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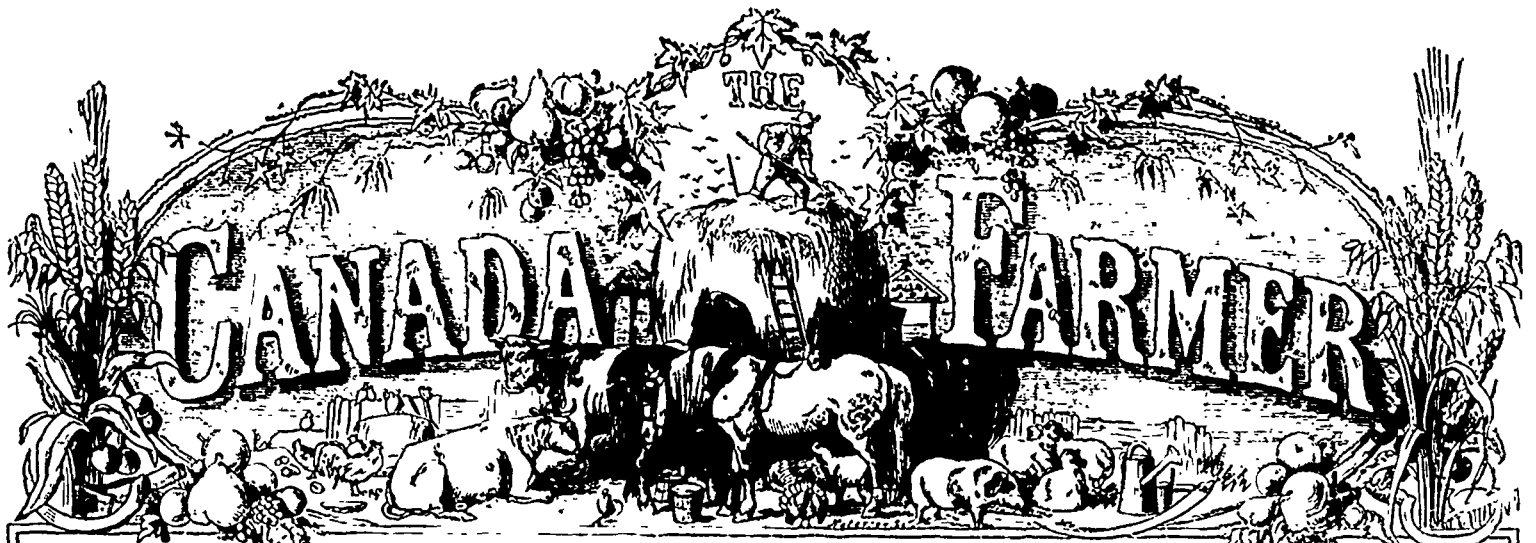
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VOL. IV. No. 21.

TORONTO, CANADA, NOVEMBER 1, 1867.

POSTAGE FREE.

The Field.

Oswald and Patterson's Flax Puller.

Mr. J. A. DONALDSON has sent us a photograph of the flax-pulling machine exhibited at the recent Provincial Exhibition. The accompanying illustration, copied from the photograph, will give a pretty correct idea of this important invention. When the implement is at work the standing flax is collected between the rod of iron, shown in the engraving, and the share-like projection at the side; the stalks are thus directed towards the drum, and caught between it and a thick hempen rope, by which they are held sufficiently tight to draw them from the ground as the drum revolves, without breaking or bruising them injuriously. In reference to this invention Mr. Donaldson writes as follows:—

"While flax as a branch of Canadian industry is yet in its infancy in the New Dominion, it must be admitted that it is rapidly gaining favor with the farmers generally. The great drawback hitherto experienced has been the expense of pulling by hand. This has now been entirely overcome by this pulling machine, which is produced at a cost quite within the reach of every farmer.

"It is well for those to know who have not yet commenced growing flax, that a party who had fifty acres on his own farm this season, saved the cost of one of those machines in harvesting his crop. The cost of hand-pulling this quantity or number of acres would have been at least \$200, four dollars an acre being the common price paid, and often more. The same number of acres has been pulled by the party I allude to for one-half this sum, clearly showing he has in one season saved the price or cost of the newly-invented flax puller.

They are manufactured at the low rate of \$80 each, by Messrs. Oswald and Patterson, of Woodstock. Several of them have been at work this season, and all proved a success. The quantity pulled will average from three to four acres a day. In sections where scutching mills have been already established, it would pay farmers of a neighborhood to join in the purchase of one of them. They do the work for about one-half the cost of hand-pulling, and it is done much better and more speedily, an advantage which in the hurried season is of vast importance, and enables the farmer to make sale of his flax crop suffi-

ciently early to realize means wherewith to carry on his other harvest operations.

"The success of the various linen manufactories now at work is a guarantee that this branch of trade is found profitable. We find the enterprising firm of Messrs. Gooderham and Worts have removed the machinery from one of their largest flour mills, and substituted in its place linen works. In like manner the firm of Messrs. Elliot and Hunt, of Preston, after their woollen mills were burned down, replaced the woollen machinery with linen works; and both of these manufactories have been producing from 500 to 1000 seamless linen bags per diem, as well as other descriptions of linen goods, such as threads, twines, ropes, &c. &c. On all such goods, when imported, farmers and other consumers have to pay a duty of fifteen per cent.

"While we can boast of having some ten or twelve thousand acres grown in the country, we must not forget that this is only about one-sixth of a single township; and while we have now a large increase of territory, there is plenty of room to put a large portion of the land under flax, and every farmer who is growing his wheat, barley, oats, and root crops, should endeavor to put in at least a couple of acres of flax every year. This would give a large increase, and add to our wealth and prosperity, which I believe not to be second to that of any other part of the

will reply to it, and that the subject may be extensively considered and discussed by occupants of every different kind of soil:—

There is one fact patent to all agriculturists on the northern portion of the Continent of America, including Canada, viz—That the quantity of grain produced per acre is not more than one-half (if so much) as the yield of similar crops in England, and further, that the average grows less and less on all old land, unless in some extraordinary instances of good farming.

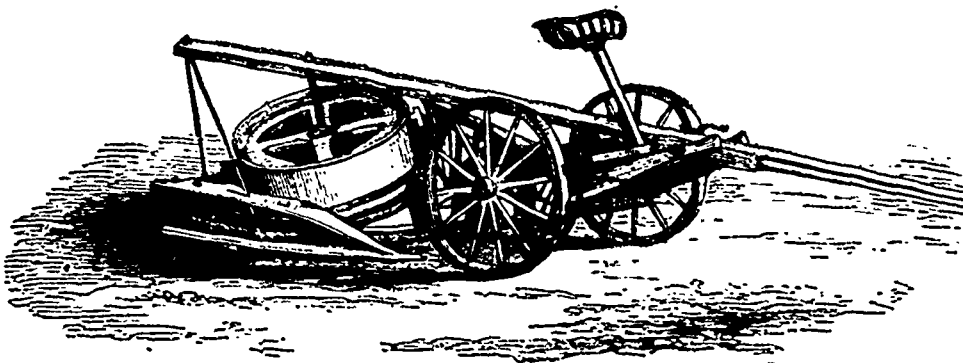
Now, in reckoning the yield of a farm, it is the last few bushels per acre that produce the profit, since it costs nearly, if not quite, as much to cultivate the land which yields twenty bushels per acre as that which yields forty bushels, whether of wheat or of any other kinds of grain.

A Canadian agriculturist who farms several hundred acres of land, and who has lately visited England, was struck with astonishment at the amount of grain raised in places well known to him (he is an Englishman), and which forty years ago certainly did not grow half the grain now produced from the same land.

How is this? It is neither season nor chance. The seasons are the same as they used to be, and the crops, as seen and examined by the party alluded to,

were the ordinary crops raised every year on the same land. The course of cropping was as follows:—Wheat, turnips (or other root crop), the land having been ploughed four times for the root crop, viz—once in the fall, when the stubble was ploughed in, then cross ploughed in the spring, and subsequently worked till the season for sowing the turnips, with at least three ploughings (often more), and intermediate

dragging and harrowing, and cultivating, until all the couch grass and other root weeds were extracted and burned, or picked and carried off, and all the growing seed weeds destroyed. The land was then manured with farm-yard manure, and finally the seed of the root crop was drilled in with artificial manure, such as super-phosphate, bone dust, guano, &c. The root crops were then horse-hoed, and finally hoed by hand. Then, when matured, they were hurdled off to sheep, or fed in some other way. The land (being then as rich as possible, and clean from all weeds), is next prepared for barley, which, as might be expected, is certain to be a noble crop, yielding from forty to sixty bushels per acre. The barley having been seeded down with clover and rye grass, (of which the crop cannot fail to be good) the "seeds," as the



world at the present time. Parties who have not given this new crop a trial, and wish to do so, will readily obtain every information on the subject by application to me.

J. A. DONALDSON.

11 Front St., Toronto. Oct. 16th 1867.

Cultivation of Turnips and other Roots.

The following article has been furnished by a correspondent. We do not endorse all he says, but publish it as a matter for thought and research. To our readers many of the views mooted are new, and different from those ordinarily received on this continent. It is a matter purposely thrown open for discussion, and we trust that some of our correspondents

lover is called, are lightly fed off by sheep in the fall, and allowed to grow up in the spring to be cut for hay. The hay crop yields from two to three tons of hay per acre, (usually two and one-fourth to two and one-half); the second growth is either again mowed for hay, or fed off with sheep, according to the necessities of the farm; and finally, the clover sod is turned under the same fall, the ploughing being about two inches deep, and sown with wheat, the ground being thoroughly pressed before sowing, and the wheat well limed, or otherwise dressed with blue vitriol, &c., and drilled in. The result is, as might be expected, a crop of wheat of at least forty, often sixty bushels per acre. The same course is again followed with the same results, the land all the time increasing in fertility, and becoming each year better instead of worse.

There will be various modifications of this system, according to the quality of the land. Sometimes the wheat crop is omitted, and another crop substituted, but on all the best lands of England this course can be followed with impunity, and without deterioration to the farm.

Now, let us see whether we in Canada cannot do likewise; and if not, what we can do.—The first objection is that from the shortness of the straw, and the small quantity of hay grown per acre in Canada, no farmer has as much manure as he wants; and if he had it, it is but too often the case, that being made out of doors, and having been frozen all winter, it is not rotten, and if it were, he has no time in the spring to carry it out, and he therefore defers his operations with manure till too late in the season. The chief complaint, however, is that he has not enough manure.

Secondly—That wages in Canada are too high to allow of the extra labour required by large crops of turnips, and that capital is too limited to allow of large quantities (if raised) being fed off with sheep; because sheep require to be housed in winter, and turnips also require housing, and that no buildings which can be met with on ordinary farms are extensive enough to house all the roots which could be grown on one-fourth of the arable land of the farm. In addition to this, the difficulty is presented of carrying all the turnips to the barn, and then removing the manure to the field, thus moving the turnip crop twice instead of once.

Thirdly—That farmers cannot afford the cost of forty dollars per ton for artificial manures, and cannot grow turnips in large quantities without them; and besides, they think they cannot afford the cost of hand-hoeing large crops of turnips. Before proceeding further, let me say what I consider a large crop of turnips to be. I have often talked with Canadian agriculturists about turnips. They say "Oh yes," we grow turnips, we could not get along with the stock without them; why we raised over six acres of turnips last year, and had a capital crop." And these people farmed from eighty to one hundred acres of cleared land. Now, I call that no crop at all. Such men ought to grow from twenty to twenty-five acres of turnips each year; and so I tell them. "Yes," they say, "we would if we could afford it; but we have neither sheep nor cattle to eat them, nor have we the means of housing them or the labor to cultivate them." The latter is probably the most cogent reason. There is also amongst farmers great difference of opinion as to the money value of turnips for feeding stock. One highly successful farmer rated them at fifty dollars per acre, and said he always charged his fattening cattle with that amount. Another of equal pretensions considered them dear at five cents a bushel, to feed to cattle, and both were ready to back their opinion by argument to any extent. Both, however, agreed on the value of the manure resulting from the turnips, but both calculated to feed them to housed beasts, and to carry out the manure afterwards. Here the same difficulty begins again. We have first to carry the turnips to the beast, and then the manure to the land; and if other land wants it worse than the turnip land, or is nearer, it gets it, and the turnip land goes without, and is impoverished instead of being benefited by the crop.

ALL THIS WON'T DO—We must do as they do in England, grow the turnips on the land and manufacture them into manure on the same land, or we shall not get into the right course. But before showing how this is to be done, let us see why it is most especially re-

quired. And here I shall begin to meet with objections, and cavillers at what I say.

Modern improvement in agricultural science has shown, that land, or ground, or soil, let the quality of it be what it may, is the mere vehicle for holding the roots of plants—it may or may not contain the element we require for growing a particular crop—if it does, so much the better, we can get the crop without extra expense on that score. If it does not, science shows us what it wants, and by adding that material, or those particular elements to the soil, we can make it answer to our will, and grow the particular crop we want, provided the season is favorable. A Frenchman, Mons. Ville, takes sand, he heats it red hot, so as to burn all vegetable matter out of it, he then washes out everything that is soluble, and has for the residue a substance in which nothing can or will grow. By dint of numerous and constant experiments, however, he has ascertained that by adding the elements of phosphate of lime, carbonate of potassa, quick lime and nitrate of soda, in certain proportions, (and all in the shape of pure chemical salts), he can bring this burned sand to a state of prolific fertility which will produce any crop that he may please to sow upon it. The crop he may sow (according to its nature) extracts certain of these elements; and to keep up its fertility for the production of another crop of the same nature, those elements must be added the following year. The proportions he gives will keep up the fertility of his burned sand for four years, provided the necessary element of plant food is added which has been abstracted by the previous crop. After four years, a fresh fertilization of all the original elements must be added, and then full fertility is restored; and in this way he has kept his burned sand in full heart, and capable of producing excellent crops for ten years.

This most valuable experiment, therefore, proves that (all questions of seasons and expense apart) the agricultural philosopher can do what he will even with the most barren soils, and shows us that none need despair over the most sterile spot, provided they can supply the elements required at a sufficiently cheap rate.

Now, our usual and average farming land all through America, contains within itself nearly all the elements which the Frenchman added to his burned sand; but most soils are deficient in some one of the required elements, and hence the smallness or failure of our crops.

Plants also, when considered as abstractors from the soil, must be divided into four families—namey:

1st. *The Cereals*,—such as wheat, barley, oats, Indian corn, and Timothy grass. These abstract chiefly ammonia from the soil; and to meet their requirements, ammonia must be added.

2nd. *Leguminous Plants*,—such as peas, clover, vetches, and all papilionaceous flowering plants. These abstract potassa, or the element of potash, from the soil.

3rd. *Roots*,—such as turnips, mangels, mustard, radish, and all cruciform flowering plants. These abstract the phosphates; while some, as the beet root and mangel, abstract largely the potash as well.

4th. *The Grasses*—and those plants which form the natural herbage of untilled soils. These (as abstractors) are not so well understood. They will always grow in greater or less quantities, and they, therefore, doubtless are satisfied with a less amount of a particular element, and draw on the soil more moderately, whilst, as we all know, they are natural fertilizers, and must obtain from the air more than they abstract from the soil, and are, in fact, natural restorers of what man has robbed from the ground. But we must also consider these four families of plants not as abstractors only, but as restorers to the soil. Each of these families, in addition to abstracting their special element in large quantities, extract all the other three elements in smaller quantities, and if what they abstract is not returned to the soil in some shape, the soil after a time becomes barren of that element, and the crops which require the special qualities refuse to grow. There are also some minor elements, native to all ordinary soils, but they are taken up in such small quantities that we shall not notice them.

In a state of nature, land restores itself to its ordinary state of fertility. Any particular plant most suited to the soil takes possession of it, and continues to grow until it has taken from the soil its own particular element. This it abstracts by its roots. If the plant decays on the surface of the soil, the element, abstracted from considerable depths, is restored to the surface; and if the plant which formed the deposit possesses roots which seek its food in the depths of the soil, and not on the surface, that plant gives way before another, which takes its principal food from the surface, and not from the subsoil. This is shown in Canada on a large scale in the growth of the forest. Where we cut down pines on land formerly covered with them, various kinds of hardwood, but principally the oak of several species, succeeds; after the oaks

have run their course, there is little doubt that the pines would again naturally follow. In the vast plains of South America, the land of clover and all kinds of succulent grasses, and not of trees, and where the extensive savannahs and plains sustain innumerable herds of cattle and horses, this same principle is carried out in a most marked manner. Millions of acres of clover and the most succulent herbage spring up and attain the most astonishing perfection. During this period these plains are covered with countless herds of cattle, sheep and horses. By the time the crop has attained perfection, a large species of thistle (which, like all its tribe, sends its roots deep into the soil) has attained a considerable growth. It then shoots into its seeding stalks, and foliage, and takes entire possession of the soil. These stalks grow to six or eight feet high, and with startling rapidity. As soon, however, as the thistle attains a certain growth, the plains are deserted by the cattle and horses, which fly to other pastures. The thistle flowers and comes to perfection, and for a season remains, forming an impassable barrier to all travel, except on beaten roads, until the winds and rains of the winter, or rainy season, cause their decay and disappearance. This is followed the succeeding spring by a new crop of clover, and grass, and fresh pasturage. Again the plains are covered with animals, to be again driven off by the recurring thistles, and so the circle of fertility is kept up. How long it lasts before it is succeeded by other growth, has not been observed, but it is doubtless subject to the same laws of nature as the soil more under our own immediate observation.

The object of nature is to restore things annually, thus leaving the soil at the end of the season as fertile as it was at the beginning, although the fertility may be of a different kind. But the object of man is, to abstract for his own individual profit; and he will not restore until nature, asserting herself and her requirements, obliges him either to do so or to abandon the land. Many requirements lead chiefly to the growth of the cereals, all other things must bend to these requirements. Roots and grasses produce meat and fatty matters, but the growth of these matters are always subservient to the growth of the cereals.

Unfortunately, however, the cereals abstract certain important elements from the soil, and the centralization of man in towns and cities, and his peculiar habits, prevent the restoration of those elements; those, particularly the phosphates and the other mineral elements, are not allowed to return to the soil from whence they were taken, and to keep up the circle of fertility they must be restored artificially; for this cause we search and ransack the world for phosphates, which are restored to the land in the shape of bones, guano, pondrette, super phosphates and other artificials of that nature.

But although important and necessary to the cereals, the phosphates and other similar mineral matters do not by any means form the only, or most important, element for the growth of grain. The cereals require ammonia, and must and will have it, or they will not grow or produce. The phosphates are secondary, though necessary; but ammonia and its producers are primary, and will not be spared by the land.

Now, the cereals, like all plants, take a certain amount of ammonia from the air, but they require more from the earth; and in the course of their growth they abstract far more from the soil than is held or remains in the crop. This is not the case with other plants. The Leguminous plants, and the roots, such as the turnip, mangel, &c., abstract large quantities of ammonia from the air, which instead of again imparting to the air, they retain within themselves. Hence the benefit of feeding off these classes of plants on the soil on which they grew. Their results supply what the cereals want, and furnish the ammonia necessary for their productive growth. It is this cause which makes turnips and root-growing profitable to the farmer. The phosphates produce the roots in full perfection; the roots, when consumed on the soil (but not otherwise), return the phosphates, with a large amount of ammonia which they have derived from the nitrogen of the atmosphere, and the result is a good crop of cereals. But if, instead of the results of the turnips being restored to the same soil from which they were taken, they are applied on other land, the turnip land is the poorer instead of the richer for the crop, and the end for which the roots were grown is not attained.

Now, in Canada, whatever any one may say to the contrary, profitable farming consists in wheat growing, or the growth of some corresponding cereals. These articles form our export, and without them farming becomes unremunerative. If we can grow these articles, and grow them well, all other productions of the farm follow as a matter of course, but the cereals must be had or the farm cannot go on.

[The remainder of this article must be deferred to another issue.]

Exterminating Weeds.

To the Editor of THE CANADA FARMER :

Sir -I am aware that the subject of this letter has become almost threadbare; but it is so all-important, and so much neglected, that there is need of reiterating the same counsels again and again. Though not a man of learning or a "ready writer," I am a practical farmer, and as such my experience may be of value to younger men, who, perhaps, know more than myself from books, but over whom I have the advantage in a longer acquaintance with the farm. Allow me, then, to offer a few practical hints.

There was an Act passed by our Legislature in eighteen hundred and sixty-five, to prevent the Canada thistle from maturing its seed, making it the duty of every landowner to cut his thistles before the seed ripened. And the same law applied to path-masters as regards the thistles on the highway. Now the seed of the Canada thistle is allowed to mature on almost every road in this part of the country, as well as on very many of the farms; and no one seems to think it his business to enforce the law. It may truly be said of this, as I have often heard it remarked, "what is everybody's business is nobody's business."

Now, sir, we can not only keep these thistles from spreading by keeping them cut to the ground, but my experience is conclusive evidence, to me at least, that they can be entirely destroyed much easier than is generally supposed.

I have heard of receipts being sold for five or ten dollars, instructing to cut in a certain time of the moon, and sundry other humbugs to no effect. But there are ways in which they can be destroyed, and the most practical, perhaps, is frequent ploughing.

My plan is to summer fallow, ploughing from two to four times, and, perhaps, putting on the cultivator between times, if they should venture to show their heads. And in this way I get my ground in the finest order, and a good crop of wheat is the inevitable result. In cases of this kind I sow the ground the year before with peas or oats, as the pulverizing becomes more complete than in ploughing up sod, and the smothering effect of the after cultivation is greater.

I have also killed them by digging them out, and leaving the hole for the water to stand in. The application of strong beef or pork brine is sure destruction to them. I have killed small spots of them, by salting my sheep and cattle on them; but all the methods except ploughing are impracticable on a large scale. There seems to be but little encouragement, however, for a farmer to try to keep his fields free from thistles, when his neighbours upon every side let them go to seed upon their farms. Some pretend to argue that the seed will not grow, but I am well satisfied that it will.

Now, with all the antipathy towards the Canada thistle, I should rather have it on my farm than rag weed; for when the land becomes once seeded with that, there is but little hope of ever getting rid of it, as the seed will lie in the ground almost any length of time, and when brought under the influence of warmth and moisture is sure to grow. However, it is advisable to keep it down as much as possible, and arrest its extension to farms which are as yet happily exempt. This may be done by preventing the seeds from maturing. My old farm, that I cleared up myself, I have succeeded in keeping pretty free, though I bought fifty acres cleared land adjacent, which was well seeded with rag weed. But I have found it required a good deal of care, as the stock would bring it on the old place. I make it my business to pull out all that I can see on my place every year; and though I were riding by my field on horse-back, if I saw a stalk I should dismount and pull it, for fear it might be neglected.

Now, sir, it is a sad fact that our farms in this country are being overrun with all manner of foul stuff, and it behoves us as farmers to check every advance of this common enemy.

While I am writing, I should like to learn the experience of your readers regarding the washing of fruit trees with soap suds. Last summer I washed my pear and apple trees several times with the soap

suds from the house, and I found, when digging around them this spring, that the roots were turned black, the bark rough, and one limb after another dies until the whole tree is dead.

Now, does my experience, in this matter, agree with that of others, or is mine an exception, and must the decay be attributed to other causes?

PETER SHISLER.

STEVENSVILLE, Oct. 8th, 1867.

Public Leas for Pasture.

To the Editor of THE CANADA FARMER:

SIR, -In England, more particularly in Cheshire than in any other county, there is a regular system of leas for cattle and horses. Landowners take in a certain number in their parks at a fixed price per head for the season, from May 10th to October 10th. I have often thought that if such a system could be worked in this country it would be a great boon to farmers who have more stock than pasture for them, and consequently turn them out on the "long pasture," or public roads. Perhaps, you will say, we have no extensive landowners or parks to begin with. Granted -but we have a class of landowners who are not able to cultivate the land without hired labour, which is very difficult to procure and costly to pay for; consequently, they get the land farmed on shares, often a very poor plan for both parties. I believe if such land were laid down to grass for the above purpose, it would pay as well or better than tilling worn-out land - besides renovating the same. If such outlets could be had it would enable the farmers raise more stock, by providing forage for winter, such as hay, roots, etc.; and he would be able to raise more beef, milk cows, and horses, without having to sell them in a half-grown state, because they were a source of annoyance to himself and his neighbours on account of their breechy habits.

FARMER.

Lake Side, Co. Oxford, Ont.

About Ploughs.

It is frequently the case that a farmer will buy two ploughs of the same make and pattern, and one will prove to be a much easier running and holding plough than the other. Why? It may be that the castings are warped and do not fit together well; but far more generally, because the iron in the two mouldboards is not of the same temper - the plough with the softest mouldboard being the poorest of the two. The furrow adhering more closely to the soft mouldboard, makes the draft of the plough heavier, and likewise pulls the plough around to the right, away from the land, therefore making it run unsteady. As an illustration take two pleasure sleighs; the one having on hard-cast shoes, and the other soft-cast shoes. When these two sleighs run over a piece of bare ground, the one with soft shoes draws very much the hardest, and has the most side draft. It is quite difficult for furnacemen to make their mouldboards always of the same proper temper, and especially is it so where they melt soft machinery iron at the same heat with hard plough iron. As a general rule the best and most uniform ploughs come from those firms who make that particular tool a specialty and a study. Their mechanics become familiar with selecting and melting iron for that purpose, and their castings are apt to be fitted together with extra care. -Northern Farmer.

The coast range of mountains in California is rapidly being stripped of its forest of red-wood trees, and in consequence the country is drying up and becoming barren. The crops this season have proved a failure where the wood has been cut away, notwithstanding the heavy rains of last winter.

PLANTING NUTS -In reply to an inquiry as to the best time to plant nuts for growing trees, the German-town Telegraph says it should be done as they come from the burr or pericarp, and, of course, before they get dry. This includes the chestnut, the shell-bark, walnut and acorn, as well as some seeds like the paw-paw, &c. Hence they must be planted in the fall.

POULTRY MANURE.-The celebrated Vanguelin says that when the value of manures is considered in relation to the amount of azote they contain, the poultry manure is one of the most active; and when, as a means of comparison, the following manures are taken, in parts of 1,000, it will be found that:

Horse manure contains.....	4.0	parts of azote
Guano as imported.....	49.7	"
Guano when sifted of vegetables and stones..	53.9	"
Poultry manure.....	83.0	"

The Dairy.

Rancid Butter.

During the extreme heat of the Canadian mid-summer, the difficulty of preserving milk and cream sweet, for even a few hours, the proneness of all animal matter to decomposition, and the semi-fluid state to which, without ice, butter is apt to be reduced, may furnish some excuse for the bad condition in which this product of the dairy is brought to market. But during the months of September and October, when for the most part the weather is moderately cool, and when all other circumstances are so favourable for producing butter of the best quality that prudent housekeepers select this time for laying in their winter stock, there can be no excuse for supplying the market with butter that is curdy, over salted, rancid, or otherwise unfit for the table, or indeed for any other use except as grease. It is the fact, nevertheless, that even at this season it is the rarest matter to meet with a good sample of butter in some of our city markets. This can scarcely be the result of ignorance, and can only be attributed to gross negligence on the part of farmers or their wives and daughters. The requisites for making good butter have been so often explained that it seems idle to revert to the subject again; but with such detestable stuff as is still persistently offered, in place of what should be a sweet and wholesome article of diet, it is difficult to refrain from reiterating the often repeated cautions that are evidently still so neglected.

In the first place, the cows should be properly fed on nutritious and sweet food. Those who like the flavour of turnip-tops, or wild garlic, or any other abomination, may give them to their milk cows in their domestic dairies; but, in supplying the market, bear in mind, such flavour is not generally palatable.

The chief cause of bad butter is want of cleanliness; and without the most scrupulous cleanliness in every part of the process, it is really impossible to obtain a prime article. The milk pail should be thoroughly cleansed and free from the smallest particle or taint of old milk. The cow's udder should be divested of loose dirt before milking; and after all due pains to keep out impurities, it is surely needless to add, the milk should be strained before being put into the pans. It should also be allowed to cool before being consigned to the dairy. The milk should not be suffered to turn sour before the cream is removed; and in performing this operation, the cream alone should be separated, leaving all the milk behind. The careless dairy-maid often dashes more milk than cream into the cream pot. This curdles, and besides imparting its taint to the oleaginous portion of the mixture, interferes with the separation of this element in the process of churning. And is, no doubt, often a main impediment to the "butter coming."

The stock of cream should be kept in a cool and well ventilated apartment, should not be kept too long, and should be stirred with every fresh addition. The most scrupulous cleanliness should characterize all the operations of butter-making. When the butter is all separated and collected, great pains should be taken to work out all the buttermilk. This is best done, we believe, in the churn, by repeated applications of cold water, using the dasher rather than the hands to effect the separation. If any buttermilk is left, it is sure to impart a disagreeable flavour to the butter, and will cause it to become rancid. In salting, use the best salt in moderate proportion, and not in the excessive quantities that are frequently employed, probably in the vain hope of covering deficiencies and smothering unpleasant flavours.

To prepare butter for winter use, the following mixture of salt will be found to make good salted butter, from which all its buttermilk has been previously most carefully washed out: -3 ounces of best salt, 4 ounces of saltpetre, 4 ounces of the best white loaf sugar. All these ingredients to be well pounded down, and thoroughly mixed together. To every pound of fresh butter, take of this mixture one ounce, and work it well into the butter.

Stock Department.

The Relative Merits of Short-horn and Ayrshire Cattle.

At a meeting of the Logic and Leecroft Farmers' Club, G. H. BINNING HOME, Esq., of Argaty, made the following remarks:

Having paid at all times the greatest possible attention to the different kinds of breed, there was one thing that appeared to him quite clear—that the cattle in different parts of the country had been introduced by the different tribes of population therein now settled. When at the Great Exhibition of Paris in 1861, he paid very great attention to the various breeds of cattle exhibited there. He saw, amongst others, red cattle from Flanders, with almost all the qualities which are desired in Shorthorns. He might say that, with the exception of being of every color, the cattle in Normandy resembled the Shorthorns very much. The splendid butter that was to be had at Paris all the year round was produced by them. He believed that the only pure breed of cattle to be found in this country was the West Highland and the black cattle of Wales, which were much about the same—the only difference being, the Welsh had much less hair than the Highland, which might be accounted for by the difference of climate. As to the Short-horn and Ayrshire cattle, neither of them, he believed, could be strictly called a pure breed. The population which had emigrated from Flanders into Yorkshire brought with them a fine, large, red stock, and from thence Holderness cattle were known to have been imported into the neighborhood of Kilmarnock, by Campbell, of Cessnock. Dunlop, of Dunlop, introduced Dutch cows, and others had introduced cows from the Channel Islands, from all which, combined with West Highland blood, the present improved breed of Ayrshires had arisen, and were now recognized as a distinct breed, though they were neither more nor less than the result of a judicious crossing, to make them what they now were famed for—first-rate milkers. As to their West Highland blood, he remembered seeing, as a constant prize-taker, a bull named "Geordie," whose color was nearly black, and was said to have one-eighth of West Highland blood, and with upturned horns, which was now the fashionable shape among prize-taking Ayrshires. He did not know if any improvement had been made on Ayrshire cows for many years; as he remembered, when a boy, of his father having at Auchinbowie two cows which had almost all the shapes and qualities now so much desired. He also recollected old Lord Abercromby having some wonderful milking Ayrshires. The principal object in the breeding of Ayrshire cattle had been to attain great milking properties, whilst the sole aim in the breeding of shorthorns was beautiful forms combined with great feeding properties. He considered it a great mistake of the English breeders in not looking more to the milking properties, for he considered a cow that could not nourish its own calf was of very little value. He was quite certain that young heifers forced to great fatness at an early age had their milking properties completely ruined or destroyed. He considered this a great loss to the farmer when cows were rendered unfit for breeding, owing to the great aptitude for fattening. Short-horned cattle were not considered good milking cows; but he would mention one instance of a cow of that breed which belonged to the late Mr. Burnett, of Gadgirth, and which gave eighteen Scotch pints of milk and two pounds of butter in the day. He might say that in Yorkshire for a long time there was a competition between Booth and Bates. Booth's cattle, going wonderfully to fat, while Bates maintained that his were excellent milkers. He recently attended a sale near Hull, where he saw a number of cows with as beautiful milk-vessels as anybody could look upon; and yet it was a remarkable fact that there was not a single man in England who knew what every Ayrshire breeder looked first at in choosing a bull for getting milking stock—that was, as to the position of the teats in the male. Many people said that the first cross was the only cross worth breeding. This, however, was diametrically opposite to the theory of shorthorned and Ayrshire cattle being brought to their present perfection by a great variety of crossing. He might also mention that Mr. Bates told him that at one time he had got some fine West Highland heifers from Lewis Macfarlane, from which he had bred by his shorthorned bulls some of the finest animals he had ever possessed. Whether the longish and black-tipped horns of his Wild Eyes tribe had anything to do with this cross, might be left for conjecture—parties might draw their own inferences. The celebrated Frederick the Great, of Prussia, thought of breeding great grenadiers by getting the largest

men in his army to marry the largest women. However well this system had done in regard to cattle, it was a very different thing in regard to men and women, who might be supposed to have certain fancies somewhat different from those in bulls and cows, and of course this project of the Prussian king turned out a failure. With regard to cattle, they had sufficient evidence that great perfection could be attained by crossing the breed of those animals which had the different points required. Bakewell, of Dishley, proved the same as to Leicester sheep, and he believed it to be of general application in almost every respect, whether of milking, fattening, or strong constitution, fitted to contend with coldness of climate. He should be very much inclined to cross the West Highland cow with the shorthorned bull. In short, a judicious selection of the best animals to breed was the great secret in the breeding of good stock. He was of opinion that it was that, and that alone, that had made the shorthorns and Ayrshires what they now were. As to the difference of milk, he had found out by experience that the milk of the shorthorns was much richer than that of the Ayrshire cows—that they gave a larger percentage of cream. On testing the milk, which he had done for many years, he found that that of the shorthorns contained from twelve to seventeen parts of cream, whilst the milk of the Ayrshire cows only contained from nine to twelve parts; and, therefore, although the apparent quantity of milk might not be so great, there might be fully as much butter, and of a richer quality. To conclude, he believed that the great point for the breeders of stock to observe was, if possible, to get a judicious selection of pure shorthorns, and cross with whatever breed they found most suitable. Climate seemed to have considerable effect on the milk-producing qualities of cattle, and he would rather buy a shorthorned cow from Cumberland or Westmoreland than from the east side of the island. As to the Ayrshire cattle and their milking properties, the average good milkers among them produced about eight Scotch pints per day. As to the shorthorns, he had not yet ascertained the real quantity of milk produced by them, as many of his cows suckle their calves. He hoped that what he had said might lead to some discussion on the subject. He ought to have added that, at the Paris Exhibition of 1861, there were a great many Dutch cows having every point of Ayrshire stock except that of their color, being all black-and-white without exception.—*Mark Lane Express.*

The *American Farmer* publishes two essays discussing the question of the best breed of cattle for the extreme cold of northern winters, with special reference to quantity and quality of food required, and the production of beef. One writer gives the preference to the black, polled Galloways, the other favors the little Irish Kerry.

CALF.—A fellow at a cattle show was making himself ridiculously conspicuous by an evident intention of finding fault with everything. At last he burst forth with, "Call these here prize cattle? Why, they aint nothing to what our folks raised. My father raised the biggest calf of any man round our parts!" "I don't doubt it," was the timely remark of a bystander, "and the noisest." The forward youth, as may well be imagined, incontinently subsided.

RUSTY STRAW—EFFECTS ON ANIMALS. B. McClure states in the *Practical Farmer* that feeding rusty straw to cattle and horses has a very injurious effect upon their health and efficiency. The class of diseases induced by this aliment are marasmus, glanders, farcy, skin diseases, catarrhal affections and watery swellings of the body and legs. He adds that during the last eight months, out of 700 horses fed upon such straw, from forty-five to fifty were on the sick list.

DARKNESS FAVOURABLE TO FATTENING.—It is a fact that all animals fatten faster in dimly-lighted places than the full light of day. This is well known in respect to fowls. From experiments made with sheep, conclusions have been reached that in a dark shed, well ventilated and properly warm, they will make the most mutton from a given amount of food. But dark stables are not good for horses, or breeding stock of any kind. Fat is not with such the most important object in view.—*Mark Lane Express.*

CLEANSING WOOL OF GUMMY MATTER.—The *Maine Farmer* gives the following:—"Take one pound of saleratus for twelve pounds of wool, dissolve in water not quite boiling hot, then put in the wool, and stir occasionally for one hour; take it out and squeeze it thoroughly, or what is better, run through a clothes wringer, rinse in cold water, and spread on grass ground to dry. This process will remove all gum and dirt from any kind of wool, and make it much better for custom work."

Canadian Natural History.

The Canadian Deer.

(*Cervus Virginianus*)

The form and general appearance of the Canadian deer are familiar to most of our readers, who have either met with the graceful animal at large in the still unlearned portions of the country, or have seen the dead body, the spoil of the hunter, exposed for sale in the markets of the more settled districts. All will recognize the faithful and spirited portrait which the artist has given in the accompanying illustration, which is an excellent representation of the characteristic form and general markings of this deer, as distinguished from the larger Canadian deer or Wapiti, (*C. canadensis*), the red deer (*C. Elaphus*) of Europe, or any other of the numerous and closely allied family.

The deer is a member of the natural order of Ruminants (RUMINANTIA), animals who chew the cud—a peculiarity of habit which implies a combination of certain well defined peculiarities in structure, being exclusively vegetable feeders, and the materials they consume requiring a longer and more complex process to convert and assimilate them into animal tissue than the natural food of flesh-eaters, they are provided with a complicated and appropriate digestive apparatus. This is characterized not only by the length of the alimentary canal, but more particularly by the structure of the stomach, which is of extra dimensions to receive the greater bulk of food required, and also divided into four compartments. The first of these, into which the herbage passes direct from the mouth, is called the paunch, and serves principally, like the pouch of the monkey, or the crop of birds, as a reservoir for food. The contents of this cavity, after being macerated and softened, pass on to the second compartment, or honey-comb, as it is called, there to undergo a further softening process. It is this portion of the stomach that in the camel is adapted by a special modification rather for the purpose of holding water than for performing any share in the digestion of solid nutriment, a provision which admirably fits this animal to sustain the protracted droughts and long marches over arid deserts to which it is exposed. The crude and bulky vegetable material, after remaining a sufficient time in these preparatory receptacles, is again returned in small pellets, pretty much at the leisure and in accordance with the will of the animal, into the mouth, there to undergo a complete mastication and intermixture with the saliva. The food is then again swallowed, and now passes into the third stomach or maniplies—so called from the number of folds or laminae into which the interior is divided—and finally enters the fourth compartment, where true digestion takes place, and the food is subjected to the action of the gastric juice. In this lengthened and complicated process we see a beautiful adaptation to the peculiar circumstances of this class of animals. They are mostly of a timid disposition, and exposed to attack from various enemies. Their exclusively vegetable diet, at the same time, has to be consumed in considerable bulk, and to undergo an extra amount of comminution. To effect this while they were feeding would be quite impracticable, exposed as they are to frequent and sudden alarms, and compelled to gather in a large supply of nourishment in a comparatively hasty manner. But no time having been lost in mastication during the first stage of supplying themselves, the animals retire to their coverts and fastnesses, where at leisure, in security from attack and under shelter from the fierce rays of the sun, they complete with apparent enjoyment the preliminary process of digestion by chewing the cud. The peculiar structure of the teeth in Ruminants ought perhaps to have been noticed first; but the name suggested the special peculiarity in the diges-

tive system which has just been noticed. Equally characteristic of the order, however, is the disposition of the teeth, of which the front set, or incisors, are confined to the lower jaw, the opposite portion of the upper jaw being covered with a callous pad. The canine teeth are commonly absent, and there are six ridged molars on either side of each jaw.

The presence of horns in the male sex, or in both, is another general mark of this order. The length of the legs and the whole form of the body is also usually constructed with a view to rapid motion, to enable these timid and comparatively defenceless creatures to elude their enemies by flight. The foot is commonly small, and provided with two toes, which are enclosed in a horny case, the inner side of which, where it is opposed to its fellow, is flattened, and fits so close that the whole resemble a single bifurcated hoof. Deer are distinguished from all other members of this very extensive order by the peculiarity of their horns, which are not only not horny in the usual acceptation of the term, but are not, like these appendages in other animals, permanent. The horns of deer are of the nature of bone, and are annually renewed and shed, the new growth of each year usually attaining a greater size and more numerous divisions. The horn is confined to the male sex, with the exception of the rein deer, the female of which is also provided with these ornaments. The family of antelopes is distinguished from the deer chiefly by the horns, which in the former are, like those of the goat, composed of a true horny and permanent coating growing from a bony and vascular centre.

The horns of the deer begin to grow in the spring. The first change that takes place, is a very considerable enlargement of the arteries leading to that part of the skull; then the horn begins to shoot. In the earlier stages this is a vascular cartilaginous structure, covered with a soft, thick, velvet-like and densely hairy skin. The cartilage is converted into bone by the deposition of phosphate of lime, conveyed to the part by numerous blood-vessels; and when this process is completed the covering becomes thin, the vessels become obliterated, the vitality of the skin ceases, and it is readily rubbed off by friction in the use of the horn—the antlers, as they are more properly called, showing on their furrowed surfaces the course and distribution of the large and numerous blood-vessels that served so important a purpose in their formation. In the first season the horns of the young buck consist of merely a short cylindrical and pointed projection, when they are known as spike-bucks. With each succeeding year a branch is added to the antler, until it has attained its full size and ramification. In the mature buck

they are extremely handsome, large and boldly formed. The circumstance that while the horns of deer are annually shed, and of course in considerable number, yet so few are commonly found, has been explained by the fact that the various rodent or gnawing animals of the forests are extremely fond of them, and greedily devour them.

The subject of the present illustration is very generally distributed over the North American continent, being very numerous in Canada, and extending its range as far south as the Gulf of Mexico. With a curious ignorance in regard to a country so near them, the compilers of an elaborate and generally excellent work, on the Natural History of New York, make the singular statement in reference to

poet who emigrated to America, and composed some of the most popular American songs. This is, however, a digression for which we must ask the pardon of our readers, as well as cousin Jonathan's.

The colour of this deer varies with the season of the year, being of a light reddish brown in spring, slaty blue in autumn, and dull brown in winter. The abdomen, throat, chin, the inner faces of the limbs and the under surface of the tail, are white. The fawn is a remarkably pretty little creature, the ruddy brown fur being profusely decked with white spots, arranged in irregular lines, and sometimes merging into continuous stripes.

Like all the tribe, this is a very timid animal, very watchful, and extremely acute in all its senses,

especially in hearing and smelling, so that it is difficult for the hunter to approach without the greatest caution, as the snapping of a twig is sufficient to alarm it. When pursued it readily takes to the water, and is a good and enduring swimmer. It has been known to cross broad rivers, and swim a distance of several miles. When hard pressed in the vicinity of the sea, it will even make for the shore, and plunging boldly into the water, swim out to sea for a mile or more.

In the more open sections of country it feeds on the young grasses of the plains, being fastidiously select in choosing the tenderest herbage. In winter it obtains sustenance in various buds and berries; and in autumn it finds abundant banquets under the oaks, chestnuts, and beeches, revelling upon the fallen fruit in amicable fraternity with other quadrupeds and various birds.

When captured while young, this graceful creature is easily domesticated, and becomes even troublesome in its confident tameness. A pair of these animals kept by Mr. Audubon were most mischievous pets. They would jump into his study window, regardless of glass or wood work: they ate the covers of his books, nibbled his papers

and scattered them in sad confusion, gnawed the carriage harness, cropped all the choice garden plants and finally took to biting off the heads and feet of the ducklings and chickens. We have known some few kept in ornamental grounds; but it requires a high fence to restrain them within bounds, and they do not readily bear confinement.

In one or two places in the United States, we believe, considerable numbers are kept in enclosed woodlands, the nearest approach to the parks of Europe, the home of the Fallow and Red Deer. The skin of our native species, when properly dressed, forms a soft and pliable kind of leather, which, moreover, does not shrivel and harden from exposure to wet; and the Indians employ the material largely in various articles of apparel.



this species of deer, that though abundant in the United States and on their northern borders, it is not found in Canada. Our good cousins must excuse a smile at the complacency with which they are prone to appropriate all good or meritorious things to themselves. A notable instance of this propensity was forced on our notice when some years ago, fresh from England, we landed at Boston, and read with no small amazement a flaming placard by some bold publisher, who announced a splendid edition of that *Great American Work—Bunyan's Pilgrim's Progress*. Time and enlarged experience inured us to this kind of thing, and we were scarcely surprised when, a few years later, we heard a Western schoolmaster inform an enquiring scholar (an English boy, by the by, who knew better) that *Burns* was an *Irish*

How to Skin and Preserve the Heads of Animals.

To the Editor of THE CANADA FARMER:

SIR.—A correspondent of yours wishes to ascertain how to preserve and set up the heads of various animals. Although only an amateur myself, I think that I can satisfy him, and others of your readers who may desire to become amateurs also, in this branch of Taxidermy.

Patience is the first great requisite, for the operation is tedious. This premised, the following directions will be found necessary.—Before beginning to skin it, the head should be carefully studied, so that all the prominences and other peculiarities of the eyes, face, and cheeks, which are produced by flesh, may be accurately noted; for these must, of course, be imitated in the stuffed specimen; or, if you have two heads of the same species to be mounted, one may be used as a model, from which to copy those swellings and depressions which must appear in the other. A little attention to this is indispensable, and would in many instances prevent that distortion which so often mars the productions of professional as well as amateur hands. And now for the skinning of the head. It will be found most convenient to make an incision in the skin of the neck, and in a line with the throat, with a scalpel or very sharp pen-knife, beginning at the edge where the head was severed from the body, and cutting to the end of the chin, one of the edges of the skin is then raised with the fingers, and all the muscles which secure it to the cheek are cut; the ear must be cut quite close to the skull, and the skin removed from about the horns, if there be any, so that it may be brought over the forehead; and in like manner must the other cheek be skinned. The forehead must now be skinned, and the eyelids separated very carefully from the head with the knife; the lips then must be cut as close as possible to the jawbone; but when we reach the nose, the skinning process ceases.

Thus the skull is completely laid bare, and the next operation is to remove the tongue, eyes, and all the flesh that can be seen in any direction, till the bones are as clean as patience and a sharp knife can make them. The occipital hole (through which the spinal cord passes) must be enlarged with a strong knife, and the brain completely removed. The bones of the head must now be rubbed with the preservative (a receipt for which will be found at the end of these directions), and all the places on the surface of the skull including the hollows of the eyes, from which flesh has been taken, must be filled with as much chopped cotton, flax or hemp, as will exactly supply the deficiency;—the cotton or other stuffing is secured in its position with cement. The skin, after having also been rubbed with the preservative or "arsenical soap," is replaced carefully over the head, each part of the skin being in the same place which it occupied before the skinning was commenced. With regard to the application of the "arsenical soap," as it is not advisable to allow it to touch the fingers, it will be found well not to apply it to the back part of the skull till the last, that that part may be grasped with the hand, while the skin is being replaced. The edges of the skin, which we had cut at the outset, must now be stitched close together, and the hair so disposed that the seam may be completely hidden.

Now comes into play what I recommended at the beginning, and now you must use all your ingenuity to make the face, cheeks and throat, as natural as possible. If the stuffing which was previously supplied be not sufficient, the want must be remedied by introducing small portions of cotton, by means of a slight stick, through the openings of the eyes, ears, mouth or nostrils, as the case may require; and if it causes too great a prominence, the superfluous cotton may be removed with a crooked wire, through the same apertures.

The glass eyes proper for the species, which must be procured from a professional naturalist, may now be inserted while the eyelids are moist; or, if they cannot be procured at this time, I may remark that they may be inserted at any time, but the eyelids must previously be softened by laying a damp cloth over them for a few hours. As much of the beauty of the head depends on the disposition of the eyes, care must be taken to arrange properly the eyelids, and to avoid having the eyes too prominent or too sunken. The lips are then placed naturally, and kept

so with pins; the ears also must be displayed properly; and the nostrils stuffed with cotton imbued with the preservative. Having thus arranged all the parts to suit the fancy, it only remains to imbue plentifully the nose, lips, and ears, with spirits of turpentine; and this operation must be repeated six or eight times, at intervals of a day or so, for these parts being still fleshy, are liable to decay if not so treated; a piece of soft leather may then be stretched at the back of the head, and the operations of skinning and stuffing are completed.

The following is the receipt for making the preservative, which is usually called "Arsenical Soap":—Arsenic (in powder), half a pound; camphor, an ounce and a-half; white soap, half a pound; salt of tartar, three ounces; powdered lime, one ounce. These quantities may be reduced and a less amount made; but the proportions should be adhered to. Cut the soap into thin slices, and melt it in an earthenware vessel with gentle heat, keeping it stirred with a thin piece of wood; when melted, add the lime and salt of tartar, and mix thoroughly. The vessel is now removed from the fire, and the arsenic added by degrees; then is added the camphor, after having powdered it by beating in a mortar with a little alcohol, and the whole is well stirred. The composition is then returned to the fire for a few minutes, but if much heat be applied, the camphor will escape. The preservative is now poured into smaller wide-mouthed earthen vessels, and allowed to cool, after which the bottles must be sealed up. For use, a little of the preservative is put into a cup, and reduced with water to the thickness of flour paste; it is applied with a small painter's brush to the inner surface of the skin. This composition should be carefully labelled, and used with great care, being a deadly poison.

I ought perhaps to add that there is another very good preservative made by dissolving a tea-spoonful of corrosive sublimate in a pint of spirits of wine; it is more easily prepared than the other, and has been recommended by some naturalists. Even if you use the "arsenical soap" in preserving the head, I would advise you to imbue the lips, ears and nose, with this solution, after the applications of spirits of turpentine. The solution must not be so strong as to leave a white powder on the surface, when the spirit has evaporated. This preservative is also a poison.

AMATEUR TAXIDERMIST.

Oct. 3, 1867.

Veterinary Department.

The Symptoms of Disease.

THE symptoms or indications or phenomena of disease constitute an important department of medical study. When intelligently read and properly grouped, symptoms form valuable signs which in various ways guide the practitioner; they usually afford information regarding the seat and nature of the malady, or what is called the *diagnosis*; they foretell the probable result, or the *prognosis*; they likewise indicate the direction in which appropriate remedies must be looked for. The symptoms of disease require to be even more carefully studied—nature must be even more diligently and accurately interrogated by the veterinary than by the human practitioner, for the lower animals cannot by articulate speech indicate the seat of any uneasiness or pain; they suffer they cannot describe their sensations; still less can they afford any clue to the causes on which their disturbed health depends; they cannot inform their medical attendant of the duration of their attack, or of their previous ailments. Hence, in arriving at a correct opinion regarding many diseases of the lower animals, the veterinarian must exercise great tact and patience. Especially is this the case in the diagnosis of lameness in the horse. Not only must the halting limb be discovered, but the ailing spot in the particular bone, muscle, ligament or joint, must likewise be correctly ascertained. But whilst symptoms are extremely important, and demand the careful observation of the practitioner, they must not, as occasionally occurs, and as appears to be the rule in homœopathic practice, be mistaken for and treated as the disease itself. They are distinctly separable from the disease; they are as it were merely its outward results or manifestations. Collecting and study-

ing them rationally, we are enabled to ascertain the conditions from which they arise, or in other words, we trace the symptoms back, if possible, to the morbid condition or actual disease from which they spring. We would illustrate these facts by reference to some symptoms of common occurrence.

A horse scrapes with his fore feet, walks round his box with subdued, cringing gait, perspires freely, gets up and lies down frequently, and rolls on the ground; his pulse and breathing are, however, little disturbed. From such symptoms it is rightly concluded that the animal is affected with spasm of the intestines or colic. Such symptoms, when accompanied with much flatulence and abdominal distension, generally proceed from the eating of readily fermentable food, such as wet grass, frosted clover, unripe grain, or a full meal of raw potatoes. When the intestines are much overloaded, the brain is apt to become implicated, as is readily perceived from the animal being either dull and stupid, reeling and unsteady in his gait, or irritable and furious. Occasionally to the fitful intermittent colic symptoms are superadded more steady and continuous pain, a permanently quickened pulse, hot mouth, and other evidences of fever. From the continued irritation, the intestinal coats (most usually the interior or mucous coat) have their vitality seriously lowered, and thus inflammation is established. In still another class of cases, after much abdominal distension and violent struggling, the patient sits on his haunches like a dog, and sometimes makes efforts to vomit, whilst his pulse is quick and small, telling of some depressing influence acting on the circulation. Such symptoms are well known to proceed from rupture of the stomach, some portion of the intestines, or the diaphragm.

Pain is a familiar symptom common to many disorders, often indeed the earliest indication of anything amiss, frequently a timely warning that medical aid is required. In animals, as in man, the nature and extent of the pain varies much in different disorders, and from its variety helps us to ascertain the seat, and sometimes also the nature of the injury. Pain proceeds from the altered or depraved condition of the nerves of the injured or diseased part; and occasionally from the sensitive chords being pressed on by the swelling which accompanies most inflammatory cases. Pain in the human subject is spoken of as sharp or burning, shooting or tearing, dull or gnawing. Depending upon the conditions from which they arise, we have inflammatory pains, nervous pains, and various other sorts. The lower animals being unable to describe their sensations, it is less easy accurately to determine the nature and quality of the pain which they experience. A part when painful on pressure is said to be tender, often a most convenient clue to the seat of mischief. Frequently there is tenderness without pain, sometimes pain without tenderness.

There is no symptom which affords such full and trustworthy an account of the general condition of the animal body as the pulse. It is, however, a symptom for the right understanding and interpretation of which some experience is required. Not only must the number of the pulsations be noted, but the force, fulness, and regularity must likewise be observed. The horse's pulse in health numbers about 36 beats in the minute. In small and young animals it is more frequent than in larger and aged subjects. It is accelerated by exertion and excitement, as also by irritation, weakness, and loss of blood. In enteritis and laminitis we have seen the horse's pulse exceed a hundred. It becomes slower when the animal is perfectly quiet, especially when he is lying down, and in such diseases as apoplexy and stomach staggers, in which the functions of the brain are impaired. In such cases it has been noticed to fall as low as 15 beats in the minute. Inflammation in healthy subjects increases not only the frequency but also the force of the pulse. In the earlier stages of laminitis, or acute founder in horses, the pulse is usually full and bounding. At the outset of inflammation of serous and fibrous textures, it is generally firm and hard; when the skin or mucous structures are inflamed, the pulse is mostly softer and more compressible. When the heart or larger vessels are involved in the disorder, the pulse is often irregular, occasionally a beat or two appear to be missed out, or, in technical language, it is intermittent.

The breathing, the cough if present, the temperature, the state of the bowels and other purifying channels, all require to be noticed in forming a rational opinion regarding cases of internal disease. Rightly examined, they afford to the intelligent practitioner a vast amount of information regarding the sick animal for which he is called on to prescribe.—*North British Agriculturist.*

Poultry Yard.

Standard of Excellence in Poultry.

SPANISH.

GENERAL STAFF—COCK.

Comb—Bright red, large, single, stiff, erect, straight, free from twists in front or falling over to either side at the back, deeply serrated, rising from the beak to twist the forepart of the nostrils, and extending in an arched form over the back of the head, free from excrescences or side sprigs, and not of too great thickness at the edge. Head—Long, broad, and deep-sided. Eyes—Large, the sight perfectly free, and not obstructed by the white. Face—Pure opaque white, long and deep, the greater breadth of surface the better, providing it is smooth, free from wrinkles, and the sight not obstructed, rising well over the eye towards the comb in an arched form, extending towards the back of the head, and also to the base of the beak, covering the cheeks and joining the earlobes and wattles. Earlobes—Pure opaque white, very large and pendent, rather thin, smooth, well expanded and free from folds or wrinkles, extending well on each side of the neck, hanging down very low, not pointed, but regularly rounded to the lower part, and meeting in front, behind the wattles. Wattles—Bright red, very long, thin, ribbon-like, and pendulous; the inside of the upper part, and skin between, white. Neck—Long, well headed. Breast—Round, full, and prominent. Back—Slanting down to the tail. Body—Wedge-shaped, narrowing to the tail. Wings—Large, carried well up to the body. Tail—Large, expanded and rather upright, but not carried over the back, or squirrel-tailed. Sickle Feathers—Large and well curved. Thigh—Long and slender. Legs—Long, dark leaden blue, or blue. Plumage—Black glossy black, having a metallic green lustre on the back, back, wings, and the tail coverts, and sickle feathers. Carriage—Upright and striking.

DISQUALIFICATIONS IN SPANISH COCKS.

Comb—Falling over to one side, or twisted in front over the nostrils. Face—So puffy as to obstruct the sight, or a dead red mark above the eye. Plumage—Of any other color except black, or metallic green black. Legs—Of any other color except dark leaden blue, or blue.

GENERAL STAFF—HEN.

Comb—Bright red, large, single, serrated, drooping over to one side of the face, free from side sprigs or duplicature. Head—Long and deep. Eye—Large. Face—Pure opaque white, smooth and free from wrinkles, with good breadth of surface, rising well over the eye in an arched form, extending well towards the back of the head, and also to the beak, covering the cheek, and joining the earlobes and wattles. Earlobe—Pure opaque white, large, pendent, smooth, well expanded, free from wrinkles, regularly rounded on the lower edge. Wattles—Bright red, thin, pendent, and rounded on the lower edge. Neck—Long and graceful. Breast—Round and full. Back—Slanting down to the tail. Wings—Ample, carried close up to the body. Tail—Large, carried rather upright, but not over the back, the two highest feathers slightly curved, especially in pullets. Thighs—Long and slender. Legs—Long, dark leaden blue, or blue. Plumage—Black, with a rich metallic lustre on the back and wings. Carriage—Upright, movement quick.

DISQUALIFICATIONS IN SPANISH HENS.

Duplicature of comb, comb small and erect (prick combed); dead red mark over the eye, plumage of any other color except black, or metallic black, legs of any other color except dark leaden blue, or blue; birds that are trimmed in any part whatever.

POINTS IN SPANISH FOWL.

Table with 2 columns: Point and Score. Points include Comb (2), Face (2), Ear-lobe (2), Purity of white, face and ear-lobe (2), Symmetry (2), and Condition and Plumage (2), totaling 15.

The French Breeds of Fowls.

The London Times contains an article on the Poultry Department of the Paris Exposition. We extract the following paragraphs.

The finest fowls in the Exposition were the Crevecoeurs, the Houdans and La Fleche. The first variety, of which many very good specimens are shown, are large-bodied, short-legged fowls, black in color, and having their heads ornamented with a crest of feathers and a two-spiked comb. The Houdans have very much the same general characters, but they are black and white in color, and often possess a fifth claw. Both these breeds are obviously the result of crossing the fowl with the large-feathered crest known since the time of Aldrovandus as the Paduan breed, with a large farm-yard variety. La Fleche is a long-legged black fowl, with little or no crest, but with a spiky two-horned comb that gives a strange, weird, hob-

goblin-like expression to the face. These three breeds are alike remarkable for their whiteness of skin and fat, their early maturity, the ease with which they fatten, and, above all, the smallness of their bone. This latter is a point on which the French rearers justly pride themselves. In a good table fowl, according to their opinion, the bones should not amount to one-eighth of the weight of the flesh.

By some strange infatuation, remarkable in so practical a people as the English, we do the reverse, and a Dorking breeder expatiates on the bulk of the bone in the limbs of his birds as a point of merit, forgetting that all weight of bone beyond that requisite to support the animal is so much useless ballast, of no value as food, though having been produced at the cost of so much nourishment.

As table fowls, the only English breed that can at all compete with the French varieties is the colored Dorking, and this has the disadvantage of being rather delicate in constitution, an evil which is common to it and to La Fleche, and, though to a smaller degree, the Crevecoeur, but from which the Houdan is exempt.

In connection with the subject of French poultry-keeping may be mentioned the fictitious accounts which periodically re-appear respecting the existence of gigantic horse-fed poultry establishments in France. These accounts are entirely fabulous. It is impossible to keep very large numbers of poultry in one spot, as disease invariably breaks out as soon as the ground becomes tainted. Moreover, the fowl is a granivorous, and not a carnivorous bird, and cannot exist on flesh diet. The experiment of extensive poultry-breeding establishments has been tried repeatedly, both in Europe and in America, and in every case the result has been a disastrous pecuniary failure.

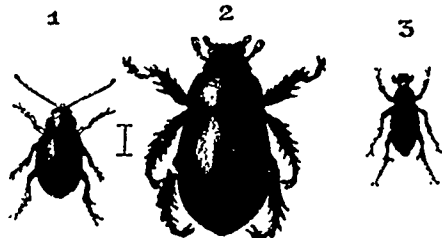
It is said that fowls will lay better by being confined a part, say the morning, of each day.

PERAMBULATING HEN-HOUSE.—A French farmer, M. Giot, has invented a sort of fowl omnibus in which he shelters and moves about a very large number of the best varieties of the French breeds, Houdan and Crevecoeur. This omnibus, as soon as spring opens, is drawn to the fields that are to be ploughed, where the poultry, being let out every morning and shut up at night, find abundant sustenance, and at the same time are eminently serviceable in ridding the soils of innumerable worms and larvae, that would otherwise do serious damage to the crop. He thus manages to derive considerable direct profit from raising the poultry, and gains better crops by the indirect service they render him in the fields.

Entomology.

Insects Injurious to the Grape.

Now that the culture of the grape is becoming so important a department of horticulture—indeed, we may say of agriculture—in the western portion of this Province of Ontario, it is fitting that we should investigate the number and nature of its insect enemies, and endeavor to discover the best mode of repelling their attacks. Hitherto we have heard but little of any trouble of this kind among Canadian grape-growers, but we doubt not that ere long, as the cultivation of the vine becomes more extended, we shall ever and anon hear a cry raised about "the bug" and "the worm," and curses loud and deep will be pronounced upon the ill-omened destroyers. We do not write this to alarm those enterprising fruit-growers who are now making such praiseworthy exertions to prove the suitability of our soil and climate for the production of the grape on a large scale; but we wish them to learn beforehand what disadvantages they are liable to encounter, and so be prepared to meet them actively and intelligently, not blindly and in-



effectually. They are aware, no doubt, that in this, as in all other human enterprises, they are not to expect continuous sunshine, or freedom from at least occasional troubles; and hence they will not be surprised to learn that, like all other plants, the vine has its various insect foes, which will give them trouble from time to time. But to know beforehand the character and mode of attack of your enemy is half the battle, and in this, as in most other things, the truth of the old proverb is apparent:—"Forewarned, forearmed."

The number of insect enemies to which the grape is exposed in its roots and branches and leaves—from before the bursting of the first bud in the spring, to the ripening of the fruit in autumn—is indeed legion, and they belong to every order and degree, but happily they are such a kind that remedies may be readily applied, and with ordinary exertion they can be kept within due bounds.

The first to make its appearance in the spring is the GRAPE-VINE FLEA-BEETLE, (Haltica thalysia, Illig.) This destructive little insect makes its appearance during the first warm days of April, and attacks the yet unopened buds, boring into them, and devouring the embryo leaves and blossoms. Thus, as it has been truly said, "it eats two or three bunches of grapes at a mouthful!" It is a pretty little jumping beetle, of the same genus as the well-known and dreaded turnip flea-beetle, or "fly," as it is commonly called. The grape insect is, however, rather larger, being about three-twentieths of an inch long, and is of a uniform metallic color, steel-blue, as its name implies, or sometimes shining green, violet, purple, and even brown; the under side is usually dark green. The body is oblong-oval in shape, and the thighs of the hind legs are much thickened, being formed for leaping. This insect is represented in Fig. 1 of the accompanying cut.

After the beetles have fed upon the buds and young shoots of the vine for some little time, the female generally lays her eggs in May amongst the leaves. When the young are hatched they feed on the surface of the leaf, devouring the soft green part. According to Mr. Kirkpatrick, "the color of the full-grown larva is light brown, with eight rows of black spots above, those of the two dorsal being confluent; head and feet black; antennae very short. On each side of the back there is a single hair, and from the breathing apertures there proceed two. Length, about three-eighths of an inch. There are six true legs, and a fleshy anal pro-leg; the under side of the segments is swollen, giving the appearance of short pro-legs. When in motion, it brings its body up with a jerk like that of the caterpillars of the geometer moths. About the first of June it enters the ground and changes to a pupa, emerging in from fourteen to sixteen days as a perfect insect. There are several broods in a season."

This insect is not at all uncommon in Canada, we have taken it in various localities; one year we captured some specimens on willows as early as March; the wild grape is its natural food, but it has no objection to the cultivated varieties. As we mentioned at page 238 of this volume, Mr. Arnold has sent us specimens from Paris, Ont., where he found it very destructive. The remedies most recommended are hand-picking, or gathering in bag-nets; dusting with lime when the leaves are wet with dew or rain; and watering with strong soap-suds.

The SPOTTED CLAY-BACK BEETLE (Peltidota punctata, Linn.) is the next beetle that we have found infesting grape vines in this country, chiefly in the neighborhood of Niagara and St. Catharines; it has never, so far as we are aware, been found on the north side of Lake Ontario. While the flea-beetle just noticed was very small, this is a very big fellow, being about an inch long and half an inch broad. It is, as the annexed wood cut shows, Fig 2, oval in shape, with a black spot on each side of the thorax, and three others along the outer side of each wing-cover; its color is brownish yellow, or red clay color, the thorax and head being slightly bronzed and darker, while

the legs and underside are entirely dark bronzed green. When seen in the bright sunshine it is a very handsome insect. It usually appears in July and August, and flies altogether by day. Being so large, it is easily detected, though usually on the underside of the leaf that it is devouring; hand-picking and immersing in boiling water, or crushing under foot, is the best remedy. This insect is only injurious in the perfect state; the larva lives in decayed stumps or roots of dead trees.

The **MAY BEETLE** (*Lachnosterna quercina*, Knoch) is injurious to the vine both in its larval and winged states; in the former it has been known to attack the roots, and in the latter may frequently be found at night devouring the leaves. This large beetle is so well known, and so generally distributed throughout Canada, that it is unnecessary to give any extended notice of it here. A description and figure of the insect will be found in last year's volume of the CANADA FARMER, 1866, page 199.

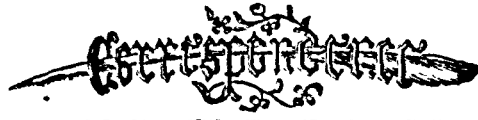
The **ROSE BEETLE**, or "bug," as it is vulgarly called, (*Macrodactylus subspinosus*, Fabr) is one of the most destructive insects to vegetation of all kinds in many parts of the United States; in this country, though it may, perhaps, be found in various localities, we only know of one place where it occurs in any number, viz., at the parsonage, Oakville. There, as we are informed, it usually appears about the end of June in each year, and continues to swarm over every tree and shrub in a limited area, for about a month or six weeks, and then disappears entirely. Strange to say, the Rev. Mr. Fletcher is the only sufferer, his neighbors at no great distance from him being quite free from the pest. This insect is omnivorous as far as vegetation is concerned, but at the same time it has its partialities; roses are a favorite article of diet, and also green peaches and apples, but it especially delights in the leaves and blossoms of the vines; "out west" they say that it prefers the Clinton to any other variety, and hence they plant a few vines of this kind amongst their more valuable ones in order to preserve them.

The beetle, as may be seen from the cut, Fig. 3, is slender tapering a little towards each end, and about two-fifths of an inch in length. Its general color is yellowish, fresh specimens being covered with an ashen yellow down or bloom, when this is rubbed off the head, thorax, and under side of the body appear shining black, the wing-covers brownish-yellow, and the legs reddish-yellow. These last mentioned appendages are long, slender, and furnished with excessively long spinous feet or claws. Before their disappearance, the females lay about thirty eggs an inch or so below the surface of the earth, which hatch out in about three weeks. The young grubs feed upon any tender roots that they find within reach, and attain their full size before winter sets in, when they are about three-fourths of an inch long, and an eighth broad, of a yellowish-white color, with a darker head. When the autumnal frosts begin they descend some distance into the earth to escape the danger of freezing and thawing in the winter, but on the arrival of spring they come towards the surface again, and there form an earthen cell in which to pass their pupa state. This lasts about a month, and then they come forth as perfect beetles, to do all the mischief they can during their short existence. Their whole life, in all its stages lasts but a year—much too long a period, in the opinion of those afflicted by them.

These little pests have their share of natural foes, such as parasitic insects, dragon flies (according to Dr Green), ground-beetles, insectivorous birds, domestic fowls, toads, etc., but in spite of all these, they generally appear in such countless numbers that those thus destroyed are never missed, and therefore man himself must take up the cudgel of defence. His best method of combating them is to jar—not merely shake—but jar with a sudden jerky motion the infected vines and trees, and catch the beetles as they fall in sheets spread below; then gather them up immediately into a close vessel, and destroy with hot water or in any other convenient manner.

Other beetles that attack the grape-vine in the United States, but which have not yet been taken in this country, are the *Anomala lucicola*, Fab., referred to by Drs. Harris and Fitch; the yellow *Colaspis*, (*C. flavida*, Say), and the grape-vine *Fidia*, (*F. viticida*, Walsh), full accounts of which are given in the last volume of the *Practical Entomologist*. Should any of our Canadian Entomologists have met with any of these species, or other coleoptera attacking the vine, we shall be glad to receive information respecting them.

We have now given an account of the various beetles that affect our vines; in our next issue we hope to complete the notice of grape insects, by describing the various caterpillars, aphides, saw-flies, thrips, &c., that prey upon them, and thus fill up our black catalogue of offenders.



Tour in Prince Edward and Hastings— Brighton Farmers' Club.

To the Editor of THE CANADA FARMER :

SIR.—Having spent a few days immediately after the Provincial Exhibition in the counties of Prince Edward, Hastings, and East Northumberland, a few remarks in relation to my peregrinations will be acceptable to some, at least, of your numerous readers.

The whole of this section of country, extending to Kingston, has been subjected to a drought, which, for duration and intensity, is said to be unparalleled within living memory; a circumstance that will go far to account for the very limited display of roots and vegetables at the recent Exhibition. In some places scarcely any rain fell between the sowing and harvesting of grain; the former operation being done under most unfavourable conditions, in consequence of the lateness and extreme wetness of the spring. The grain as well as root crops are, therefore, very inferior as regards both quantity and quality. The country thirty or forty miles north of the lake was favoured with genial showers during the season of growth, and the crops there are comparatively abundant. I noticed in several places, both in fields and gardens, that wherever a deeper and more thorough culture had obtained, the crops were much less seriously affected by the drought. As the atmosphere contains the largest amount of aqueous vapour in the hottest weather, it imparts its moisture more copiously to the deeper-wrought soils, thus rendering soluble the ingredients of plant food, moistening and aerating the soil—a fact of the greatest importance in practical agriculture, particularly in hot and dry climates.

I had the pleasure of spending a few hours with Mr. Robt. Wurden, near Picton, who has been favourably known for many years as a successful cultivator of fruit. Mr. Wurden has done much in ascertaining, by experiment, the kinds of apples and pears adapted to the soil and climate of this section of the Province, and has been the means of improving and extending a taste for the pursuits of horticulture. Of pears, he has come to the conclusion that the "Flemish Beauty" is the best adapted. His nursery is extensive, its situation high, but well sheltered, the soil dry and calcareous, and naturally adapted to the raising of good, healthy trees. By fencing in his plum trees and turning in his pigs, Mr. Wurden has for several years escaped the ravages of the curculio. The shade trees, principally maple, planted on the road-side along this property near half a century ago, add greatly to the beauty of the scenery, the comfort of the traveller, and what is of greater importance, shelter the crops from cold and injurious winds. The frequent planting of trees on the principal highways, observable in this part of the County of Prince Edward in particular, is deserving of a much wider extension. If this practice were general, our landscape would be greatly beautified, the crops and animals sheltered, the air in summer would become more humid, and, as a consequence, the results of cultivation more certain.

I had also the opportunity of seeing the young nursery of Mr. J. P. Williams, of Bloomfield, consisting of about twenty-five acres, full of thriving trees, which find a ready sale in the district. Both Mr. Williams and Mr. Wurden advocate for this climate the desirability of keeping fruit trees low,—a practice which the latter introduced and advocated many years ago. The old worn-out orchards of this district, planted half a century since, are being replaced by new ones of very superior kinds of fruit, which experience has proved to be well suited to the locality. Hops are raised in several parts of this county; the crop

has been very inferior, arising from the unfavourable character of the season and the attacks of aphides. From what I observed here and elsewhere, this valuable crop does not receive, except in very few instances, that thorough cultivation which it requires, and will abundantly repay for giving. The weeds and big, hard clods that I saw in some plantations, certainly render it marvellous that any crop at all could be produced; and in some cases the product was all but absolutely nil,—a result mainly attributable to the most culpable neglect of the ordinary principles of cultivation.

I had an opportunity of attending the Exhibition of the South Hastings Society, at Belleville. The Show, on the whole, considering the unfavourable character of the season, was highly creditable to the farmers and artisans of this section. We had hoped to see a larger amount of pure-bred cattle; a few fine specimens of Durhams were on the grounds. Among the sheep were several fine animals; and the three yearlings (a ram and two ewes) just imported from England by the President, Mr. Wood, deservedly attracted much notice and commendation. They strikingly exhibit the characteristic type of the modern and improved Leicester. The pigs were excellent. Implements generally good, and rather numerous. Grain fair, and roots and vegetables quite as good as could be expected. The display of cheese, factory and domestic, was large, some of excellent quality, as was also the butter; but the quantity of the butter was small. There was, we understand for the first time, a really creditable collection of fruit; both hot-house and out-of-door grapes were excellent. The ladies contributed quite a number of articles of utility and ornament. It is but rarely one sees so large a number of visitors at a county show as were attracted to the pretty and stirring town of Belleville on this occasion. I would suggest as worthy the consideration of the Directors of the Society, and also of the townspeople, the desirability of keeping up the Show for two days, thus giving all an opportunity of fully inspecting the whole. By interesting the artisans of the town and neighbourhood in the object, the capacious and conveniently-situated skating rink might be kept open in the evening, and would no doubt be a scene of great attraction, and the means, by a small admittance charge, of sustaining the funds of the Society.

After spending a few days in this part of the country, I had the pleasure of meeting the members of the Brighton and Cranmahe Farmers' Club, in East Northumberland. The meeting was well attended, and several points of importance in practical agriculture were pretty fully discussed. Quite a number of ladies were present, who evinced much interest in the proceedings, which included the subject of the dairy. This Club, which has been in existence three or four years, meets monthly, and has been the means of keeping alive an interest in agriculture in the vicinity. A list of the subjects discussed was published in the last volume of THE CANADA FARMER. Much of the efficiency of the Club can doubtless be traced to the enlightened perseverance of its President, G. F. Burrell, Esq., who is ably seconded by the indefatigable Secretary, Mr. Squier.

I may just add that I had the happiness of spending a few hours with J. B. Marks, Esq., whom some of your readers will remember as one of the early Presidents of the Provincial Association, and for several years a member of the Board of Agriculture. Though having completed his 90th year, Mr. Marks continues to evince an interest in agricultural matters, and took me to a small bed of osier willows which were planted about three years ago under his direction. The shoots are cut annually in spring, and attain a height of from seven to nine or ten feet. There are many farms in different parts of the country, having low, wet spots almost wholly unproductive, on which basket willow might be successfully raised.

GEO. BUCKLAND

Toronto, Oct. 9th, 1867.

Planting Trees for Shelter.

To the Editor of THE CANADA FARMER :

SIR.—For the protection and ornamentation of my orchard, I purpose bordering it on three sides with Pine, alternate at every two rods with Walnut, Butternut, Chestnut and Hickory, and as great a variety of other suitable and useful nut-bearing trees as may seem appropriate. On the front side, against the road, I intend to plant Norway Spruce, alternate with Maple. Now, as I require quite a number of trees, it will be rather too expensive to get them from the nurseries, so I wish to raise them myself. As regards

the nut-bearing trees, I think there will be no difficulty in raising them from the seed; but not being versed in botany, I am at a loss how to propagate the pines. Is there anything about the cone in the shape of seed or germ? In short, how is the pine propagated?

There are plenty of young pines only a few miles off that I can get for the trouble of digging, but as trees of this kind are so ill-fated in transplanting, I think I should despair of ever getting a good green border in this way. There are also plenty of Spruce about thirty miles off, that I can get for digging; but I do not know whether they are the same species as the Norway Spruce; they look so near alike I cannot tell them apart; but these, like the pines, I believe are not very tenacious of life in transplanting.

Had I not better get the Maples from the woods, as there is but little danger of their dying in transplanting?

What time had I better set out the different varieties?

My soil is clay, and clay loam; but I intend to get it in a good friable condition before attempting to set out any trees. If you can give me any information in respect to these enquiries you will much oblige

M. OLIVER COLE.

NEW SARUM, Oct. 11th, 1867.

NOTE BY ED. C. F.—Our correspondent's intention of providing shelter for his orchard trees is highly commendable, and it would be well if the practice were general. To have a certain portion of the trees productive as well as protective seems also desirable. In reference to the various enquiries he makes, we would suggest in the first place, as he contemplates pretty extensive operations and wishes to be his own nurseryman, that besides setting out his trees where he wishes them to stand, he should provide a reserve in case of failures and to fill up gaps, by appropriating apart from the orchard a small piece of ground, where he can raise from seed or sapling a nursery of young trees. This will probably save a considerable amount of trouble, and may obviate the loss of a season's growth or more.

The nut-bearing trees would probably be raised pretty readily from seed, the maples and pines should be transplanted; special care being taken in the process to remove as much earth as practicable with the roots, to disturb these as little as possible, and to guard against their exposure to either light or heat. The mutilation which roots suffer in rude attempts at transplanting, and the exposure of these delicate parts to the drying effects of the sun and air are chief causes of the frequent failures that follow the operation. The fall of the year, if not too far advanced, is the best time for effecting the removal. If that season has passed over, the early spring is probably the most suitable season.

In regard to the natural method of propagating pines and other cone-bearing trees, the seeds are contained at the base of each scale of the cone, and when ripe are easily detached. If buried slightly beneath the soil, they will germinate under favorable circumstances, and produce young plants. The common Spruce of Canada is a different species from the Norway Spruce. The latter is both more ornamental and hardier.

Dressed Hogs.

To the Editor of THE CANADA FARMER:

SIR,—On this subject it seems there is still great need of repeated warnings and plain directions, as the obvious precautions which common sense should dictate are often inexcusably violated. Farmers are now commencing to bring their hogs to market, dressed, and as is natural, are disgusted at having to take four cents to four and a half cents per lb. for them, while peas are selling at eighty cents per bushel. To make the matter worse, some are bringing their pigs to market in such a condition, that they have to ac-

cept three cents per lb., for the reason that the pork is sour and tainted by the time it reaches Toronto. To avoid this we would strongly urge on their attention the following rules:—

1st. Don't kill any hogs until November, and not then unless the weather is cool and clear.

2nd. When killing, whatever the size, have them opened out from tail to snout, and don't spare cold water to cleanse them thoroughly. Then prop them open with a pointed stick six to twelve inches long, according to size of hog.

3rd. Let them hang in a cool, airy place for twelve to twenty-four hours before cutting them down. The greater the distance you have to travel, the longer should they hang.

4th. Don't crowd them into the waggon at this time of the year, and if your journey be long travel in the night. Five or six hours travelling in the sun will ruin them.

If farmers follow the above instructions, and have got hogs of good quality, they will not have to sell them at four cents to four and a half cents. The difficulty of getting hogs when dressed in a good state, is our reason for desiring to have them alive.

W. DAVIES & CO.

Toronto, Oct. 16.

KNITTING MACHINE.—D. B. Stovel, of Mount Pleasant, asks for information respecting knitting machines. The only machine of the kind, so far as we know, is Lamb's Knitting Machine, which is an excellent invention. Mr. H. Bailey, 81 King Street East, Toronto, is the agent for the sale of this valuable machine in Canada.

COMMUNICATIONS POSTPONED.—Several communications are reluctantly postponed for want of space, but will appear in an early issue. We beg our correspondents will never infer, from the delay that sometimes attends the publication of their letters, that we undervalue them. The postponement is in most cases, from one cause or other, unavoidable.

The Canada Farmer.

TORONTO, CANADA, NOV. 1, 1867.

The Wheat Market.

THE expectations entertained earlier in the season as to a great decline in breadstuffs have not been fulfilled, and are not likely to be, if we may judge from the reports which reach us as to the European harvests and the grain supply. As our readers already know, the wheat yield in England was rather under average, and now it appears that the hopes cherished respecting very heavy crops in Scotland have been to a considerable extent disappointed, so that as a whole the British corn product does not come up to the full standard of an average season. The *Mark Lane Express* of Oct. 7, in its weekly review of the corn trade, gives the following general account of things, not only in reference to Britain, but also as it respects the chief grain fields and wheat markets of the world:

"Seldom have deliveries been so short immediately after harvest, and as there can be no scarcity just now, we must view the fact as an unmistakable indication of a short yield. A rise therefore has been the consequence, the average advance on the week being fully 2s. per qr. Nor is England the only country where the upward movement has been resumed. So early an advance in the necessaries of life looks ominous for the winter, though perhaps in the sequel it may be better for the nation, as a sure preventive of that waste which would have arisen from a false confidence. We have all along been looking anxiously to Germany for her harvest reports, our dependence in former years being chiefly on the ports in the Baltic; but accounts just received from Danzig are not only disappointing but perfectly alarming as to the

produce in the interior. The crops in many districts are reported a perfect failure, and fine wheat, it seems, is to be had for neither love nor money. It is even noted as a possibility that merchants may have to look to Great Britain for fine qualities all through the season. We hope there is great exaggeration in these communications; but after the fine weather we have had for completing the late gatherings, it certainly is very extraordinary that the amount offering, not only in Germany, but in every other country, is unusually small. France has recovered tone, both as respects Paris and many of her country markets. Belgium and Holland show a still more important movement upwards, and we learn that Hungary, the only spot in Europe that has a surplus, has already sold more than half her crop for delivery, and is indifferent about placing the remainder since the last news of a rise in Western Europe. The surplus produce of the Western States in America is now spoken of with "bated breath," and in connection with the heavy charges of transit, we can only say, if the Western States have plenty this season, their abundance will ensure plenty of gold."

Horace Greeley at the Fairs.

HORACE GREELEY has been touring among the State and County Agricultural Fairs this fall, and has given the public a bit of his mind about them in a very sensible article, most of which is as appropriate to the meridian of Canada as to that of the United States. Hence we propose to make what use we can of his opinions and counsels. At the outset he very properly urges the utility of these exhibitions, and says they should be regarded as "farmers' festivals," fitly celebrating the return of the harvest time, and the close of the more arduous labours of the season. He then proceeds to reprove the want of interest, especially as displayed by neglect of sending things for exhibition, in a paragraph so excellent that we quote it entire:—

"Whoever thoughtfully scans one of these exhibitions must be struck with the paucity of contributors and contributions, as compared with what they might and should be. Here is a county comprising five thousand farms—and, of course, five thousand farmers—each of whom, it may be fairly presumed, has grown something that might help to make up an exhibit of the county's products. It seems within reason to estimate that at least one-fifth of those farmers would feel impelled by public spirit and a proper pride to contribute—even though a bill of corn, a peck of potatoes, a basket of apples, a few bunches of grapes, or a basket of beans, were the best he had to offer. One can scarcely conceive that a farmer should have been at work all summer, and not produced at least a cap-full of grains, fruits or vegetables, that he would be willing to send or take as his contribution to the fair. Yet, so far as I may judge from a hasty observation, there have not been so many as one thousand farmers who contributed to any county fair held this fall in our State. Decidedly the best of all that I have visited this year was that of the western townships of Oswego county, held at Fulton, on the 25th ult. Oswego is a large, rich, thrifty county, especially favoured in her adaptation to fruit culture, but well suited also to dairying, which she prosecutes with spirit and success. I judge that five thousand of her farmers, besides their wives and children, attended the late fair at Fulton. And two-thirds of them doubtless said, as they scanned this or that article on exhibition, 'Why, I could have beaten that!' The more shame to you, then, that you did not try. Our fairs can never do the good they should do until every farmer goes home saying, 'I will have something to exhibit next year—at all events, I will exhibit the best I may have.' Whenever the better half of the farmers in any county shall each resolve to exhibit something, our fairs will be richly worth their cost in time and effort. As yet,

most farmers go to grumble that the show is so scanty and meagre, without seeming to consider that they are to blame for it—that it would have been all that could be desired had they severally recognized and fulfilled their obligation to contribute. Any fair to which half the farmers in the county contribute will be a good one."

Mr. Greeley is of opinion that unreasonable importance is attached to the award of premiums. He does not magnify the office of judge nor entertain a very high opinion of the manner in which the judicial function is usually discharged, as our readers will see by the next extract:—

"Three men, passing hurriedly from pen to pen, adjudge A.'s horse or oxen the best on the ground, and B.'s only second or third in excellence. Very probably they err in judgment, through haste, or partiality, or incompetency. What if they do? Is the intrinsic value of your animal lessened by this error? Is the matter worth fretting over, any how? The popular verdict often reverses that of the committee, and fully atones for the injustice by the heartiness of its condemnation. If I were an exhibitor, and cared about the matter, I would rather have injustice done me than not. Where the appellate tribunal includes the whole county, no one need care what three men may say. And yet exhibitors have gone grumbling away, firmly resolved never to exhibit again, because of presumed partiality or injustice in the award of some paltry premium."

The decisions of judges and the judicial function are not much respected in the United States, and "popular verdicts" are often given against them, when the tribunal is a much higher one than that of an agricultural fair; but in our view the remedy is not to despise the court, but to elevate its character. The judging at these exhibitions ought to be such as shall deserve and secure respect. All possible pains should be taken to secure well qualified parties, whose ruling will have all the weight of authority in the several departments. We would rather say to unsuccessful competitors, use all your endeavours to get skillful, impartial judges, and if you are beaten, take it in good part, do not insinuate partiality or complain of injustice, but "try, try again."

Mr. Greeley deals out well-merited censure to the now almost universal practice of having horse-racing at these fairs. He says very justly that it "marks a low stage of intellectual and moral development" that these races should be so popular,—deprecates the idea of "blacklegs getting possession of the fairs," and insists that racing should be sternly discountenanced. He would never allow two horses or teams to compete in any way, but would have each horse or team exhibited by itself and timed independently, and would interleave other exercises with the display of horses on the track.

The following is an excellent suggestion, which we commend to all and sundry who have the management of exhibitions:—

"There should be set times for the explanation of every machine or novel implement on the ground; not only for the judges, but for the public. Let due notice be given that this or that machine or new device will be operated and illustrated, say at 10 a.m.; another at 11, and so on. Much information would thus be diffused with regard to implements which are now passed by the majority in dumb perplexity or blundering misconception."

We would add that when such appointments are made they should be observed with rigid punctuality. Announcements have sometimes been published that particular classes of animals would be displayed at particular hours, and no further trouble or care taken about the matter. Faith should be strictly kept with the public when such arrangements are entered into.

Mr. Greeley winds up with an earnest plea in behalf of the speakers invited to address the assembled multitudes—"Finally, Messrs. Managers, be good enough to let those whom you invite to speak have at least half a chance! Let them speak before dinner always—not when the people are wearied out with gazing and tramping, and anxious to get away to their homes. If the speaker be worth hearing, he should be heard; if not, he needs the better opportunity, so as not to be held responsible unjustly for dispersing the crowd."

These opportunities for imparting useful lessons to people who seldom have the opportunity of hearing a really good address or lecture in their own neighbourhoods, are not made enough of. An hour each day devoted to this purpose, and really improved by effective speakers, would, we are persuaded, accomplish a vast amount of good.

"The Canadian Horse and His Diseases."

We welcome with very great pleasure the appearance of this popular compendium of veterinary practice. There are, it is true, several excellent books on the subject already published, but these are all bulky and comparatively expensive; so much so as to deter most farmers from obtaining them. But the new work now offered to the public is in very portable shape, being a small volume of little more than 200 pages, and can be procured at a very moderate price. The authors are well qualified for the task they have undertaken. They have received their education in the first veterinary school in the world, have been long engaged in extensive practice, and from their prominent connection with the Toronto Veterinary College have acquired the experience necessary to enable them to impart instruction to others. The names of Messrs D. McEachren and Andrew Smith are ample guarantee for the accuracy, soundness, and practical character of the work. Mr. Smith has long been the foremost man in his profession in the Province of Ontario, and his reputation both as a practitioner and as a teacher are too well established to need any comment here. By the publication of this useful treatise, acceptable alike to the student and the people, he has added to the obligations which the country owe him for his energetic endeavors in the cause of veterinary science.

The appearance of the work at the present time is very opportune; for although happily, through the instrumentality of the Veterinary College, the number of qualified practitioners is increasing in the country, still there are many farmers who are beyond the reach of professional help, and to such a work of ready reference treating on the ailments of the horse will be found invaluable; and even those who have the advantage of being able to consult a veterinary surgeon, will derive benefit from acquainting themselves, as this little work will enable them to do, with the nature and treatment of those diseases and injuries to which man's most faithful servant is liable. Ignorance is the worst foe the true physician has to combat; it is only the empiric who does not wish his patients or customers to possess an intelligent acquaintance with the laws of life and health, and the principles of the healing art.

We very cordially commend this little work to the farmers of Canada, as a safe and efficient guide in the treatment of the injuries and diseases of the horse. The information is very clearly and concisely given; so that any one of ordinary intelligence would be able, by its assistance, to recognize the presence of diseases, and determine what was best to be done in the case. The work contains in a compact form at the end a large number of useful receipts and prescriptions. It is published by James Campbell & Son, Toronto. The price is seventy-five cents.

Ontario Poultry Association.

In another column will be found an advertisement of the poultry show, to take place on the 6th and 7th inst., at the Agricultural Hall, Toronto. We have much pleasure in directing attention to it, as it promises to be the largest and best exhibition of the kind ever held, we may say, on this side of the Atlantic. We have been informed, on good authority, that there will be on exhibition nearly 300 pens of poultry and pigeons. The arrangements made for their reception are almost perfect, and with the small

price for admission we have no doubt the affair will be highly successful.

Between sixty and seventy entries have been refused, which is much to be regretted; but as due notice was given of the regulations of the Society in regard to entries, and all other rules relating to the show, it is to be presumed that exhibitors have only themselves to blame in these cases. Rules once made and properly published, should be strictly adhered to. Those who have never undertaken the management of exhibitions of the kind, can have little idea of the trouble involved, and which is much increased by any infringement of regulations. Ample directions have been sent to each exhibitor in regard to packing the specimens, and a careful observance of these instructions will prevent mistakes. We sincerely trust the exhibition will prove eminently successful, and satisfactory to all concerned.

SALE OF PURE-BRED STOCK.—In the advertising columns notice is given of an extensive sale of pure-bred stock, to take place on the 20th inst., at Harris town station, near Decatur, Macon Co., Illinois.

Agricultural Intelligence.

Annual Sale at Moreton Lodge, Guelph.

The annual sale of thorough-bred cattle, sheep, pigs, and poultry, at Mr. F. W. Stone's farm, Guelph, came off as advertised, on Wednesday, the 16th ult. The day was all that could be desired as to weather, and the occasion drew together a large number of persons, a good proportion of them being well-known Canadian and American stock-breeders. There was also a fair sprinkling of farmers from the surrounding country, some of whom contested the purchase of choice animals with foreign bidders in a very spirited manner. Only a few Short-Horns were offered—eight in all—and of these all but one were sold at fair prices. The pick of the lot were purchased by Mr. Greg. of Beachville; "Mattie," a two-year old roan heifer, at \$150; "Matchless 3," a roan calf, at \$200, and "Lord of the Hills," a roan bull calf, at \$150. There seemed to be no demand for the Herefords, and although some superb animals of various ages were offered, only two sales were effected; a five year old cow at \$90, and a yearling heifer at \$95, to the Hon. Mr. Foster, of Lower Canada. The catalogue comprised fifteen Herefords, but only three or four of them were put up, owing to the lack of bidders. The farmers present exchanged opinions about them very freely, and seemed to be unanimous in thinking that they do not compare with the Short-Horns as a cross upon the native cattle, or in general adaptation to the country. We believe they have some points of great merit, and that they deserve to be more popular than they are. The Cotswold sheep sold well, excellent prices being obtained, especially for the shearing rams. The highest figures reached were—Hon. Dr. Christie, \$72, Joseph Gardiner, Toronto Township, \$83, and Arthur Hogge, Guelph, \$81. It speaks well for the stock, and for the local farming community, that the highest price should have been paid by one of Mr. Stone's neighbours. The best figure got for Cotswold ewes was \$114 for a pair of shearlings. The Southdowns did not sell so briskly as the Cotswolds, \$32 being the highest price realized for a shearling ram. A few Berkshire boars and sows were sold at from \$10 to \$12 apiece. Some nice coops of Grey Dorking fowls and Aylesbury Ducks were offered, but there was little or no demand for them, there being no attendance of poultry fanciers, and our farmers not having yet awoken to the importance of effecting improvement in this description of stock.

In the vicinity of Monroe, Michigan, farmers and gardeners have planted, within three years, 37,000 vines. Many of the vineyards are now bearing, and the yield, both in quantity and quality, surpasses the expectations of the most sanguine.

Fall Exhibitions.

COUNTY OF WESTWORTH AND CITY OF HAMILTON AGRICULTURAL SOCIETIES' SHOW. This exhibition was held on Tuesday and Wednesday, Oct. 8th and 9th. The first day was fine, but the second most unfavourable. Yet, on the whole, there was much reason for congratulation. The show of horses was ahead of that of any previous year, the number of entries being unusually large, and the quality of the animals good. In horses for general purposes there were no less than one hundred and ninety-one entries, and among them were some very fine horses. Of the entries, twenty-seven were span teams to harness, nineteen carriage horses in harness, fifty-five buggy horses, and twenty-five saddle horses. All these entries, however, can hardly be considered for exhibition purposes, it being a somewhat common practice with persons to enter their horses merely for the sake of getting them into the grounds. But the *bona fide* entries were large and very creditable, showing a steady progress in the improvement of horses in this county. In heavy draught horses there were twenty-six entries, many of them being large, powerful animals. As they were shown in the ring they presented a fine appearance.

In cattle the entries were large, and the animals good, the Durhams being apparently the most popular breeds. In Durham bulls there were twelve entries, including the Durham bull calves, and in cows and heifers there were twenty-four entries. In Ayrshires there were eight entries in bulls, and seven in cows and heifers. The animals in this class were much admired, being exceedingly creditable to the exhibitors. In Devon bulls the entries were but three, and in cows and heifers but five. In Galloway cows and bulls and bull calves there were ten entries, and in cows and heifers twenty-eight. Some of the Galloway cows were very fine. In other classes of cattle, grade cattle, oxen, and steers, there were thirty-two entries. The steady improvement in stock which these exhibitions show is in the highest degree creditable to the intelligence and enterprise of our farmers, and furnishes one of the most gratifying features of the agricultural progress of the Province.

In regard to pigs and sheep the show was good, although we cannot say that we admire the large porkers which seem so marked a feature of these exhibitions. The encouragement of the smaller breeds, such as find the best market from our pork factories, would be an object at which the Association should aim. They are certainly more profitable to the farmer, and would improve the reputation of the country for the production of bacon. In sheep, the Southwolds and Leicesters appeared to be the most popular. There were some very fine animals in the pens, and the competition was on the whole fair. Some very fine Merinoes, notwithstanding that these fine wool sheep are not generally favourites. The great demand for the coarser wools during the recent American war may account for this. Possibly with the increased demand that will now spring up for finer wools, the Merinoes may grow into more general favour.

The show of poultry was not as good as the rest of the exhibition, but few of the specimens bring up to the mark. Although in accordance with the rules, prizes were in general awarded, yet in the more glaring cases, such as Cochins with top-knots, the judges requested to be exempted from recommending a premium. We did not envy the labours of these gentlemen, whose task was rendered more than usually unpleasant by the pouring rain, and the want of proper arrangement of the coops, which were promiscuously placed just as their owners had brought them on to the ground. Some dissatisfaction was manifested by disappointed exhibitors, one of whom especially was disposed to give trouble, though the judges took the trouble to point out the deficiencies in several cases. We were rejoiced to see the right spirit in an exhibitor from Hamilton, who, when the faults of his birds were fairly shown to him, replied, "I will take care to have better stock next time." This is the way in which the true object of these exhibitions will be accomplished. The judges were D. Call, of Hamilton, Lieut.-Col. Hassard, Secretary of the Ontario Poultry Association, and another gentleman, whose name we did not learn.

In the fruit department the exhibition was very much better than that at the Provincial exhibition at Kingston. We doubt whether any locality in the Province could produce a more excellent display in this department. In apples the show was peculiarly excellent. In winter apples, twelve of each, there were no less than sixty-one entries, and all of them so good that we cannot venture to particularize. In varieties of winter apples, six of each, there were nineteen entries, and in six varieties fall apples, eleven entries. In peaches there was some very fine fruit shown. In pears, fall sort, there were twenty-nine entries, and of winter varieties, there were

thirteen entries. In grapes the show was very fine. In purple, white, and other colours grown under glass, there were six entries; and in purple grapes grown in the open air, twenty-three entries, and in white grapes, open air, ten entries; and in grapes of other colours, such as the Delaware, Rogers', Diana, etc., there were twelve entries. The exhibition of grapes bears testimony to the increasing interest in grape culture in this neighbourhood.

In grain the number of entries was fair, though not very large; but the specimens of grain were fine, the wheat being a fine plump berry. The barley was a very fine sample, the season having been very favourable for the quality of this cereal. Other grains were fairly represented.

The roots and vegetables were most excellent, so much so that the judges deemed it proper to append a special note of recommendation to their report. Considering the dryness of the season, an exceedingly unfavourable one for root crops, we have never seen so fine an exhibition. It was in every respect superior to that at Kingston.

IMPLEMENTS, &c.

Class 30 was in many respects quite deficient. One would have thought that there would have been a splendid competition in some of the sections, such as iron and wood ploughs, grain drills, land rollers, fanning mills, horse rakes, farm carts, drain drills, &c., for the prizes offered, but the fact is there was not a single entry of either of these articles. The many manufactories of the city and county so busily engaged in the producing of these agricultural requisites owe it to the country at large that their manufactures should be in competition at these exhibitions.

Altogether the exhibition was the best ever held in this county, and would do credit to any district. We doubt whether, by any county show in the Province, it has ever been excelled. In all the departments which belong properly to an agricultural exhibition, it was not inferior to the Provincial shows of a few years back, and we cannot but congratulate the association upon its success. The rain on the second day undoubtedly prevented many hundreds of persons from attending it, and marred greatly the pleasure of those who did attend. But in spite of this, about four thousand persons were admitted by ticket, in addition to the large number admitted on members' tickets, as exhibitors, caretakers, &c. We think the association would act wisely if they had their exhibition a week earlier. They would run less risk of bad weather, and in other respects the advantage would be quite equal.

TORONTO ELECTORAL DIVISION SOCIETY.—The Fall Show of this association was held in the Music Hall and other apartments of the Mechanics' Institute, on Wednesday and Thursday, Oct. 23rd and 24th. In consequence of the Crystal Palace and adjoining premises, the usual show grounds of the Society, being occupied by the military, there was no display of stock this year, and the exhibition, in consequence, lacked a chief portion of its interest in the estimation of agriculturists; but the horticultural and other departments were so well filled up that the exhibition, on the whole, was highly successful. The display of vegetables and fruit, in spite of the disadvantages of a dry season, was extremely creditable. A finer collection in point of quality could hardly be obtained anywhere. The show of grapes particularly was deserving of notice. In this section, Mr. Gray, of Toronto, and Mr. Philip Brown, exhibited a very fine collection of grapes grown under glass. The Hon. D. J. McPherson was also a successful competitor in the same class. There was besides a good display of open air grapes—sufficient to convince any one of the fitness of the Canadian climate for the culture of this important fruit. The display of roots was small, as might have been expected. The show of grain was also limited in quantity, but contained some good samples.

SOUTH RIDING OF OXFORD AND DEREHAM.—The Union Exhibition of the South Riding of Oxford and Dereham Agricultural Society, took place on Thursday and Friday, October 3rd and 4th, at Tilsonburg, and was, on the whole, a decided success. The weather was all that could be desired, and the Exhibition in many respects superior to those of former years. The attendance on the first day was not large, and the prevailing opinion seems to be that one day is quite sufficient for the exhibition. The second day was the day of the show, as then visitors had an opportunity of inspecting all that was exhibited. The attendance on that day was somewhere between 3,000 and 4,000, and the funds of the Society must have received a large increase. The samples of grain exhibited were decidedly superior to those exhibited last year. The white and red wheat shown was of a really excellent quality. The display of fruit was good, especially the apples. E. V. Bodwell exhibited some choice pears. Owing to the dry

weather this season, the roots and vegetables were not so good as in former years. A good sample of flour was shown, and some excellent home-made bread. This departments generally showed an improvement over former years, with the exception of spring wheat, which fell below former years; although the samples of winter wheat were superior. In the department of Agricultural Implements, &c., we noticed a snow gate, the invention of Capt. W. James, of Springford. By means of a lever the gate can be easily raised as the snow accumulates. The number of entries of horses was very large—being upwards of 130; the display was very good, with the exception of mares and foals for carriage purposes, which was rather poor. There was a large show of thorough-bred cattle—an improvement on last year. Some good Durham cows were shown; the two-year-old and yearling heifers were particularly good. The display of sheep was very creditable; though we would like to see farmers generally pay more attention to this branch. The show of swine was superior to that of last year. The show of poultry was not very good. The cheese exhibited was of excellent quality. Mr. H. S. Losee exhibited a superior article and carried off the first prize. On the whole we can congratulate the Society on the very creditable display they have made this year in nearly every department. After the Judges had completed their work, those who remained to the close collected in front of the Hall to listen to an address by C. E. Chadwick, Esq.—*Ingersoll Chronicle*.

VICTORIA.—The Fall Show of the Victoria Agricultural Society was held on Thursday and Friday, Oct. 11 and 12, and we are sorry to say that the weather was most disastrous to the success of the Exhibition. However, the display made was very creditable to the County, and we believe the amalgamation of the Horticultural and Agricultural Societies tended materially to enhance the interest taken in this year's show. Considering the late season, the Horticultural Department was well supplied, and attracted considerable attention. The Ladies' Department also presented a very creditable appearance, a considerable quantity of beautiful needle-work being displayed. Mr. Charles Foley's magnificent collection of stuffed birds added considerably to the appearance of the Hall. There was also a very good variety of fruit. On the whole the Hall presented a beautiful appearance, thanks to the indefatigable efforts of Messrs. Thirkell, Secretary, Beall, Gregory and Wood, who worked assiduously to have the affair pass off as successfully as possible. The Vegetable Department could not be surpassed at the Provincial Exhibition, Messrs. Goodfife, Ellis, Calvert and Wood being the principal exhibitors. The display in this line was really splendid. The inclemency of the weather seriously affected the show of Horses and Cattle, but there was an average attendance. Mr. Hamilton had on exhibition a splendid waggon, beautifully furnished, also a buggy, cutter, and ploughs, which were got up in a manner creditable to the town of Lindsay. We believe the durability of Mr. Hamilton's work is equal to that of any other establishment in Ontario and consequently his implements, etc., are in good demand. We also noticed a handsome grain cradle by Mr. Samuel English, of Onemec. Mr. John Haisley's Saddlery establishment was represented by a couple of sets of splendid harness. After the labors of the day, the Directors and Judges, about five o'clock, repaired to Boynton's Hotel, where a sumptuous dinner was prepared for them.—*Victoria Warbler*.

NORTH HASTINGS.—The annual Fair and Cattle Show for the North Riding of Hastings, was held at Huntingdon, on Wednesday, Oct. 9th. The Exhibition on the whole was creditable, though not equal to what it should have been for a large and wealthy agricultural county like North Hastings. Blood cattle with a pedigree were not represented, but there were some fine grades. The show of horses was very good, though thought not to be so extensive as that of last year. There were, however, a number of noble animals exhibited, and some young stock which bid fair to rival any in the county. We are glad to see that our farmers are paying attention to the breed of their horses, and that the different classes are becoming more accurately defined. In sheep, the show was not large, though there were specimens which prove the interest taken in procuring the best of stock, and one or two which would have compared with those of our best breeders in the South. Too much attention cannot be paid to this branch by our agriculturists. In swine the competition was very limited. There were some very fine varieties of summer, fall, and winter apples, and pears. A little more attention to the culture of these fruits would pay well. The dairy was better represented than upon former occasions in North Hastings, and some excellent samples of butter were shown. The cheese was far superior to that exhibited last year, showing

great improvement in the manufacture of this article of food. A capital specimen from the Tweed Factory was also on exhibition. In this connection we may mention that the importance of this branch of trade has induced the people in the vicinity of the town hall, Huntingdon, to commence the erection of a cheese factory adjoining the town hall, three stories high, which will be ready by next spring. The show of grain was good in every respect, as was also that of roots. The latter, considering the season, were remarkably fine, far exceeding those shown at the South Hastings Fair. We were pleased to see that our agriculturists are introducing more extensively labor-saving machines. The show in this respect was decidedly in advance of former years.

NORFOLK.—The twenty-fourth annual exhibition of the Norfolk Agricultural Society, which was held on Thursday, Oct. 10th, was highly successful, the number of entries being larger than that of last year, amounting in all to 1157. The show of horses, as usual in this county, was very good, and largely in excess of any previous exhibition. The same remark applies to cattle, the principal breeds being well represented. The number of sheep was smaller than that of last year, though some of the animals shown were very good specimens of their class. The number of swine exhibited was double that of last year, and the improvement in quality was very marked. In grain and seeds, notwithstanding the alleged unfavorable season, the show was very good. There was a falling off in roots, as compared with previous exhibitions. For this the season affords sufficient explanation. The display of horticultural products was also small, but an improvement was manifest in the dairy department, and also in that of agricultural implements.

NORTH BRANT AGRICULTURAL SHOW.—We have been favored with quite a long account of this exhibition, but have space for only a brief summary condensed from the *Paris Star*. The show was held on Tuesday and Wednesday, the 8th and 9th October, and proved highly successful. The show of horses was very fine both as regards the number and the excellence of the animals exhibited. Over three hundred horses were on the ground, and the only regret was that they could not be watched passing before the judges, except under very uncomfortable circumstances. The class having the largest number of entries was that of single horses in harness, of which there were forty-one. There were thirty-four saddle horses, seventeen spans of carriage horses, thirteen of farm horses, and seven of heavy draught horses. The show of cattle was very good, as far as numbers were concerned, and there were some splendid animals shown. As a whole they were superior to any that have appeared on the same ground on any previous occasions. There was a very large number of sheep on the ground, and they were equal in quality to any before exhibited. The largest number of entries was of course of Leicesters, of which there were one hundred and three on the ground. The Merinoes were also well represented, there being one hundred on the ground. There were thirty-six entries of Long-Wooled Sheep, and thirty-three of Southdown. The show of pigs was good, especially of small breeds, of which there were thirty-five entries. Judging from the number of specimens shown, the pleasant and profitable occupation of raising poultry is by no means neglected in this county, there being no fewer than one hundred entries in that class; among them many fine birds. There was an excellent show of implements, Mr. Watson, of Ayr, and Messrs. Maxwell & Whitelaw being the principal exhibitors. For the first time the indoor articles of exhibition were collected in a spacious Agricultural Hall, erected for the purpose. Within this building grains, roots, vegetables, fruits, flowers, manufactures of all kinds except carriages and implements, drawings, paintings, and fancy work, found a place. The show in the hall was, in nearly every department, all that could be desired, proving a splendid specimen of the abundant crop with which a bountiful Providence has blessed the country.

Illinois State Fair.

We condense from the *Western Rural* a brief account of the Illinois State Fair, which was held about two miles east of the city of Quincy, during the first week in October. The exhibition is pronounced to have been, on the whole, the most satisfactory ever held, the number of entries and the receipts exceeding those on any previous occasion. Despite the many hindrances presenting themselves, the officers of the society have abundant reason for self-gratulation.

We would have been better pleased, says the editor of the *Western Rural*, with more stringent regula-

tions, such as would have excluded the gambling operations which were carried on pretty extensively. But these can scarcely be excluded while horse-racing is made the primary feature of the attractions offered to the public, calling as it invariably does all the roughs and gamblers of the region roundabout.

In round numbers, there were of live stock on exhibition the following in the several divisions:—300 cattle, 500 horses, 800 sheep and 500 hogs. Many stalls and pens were erected after the commencement of the fair, and still the pens were not sufficient. In all the classes the quality of the stock was superior.

The show of Short Horns was remarkably large—no less than ten bulls of four years old and upward being entered by as many exhibitors. There were seven herds of this breed entered for competition. Devons, Ayrshires, and Alderneys were also represented. The show of horses was extraordinarily large and extraordinarily good, comprising draught, carriage and other varieties.

The show of sheep was good, the Long-Wools predominating in numbers. Of the Long-Wools, the specimens were mostly from Canada, entered by Wm. Miller and Messrs. Graham & Trywhite, of Canada West. The former had forty-three sheep in his lot, and the latter showed one hundred and twenty, nearly all of them Cotswolds and Leicestershires, more or less mixed.

Spanish Merinoes were well represented by both State and Eastern breeders, and a steady improvement is evidently going forward in the breed, growers looking more to intrinsic merit than the deceptive objects formerly kept prominently in view.

There was a very large representation of Cashmere sheep, by H. W. P. Cramer, of Mendon, and E. H. Clapp, of Rome.

Of hogs the show was actually immense, greater than we have ever before known at a State Fair, and included all breeds, the Berkshire and Chester Whites being shown in large numbers. The committee say that the exhibition of Berkshires was much the largest, and by far the finest they had ever seen, and that the number of first-class animals has probably never been equalled at any exhibition in the United States.

In the principal exhibition building, designated Horticultural Hall, were shown, besides horticultural products, the various other products of the farm, textile fabrics, manufactures, fine arts, entomology, etc., etc. In the decoration of the hall, over 4,000 feet of evergreen wreaths were used, furnished by the ladies of Quincy.

T. McWhorter & Co., of Mercer Co., exhibited 154 named varieties of apples, which, without exception, were the finest ever shown at an Illinois State Fair. They also showed ten new seedlings of their own production. Mr. Chatten, of Adams Co., showed over 100 varieties of apples, 70 varieties of the pear, and a large number of varieties of peaches. G. A. Crawford, of the *Kansas Farmer*, exhibited fifty varieties of Kansas apples, which were very fine, and of course attracted general attention. Mr. C. thinks Kansas is a sure field for apple-growing.

There was an excellent display of implements and agricultural machines, besides the miscellaneous articles which usually form part of these exhibitions.

Sale of Rams at Kelso.

A CORRESPONDENT has sent us a copy of the *Kelso Mail*, containing a full account of the annual sale of rams which took place at Kelso, and which, as for many years past, was an occasion of considerable interest among stock breeders in the old country. The report is altogether too long for insertion in *THE CANADA FARMER*, but a brief summary, abridged from the *Kelso Mail*, may not be uninteresting, especially to those who hail from Scotland or the North of England. The sales are under the auspices of the Border Union Agricultural Society, and the last was held on 12th of September. The concourse of buyers, sellers, and visitors, though remarkably large, was hardly so great as on some previous occasions, in great measure, because of the harvest. Flockmasters were present from all the neighbouring districts; and there was a strong muster of others from a distance, including many from the Lothians, Dumfriesshire, Peeblesshire, and the North of Scotland. The southern parts of England may be said to have been completely unrepresented, owing to the restrictions still existing in the cattle traffic; but from Northumberland, Cumberland, and the other northern counties that remain partially unhampered by these regulations, there was a large attendance of agriculturists. A good many buyers were also present from Ireland, which always furnishes a large proportion, in consequence of the wide-spread popularity the Border Leicesters have there attained.

In accordance with the usual arrangement, five commodious auction rings were erected on the

ground, each having attached an extensive range of pens, so connected as to enable the rams to be passed under the hammer, and thence into the hands of purchasers, with great order and rapidity.

Business commenced in the various rings at ten o'clock precisely: and the proceedings lasted until close upon six in the evening, the different auctioneers having been engaged the whole time with little or no intermission.

As was the case last year, the best kind of tups were in greatest request, and not only maintained their previous quotations, but largely overtopped them. In general, the averages in other cases show a reduction when compared with those of last year, indicating a very important falling off in the demand. This is attributed almost wholly to the recent depreciation in sheep stock, which had reached an extraordinary high but artificial and temporary maximum during the excitement of 1865 and the later years of the American war, and since then has been coming down to a more natural and healthy level.

The Mertoun lot, which has headed the sales since 1859, was again the great attraction of the gathering, and once more asserted its time-honoured prestige by taking the leading place in the market. It consisted of twenty-nine splendid rams, six fewer than the number entered, and came on for sale early in the day. The total amount realized by this fine group was £743 15s., the top sum paid for a single ram being £106—£8 more than the maximum of last year, and £11 above that of 1865. This enormous price, the highest ever paid for an individual tup at the Kelso sales, was given by Mr. Smith, Castle mains, one of the tenants of the Marquis of Tweedale, for a most admirable specimen, which created a very warm contest among the bidders. The average price was £25 13s.—£2 7s. lower than that of last year, when Lord Polwarth headed both the top and average prices.

The second place was obtained by the Mellendean lot (the late Mr. Stark's), which has for several years, without intermission, held the same honourable position in the market. It consisted of thirty-four rams, and was sold in the same ring as Lord Polwarth's, but later in the day, realizing the large sum of £773. The highest price was £84, paid by Mr. Mills, Horsburgh Castle. This was £4 above the maximum of the same lot last year; but the average, £22 14s. 9d., shows a reduction in comparison with that of 1866, when it was £25 15s.

Next came the Linton Burnfoot lot (Mr. Purves'), which has also ranked third for some years. The highest price realized was £60 (given by Mr. Calder, Oxenrig), an advance of £10 on the maximum of 1866.

To the report is appended the following statistics of previous sales. The table shows the highest and average prices, and the number of entries; but, in connection with the latter, it must be borne in mind that while the figures referring to the years 1853-63 include the half-breeds, those for the last four apply to the Leicesters, and all are exclusive of the animals sent for disposal by private bargains:—

Years	Entries	Highest	Average
1846.....	350	£13 0 0	—
1847.....	330	21 0 0	—
1848.....	409	17 0 0	—
1849.....	500	10 10 0	—
1850.....	500	21 0 0	—
1851.....	682	14 0 0	—
1852.....	930	—	£ 8 11 0 3
1853.....	1193	—	8 5 0
1854.....	1750	35 0 0	10 10 0
1855.....	1850	50 0 0	11 11 5
1856.....	1325	26 0 0	9 6 0
1857.....	1630	46 0 0	11 12 0
1858.....	1546	80 0 0	10 12 4
1859.....	1518	35 0 0	12 4 8
1860.....	2033	52 10 0	10 7 0
1861.....	1827	52 10 0	17 0 0
1862.....	2329	50 0 0	17 19 5
1863.....	2560	60 0 0	21 6 3
1864.....	2100	70 0 0	26 19 8 1
1865.....	2006	85 0 0	37 18 10 1
1866.....	2226	98 0 0	27 1 0

SPARROWS WANTED IN NEW ZEALAND.—At a meeting of the committee of the Wanganui Acclimatization Society, held in October of last year, it was resolved: "That a circular be printed offering a premium of £1 per pair for any number of English house sparrows, not exceeding one hundred, delivered alive and in healthy condition at Wanganui, or to the Society's agent, at Wellington, within eighteen months from date."

DIMINISHED ACREAGE OF FLAX IN IRELAND.—We are sorry to learn from the *Farmer's Magazine* that there has been a considerable falling off the present year in the Irish flax crop. The total acreage under flax in Ireland in 1866 was 263,507 acres; in 1867, 253,105 acres; decrease in 1867, 10,402. The decline is chiefly in the Province of Ulster, which grew 234,491 acres as against 245,356 acres in 1866, showing a falling off in that province of 10,865 acres. This is not a sign of prosperity!



New Hybrid White Grape.

We have received from Mr. Arnold, of Paris, a beautiful bunch of grapes, of which the accompanying engraving is a faithful representation. Mr. Arnold calls it his white hybrid grape, No. 5, and thus writes concerning it.

"This grape is a cross between Clinton and Golden Chasselas, and if it were of no other value than of deciding the question whether the native and foreign grape will hybridize, it would be far from worthless.

"Let any person who wishes to settle this point in his own mind, take two of these grapes into his mouth, taste them thoroughly, then take one each of Clinton and Golden Chasselas in the same manner, and he cannot, I am sure, but perceive the striking resemblance.

"I need make no remarks about the fruit; it will speak for itself. An allowance, however, should be made for the excessive dry weather this season, which has caused all grapes in this section to be much below medium size. I might also mention that a severe hail storm completely riddled the foliage, and severely thinned out the bunches. But take it as it is, and I am not at all ashamed of it, and have no hesitation in saying that it is the most promising white grape that I have seen.

"With regard to the healthfulness of this vine, you will remember having noticed, when you were here, that the wood was well ripened, and that although some of the branches were interlaced with the branches of a White Sweetwater, that stood by its side, which was entirely ruined with mildew, both in foliage and fruit, this variety showed no symptom of the disease upon it."

During a hurried visit, not long since, to Mr. Arnold's nursery, referred to in the above communication, we noticed and were struck with the remarkably healthy and thrifty appearance of the No. 5 vines, and their entire freedom from mildew, with which some adjacent vines whose branches were interwoven with them were very badly affected. The flavor of this grape is exceedingly agreeable, and altogether it promises to take as high a place among white grapes as the Hybrid we illustrated nearly two years ago, among black ones. Mr. Arnold merits much praise for his persevering experiments with the grape, and we hope will some day reap a more substantial reward than mere praise for his exertions to produce vines of superior character, and hardy enough for our latitude.

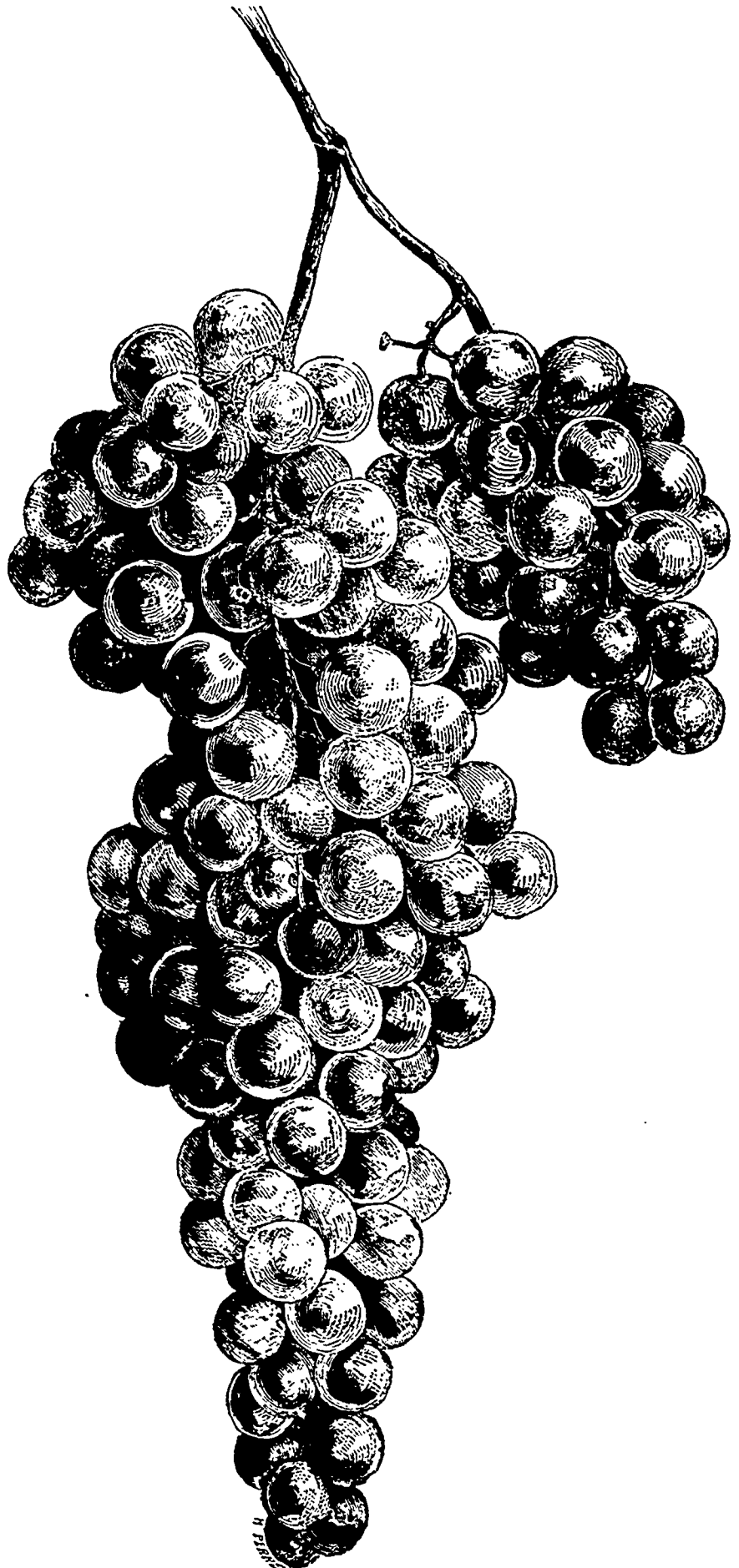
Meeting of the Ontario Fruit Growers' Association.

The autumn meeting of the Ontario Fruit Grower's Association was held at Clair House, Cooksville, on Tuesday, Oct. 15th. The Vice-President, John Gray, Esq., occupied the chair, and there was a very good muster of members, all of whom, besides attending the discussions of the meeting, had an opportunity of inspecting the flourishing vineyards at Clair House and the wine-making establishment in connection therewith, and were, moreover, very hospitably entertained on the occasion, by Mr. De Courtenay.

The regular business of the meeting commenced by reading the minutes of the last meeting, which were approved. The chairman then stated that there was no special business before them, but they were at

liberty to take up the subject of grapes or any other fruit. He thought the grape a fruit of great importance, and its culture a promising branch of industry

this name was first given to it by Mr. Read, of Port Dalhousie, that Mr. Hill, of Ariadne, claimed that Mr. Read procured this variety of him, that he, (Hill)



in many parts of the country. This subject having been accepted for discussion, the question was asked—"What is the Ontario grape?" It was stated that purchased it of a Yankee tree pedlar, but did not know the name. Mr. Goldsmith stated that he was persuaded that the Ontario grape was a seedling

raised by Mr. Read, and that with him it was as hardy as most of our varieties, and proved also highly productive. Mr. Goldsmith exhibited some very fine samples, well ripened, grown in the open air, without any extra culture. Mr. Kitchen said that with him it was not hardy, but he had obtained his vines from Mr. Hill; he found also that the fruit dropped from the bunch. Mr. Beadle said that he obtained his from Mr. Read, and with him they were hardy and the berries adhered to the stalk. A gentleman from Cayuga stated that he had procured his Ontario grapes of Mr. Read, but had not found them hardy in his neighborhood. Mr. De Courtenay was of opinion that when the wood does not ripen, we may be sure there was something wrong in the method of pruning, and on this depended the ripening of the fruit. It was stated that the Ontario grape had ripened well at Yorkville. Mr. Murray saw the grape at Mr. Read's. It ripened at Hamilton well. This variety was recommended for further trial.

THE DELAWARE.—Mr. Goldsmith had found the winter to kill the young vines, though the winter in which they perished was an exceptional season. Mr. Kitchen had planted over a thousand, had found them very hardy, and believed them equally hardy with the Concord. Mr. J.P. Merritt had seen Mr. Kitchen's vineyard, and found the vines very healthy. Judge Stevenson had also found them perfectly hardy. At Cayuga it had proved successful. Mr. Crawford stated that it ripened perfectly at Newmarket; and Mr. Holden, who had grown it near Ottawa, concurred in the good opinion expressed by others respecting this variety. It was recommended for general cultivation.

CLINTON.—In reference to this variety Mr. De Courtenay said that the vine was perfectly hardy, and very productive. He believed it would come up to the standard of Europe, namely, ten tons per acre. In France it was the only wine grape recommended for cultivation. The Association recommended this variety for cultivation as a wine grape.

CONCORD.—Mr. Murray said this is one of the best table grapes we have, being hardy, productive and ripening about ten days after the Hartford Prolific. He believed it well worth cultivating. Mr. Goldsmith found it hardy, as well as the most prolific and most profitable variety he grew. Others spoke in the same strain, and pronounced it perfectly hardy north of Toronto. It was recommended for general cultivation.

REBECCA.—Mr. Goldsmith had found this a delicate variety. Mr. Gray saw some fine specimens in Toronto this year. Recommended for trial.

DIANA.—Mr. Murray considered the vine hardy but found the fruit ripen irregularly. Dr. Cross found it late in ripening. Mr. Taylor esteemed it one of the best wine grapes. It was recommended for trial in certain localities.

CATAWBA.—Dr. Cross had succeeded in ripening this variety, and had met with the same result nearly every year. The Association considered it too late for general cultivation.

HARTFORD PROLIFIC.—Mr. Goldsmith considered this a profitable early grape in limited quantities. He had found, however, that the fruit dropped from the bunch. Others were of the same opinion.

IONA.—Mr. Goldsmith thought it would ripen with the Delaware. Mr. Leslie considered that it ripened the wood well. The variety is recommended for trial.

ISRAELLA.—Mr. Beadle had fruited this variety, and considered it early and good, though not as early as the Adirondac.

GREVILING.—Mr. Gray found it ripened its wood well, but had no fruit yet. Dr. Cross said it ripened a week later than Hartford Prolific.

ADIRONDAC.—Mr. Beadle considered this the best early grape he had fruited.

ROGERS' HYBRIDS were pronounced perfectly hardy.

ALLAN'S HYBRID was considered, though a fine and sweet, a delicate variety.

The discussions having been brought to a close, notice was given by Mr. John Gray that at the next annual meeting he would bring forward a resolution to the effect that the annual subscription of members of this Association shall be twenty-five cents, and one dollar entrance fee for new subscribers.

The thanks of the meeting were cordially given to Mr. De Courtenay for his generous hospitality. The meeting then adjourned till January next, the day and place to be notified by the Secretary.

Marketing Grapes.

The grape may be shipped to distant markets with less liability to damage than any other of the small fruits. There are, however, some exceptions to this statement. Some varieties are quite tender, and more difficult to handle than others. The Concord is one of this sort: its clusters are large and compact, its skin thin and tender, and its berries large and juicy; thus making it perhaps the most difficult of all our native grapes to handle, or to market in good condition. It can, however, be shipped, and some grape-growers do succeed in sending it long distances without material damage. This being one of the most popular market grapes among the fruit-growers, as well as with dealers in general, it is important that the art of marketing it should be generally understood.

This grape, when rightly handled and presented in market, makes the most attractive appearance of any of the small fruits; therefore great care should be taken, in gathering and picking, to preserve the bloom that covers it. The best way that we have tried is, to lay the bunches, when cut, in shallow market baskets, two layers deep, and carry them to the fruit room, where they should be allowed to stand a couple of days to evaporate some of their moisture, and become a little wilted, thus rendering the clusters more flexible and easy to pack. In taking the bunches from the basket, they should be handled chiefly by the stem. With a little patience, a skilful hand will seldom find it necessary to handle a cluster in any other way. The grapes should be cut when dry, but not before they are sufficiently ripe. It is a lamentable practice, that of sending half-ripened fruit to market, as is too often the case, especially with the grape. This fruit, when ripe, is justly esteemed as one of the healthiest known; but when eaten in an unripe state, it may be set down as decidedly unwholesome.

Grapes, like other small fruit, are usually packed and sent to market in boxes of various styles. The best packages, however, for distant markets, are those holding not less than two, nor more than five pounds. Smaller boxes are sometimes used, holding but a single pound. This size we consider unprofitable to both parties, especially so to the buyer, as it compels him to pay as much for a package holding but a pound, as for one holding two or more, and nearly half as much as the grapes are worth. A medium-sized box is undoubtedly the best for such varieties as the Concord, as they are liable, when placed in larger packages, to be crushed by their own weight.

Grape boxes are generally made of paper, which answers the purpose very well. Still, we have met with losses by their use, for if the paper absorbs much moisture from the grapes, it loses its stiffness, and thus the grapes crush each other by their own weight. To avoid this liability, we would recommend the use of wooden boxes; these can be made cheap, and perhaps cheaper than paper ones, and by covering the outside with suitable paper, can be made to look just as presentable. We like round boxes best, as they can be made of lighter material, and be stronger in proportion than square ones, and are more attractive in appearance. The depth of a grape box should be about four inches. The depth, however, may be varied according to the varieties or size of the bunches of the grape.

Grapes may be shipped in either light boxes, cases or crates. They should be as light and cheap as they can be, and have sufficient strength and durability for a single trip to market, as it is not expected that they will be returned when sent long distances. In constructing the cases, care should be had not to get them too large and heavy. A fifty-pound crate is as much as a man will take up and handle with ease; and if it is tumbled about, the jar will not be as violent as in the case of heavier packages.—*The Circular.*

Owen Sound as a Fruit District.

In communications from correspondents, and in answer to enquiries, statements have repeatedly appeared in this journal regarding the superior fruit-growing capabilities of Owen Sound. Our attention has again been drawn to the subject, and tangible proof presented of the excellent fruit that is grown in that neighborhood. We have received from Mr. John McLean, of Owen Sound, a remarkably fine specimen of peach, a dish of which, we have no hesitation in saying, would have carried off a prize at any horticultural show this season. Mr. McLean thus speaks of the sample sent:—They are the best

sample of seedlings I have seen. The variety is rather late, and the specimens were pulled a little too early. The circumference of the finer fruit measured nine inches, and the tree on which they grew was well loaded, although it had been very poorly cultivated, and grew in a kind of thicket, matted with grass. I have seen larger peaches from this tree than I ever saw in Toronto. There is a larger crop of peaches here this year than ever. All the fruit dealers have bushels for sale, besides all that is hawked around. There is no question of this being a good fruit country, especially on the borders of the lake.

My orchard of apple-trees, which I purchased from Mr. Leslie, of Toronto, two years ago, is thriving splendidly. The young trees will soon surpass my older planted trees; and out of nine hundred and forty-three I have not lost one.

This speaks well for Mr. McLean's careful planting, for the suitability of the soil and climate, and for the excellence of Mr. Leslie's stock. We understand from Mr. Leslie that it is his intention to procure scions of the variety alluded to, in Mr. McLean's letter, and endeavor to propagate it, as, being a native, it may prove hardier than some of the other varieties.

Report on Mr. C. Arnold's Hybrid Grapes and Raspberries.

The committee of the Paris Horticultural Society appointed to inspect and inquire into the merits of Mr. Charles Arnold's hybrid grapes and raspberries beg to report as follows:

Your committee examined Mr. Arnold's hybrid grapes on the vine, and had the best opportunity thereby of determining on their respective merits.

We find the most prominent characteristics of them as a class are, first, perfect hardiness and vigorous growth; second, early ripening both of the fruit and wood, and, as yet, remarkable freedom from disease, with large handsome foliage of a very distinct character and not woolly, bunches large on the average, the berries larger than medium, and of a deep black color, obscured in all of them by a rich bloom; skin thin, and in all the numbers we tested free from pulp and with a full pleasant sprightly flavor; our judgment being based not on a cursory examination, but from having known them for the last two seasons.

The grapes are distinguished by numbers, of which the following is a detailed statement of the numbers on which judgment was passed by us, viz:—

No. 1. Inferior in bunch and berry only to the Black Hamburg. Berry very large, round; color, black, with a fine bloom; flavor very sprightly; skin thin; flesh remarkably solid, but not pulpy; it may be cut like a plum, biting similar to the Hamburg. The bunches are of the largest size and generally shouldered; ripens with Delaware, vines of which grape were growing near it, and with which we compared the same.

No. 2. This is undoubtedly one of the best grapes in the whole collection of Mr. Arnold's hybrid grapes; a very promising grape. Bunch large, shouldered, very compact, berry above medium size, black, with a beautiful bloom; flavor excellent, and very sprightly and pleasant; skin thin, seeds small, very little pulp, if any; secus to burst in the month, all juice; ripens with Concord, with very vigorous growth, and matures its wood very early—a good market grape.

No. 5. A beautiful white grape; bunch fully nine inches long; flavor much resembling the white Chasselas, but more sprightly, and which it much resembles in color, having that green wax-like appearance; skin thin; no pulp; ripens with Delaware; a very handsome table grape.

No. 8. This grape ripens earlier than any kind in this neighborhood; bunch and berry medium; color black; flavor very sweet when perfectly ripe, and rich, full, and aromatic; free from pulp, all juice; seeds small; perfectly hardy, the wood being well matured nearly to the tops in the beginning of September; a very desirable grape.

No. 16. This is the highest flavored grape of the whole, color black, with a fine bloom; bunch and berry above medium, with a very distinct foreign flavor and very aromatic, with a most delightful bouquet; a vigorous grower with peculiar foliage, hardy, and matures its wood well; ripens with Concord, and quite free from pulp.

RASPBERRIES.

The raspberries, as a class, are distinguished for the following qualities.—very strong, vigorous growth, great productiveness on ordinary soil, good

flavor and perfect hardiness, standing the winter in a most exposed position without any protection; like the grapes, they are distinguished by numbers, some of which are described below.

No. 1. White, berry large, good flavor, very strong grower, and productive on poor soil.

No. 2. Berry red, large, good flavor, enormously productive, ripening two crops in the season, one in July the other in September; the plants are now, September the 26th, literally loaded down with ripe and unripe fruit.

There are several other varieties of different flavor and shades of color, very promising, and all perfectly hardy, and having stood our winters on an exposed knoll without the slightest protection, many of the varieties being equal in flavor and size to the white Antwerp.

N. HAMILTON, } Committee consisting
J. W. ACRES, } of President, Vice Pre-
HENRY HART, } sident, and Secretary.

A dressing of bone dust late in the fall is highly beneficial to lawns. It may be applied at the rate of a ton to the acre. Plaster should be sown at the same time, at the rate of two bushels to the acre. This will give a rich, luxuriant growth the following spring.

HARTFORD PROLIFIC GRAPE.—The *Horticulturist* says that this variety does better on clay than on sandy or gravelly soils. On clay soils, its branches are larger and more compact, and it colors and ripens earlier than when grown on sand. This opinion is based on two successive years' observations and comparison.

STRAW-BANDS FOR FRUIT-TREES.—This old-fashioned method of protecting the bodies of fruit trees is coming into vogue again. It is, doubtless, the next best thing to natural protection, namely, the branches and foliage. We believe it is a mistake in this climate to trim up the bodies of young trees as our nursery men do. But if they must denude the trees in this manner, straw bands will help to make up the deficiency, albeit they are not by any means ornamental, especially as a protection from the hot sun in summer.

LIME FOR STRAWBERRIES.—A "subscriber" writes:—"Can you inform me whether lime would be injurious to the Strawberry plant? I have half an acre well manured and ploughed, ready for planting with Strawberries in the spring, and if you or any of your readers would give the desired information, you will oblige."

Ans.—We should suppose, that in moderate quantity and well mixed with other manure, muck or mould, lime would be found useful for this as well as other crops; though the author of the *Small Fruit Culturist* informs us that "lime is said to be injurious to the strawberry, especially if applied directly or alone." The writer acknowledges, however, that he has no personal experience in the matter.

QUESTIONS ABOUT PLANTING.—William Shoecroft, of Prescott, Ontario, writes:—"Will you please inform me of the proper time of the year to plant horse-chestnuts, and also the proper time to transplant evergreens, such as pines, cedars, and balsams, those that grow in our woods around."

Ans.—We presume our correspondent refers to the seeds of the horse-chestnut. If so, the fall of the year is the best time to plant them. As to transplanting evergreens, there are diversities of opinion and practice. Some advocate the early spring, others the fall, and others still the month of August. Transplanting evergreens from the woods is a precarious business at any time, but we have had the best success in the spring.

The Apiary.

A Peep at the Editor's Bees.

BEING in Guelph on a visit, feeling some interest in bees, and knowing that the Editor of the CANADA FARMER had some, that he was well up in their management, and that he could afford me any information about them which I might require, I went with a friend to see his apiary, and to learn something about bee-keeping. I was not disappointed in my visit, but greatly entertained by it, and received a great deal of information regarding that truly wonderful insect, "the little busy bee." I was fortunate in my

visit because Mr. Clarke had that day several wonderful things to perform amongst his bees things which I supposed could not be done until I saw them really accomplished. Before going amongst the bees we had our heads and faces covered with nets or veils, and our hands encased in gloves, that we might feel confident and not have to flee in the midst of some important work, if they should think fit to attack us. Mr. Clarke seems to be able to do what he pleases with his bees. He has a great convenience in this respect on account of the hives which he employs. They are wooden hives, with frames in the inside, on which the combs are built. These frames can be lifted out at any time, and all the combs and cells minutely examined. The hives are made by Mr. J. H. Thomas, of Brooklin, Ontario, and patented. If people really do wish to know anything about bees, and to succeed with them, it seems that they should have these hives, or others made on a similar principle. Mr. Clarke, at the time of our visit, was making a change amongst his bees. He was Italianizing them, that is, introducing Italian queens into his apiary. His reason for doing so is, that they are better workers than the bees we have hitherto had in Canada. They can obtain honey from many flowers which the other bees cannot penetrate. It is said they can find their way into red clover, which grows so abundantly, and which contains so much honey, as every one knows, and this the other bees cannot do. This of itself would be a sufficient reason for introducing the Italian bees. The way this introduction of different bees is brought about, is this. An Italian queen is procured, and the hive to be Italianized searched for the queen which it contains, and she is removed and destroyed, if you have no need for her in any other place. The Italian queen is then introduced, and as the queen is the mother of all the bees, the hive eventually becomes filled with the new kind. This is brought about much sooner than we might suppose, as many of the bees are lost, and killed by storms when out gathering honey, and the bee is not by any means a long-lived insect, so a continual increase requires to be going on in the hive to keep up the stock, and in this way the whole hive soon becomes changed. I saw some hives into which an Italian queen had been introduced lately, and they have been more than half filled with the new kind of bees. They are of a lighter color, banded with yellow, and may easily be distinguished from the other bees.

Now that Mr. Clarke has got some Italian bees, he raises his own queens, and in this way will be enabled soon to change his whole stock. He takes one of the hives into which an Italian queen has been introduced, and removes the queen from it, but before doing so he assures himself that there is plenty of brood in this hive, from which a new queen may be raised. The bees finding themselves without a queen, immediately set about providing themselves with one. This they can easily do if there are worker eggs in the hive, because a queen is just an ordinary worker bee that has been subjected to different treatment in her development. She is nursed in a larger cell, and fed upon different food from the other young bees. In order that the bees may not be defeated in their purpose, they will sometimes leave six or seven queen cells in one hive, and nurse queens in them all. I saw one hive in which there were seven queen cells. They must be of Scotch descent when they have so much caution about them. When the bees have succeeded in hatching one queen they allow her to put the others to death. But these queens may be secured if they are taken in time, before they are fully hatched, and cut out of the comb in which they are placed, and ingrafted into another comb, in a new hive from which the queen has been removed. I saw this done in two or three instances, and was told that there was very little danger of its failing. The hives into which this embryo queen has been introduced had to be examined shortly after, to see that the young queen was succeeding, so that the bees might not be left without a queen altogether; and if this should take place, they had only to be supplied with another in the same way. All these operations were performed upon the bees without the least difficulty, and without ever receiving a single sting from them. These things are performed with such ease, partly on account of the hives which are used, which give ready access to the bees, and partly because before proceeding to work amongst the bees, they were slightly smoked. This has the effect of subduing them, and making them more easily handled. When the smoke is blown in amongst them, they seem to think that

the hive is going to be robbed, and they immediately fill themselves with honey, and this renders them less disposed to use their stings. But with Thomas's patent hives, and the head and hands protected, anything may be done with the bees without smoking them at all.

Bee-keeping seems to be well worthy the attention of all who have but little business to attend to, and is especially suited to clergymen, who require some out-door exercise, and to whom such exercise as looking after bees would be very beneficial. It is not too violent to unfit them for their studies, and it is sufficiently active to invigorate them, and sufficiently interesting to lead them to follow it out, if they would only seek to acquire a taste for it. Bee-keeping is certainly a most interesting thing, whether profitable or not, but there is also profit in it, sufficient to repay any one for their time and trouble.

AN INTENDING APIARIAN.

ALMA, 17th September, 1867.

Caution to Bee-Keepers.

To the Editor of THE CANADA FARMER :

SIR,—There are persons travelling through the western counties, selling what they call "a bee-charm," which they say will enable a person to drive out the bees from a hive, which may then be cleaned and the bees returned again. In some cases they drive the bees, clean the hive, and give a bottle of the charm for the small sum of five dollars! Allow me to say that such are swindlers, and should at once be brought before the authorities for obtaining money on false pretences. Hives require no cleaning when bees are in them except in the spring, when the bottom boards should be cleaned of all dead bees. The so-called bee-charm is purely a Yankee humbug, and worth no more than the same amount of cold water. Doubtless some unprincipled fellow has been over to the Michigan or New York State Fair, and seeing Flanders, of Ohio, and Kidder, of Vermont, gulling the people by selling a bee-charm, has concluded to try the dodge on Canadian bee-keepers. I hope, however, Canadian bee-keepers will not be so foolish as to part with their money for that which is utterly worthless, nor allow such unprincipled characters to meddle with their bees.

J. H. THOMAS.

Brooklin, Ontario, Oct. 14th, 1867.

Advertisements.

GREAT SALE OF PURE-BRED STOCK.

FIFTY-TWO head of superior Short Horn Cattle a large lot of Berkshire Swine and other stock, will be sold

At PUBLIC AUCTION,

At Harristown Station, 8 1/2 miles west of DeLaur, Macomb Co., Ill.

ON WEDNESDAY, NOVEMBER 20th, 1867.

Sub-positive Catalogue will be furnished on application to

J. H. MCGRILL,

Administrator of James M. Hill, deceased.

Address Harristown, Ill.

v4-21-21*

PREMIUM CHESTER WHITE PIGS.

BRED AND FOR SALE BY

GEO. B. HICKMAN,

West Chester, Chester Co., Pennsylvania.

Send for Circular and Price List

September 29, 1867

v4-21-21*

ONTARIO POULTRY ASSOCIATION.

Grand Show of Poultry and Pigeons (298 pens),

At the AGRICULTURAL HALL, Toronto, corner of Queen and Yonge Sts., on Wednesday and Thursday, Nov. 6th and 7th.

ADMISSION, 10 Cents.

1867 F. C. HA. SARR, Hon. Sec.

Duncan's Improved Hay Elevator.

PATENTED April 13th, 1867.

The cheapest and simplest constructed Fork in use in the Dominion of Canada. County or Township Rights for the manufacture of the above Fork may be obtained from the undersigned.

JAMES W. MANN,

v4-20 11

Port Dover, Ont.

FALL PLANTING.
TORONTO NURSERIES!
 (SEE KINGSTON PRIZE LIST.)

THE attention of purchasers is directed to the very fine stock of all kinds of
Fruit and Ornamental Trees, Hardy Grape Vines, Currants, Gooseberries, Asparagus Plants, Rhubarb, &c., &c.,
SUITABLE TO THIS CLIMATE.
 Packing done in the best manner to ensure carriage to any part of the Dominion. Priced Catalogues on application.
 N.B.—Purchasers have first choice of stock by procuring in the Fall
 GEO. LESLIE, Leslie P.O.
 Toronto Nurseries, Nov 1, 1867. v4 21-11

MONTREAL VETERINARY SCHOOL.
 IN CONNECTION WITH THE
MEDICAL FACULTY OF MCGILL UNIVERSITY.
 UNDER THE PATRONAGE OF

The Board of Agriculture, Province of Quebec.
LECTURES!
 COMMENCE on WEDNESDAY 20th NOVEMBER, when the INTRODUCTORY LECTURE will be delivered.
 For Prospectuses apply to
 D. McEACHRAN, Veterinary Surgeon, Montreal,
 or to GEO. LECLERC, Esq., Secy. Board of Agriculture, L.C., Montreal.
 v4 18-11

CIDER MILLS.
 No Fruit Grower should be without one of
H. Sells' New Patent Cider Mills.


BY a simple process it cuts the apples in pieces, and forces them on two fluted revolving rollers, adjustable with set screws, which crushes them perfectly fine. Also, a new discharge, so that as fast as the apples are made fine, the rollers are relieved, thus greatly reducing the labour of driving the machine. This mill never clogs, and is not likely to get out of order, capable of making two or six hbls. of cider per day, worked by hand, and more if driven by power. It will grind the pumice a second time, which makes a saving of one-third of the water with all small presses. Mill and Press complete, with two curbs, weighs 300 lbs.
PRICE \$30 at our Shop in Vienna.
 All orders will meet prompt attention. Agents wanted all over the Dominion to sell.
 Address, **H. SELLS**
 Vienna, Ontario.
 August 24th, 1867. v4 18-11

JONES & FAULKNER,
 (Late J. Jones & Co.)
Dairymen's Furnishing Store!
 —AND—
DEALERS IN BUTTER AND CHEESE,
 No. 111 Genesee Street, Utica, N. Y.

ITALIAN BEES.
 I am now Prepared to Fill Orders for
STOCKS OF ITALIAN BEES.

As soon as parties who have sent in their names forward the money, their orders will be filled.
PRICE OF STOCKS,
 In S. B. Hives, including a right to make, \$13, in D. B. Hives, including the same, \$20.
 An orders to be addressed to
J. H. THOMAS, Apiarian,
 Brooklin, Ontario.
 v4 20-11

TO NURSERYMEN AND DEALERS.
PLUM TREES
WHOLESALE AT THE TORONTO NURSERIES.
 Nov 1, 1867. v4 21-11 GEO. LESLIE, Leshe P.O.

MILLER'S
 INFALLIBLE

TICK DESTROYER FOR SHEEP!
 DESTROYS the TICKS, cleanses the skin, strengthens and promotes the growth of the wool, and improves the condition of the animal.
 It is put up in boxes at 25c, 75c, and \$1, with full directions on each package. A 35c. box will clean twenty sheep.
 167 King Street East. **HUGH MILLER & Co.,**
 Medical Hall, Toronto v4 14-11

Markets.
Toronto Markets.
 "CANADA FARMER" Office, Oct. 29th, 1867.

Since our last report the produce market has been very dull. This has been doubtless caused in some measure by the stringency of the money market, though it is also to be accounted for from the downward turn taken by the eastern markets. The suspension of the Commercial Bank was followed by a foolish "run" for gold upon the other Banks in the city. The "run" was, however, confined to country people, small tradesmen and women, the merchants and others having large business taking no part in it. The effect on the produce market was a curtailment of discounts and a consequent falling off in prices. The demand on the Banks for gold has now entirely passed over, and we hear no more of it. Prices may, therefore, be expected to repair their lost firmness.
Flour.—The market has been very dull and has steadily declined from \$7 30, the price which No. 1 superfine was selling at the date of our last report, to \$6 85, the highest price lots would have brought to-day had they been pressed on the market. For the past week no sales have taken place.
Wheat.—The market has declined, and car lots would not to-day bring over from \$1 40 to \$1 45 for spring, and \$1 72 for fall. The receipts on the street market were very light, prices are at present nominal.
Hay and Straw.—Hay \$12 to \$17; Straw \$9 to \$10.
Dressed Hogs.—The present cool weather is more favorable for packing purposes, and to-day packers were paying from \$4 60 to \$5 50 per 100 lbs dressed weight—the latter price, however, being only paid for choice fat hogs. If the weather keeps cool, prices may be expected to advance.
Wool.—Selling on the street at 24c.
HIDES AND SKINS.
 Green butchers' hides, inspected, buying at 8c; rough, 6½c. Green calfskins, 12½c. Murrain hides, 6½c to 6c. No. 1 inspected hides selling at 8½c; No. 2 inspected at from 7½c to 7½c.
THE CATTLE MARKET.
 The weather has been favorable for the meat market, and we notice an improvement in 1st class meats. Good cattle are anxiously enquired for at an advance of ½c per lb. The current rates now are—1st class, \$6 50 per 100 lbs., 2nd class, \$5 50 do; 3rd class, \$4 50 do.
 The market has been well supplied, the arrivals, however, being principally very inferior cattle.
 Sheep have been plentiful—1st class, \$4 00 each; 2nd class, \$3 25 to \$3 50; 3rd class, \$2 75 to \$3 00.
 Lambs have also been in good supply:—1st class, \$2 50 each; 2nd class, \$2 00 each; 3rd class, \$1 50 each.
 Calves, only a few are now coming in, the rates paid are from \$5 to \$7 each.
VENISON.—Very few carcasses have been brought in this week.
Oats.—In better supply, for car loads from 45c to 50c is asked, the sales are principally retail at higher figures, on the street prices have ruled from 60c to 51c.
Barley.—The market has been dull, and lately prices have been almost nominal, few sales having taken place, street prices have ranged from 75c to 75c.
Peas.—Prices have declined since the date of our last review. Within the last four days there have been no sales, and prices are nominally much lower. On the street market to-day 75c was the highest price paid.
Pork.—No Mess in the market, a few lots prime mess held at \$17, new prime, for future delivery, offered at \$15 50, new prime mess, for future delivery, at \$15 50, and new mess, for future delivery, at \$20.
Bacon.—Old bacon selling at from 7½c to 9½c boxed. A sale of a considerable lot of new is reported at 7½c.
Cut Meats.—Old smoked hams selling at 11½c wholesale. Shoulders, smoked, in large lots, at 7½c. Round bacon, new, held at 10c to 11c for wholesale lots.
Butter.—There is a fair demand for choice. Dealers are paying from 13c to 14c for store packed, and for dairy-packed, choice tubs, from 14c to 15c.
Eggs.—Scarce, selling in large lots at 10c, on the market at 18c.
Cheese.—In good demand at from 9½c to 10c for factory.
Hops.—For the best hops 45c is paid by brewers in wholesale lots. Ordinary range from 30c to 40c.

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