and the ceilings. This makes a very fine white, so firm that it will not rub off at all.—When common fresh-slacked lime is used, some recommend adding to each 2½ gallons (a pailful,) 2 table spoonfuls of salt, and half pint of boiled linseed oil, stirred in well while the mixture is hot. This is recommended for out-door and in-door work.

For an Out-Door Whitewash, we have used the following with much satisfaction: Take a tub, put in a peck of lime and plenty of water to slack it. When hot with slacking, stir in thoroughly about half pound of tallow or other grease, and mix it well in. Then add hot water enough for use. The compound will withstand rain.—*American Agriculturist.*

How to Prevent wet Feet.

A writer in the *Mechanics' Magazine* says: "I have had three pairs of boots for the last six years, and I think will not require any more for the next six years to come. The reason is that I treat them in the following manner: I put a pound each of tallow, and rosin in a pot on the fire; when melted and mixed, warm the boots and apply it hot with a painter's brush until neither the sole nor the leather will soak any more. If it is desired that the boots should immediately take a polish, dissolve an ounce of wax in a tea spoonful of turpentine and lampblack. A day or two after the boots have been treated with the tallow and resin, rub over them this wax and turpentine, but not before the fire. Thus the exterior will have a coat of wax alone and shine like a mirror. Tallow or grease becomes rancid, and rots the stitching and leather; but the resin give it an antiseptic quality, which preserves the whole.—Boots or shoes should be so large as to admit of wearing cork soles. Cork is so bad a conductor of heat that with it in the boots the feet are always warm on the coldest stone floor.

Remedy against Moths.- An ounce of gum camphor and one of the powdered shell of red pepper are macerated in eight ounces of alcohol for several days, then strained. With this tincture the furs or cloths are sprinkled over, and rolled up in sheets. Instead of the pepper bitter apple may be used This remedy is used in Russia, under the name of "Chinese Tincture for Moths."

Omelet.- Four eggs: one teaspoonful of butter, cut in bits; one large spoonful of milk or cream; salt and pepper to taste Put a piece of butter, half the size of an egg, in the pan which should not be so large as to allow it to spread too thin let it melt, break in one slice of bread, crumbled very fine, put two large spoonfuls of cream. Beat the eggs well, stir them in briskly for a moment, let it cook about five minutes, then fold it over, and turn it out. This makes a very nice dish for the breakfast table.

Treatment of Hiccup.-This may often be removed by holding the breath, by swallowing a piece of bread, by sudden fright, or a draught of weak liquid. When it arises from heat and acidity in the stomachs of children, a little rhubard and chalk will remove it. Should it proceed from irritability of nerves, take a few drops of sal volatile, with a tea-spoonful of paregoric elixir. If it still continue, rub on soap liniment mixed with tincture of opium, or a plaster may be put on the pit of the stomach, or sipping a glass of cold water with a little carbonate of soda dissolved in it.

Substitute for Butter The following "item for house-keepers" we copy from the *Baltimore Clipper* As butter is now selling at a very steep price, with a prospect of going still higher, it becomes a necessity in a great many families to save as much as possible A lady who is a famous house-keeper, recommends an economical plan for making cake without butter, which may be useful to our lady readers:-Take a piece of fat salt pork melt it down and strain it through a piece of coarse thin muslin. Set it aside until cold. It is then white and firm, and may be used like butter in any kind of cake. In pound cake she assures us it is delicious. She says that after one trial she never used butter.

How to select Flour.--First--Look at the colour; if it is white, with a slightly yellowish, or straw coloured tint, buy it. If it is very white, with a bluish cast, or with white specks in it, refuse it. Second--Examine its adhesiveness; wet and knead a little of it between your fingers; if it works soft and sticky, it is poor. Third--Throw a little lump of dry flour against a dry, smooth, perpendicular surface; if it falls like powder, it is bad. Fourth--Squeeze some of the flour in your hand; if it retains the shape given by the pressure, that, too, is a good sign. Flour that will stand all these tests, it is safe to buy. These modes are given by old flour-dealers, and they pertain to a matter that concerns everybody, namely, the staff of life.

Remnants of Roast Beef.—Take off with a sharp knife all the meat from the bones If there are a few nice slices, reserve them, if most convenient, to be eaten cold. Chop the rest fine in a tray. Take cold gravy, without the fat, and put into a spider to heat. If you have not this, some of the stock, or water in which meat has been boiled. When it boils up, sprinkle in salt, and put in the minced meat; cover it, and let it stand upon the fire long enough to heat thoroughly, then stir in a small piece of butter. Toast bread and lay in the dish and put the meat over it. The common error in heating over meat, sliced or minced, is the putting it into a cold spider, with too much fat, and cooking it a long time. This makes it oily and tasteless. Almost all meats, when cooked a second time, should be done very quick. The goodness of these dishes depends much upon their being *served hot*

Kitchen Conveniences.—1 Many housekeepers are troubled in cold weather with hard rough hands. They look badly, but this is a minor item; they are uncomfortable, and a great annoyance in sewing any delicate fabric. Much of this trouble might be avoided by a little care, especially in handling *iron ware*, either hot or cold Make a large, substantial *holder*; sew a long string to it, tie it fast to your working apron. Then it is always at hand, and should be constantly used in lifting kettles, even if not hot enough to burn the hand. 2. Hundreds of steps are wasted every day in setting tables and clearing them after meals Get your tinner to make you a plain tray of any convenient dimensions, say 18 by 30 inches, with a straight rim, and stout rings or holes at the ends to carry it by. Place your table furniture on this, and with two journeys from your pantry to your dining-rooom you can set or clear any ordinary table 3 Don't waste time and spoil cutlery by scraping your iron-ware with a knife, while washing it. Keep a circular piece of tin in your sink; bend it a little for convenience in holding, and see how nicely it will do the work *Cor. Rural New Yorker.*

Miscellaneous.

Prize-taking at Agricultural Shows.

To the Editor of The Canada Farmer.

Sir,—Finding you wish farmers to write for the Canada Farmer their experience, and to pitch into the Devons, Durhams, Galloways and all other monstrous fat cattle, I would suggest a few thoughts.

I don't like to see our Agricultural shows so conducted that there is but little chance, if any, for us small farmers with no other source of income but our farms (and a large family to provide for,) to get a prize. I don't like to see squires and captains and colonels, and a vast number of independent gentlemen, with several hundred pounds a year coming in independently of the farm, competing with farmers who have no other resource but their farm. I don't wish to be understood that I think this class of independent gentlemen should have no prizes; for it is to this class that we are indebted for the most of our thorough-bred stock. What I wish to say is, "let birds of a feather flock together." I think they ought to be classed by themselves. Many have but a small piece of land about as large as a good sized garden, and are possessed of an independent fortune, coming in from the old country or from some other source, and they work their small patch of ground for pleasure or a sort of kill time, regardless of cost or profit. I don't think they should be classed with us who have large fields of roots to cultivate and to derive a profit from them. Then the judges are often lawyers, or others who know as much about cattle as the blind man who said 'twas a fine animal because his coat felt sleek. Why not have farmers to judge farm stock and produce? Now, Mr. Editor, it is my opinion we ought to have a few more classes in our fairs. Men with an income from some other source besides their farms should be classed by themselves, and farmers with 100 or 200 acres of land that have no other source of income besides their farms should compete with each other in classes of their own. I am well convinced that if this, or something to this effect, could be brought about, instead of a few members and entries at our fairs, they would be swelled to hundreds. The rising generation that are now fast coming into active life have had rather a better chance for education and mental improvement than our fathers had when our fine country was almost a wilderness. How many of these young men are willing to put their abilities to a good use and to take an active part in the great drama of affairs. But they want encouraging in some way. It's very hard and discouraging for a young farmer who drives his cattle ten or twelve miles to a fair, not to receive any prize and to be scarcely countenanced because there are so many independent gentlemen that sweep all before them. I am a great believer in shows, fairs, &c., and would like to see them prosper and put on a proper footing. Such institutions if rightly carried on will raise the standard of agriculture in our country and so help its prosperity.

A SUBSCRIBER.

Talbotville Royal,
March 29, 1864.

Threshing Machines.

To the Editor of The Canada Farmer.

Sir, Having taken notice of an inquiry by "John Bull," in your last number of The Farmer, I will give him all the information in my power.

The machines in use in this section of the country are of 10-horse power, at about the cost of $335. A machine of this description can be procured from Mr John Abel, of Berwich, Township of Vaughan, which works in a most efficient manner. Messrs. Haggart, of Brampton, also build a very powerful and good machine, worthy of notice. Messrs. L. & P. Sawyer, of Hamilton, also get up a very superior article, working in the most perfect style, and giving good satisfaction wherever introduced. As regards the amount of work they will do, from 300 to 500 bushels can be threshed in a short winter's day, requiring about 16 hands to stack the straw and attend the machine. It takes one man to feed, one to cut bands, one to hand him the sheaves, one to put in the boxes, one to take them out and empty them, the rest of the men being employed on the straw stack or other places, as may be required. These machines require a barn floor about 14 feet wide and 24 in length to work them properly. The straw carriers will carry the straw from 24 to 30 feet from the mouth of the machine to the top of the stack, unless it be a very high one. I have now given all the information in my power, hoping it will be of service to the inquirer. T. BRETT.

Mono Mills, March 22nd, 1864.

Curious Epitaph—On an old lady, who before her demise had actively and lucratively employed herself in keeping a crokery store.

Benc, atht hissto nelie skatha, rineg raych angedfro
mabu: sylif etoli felesscla ybyeart, Handel ayshcg, O!
therpel fandnows. Heistur nedtoe arthhers. Elfyewe.
epingfri endslet mead viscaba. teyourgri efandwi
peyourey esforwha, tava ilsallo odofte arswhok nowsbu.
Tinaru nofye arsinso metall pitche rorbro.
Adpansheinhers hopma ybeag ain.

In reading the above epitaph, no regard is to be paid to the division of the words, to the capitals or to the punctuation, but the letters are to be formed into words straight onwards.

April.

A timid, blushing maiden,
With downcast tearful eyes—
In her hand an opening rosebud,
Perfumed by dewy sighs.

Oft retreating, oft advancing,
She has won our hearts the while:
And we cannot choose but love her,
For her tear-drop, and her smile.

—*Peterson's Magazine.*

Answer to Riddle in No. 6.

What's that which often set at nought
Might well by royal hands be sought,
And is for wounding uses wrought?
The ploughshare.

What's that which wounds but sheds no blood,
Whose might has the whole earth subdued
And furnished all mankind with food?
The ploughshare.

What's that whence empires take their rise
Without a human sacrifice—
Source of all trade and merchandize?
The ploughshare.

What's that which every land befriends,
Health, wealth, and sweet contentment sends,
The Throne upon its might depends?
The ploughshare.

Toronto. C. F. W.

Markets.

Toronto Markets.

"Canada Farmer" Office, April 15, 1864.

Taken as a whole, our market during the past two weeks has been one of almost unparalleled dullness for this season of the year Advices from Europe do not lead shippers or buyers to hope for any active business this spring, it being almost impossible to move produce without loss. The price of grain was so high in the fall, caused by the apprehension of war in Denmark, that buyers imagined there would be a great demand for grain and that a very high price would be obtained for it. So far their expectations have not been realized, and they find themselves hampered with a supply which they cannot move with profit to themselves.

Several schooners have left this port for Oswego and Montreal, loaded with grain and flour. In Montreal there is apparently as little doing as here, and there is the same difficulty with regard to prices.

Flour—Superfine at $3 60 for shipment per barrel; $3 75 to $3 85 for home consumption; Extra $4 40 to $4 50; Fancy $4 10 to $4 20, Superior $4 75 to $5 10; Bag Flour $4 00 per 200 lbs.

Fall Wheat, 85c to 90c for common to good per bushel, 93c to 96c for good to choice, 95c to $1 00 for Extra.

Spring Wheat 75c to 80c and 82c per bushel; occasionally a load of extra brings 83c to 84c.

Barley at 70c to 80c, and in one or two cases, as high as 85c per bushel.

Oats in good supply at 35c to 38c per bushel, for common to good, 40c to 41c for good to extra, occosionally a load brings 42c to 46c.

Peas 45c to 50c per bushel for common to good; 52c to 56c for good to extra.

Hay $8 00 to $10 00 per ton.

Clover Seed $4 00 to $5 00.

Timothy Seed $1 60 to $2 50.

Straw $5 to $6 per ton.

Hides (green) at 4½c to 5c per lb. the latter price for extra; trimmed 5c to 6c per lb.

Calf-skins at 8c to 10c per lb.

Sheep-skins at $1 25 to $1 50; the latter for extra.

Lamb-skins at $1 25 to $1 70; the latter for extra

Wool 40c to 41c.

Coal $7 25 to $9 per ton.

Wood $4 25 to $5 50 per cord.

Provisions—Hams 10c to 11½c per lb. wholesale Flitch Bacon

7½c to 8c per lb. wholesale, 8½c to 10c retail. Cheese, wholesale 11c to 11½c per lb.; retail 12½c to 18c per lb.

Beef—Inferior $5 to $6 per cwt., extra, $6 00 to $6 50 per cwt. wholesale, 5c to 8c per lb. for ordinary, 9c to 10c for superior, retail.

Calves scarce at $4 to $6 each.

Sheep at $5 to $7 each, according to size and quality.

Lambs $2 to $4 00 each.

Butter—Fresh, wholesale, at 20c to 25c per lb., retail 30c to 35c per lb. Tub butter, dairy packed, 23c to 25c according to quality, wholesale, retail, 25c to 30c.

Eggs—15c per dozen, wholesale; retail 16c to 17c per doz

Salt—$1 75 to $2 per barrel.

Water Lime—$1 50 per barrel.

Potatoes—25c to 40c per bushel, wholesale; 45c to 55c per bushel, retail.

Apples—Common to good, $1 50 to $2 25 per barrel, extra $2 60 per barrel.

Coal Oil—29c to 37c for Canada; 40c to 58c for Pennsylvania.

London Markets—April 13—*Fall Wheat*, 95c to $1, the latter price for extra samples only. *Spring* 76c to 81c *Barley* wanted, at 75c to 85c. *Oats* continue steady at 36c to 40c. *Peas* wanted at old rates, 46c to 52c. *Clover* and *Timothy* is well supplied in the stores, although but little comes to market *Timothy*, $1 75 to $2 50; *Clover*, $4 75 to $5. *Hay* has been scarce this week, at $9, $10 and $11. *Oat Straw*, $2 to $4 per load *Hogs*—Very few received, rates from $5 to $5 50 *Beef*,—Good hind-quarters sell readily at from $4 to $6 per 100 lbs. *Potatoes* scarce at 75c. *Butter*—The scarcity of butter still continues As high as 40c per lb. was paid for rolls on Saturday. The price has moderated since, and to-day small lots of good quality sold for 25c. The supply is still limited and will continue so for some time. *Hides*—Green, $5, dry, $10 per 100 lbs. *Sheepskins*, $1 25 to $2.—*Prototype.*

Hamilton Markets.—April 12—GRAIN—*Fall Wheat* per bushel, 80c to 87½c.; *Spring Wheat*, 75c to 80c., *Barley*, 75c to 80c.; *Buckwheat*, 45c to 50c.; *Peas*, 50c to 55c.; *Oats*, 44c to 45c.; *Corn*, 70c; *Oatmeal* per barrel, $6. PROVISIONS—*Potatoes*, 62½c to 75c per bushel, *Apples*, 50c to $1, *Butter*, fresh, per lb 25c to 30c; do. in firkins, 15c to 20c. *Eggs* per dozen, 12½c to 15c., *Beef*, hind-quarters, $4 50 to $5 50; do. fore'quarters, $3 50 to $4, *Pork*, $6 25 to $6 62½, *Chickens* per pair, 25c to 50c., *Cheese* per lb., 9c to 12c; *Lard*, 12½c. *Hay*—$7 to $10 per ton; *Straw*, $1 50 to $3 per load. SEEDS—*Clover Seed*, $4 50 to $5; *Timothy*, $1 15 to $2 25.—*Spectator.*

Montreal Cattle Market—April 12—*First Quality Cattle* $7 to $7 60; *Second and Third*, $6 50 and $5 50; *Milch Cows* $15 to $20; *Extra* $30 to $35; *Sheep*, ordinary, $1 to $6; extra, $8; *Lambs*, $2 50 to $4. *Hogs*, live-weight, $5 50 to $6; dressed, $7 to $7 50. *Hides*, $5 to $5 50. *Pelts*, $1 75 to $2 60. *Tallow*, 5c to 5½c.

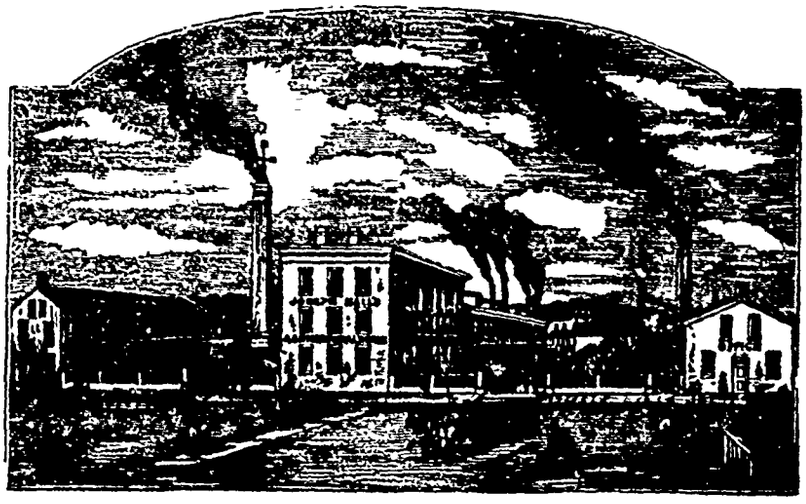
REMARKS—Supply and demand about equal.—*Witness.*

New York Cattle Market—BULL'S HEAD, April 12.—Scarcely anything, however poor, could be had for less than 14c., and good fair retailing steers, such as shop butchers usually buy, were held stiff at 15½c. to 16c., while selected animals from the best droves were weighed out at an agreed shrinkage for 17c. per lb. The weather was unfavourable, and the yards muddy, but neither the rain nor the filthy yards prevented a brisk trade, and few cattle were left unsold at night. *Milch Cows* are in good demand, and are worth $3 per head more than last week. Good Cows are scarce, being kept in the country, where they are worth as much as here. Fair Cows, without their calves, are bringing $50 to $60, and good milkers $65, and even more, per head. *Veal Calves.*—Receipts very large, being made up mainly of little, half-grown animals totally unfit to sell for veal. The high price of milk leads farmers to send off their calves when one or two weeks old. They suffer loss, however, as hundreds of calves had to be sold at 5c. to 6c. ℔ lb., which would bring 8½c. and 9c. if kept well fed two or three weeks longer. More than half the calves now coming to market will not weigh 100 lbs. alive, and it is a disgrace to our system of markets that such animals are sold for veal. The top price for fat calves is 9c., and of 100 head sold by a Forty-fourth street dealer only 7 brought that price. "Bobs" are bringing $1 50 to $2 each. *Sheep*—live weight, 10c. to 10½c. ℔ lb. *Hogs*—live weight, Western corn fed, 8½c. to 9¼c. ℔ lb.; distillery-fed hogs, 8¼c. to 9c. ℔ lb.

Albany Markets—April 12th—*Flour and Meal.*—The market is much excited, and, upon the receipt of intelligence from New York, holders of all descriptions put up prices full 25c per barrel. With increased orders from the East and a large home demand, which is in part speculative, much buoyancy is felt. The stock has been much reduced during the past week, and of some descriptions the market is almost bare—particularly for low grades. *Extra State* is selling at $7 20 to $7 50; *Fancy Genesee* $8 to $8 50 and *Extra Genesee*, including city brands $9 50 to $9 75. *Corn Meal* is firm with an upward tendency GRAIN.—*Wheat* is in good milling request and prime is not plenty. Inferior *White Genesee* at $1 78 in store. *Rye* without sales. *Corn* has advanced 3c per bushel with moderate receipts and an active demand at $1 28 for *Round Mixed* at the Central Depot, $1 30 for *Round Yellow* here, and $1 31 for do. in car lots, delivered at East Albany. *Barley* quiet. *Oats* in moderate request at 87½c., delivered. *Wool.*—A firmer market, with an improved demand. Sales 5,000 lbs. super Pulled at 75c, 25,000 lbs. do. do. on p. t., and 5,000 lbs. extra do. on p. t. *Beeves.*—This week: *Premium* $8 50 to $9 00; *Extra* $7 50 to $8; *First Quality* $6 50 to $7 00, *Second Quality* $5 50 to $6 00; *Third Quality* $4 25 to $4 75. *Sheep.*—There is a marked falling off in the supply of sheep, while the demand continues active—we might say remarkably so, considering the lateness of the season. It is the skins, owing to the high price of wool, rather than the mutton, that are wanted, and hence there is not now paid the customary difference between light and heavy sheep. To-day, for instance, while 9½c to 9¾c per lb. is paid for prime wool sheep, averaging only about 90 lbs., it is difficult, if not impossible, to get 10c for extra heavy, averaging from 135 to 140 lbs. HOGS—*Hogs* are up to 9c for the best heavy corn fed fat State and Western, and the demand is good, for the East as well as for New York The range of prices is from 7¾c for common light to 9c for extra prime head. Extra heavy stillers are worth 8¾c to 8¾c. Of the receipts 10,500 were shipped directly through to New York. But few are being taken here now.

Boston Markets.—April 12th.—*Flour*—The market is firm and the demand is good. Sales of Western superfine at $7 25 to $7 50; common extra, $7 75 to $8; medium do., $8 25 to $8 75; good and choice do., $9 to $11 50 ℔ bbl. GRAIN.—Corn is very firm. Sales of new Southern yellow and old Western mixed, $1 45 ℔ bushel. *Oats* are in good demand. Sales of Northern and Canada at 84c. to 87c. ℔ bushel. *Rye* is selling at $1 31 to $1 35 ℔ bushel. *Shorts* are firm at $39 to $40. *Fine Feed* and *Middlings* $40 to $43 50 ℔ ton. PROVISIONS.—*Pork* is firm and in good demand. Sales of prime at $20 50 to $21 50, mess, $23 50 to $24 50; clear, $26 to $27 per bbl., cash. *Beef* is in steady demand. Sales of Eastern and Western mess and extra mess at $14 to $18 ℔ bbl., cash. *Lard* is in moderate demand. Sales in bbls. at 13¾c. ℔ lb., cash. *Hams* are selling at 16c. ℔ lb., cash.

JOSEPH HALL, ROCHESTER, N.Y.



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