

# FARMER'S ADVOCATE

PERSEVERANCE  
SUCCEED.

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## The Farmer's Advocate!

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### Provincial Exhibition—1877

The present season is the time to adopt plans for the next. We should endeavor to profit from past experience, and to add to the utility of this great exhibition in all its departments. If there are unnecessary encumbrances, lop them off; if there are any good suggestions for additional expenditure in any department; or any improvements, let them be known through the press of the country, so that discussions might be had on such subjects. The hurrying through committees or incorporate bodies of any new measure is too often done to suit the pecuniary interest or powerful position of some one man or body of men. Those who receive Government pay for any purpose should show us that they are worthy of the pay they receive.

This institution is, or ought to be, for farmers. The agricultural affairs of the country should be controlled by farmers. We suggest that farmers should advocate any improvement or condemn any mismanagement they may notice. Such a course would tend to produce an alteration, if their suggestions are right.

The Exhibition for 1877 may be made the best that has ever taken place in Canada. It requires unity of action to procure this. The first requisite is that the

COUNTY OF MIDDLESEX AND THE CITY OF LONDON act together. If there be a guarantee that the present lands would be perpetually held for agricultural purposes, the County Council would feel justified in granting a liberal sum of money

towards the erection of suitable buildings and making improvements on the grounds. The citizens have always borne their share of the expenses of this Exhibition, and we know they would do their part. The present Board of Provincial Directors are in honor bound to loosen their purse strings this year, because whenever this Provincial Exhibition has been held in this city, the receipts have been so much in excess of expenditures, that their funds have been heavily drawn upon to maintain the Exhibitions in other localities. Many new buildings are required for next year, and united action can erect them in a creditable manner.

The Provincial Board of Directors might excuse our arrogance in presuming to suggest what we deem to be their duty. The enclosed buildings in which displays are made should be enlarged or increased in number; exit doors should be more numerous than entrance doors; guards should be placed and barriers erected to prevent the crowding

nothing gives greater dissatisfaction than the existing rule on shearing sheep at a certain time. The rule is too often violated, and very little regard is taken of it; in fact, the law is so often violated that it would be better to let exhibitors show as they deem best, unless means be taken to have proof given of the date of the shearing.

A question arises among stock men, whether pure-bred animals should be allowed to exhibit in the grade class; also, if grade animals should be allowed to compete with pedigreed animals. It is found that many grade animals can carry off the prizes in the show ring, and the Canadian breeder asks why his cattle are not as much entitled to honors as imported cattle. We merely touch on this point now, and hope those that are interested in this or any other subject pertaining to the interest of this Exhibition, will forward their opinions, so that discussion may be had. This journal is open for discussions on both sides of any question pertaining to our agricultural interests.

Perhaps the Board might arrange with American lines of railway to issue excursion tickets during our Provincial Exhibition.

#### TWO WEEKS OR ONE.

Some are advocating that the Exhibition should be kept open for two weeks. Our opinion at present is that exhibitors of stock would decidedly oppose such a step. The Board may judiciously make Tuesday and Friday of greater interest; perhaps it might be well to have one day, either Wednesday or Thursday, a 50-cent day, as many would rather give 25 cents more to avoid such a great rush as there is on those days in the enclosed buildings.

#### The Hardy Palm.

To the lovers of the beauties of nature there is no tree more dear than the palm with its branching foliage. They are all natives of climes less subject to the winter rigour of our country. Their native home is the tropics. When at the Centennial, we saw some beautiful specimens of the palm tribe; here they could be grown in a Conservatory.



THE HARDY PALM (CHAMEROPS EXCELSA.)

of visitors and pressing from every direction. Visitors should be prevented from sitting on the railings, obstructing the view of articles exhibited. If exhibitors of grain who gain prizes remove their tickets and tie up their bags before the close of the Exhibition, they should have their prizes forfeited. There should be larger buildings, or visitors should only pass in one direction.

A distinction should be made in exhibiting animals under one year of age; perhaps young animals under six months and under twelve months might both be awarded prizes. Perhaps

The palm family is perhaps the most widely diversified of any botanical tribe that has distinct family characteristics; and the useful products obtainable from its members are very numerous. Houses are built of the wood, and roofed with the leaves; the fibers are used for all textile purposes; very many edible fruits are yielded by the trees; oil is extracted in prodigious quantities from one palm tree, and wine from another; and a tanning material resembling catechu is extracted from palm nuts. A common kind of sugar, called jaggery in the East Indies, is the product of a palm; and the betel nut, chewed by the natives of the Indian archipelago and elsewhere is the fruit of a palm tree.



### November on the Farm.

We have enjoyed our Hallowe'en and may now expect winter weather any day. We may, it is true, have yet some weeks of pleasant weather, and there is no more pleasant, invigorating season than our Canadian fall, very few seasons excepted, and, in the country especially, we enjoy it the more that we know not how short it may be. The Indian summer sometimes remains with us till the month is over, but sometimes November comes in with chilling breath, the ground is soon bound by frost, and "All the hills are covered with snow, and then it is winter fairly."

This uncertainty of what a week or a day may bring us makes it all the more necessary for us not to lose an hour in making every preparation for the winter. Leave nothing undone that may be done, and when the winter shall have come we can with the greater ease do the work that even in the depth of winter must be done on the farm.

The potato crop is safely stored ere this. This year, more than others, there has been early maturity, and early ripening makes the way for early gathering into pits and cellars. There are, however, other root crops to be cared for, and we believe the acreage under such crops is every year increasing. The unceasing cutting down of the old forests makes the country colder by depriving it of the natural protections against the winds, and, consequently, cattle require a better supply of winter food than formerly; besides, our access to better markets for our meat and dairy produce must stimulate to greater improvement in our stock husbandry.

All roots should be secured with as little delay as possible. We need not now expect them to make a greater growth, and a few days may not only make the saving them more laborious and expensive, but may also cause a serious loss in the crops. Let us see to it that our turnips, mangolds, carrots and beets are so stored as to be safe from the winter, and at the same time within easy reach for feeding our cattle. We see in some parts of the country there is a greater variety in the root crops of the farm. We have learned not to depend on one variety. There might be a failure of the turnip crops, from drouth at the time of sowing, or from attacks of the fly, and we then find the advantage of having a plot of mangolds; so it is with all our root crops; besides, it is well to have a variety of root crops for feeding.

A good root-house is most convenient for storing roots. It should, to save the labor of much carriage, be near the stable and byre. Roots intended to be fed late in the season may be safely stored in pits, and if carefully taken from the ground and carefully stored they will keep well till late in the season. There is no way in which they will keep fresher and retain their nutritive properties better than in the pit.

Carrots are very valuable for winter feed for horses. They serve to keep them in good health and condition. They have been largely fed to horses in England, and there is no other country in which the horse is so well cared for. We have also fed turnips and beets to horses, but only in small quantities and at intervals—merely enough to prevent costiveness when long confined to the stable and to dry food.

In pitting or storing turnips care must be taken that ventilation is secured, otherwise their heat when heaped together might cause decomposition. Ventilation is as necessary for the preservation of roots as it is for animal life. They must not be kept stored in too high a temperature—they keep best just about the freezing point, no higher.

This month, at furthest, all cattle should be housed. If the weather be cold and wet, they should be housed even earlier. The cold rains of

an early winter, or even of an unfavorable fall, "wash away the flesh" they had gained. There is no greater waste, no source of more certain loss to the farmer than to let his cattle stand out on bleak, wet nights exposed to the cold. They would be better in the house or shed even if without food. It is easy to keep up the condition of stock, but very difficult to restore it if lost. This is equally applicable to all stock—milk cows, young stock and store cattle. If neglected they will be a source of loss instead of profit. If kept warm and comfortable they will continue improving in appearance, health and flesh.

Fattening hogs should be finished for market as early as possible. They thrive better before the cold weather sets in, and every additional day's food is additional cost incurred. When housed early, and in good condition, they are finished for the market at comparatively little expense of food.

Horses should be well fed and groomed. A good span of horses well cared for will do as much work as two spans of wretched, hungry animals, and in the hurried season the owner can rely on them. A good horse is a good friend.

Keep the plow going till prevented by frost. Plowing at this season will expedite the spring work; and ground such as can be profitably plowed in the fall must be greatly benefited by the action of frost. We have proved this by the experience of years.

One more hint. The collecting and saving of manure is a very important part of the November work on the farm. Let nothing be lost that can be converted into manure. Now that the cattle are housed everything that will absorb the liquid manure may be made a valuable addition to the manure heap.

### The Potato Crop of 1876.

Never was the uncertainty of the yield from the potato crop more clearly shown than in the crop of 1876 and the preceding year—the former a season of abundant produce and consequent low prices; the latter a season of crops so light as by some to be called a failure. In 1875 potatoes were sold in these markets at 20c. to 25c. per bushel, and so it was throughout the Dominion. In the Maritime Provinces they were bought at as low prices, and large quantities of them made into starch. From New England we had similar reports. This year, in the very season when potatoes are cheapest, they are sold here at \$1 per bag of 1½ bush. In the Maritime Provinces they are bought at 50c. per bush., and shipped in large quantities to New England. A correspondent of the *Ohio Farmer* says:—"I won't have two hundred bushels of potatoes from five acres. From the same field last year I dug eight hundred bushels." He adds:—"According to my estimate, an acre of potatoes cannot be cultivated for less than twenty dollars, which is just about what my field will produce this year, leaving nothing for use of the land."

The question naturally arises, Is such a loss unavoidable? Is there no method by which we can guard against the recurrence of such losing results? We cannot, we know, by any means in the least control the weather—and to the drought or humidity of the weather much of the poverty of the crop must be attributable; but is it not within our power to guard against the injurious effects of an unfavourable condition of the weather. That this can be, at least, partially effected, we have little doubt; and the more clearly we see that there is such a possibility, the more likely will we be to inquire into and to adopt preventive measures.

Were this failure wholly owing to the nature of the season, there would be little difference between the returns in the same or similar localities. But this has not been the case. Some, a few, farmers

have good potato crops, while their neighbours' potatoes have scarcely been worth the labour. This difference of produce must be attributed to other causes—to the quality and nature of the soil, its condition for the crop, and the variety of potato planted. Any soil may be so treated as to produce a pretty good crop of potatoes in favourable seasons; but a farmer need not be told there are soils naturally adapted for its culture. Rotation of crops is another requisite to successful potato culture. With the writer mentioned above this course was not followed.

That light potato crop of '76 seems to have followed a potato crop of the previous year. This may in part account for its being almost a failure. Some crops are better adapted to take their place in a rotation after other crops of a different mode of growth. We have raised our heaviest potato crops, and those of the best quality, on ground that had the previous year been under grass, peas, or corn. As to the variety of potatoes, the best crops we have known this season have been of early sorts, as the Early Rose. They took hold of the ground early; the unfavorable season had less effect on their growth; their maturing and ripening was not forced as it was of later sorts. A slow-growing, late-maturing potato is not the most suitable for our short seasons.

Were every farmer to make inquiries such as are here suggested, and to communicate the result of his inquiries to an agricultural paper, he would be doing good service to himself and other cultivators of the soil.

### Beet Culture.

A BONUS OF SEVENTY THOUSAND DOLLARS PER ANNUM FROM THE QUEBEC LEGISLATURE.

The present annual production of beet sugar in France, Belgium, and other countries, is 1,050,000 tons—France alone producing 360,000 tons. We believe the French Government gives a bounty or drawback on exported beet sugar. That is, we believe, to encourage an industry that is comparatively undeveloped; for no sound economist would tax the entire nation for the benefit of a class. However, it proves the importance to the agriculturist and the nation generally which the French Government entertain of an extended cultivation of the sugar-beet and of its manufacture. We believe at the last session of the Quebec Local Legislature \$7,000 annually, for ten years, were voted to encourage the establishment of a Beet Sugar Refinery. We are not aware how far this grant has operated to extend the cultivation of that root, and not even so far till there is a demand for it. It would seem, therefore, that a refinery must precede beet cultivation. Not many will enter on an enterprise while the material for manufacturing it is wanting. For the present the farmer has no market if he would raise the sugar-beet, and the refiner has no root to manufacture. No doubt does exist of the suitability of the soil of this Province for raising roots. The local Agricultural Shows and Provincial Fairs have produced ample evidence of the fertility of the land, and plentiful crops might be secured; but we imagine the refinery must somehow precede the culture of the sugar-beet before its production becomes general.

The above article on a very important subject we abridge from our Eastern Township contemporary, the *Sherbrook News*. We would suggest to cultivators and manufacturers that both branches of the undertaking proceed simultaneously, so that while the beets are growing for the sugar-maker, the manufactory be erected and put into working order. Were the establishment of a "refinery" undertaken by a company, they could, on land bought or rented for the purpose, grow beets to give partial employment for the first year's operation, as has been done by the proprietors of the Potato Starch Factory in

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Nova Scotia. This, we believe, was the course pursued in France at the commencement of this best-sugar industry that has now grown to be so important a source of national wealth.

Former numbers of the FARMER'S ADVOCATE bear testimony to our efforts to have trial made in Canada of the growth of the beet and its manufacture into sugar. To be successful and prosperous as a farming community, a diversity in our farm products is necessary. Of this the result of each year's farming supplies an additional proof. Not only does the wheat crop leave the farmer little profit after paying expenses, but the growing of grain crops to such an extent as we have been accustomed to in this part of the Dominion, robs the soil of its productiveness, and the impoverishment of the soil is the certain impoverishment of the owner.

It is not a judicious policy to be purchasing from other countries that which we can profitably produce from our own soil.

#### Hints to Dairymen—No. 9.

Written for the Farmer's Advocate, by J. Seabury.

The cheese market and trade has ruled very quiet for the past month, with somewhat of a reaction. Factorymen who had refused 12c. to 12½c. are now anxious sellers at these figures, or even less. The fall make is somewhat short, but high prices will check consumption quite as much as the make is short. With the cable, which is now 58 shillings, the relative value here would be 114.

Butter has suffered quite a reaction and a decline of 20 shillings in Liverpool the past few days, which will have a very depressing effect on the trade here. The deliveries have been light for the past few weeks, and we are of the opinion that there is a good deal of fall butter in the hands of the farmers, which will keep the local trade quiet, so that we need not look for much, if any, improvement over present prices before the spring.

The writer being in Wingham a few weeks ago, and having a few hours at my disposal, I resolved to drive across the Teeswater and see the butter factory which is in operation there. A drive of ten miles across a comparatively new country brings you to the village of Teeswater. The country is well suited for dairying, being well watered, rolling, and somewhat stoney. They are making up the milk of some two hundred cows, and are making a first-class article of butter. They appear to be well satisfied with the enterprise, so much so that the owner informed me that he would have no trouble in getting the milk of five hundred cows next season. There are several of these butter factories on a similar plan being talked of for another year. I was very much struck with the simplicity of the arrangements. The building is one story, about 30x50, one-half of which is used as a churning room and for working and packing the butter. The other half is the milk room, in which the milk is set and skimmed. This room is some three or four feet below the surface of the ground, and the milk pans for setting and cooling the milk are ranged on each side of the room. These pans are made to hold about twenty-five hundred of milk, and the milk is set about ten inches deep in them. Another thing, too, is that it does not require the skill in the manufacture that cheese does, and after the butter is made and packed there is no more trouble with it. I feel confident that the day is not very far distant when butter factories will be scattered all through the country just as cheese factories are now. If the butter now exported from the country was made up in this way it would add to its value from 4c. to 5c. per pound for the finest, and 10c. for medium and ordinary sorts. Let any one figure for himself the gain that this would be to the country. There is no doubt that the butter made in this way would always realize more than enough

over the general average price paid for butter to pay for the manufacturing, besides making it a cash article. The dairyman's wife and daughters would be relieved of all their labor and trouble in making and marketing. Every package would be the same color from top to bottom, and a dealer in buying a line of this butter could depend upon its uniformity in quality as well as color. There is nothing in the world to prevent Canadian butter from being sold in Eng'and for the same price as the best Irish, Danish or Kiel butter, which are now quoted at about 25 to 30 shillings above Canadian. This is a great difference in value, but take the difference between these brands of butter and our medium or ordinary and there is quite 50 shillings difference.

I feel confident that in ten years time we will see the bulk of the butter made in the country for export will be made on the associated plan, as the cheese is now. This subject is worthy the consideration of the dairy public and the cheese factory men, for in my opinion they should be worked together whenever practicable.

I have no doubt that a good many who have been in the dairy business for the past few years, and a host of those who have jumped into it simply because they thought they could make more money and make it easier than in any other way, are now seriously considering the question, shall we go on keeping cows or shall we sell them off and try something else? To all such and to any others who have already hastily decided on selling off their cows I would say, give this matter your full consideration and look at it in all its bearings. Our old friend Mr. Farrington predicted nine years ago that "there was a great and glorious future in store for dairymen in Ontario," and I have no hesitation in saying there is still a great future for the dairymen of Ontario. Compare the dairy business nine years ago with what it is to-day. It is simply wonderful, and yet whoever lives to see the next nine years will see as great a change.

It is an old and true saying, "A rolling stone gathers no moss," and the farmer who is rolling about from one thing to another will not be likely to gather much "moss." This is one of the evils of American farmers, they are too ready to jump into any other kind of farming other than the kind they are engaged in. If they are stock-raising and wool and mutton happens to be high they are quite disgusted with stock-raising and rush into sheep. By the time they are fairly in the sheep business there is a change in the market and prices of wool and mutton are low, and they vow that the sheep business is a very poor and unprofitable one. They are now ready to try anything else that looks the most promising, and as cheese and butter have been high and they hear wonderful accounts of the profits from those who are in the business, they resolve to try that, never for a moment considering whether their farms are well adapted to the business. Probably after trying it for two or three years they are now seriously thinking of giving it up and trying something else. What can farmers who pursue such a course expect to make? I have observed that these farmers are the ones who make up that class who are never satisfied with anything. The crops are poor, prices are low, and there is nothing going right to suit them. This style of farming is nothing more or less than a sort of speculation, and a farmer has no business to speculate unless he has plenty of money. Every farmer should study what he and his farm are best adapted for, although there are very few farms in Ontario but what can be made suitable and adapted to the dairy business. Aid I question if there is any other branch of farming that promises better and is more remunerative with steady and regular prices taking one year with another.

In my opinion we have seen the worst this season. If you are in the dairy business stick to it; by the time you get out and well into something else, that something else will be very likely to be low and the dairy products high. Instead of giving it up try and make your cows give you a return of 500 lbs. of cheese for the season instead of 300. Make it your aim and study to increase the products of your farm and dairy. These things cannot be accomplished without careful study and forethought. Now that the long winter evenings are upon us let them be improved and made use of. Get some good work on the dairy business, and we hope every dairyman is taking one or more good agricultural paper.

Although there is great room for improvement in the manufacture of cheese, still the cheesemaker is pretty well master of his business, even so far as to be able to make a very fair article from inferior milk. But how many of the dairymen throughout the country are keeping pace with the times and making themselves masters of their business?

The fact is becoming more patent every year that if the standard of Canadian butter and cheese is to be raised the great bulk of the dairymen will have to be educated to a higher standard. They must be made fully alive to the fact that to make dairying a success they have a very important part to play in the programme, and that they must do their part well and thoroughly. To begin with, they must have the best cows, and the right kind too; but they must not be satisfied with that, they should keep aiming to make their herd still better. These cows must be well and properly fed, and with the right kind of food for making milk, and supplied with the best of pure water. The stables and yards should be kept clean, dry and sweet. And last, but not the least, the milk vessels must be kept well and thoroughly cleaned and sweet, and the milk handled and cooled with the greatest possible care. If dairymen could only be led to see and feel the importance of all these things as a body it would be one of the most important steps towards making the dairy business a great success. Let each dairyman make up his mind to make the business a credit to himself and his neighborhood, and also induce his neighbors to follow his example. Let him make his herd and farm such that he can look on them with pride and satisfaction.

If the patrons of every cheese factory would form themselves into a dairy club, meeting once a week or once a fortnight during the winter months, they would find themselves greatly benefited. At the conclusion of each meeting let the members settle upon the subject for discussion at the next, and also upon some one of the members to open the subject by reading a paper of his own composition on it. After that let each and every one take part in the debate. By having a good chairman, and one who would keep each speaker confined to the subject, these debates would be very instructive. They would give the young men of the neighborhood a fine opportunity to improve themselves, and would be much more beneficial to themselves and the community than those senseless debating schools which are sometimes held throughout the country. There is so much to be learned, studied and said about dairying and farming in all its departments that the subject is inexhaustible. If a few pushing and thorough young men would take hold of this matter in their neighborhood they could make it both instructive and entertaining to themselves and their friends.

The dairy department at the Centennial is a very poor representation of the dairy utensils and products of the country. There are plenty of factories in Ontario in which the every-day display of cheese is much finer. There has been very bad taste dis-



played in the arrangement of what few cheese there are there. I was very much struck with the very meagre display made by the United States, both in cheese and dairy apparatus, and everything seems to be left to take care of itself. What few dairy apparatus there are exhibited are of the most ordinary kind; some of our Ontario manufacturers turn out much better made and finished work every day. This department does not reflect much credit to those who have the management. The writer went round three different times to see the Canadian cheese, but could not get in either time, the door being locked. This department is visited by thousands every day, and the one-half of them have no idea what these things are for, and there is no one to explain them.

#### The Western Fair.

This Exhibition, held in this city differs very little from the Provincial in extent of the display made by exhibitors, in fact, this Exhibition is always a good one; in some classes it surpasses the Provincial. The prizes offered by the Provincial, at whatever point it is held, will draw exhibitors, but stockmen and manufacturers of agricultural implements prefer exhibiting at this Exhibition, because sales are more apt to be made here, as no locality has such a fine agricultural country around it.

The weather was most unfavorable, but notwithstanding this the attendance was good, there were many animals exhibited that were owned in the States. At the Provincial we only heard of one American animal from the United States being exhibited. This Exhibition has always been a strong rival to the Provincial, and its independence of Government patronage shows what can be done. The farmers in this locality do not consider there is any necessity for Government to expend money on agriculture in any way; they feel quite independent, and think they "can paddle their own canoe."

We shall not weary you with a long description or prize list, as we devoted much space last month to the Provincial prize list, &c. Some of the animals and implements that gained first prizes at the Provincial Exhibition were only awarded second and third prizes at this Exhibition. We do not presume to say that the judges at the Western Fair are better than those engaged at the Provincial. The majority have undoubtedly acted honorably and to the best of their ability; all such deserve the thanks of exhibitors, but we fear that exhibitors sometimes have been awarded honors that should have been awarded to the products exhibited. We do not intend to imply that the judging at this fair has not been quite as good as at any we ever attended; but if a judge has been reasonably suspected by any Board, or the public, of acting partially, he ought not to be selected again, however good his address may be, or however much he may push himself into notice.

#### The Central or Guelph Exhibition.

The display of stock, machinery, and other productions, at this Exhibition, were nearly equal to the display made in London; in some departments they were not as good, in others may have excelled; the vegetable and root departments we thought even superior to either of the other Exhibitions. The exhibition of the Government stock was a part of the show that could not be at any other Exhibition. The stock looked healthy, and not fed beyond breeding limits. If they are superior to the cattle now owned in the country, it must consist in their pedigrees. The poled Aberdeen cattle had some admirers. We presume Mr. Brown did the best he could with the sum intrusted to

him. One could easily tell they were political cattle, by listening to remarks from different parties; one party would class them as worthless scrub, the other party could find many redeeming points to be considered.

The Guelph Exhibition of the fine arts is not what we could wish. We hope to see the amateurs in this department encouraged, by having a committee to decide what is and what is not fit to exhibit. Many of "Minnie May's" and "Uncle Tom's" family could do far better work than some that was shown at this Exhibition.

Our attention was attracted to a new and, we think, superior kind of barrel; it is exhibited by Mr. T. Sharp, of Guelph, and is made of two large sheets of wood cut very thin and nailed together. In one piece the grain runs round the barrel, the other lengthwise of the barrel; they are very light, strong, neat and cheap, and are much easier handled than the common barrel; the wood from which they are made can be cut round and round the log.

A fanning-mill was exhibited at this Exhibition that we did not notice at other Exhibitions. It is a Canadian invention, and from what we saw of it we consider it far superior to the American fanning-mill which Yankee sharpers are traveling through the country and selling patent rights of, or county or shop rights. Thousands of dollars have been lost by farmers by dabbling in the rights of two Yankee fanning-mills. We feel thankful that our pages have not aided the imposition.

#### Caution—Patent Rights, &c.

There are at the present time many smart, plausible sharpers travelling through the country selling nostrums, shoddy clothing, novel fruits or wonderful seeds and patent fixings of numerous kinds. Hundreds of such dare not let their name or address be known.

If there is anything worth having or worth the price asked, it can be procured from regular dealers or manufacturing establishments. If any novelty has not been favorably announced through some of the hundreds of papers published in Canada, as a general rule you may expect to be swindled. Hundreds make a living by selling such things as they know are worthless. Such persons should be stopped, as they give a bad name to the real legitimate business of selling such things as are of advantage. Agents have instructed farmers to use reaping machines, and many other useful implements have been introduced by them that farmers would not otherwise have had. Agents are not all to be condemned because some are dishonest; neither are all farmers to be condemned because one man sold his grain from a false sample, or because his wife had two kinds of butter in her basket. The law can follow a dishonest farmer, but a note given by a farmer to a sharper for any valueless patent will have to be paid if it turns his family out of the farm.

We are willing to expose any of these gentry, but the difficulty lying in the way is this, that the greatest losses are sustained by those that toil hard and read but little. Should a reader be swindled, he would often rather suffer the loss than let it be known. Many do not give information because they object to give their names; some because they do not care how much others are swindled. The question is how to remedy the evil.

#### Spring Wheat.

The question has already been put to us several times—What kind of spring wheat can we commend? The answer is not any easy one to give, as some varieties have answered well in some localities and proved failures in others. We wish you to help us to form a correct opinion by sending us re-

ports from different parts of the country, particularly of the following varieties, namely: the Red Fern, Odessa, Egyptian and the Brooks wheats; also of any other new variety that may be in your locality.

The Fife wheat is answering well in most localities to the north, but it is not giving general satisfaction in this locality. The Red Chaff, although yielding well in many places, is condemned in every place by millers. The Rio Grande, Red River or McCarling wheats are very similar in growth. In some parts they are lauded; in others condemned. If any variety is doing well in your locality, by all means continue to sow it.

We know many of our readers will kindly aid us in answering the question by giving us information or by writing for the correspondents' department.

#### Winter Feeding of Stock.

We have had enquiries from farmers in the Eastern Province as to the best mode of feeding cattle in winter for milk, for beef and for holding over till spring. One writer asks how is it that farmers in Ontario can fatten cattle without loss at the present price of meat. He says: "Here we could not do it."

Some writers on agricultural subjects assert that there is no immediate profit on winter-fattening stock, and the only profit is from the increased quantity of manure made thereby and its superior quality. This, they say, is considered by English farmers sufficient to defray the cost of feeding. They adduce figures to prove their assertion, thus reducing it to the solution of an arithmetical problem. An animal is of a given weight when being put into the stall for fattening. A certain quantity of food is consumed in the fattening, and when fit for the shambles he has gained in weight so many pounds or stones. This additional weight barely pays for the food consumed in the fattening, and hence it appears there is no profit other than the manure, against which is to be placed in account the labor of feeding.

But there is something to be reckoned more than the price of the additional pounds of meat. Those writers have overlooked, or at least they have not taken into account, the increased value of the whole carcass. In our home markets well fattened beef sells readily at 30 to 40 per cent. higher prices than it would if lean, and the difference in British markets is still higher. This profit we claim is made by fattening animals in addition to that from the manure, as fairly valued, to be equivalent to the food and labor.

A milch-cow can be brought well through the winter on good hay, without any other food, but the question arises—Will she not do as well or better on hay of inferior quality, with the addition of roots that cost less to the farmer than any other provender. We have had cattle kept in good, thriving condition throughout the winter on good straw, with two feeds of turnips daily. Cattle feeders assure us that a good-sized cow will eat 25 to 30 pounds of hay in winter when it is her only food. Straw is seldom treated by farmers as of much account. Roots, such as turnips and mangolds, produce from 600 to 1,000 bushels per acre, at the cost of the labor—say \$12 to \$15.

THE FATTENING PROCESS.—No definite figures can be given for the cost of fattening. The experience of feeders varies very much. Some animals are naturally inclined to putting on flesh; they are always in fair condition, and fatten at little cost to the feeders. Some, on the other hand, are quite the reverse. Much also depends on the condition of the animals when the fattening process commences. An animal in fair condition when put up for stall feeding will pay a higher profit for stall

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feeding than if put up lean. The same rule holds good with high-bred cattle. In this is the greater profit of having pure-bred stock or good grades.

Begin to feed the animals on roots early in the season. Let their daily feed of turnips not be large. Accustom them to them by degrees. After some time their full allowance will be about 50 lbs. per head daily. In finishing for the shambles some additional food will be required if they be intended for a good market and to bring the highest price. Oil cake, linseed meal and bean meal are fed by English feeders. The time is coming when linseed will be an important product of our Canadian farms. Meantime one or two pounds daily of corn meal will be profitably used in finishing the fattening process.

#### Railways and Agricultural Progress.

There has been no little grumbling from time to time on account of the heavy burdens imposed on the country by the construction of railways, but there are few, if any of the grumblers, who would prefer the work that has been done to be undone, if that were possible, even though the undoing of the work were to be accompanied with the refunding of the moneys expended. They who were settlers in the country before the great lines of railway existed can form some opinion of what Canada would now be without those means of communication and transit. Their great advantage to every class of the community, and more than others to farmers, is now again more fully brought before us by the great improvements in the vast tract of country which the Intercolonial Railway and other lines have effected in the Maritime Provinces and Quebec. Rich tracts of land that by their isolation were almost worthless, are by the railway brought within a few days' or hours' travel of the great markets of the world, and are exchanging for those luxuries that have become the necessities of civilized life the rich stores of produce that awaited the labor of the industrious tiller of the soil. The inhabitants of the few sparsely scattered settlements are enabled to enjoy the society of those hundreds of miles apart, for hundreds of miles are but a few hours' journey by rail. The accessibility to seaports invites colonization, and offers an inducement for the clearing of the bush-land and growing breadstuffs and feeding cattle on land that had ever been a wilderness. The dwellers in these backwoods now deem economy of time and a reduction of the expenses of transit necessary. There seems to be an infusion of greater vigor from the introduction of the steam horse into their country. Were proof necessary of the estimation in which the opening up the country by railways is held, that proof is given in the readiness of communities to impose heavy taxes upon themselves for their construction, and their eagerness to secure as nigh to themselves as possible the coveted boon. Every new line, though but a short connecting branch, increases the value of land in its vicinity, as affording a more speedy access to the market for its produce, and rightly so. Had we not a ready market for our wheat and barley, our beef and mutton, we would only cultivate land enough for our own immediate supplies. A convenient market induces more extensive and improved agriculture for its supply.

The good work done by the Intercolonial Railway, and the greater work still doing, supplies us with another illustration of the benefits that must accrue to a country from such undertakings. Colonization has received a new impetus; agriculturists see a prospect of remuneration for their labors; provinces totally isolated from each other are brought within easy access, and united by the rail in a consolidated Dominion. And efforts are being made to render Canada by this means commercially

independent of other countries, by making Halifax her winter port, affording her under any circumstances a Canadian outlet for her products and a free mode of communication with Europe. The Intercolonial now carries flour from Toronto to Halifax at 40 cents per barrel, and other commodities at proportionate rates, so that Ontario farmers can conveniently supply the markets that had been hitherto supplied almost entirely from the United States.

#### The Centennial Exhibition.

This Exhibition, which is now drawing to a close, has been a grand success. The greatest good must result in after years, owing to the opening of trade, the friendly intercourse established, and the spread of knowledge, which have all been attended to.

We have in a previous number advised all to go that could afford the journey. We have never seen one who has regretted the expense; all are pleased and enlightened that have been there. No one can give but a very faint idea of its magnificence and utility, even after having been there.

The last cheap excursion that we have heard of will leave Hamilton on the 4th November; fare \$9.

Far better accommodation is to be had at thousands of private houses at from \$1 to \$1.50 per day than can be had at the crowded hotels at twice and thrice those amounts.

We shall publish the list of Canadian honors gained as soon as we receive it complete. We shall in future numbers refer to various things in regard to this Exhibition.

We attempted to procure some spring wheat for trial from some of the northern countries, but as yet none can be had. There will be an opportunity for our Commissioners to exchange with other countries; the fine winter wheats raised in other parts have not succeeded well when we have tried them. We have spoke to the Commissioners regarding this, and attempts will be made to secure a change.

#### Poultry Yard.

##### Keeping Poultry.

In regard to poultry houses, the windows should be made in such a way that they can be taken out or opened easily, and slats or wire substituted in hot weather.

It does not matter how cool a house may be built, our summers are too hot for it to be shut up. While the fowls are roosting they require all the air they can get—it would be better for their health if they could sleep in trees. I have looked into the coolest of houses on hot nights, and found the birds suffering severely for want of more air.

Another thing requires attention in some localities—that is, protection against thieves. Iron bars can be put on all windows, fastened to the frames, but not to the sashes, so that when the sashes are removed in summer the bars still remain useful—tire iron from old light wagon wheels will do, and can be had cheap in any country blacksmith shop.

Ventilation is one of the most important considerations in a building; that and cleanliness is of more consequence in keeping fowls than any other domestic animal, when a number are kept together, and why, is the great mystery, for it is a well-established fact (in spite of the marvelous accounts of the large number of breeds kept together we have in some poultry works) that a great number cannot be kept in health for a continued length of time in the same place without all the care is given, which experience shows to be imperative.

Make openings, with shutters to them, on two opposite sides of the house, quite up to the ceiling, that no foul air remains there, and so that a good current may pass through without blowing down upon the stock while roosting, which would be liable to give them cold. Of course the perches must not be up too high. On cold nights and very cold days, close the windward ventilators; but when it freezes hard in the house, the cold purifies the air in a degree, and rather than let the fowls

freeze their combs, shut up every opening. From these hints one must judge of the severity of the climate of that part of the country he lives in. Give all the air that common sense dictates, but not enough to do injury.

I once observed, on visiting an amateur, that he had his buildings on the top of a hill, in which he kept various breeds. He had latticed rooms on the north side of the houses and large doors opening into them. He had all the doors set open every winter's day (with the idea of ventilation). The biting wind howled through the building enough to chill a Polar bear. The birds inside were huddled together close to the glass (on the south side, to be sure), but its effect for warmth was more than neutralized by the doors open on the north, as the wretched appearance of the inmates plainly showed. It is needless to say that party voted pure-bred fowls a fraud. All his expensive arrangements were useless. The birds were blamed instead of the buildings and mismanagement.

Each domicile should have a small opening for the tenants to go in and out, near the ground. It is also useful to set a current of ventilation upward, and it should never be closed but in extreme cold weather. If there is danger of enemies entering by night through it, a grating can be placed before it instead of a close door. Also over the ventilators wire or slats should be placed to prevent fowls flying through them.

All fixtures should be so arranged that you can easily get at them for cleaning, such as nests, feed, hoppers, &c., and should be all moveable. Nest boxes can have one side higher than the other, when standing on a shelf, the high side turned to the next nest, answering a partition between without immovable wood work. Such nests can be dipped into a tub of whitewash and turned over to drain. The liquid, by dipping, enters every part, makes a thorough job of it, and is done quickly. There are many such contrivances for economizing space in small places, which will be described in due time.

Perches should be flat and just wide enough for fowls to grip. Shingle laths, planed and the edges rounded a little, make good ones. Let them lie loose (without nailing) in notches cut for them in bearers, so that they can be lifted out to clean them. Do not let the ends touch the wall. A good way is to have posts set in the floor, on which fasten the notched bearers. On these lay the perches. Be sure to have them sufficiently far apart that the fowls do not touch each other, for this would soon spoil their plumage, making them worthless for exhibition. Anyone can judge from these general hints how to adapt the principles to his means and accommodation. They do not call for any more expense and will, in the end, save much by the success of the first arrangements, avoiding the mistakes and alterations which so many have to go through in their first building.

Feeding vessels, pans, &c., should always be so constructed that stock cannot step into them, especially when soft food is used in the houses during winter. Some persons have all the fowls diseased from allowing them to puddle through the soft food, then into the dirt on the floor, then back into the food until it is perfectly filthy; afterwards they wonder what ails the fowls.

Drinking vessels should be similarly protected. Numbers of contrivances have been described from time to time, and others will appear in due time.

Much controversy has arisen about the best flooring. All condemn wood; cement is strongly advocated; but I prefer the earth strewn thickly with ashes, removing the entire surface, once every autumn, to the depth of four or five inches, replacing fresh earth and ashes, besides the ordinary cleaning once a month.

A writer in the *London Field* states that poultry properly fed will acquire all the fatness needed for marketing purposes, in a fortnight or three weeks at most. Their diet should be Indian, oat or barley meal, scalded in milk or water—the former is the best, as it will expedite the fattening process. They should be fed early in the morning, at noon, and also in the evening, just before going to roost, and given a plentiful supply of pure fresh water, and plenty of gravel, sliced gravel or turnip tops. If the fowls are required to be very fat, some trimmings of fresh mutton suet may be chopped up and scalded with their other feed, or they may be boiled with milk alone and poured over the meal. This renders the flesh firmer than it otherwise would be. When fit to kill, feeding should be stopped for twelve hours or more, so that the intestines may become comparatively empty.



### Stock and Dairy.

#### Three Classes of Horses.

Mr. W. R. Duncan, of Towanda, Ill., in an address before the Indiana State Fair, thus describes three of the more important class of horses, other than those intended especially for draught:—

"The class of horse bred and known in this country as the roadster, is at present a very popular class. They are, for light draught or quick business on the road to a light vehicle, a horse of value; but it becomes a serious question whether he is of such value to justify our agricultural societies (such of them, at least, as are organized for a legitimate purpose), to allow themselves and the entire community to be made horse jockeys of in order that their value to the sporting class may be determined. If their popularity is based upon their value for a useful, practical purpose, then is it not proper that the farmer who breeds them should receive the encouragement from the agricultural societies of the country, rather than the jockey who trains them for the track? This class of horse has been so bred that the blood of the thoroughbred race horse predominates in his veins, many of them containing crosses of the blood of the Canadian pacer, giving them knee action, as it is termed, enabling them to trot with speed and ease to themselves, that being the preferable gait in harness.

"The class known as the saddle horse is being greatly and shamefully neglected by the breeders and agricultural societies of the country. If more of them were bred, there would be less use for buggies, and many of our ladies would enjoy better health, as no exercise conduces more to a lady's health than a horseback ride in the open air. Exercise on the back of a pleasant going horse is always much to be enjoyed, and often the most convenient way of doing business; while the horse possessing the best saddle gait is often as well adapted to general use as any other.

"The general purpose horse, or that class possessing more of the qualities for which the horse is valuable to the entire community, is the horse of the age, the class to which our agricultural societies should offer the most encouragement, for the reason that he is the horse of the poor man as well as the rich. That portion of our people that own not more than one or two horses, must use them for all purposes for which they use horses at all. Such is the case with many people in the country, and with a large majority of those in the city. For this reason the farmers should be encouraged to breed the very best."

#### Sugar Beets for Milch Cows.

Are Sugar Beets good feed for Milch Cows? In reply to this query a correspondent of the *Rural New Yorker* writes as follows:—

Just looking over the article in your issue of January 1st, under the head of "Diary of a Ruralist," I find that he complains of the shrinking of at least 50 per cent. in the quantity of his cow's milk, from feeding her sugar beets; and then asks, "Are they good feed for milch cows?"

For myself, I will answer, unhesitatingly, yes, better to produce an abundant flow of rich milk than any roots I ever fed, except parsnips; and especially far superior to turnips, being exactly the reverse of his experiment in feeding. I am satisfied something else is to blame in this, other than the beets; for whenever, for upwards of 30 years past, I have invariably cultivated the sugar beets and fed it largely to all sorts of my domestic animals, with the exception of hard working horses, both raw and cooked, and have ever found it beneficial for them.

No longer ago than last November, our family cow began to shrink somewhat in her milk, when we were feeding hay with an additional mess night and morning of Indian meal and wheat bran half and half, with a point of oil meal. I then directed most of this mill feed to be stopped, and in place of it, ordered a peck of sugar beets for the cow night and morning. On this change of food she began to increase her milk, and in a few days gave the same quantity that she had done previously when on pasture, and before being put up in the stable on hay and milk feed.

Sugar beets must necessarily be superior feed to all domestic animals, and especially to such as are giving milk, for they abound in saccharine juice; and to show their value for feeding purposes as well as for making sugar, I will refer to several analyses recently made of them in England, reported on pages 24 and 25 of the *London Agricultural Gazette*, of January 3rd. These give a trifle over 7 to

14 per cent. of solid matter. In our drier and hotter climate, I should suppose the average percentage of sugar and solid matter would be increased in the best crop; but this would depend much on the size of roots and the soil where grown. To produce roots of the best quality they ought not to be grown in too rich a soil, like that of river bottoms or the most fertile of prairies, nor should they be manured too highly in a poor soil, and what is of still more importance, probably, they ought to be grown standing so closely together in rows as not to exceed 5 or 6 lbs in weight each. I prefer them even less than this, say 4 to 5 lbs on the average. I would not give a dime per bushel for great overgrown roots, weighing 15 to 20 lbs each. I have occasionally grown detached roots of this weight, and for stock feeding found them little better than white oak chips. In fact, neither my pigs, sheep nor cattle would touch them cut up raw and placed before them, so long as they could find anything else decent to eat; while roots of a proper size they would devour them with avidity, and grow fat or give great messes of milk from them.

I would suggest to "A Ruralist" to try sugar beet feeding again to his cow, but in so doing supervise the thing himself, and not trust it to any one else, as I have found that my man John, as well as Jack and Bill occasionally made mistakes in one way or another.—*Cor. Rural New Yorker.*

#### Sheep Husbandry.

The *Farmers' Home Journal* says:—"In many parts of the Southern and Western States, sheep husbandry is an established fact; but those who expect to make of the business a permanent and not a mere temporary success, must know no pause in their career, but on the contrary, it will be necessary for them to continue steadily advancing. That there is much for even our leading sheepbreeders to learn, a moment's reflection will show. It is not enough for a person to be practical at this calling, because the one who is only practical will necessarily remain in the old ruts and never move forward an inch. A progressive sheep husbandry calls for intelligent theorizing—not the wild imaginings of the dreamer, but the speculative aggressiveness of the man of knowledge.

"Sheep husbandry demands devotion, and in science and art devotion is genius, and it is difficult to see why it is not the same thing in any of the various other paths of duty. A person who is really and truly in love with his work, will hardly fail to do that work well; on the other hand, when the head and heart do not fully co-operate, there is a serious jar, the forces of the individual are not concentrated, and what is done is accomplished mechanically, but yet without the redeeming circumstance of mechanical accuracy. In States where sheep husbandry is fast becoming firmly established, soon the relation of the sheep to a higher agriculture will make itself felt, and will surely give rise to very important results. And thus in the way here hinted at, the Cotswold and the Southdown will become great instructors. At first, when the farm is overrun with weeds, and the land is becoming poorer and poorer year by year, the sheep has to be put forward as an implement of husbandry—as a mowing machine! After a time, when the sheep's claims in this respect have been made good, and when in addition it has quietly and with small honor converted barren lands into fertile ones, it becomes necessary to advance to higher ground, for, as already intimated, there is no halting place—the order is either backward or forward!"

#### The Kerry Cows as Milkers.

The Kerry cow is a remarkably grateful feeder, or, in other words, will live on the commonest and scantiest diet, and when her lot falls into pleasant places, will yield a bountiful lacteal return for the generous keep. Everywhere and under all circumstances she has the reputation of being an excellent milker. "The average yield of milk produced by the Kerry cows belonging to a gentleman who has for many years paid great attention to his breeds," says R. O. Pringle, in his review of *Irish Agriculture*, "is twelve quarts daily, and the average yield of butter from six to seven pounds per week. Some of the cows have produced more, but the quantities stated have been above the average." Pringle considers this to be a large yield, considering the size of the animal and the small amount they consume. A Kerry cow was known to have been kept for five years in a stable in Dublin, which had only two calves during the period, yet was scarcely ever dry, and kept up a full supply of milk for a large family.—*London Live Stock Journal.*

#### American Beef in England.

I can give your correspondent no more authentic information respecting the importation of American beef into Liverpool, than he can gather from your columns. The process by which putrefaction is arrested is described in p. 237 of the current series. Your own report of its quality after dining upon "steaks and roast joint," will be found in p. 249, and the market reports of last week state that "we continue to receive American consignments of excellent quality;" "American supplies continue about the same with regard to quantity, condition and demand." As regards the value of beef in New York, or the charges of transmission, I can give no information; as a consumer, and not a producer of meat, my anxiety as to the success of the experiment is at an end. The week ending Aug. 19 was remarkable for great heat, the mean temperature exceeding the average for the same week by no less than 10 degrees, and we have no complaints of the condition of the foreign meat that appeared at the metropolitan market. Every obstacle appears to be removed, the home trade monopoly broken through, and meat from the Far West exhibited on the Newgate market shambles during the tropical heat of this summer as perfect in condition as meat sent up from Leicester or York; in fact in finer condition, ripened by having been slaughtered 14 days—tender and ready for the table. This marvellous triumph of art over nature bursts upon the consumer by surprise. The rapid development of the trade is astonishing. The first trial cargo arrived at Liverpool at Christmas, and proved so successful that the flow of meat is checked only by the difficulty in preparing the holds of the vessels for the reception, and necessary engineering arrangements. It is impossible to measure the effect that this opening of the meat market will have upon British agriculture. It is beyond controversy that a large portion of the native meat exhibited on the butchers' stalls is of inferior quality. The artificially fed meat is disproportioned as regards the lean flesh and fat, owing to the injudicious use of oleaginous substances, greatly to its deterioration. Meat so prepared will not be able to compete with the beef from American grass-fed bullocks. The fine Aberdeen beef grazed upon the produce of the land with just the M'Combie "dip" will hold its own against all intruders; but the oily beef will not be able to command a price beyond its value in a free market.—*English Agricultural Gazette.*

#### Horses and their Drivers.

Very many years ago, I made up my mind that when there was a quarrel between a man and a horse, in nine cases out of ten the man was in the wrong. Continued observation has only served to confirm this belief.

The radical error into which drivers fall, is, that the horse knows perfectly what is wanted of him, and will not do it. Then the driver proceeds to show that he is the master, and, in the vast majority of cases, the horse is punished without the slightest idea why he is so treated.

For a horse to understand instantly what his driver desires, there must exist a pleasant feeling between them. The horse must feel a confidence in his driver, and with one driver a horse will show himself fearless of locomotives, and with another he will dread them. One man will drive a horse fifteen miles with no more fatigue to the animal than another will produce in driving him ten.

Nothing tends more to cruelty to animals than does cowardice. The man who has a lurking fear of his beast, is the one who treats him the most harshly. The man who is afraid of no horses, is just the man who treats all kindly. He is perfectly aware that there is always danger with horses; but he also knows that this does not depend upon the horse, but mostly comes from some extraneous source, the bad driving of others whom he meets on the road, or accident of some sort. He has a friendly feeling towards his beast, as being a willing and useful servant and companion, ready to do his whole duty, and more than his duty. So there springs up a pleasant feeling on both sides, the horse is encouraged and cheerful, and gets through his work easily and well. Such a driver gets vastly more from his horses than does a cruel one. They come in fresh, they feed and sleep well, and begin the next day's work under favorable conditions. Age tells but slowly on them; at fifteen and sixteen years, such horses still show speed and endurance, and are still gay and free goers, with years of usefulness before them, whereas the cruel man's horse is used up long before this.

There should be kindness simply from kind feeling, but it does not the less certainly bring its material reward.—*Our Dumb Animals.*



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**What is Pure Blood?**

The following remarks were made by President Welch, of the Iowa Agricultural College, at the recent Short-horn Breeders' Convention:  
While coming here to-day, I was thinking of the important subject—how long shall a thoroughbred animal be bred by crossing with a scrub before becoming pure blood? The English rule is, to cross four times with the female and five times with the male. We take half-blood and cross with a pure-blood, and we have a quarter-blood, and at the fifth cross we will have an animal that has thirty-one parts pure blood to one part scrub—that is, if we compute the crosses arithmetically; but when we take into consideration the fact that the pure-blooded animal is prepotent over the scrub, then the animal has but a minute portion of scrub blood. When a pure-blooded Short-horn bull is crossed with a scrub cow, the result cannot be computed arithmetically, for the prepotence of the thoroughbred animal over the scrub controls, to a greater or less degree, the value of the progeny. The future beef and butter of the country depend on the value of crossing. I crossed a common cow, a poor milker, with an Ayrshire bull, and the result was an Ayrshire calf, resembling his male parent, and with not one perceptible point in favor of its mother; thus the scrub was almost lost. It is impossible to say that a certain number of crosses will produce arithmetical results. The Short-horn bull is the most prepotent animal on earth, not particularly, but generally; and for example we will take the seventeens. Suppose there have been nineteen crosses since the importation of 1817; at the present time there would be one two-thousandth part of scrub blood in a straight seventeen (that is, if it was computed arithmetically); but when you take into consideration the prepotence of the pure-blood over the scrub, you would have an animal as near perfection as it is possible to get. Where are the excellencies of the Short-horn, but his merit and power to transmit that excellence and merit to his progeny? I recognize, also, the value of strains of families. The value of a strain is, that particular family produces the best Short-horns. We often find that, by reversion, a very homely or inferior bull, if he be of good family, will breed back to some of his ancestors, and produce them. The principle that like begets like, seems to be the true doctrine.

**Hungarian Hay for Horses.**

There are many conflicting statements as to the effects of Hungarian hay on horses and other animals, and we are inclined to believe that when it has seemed to prove hurtful it was too far advanced when cut, so that the seeds were developed. Cut, as timothy is by our best farmers, when in bloom, and we question whether it would do any harm. A farmer of Western New York, H. S. Dodge, communicates his experience: "I have sown Hungarian grass every season for the last four, and have never failed to raise tremendous crops. I can show positively that I have raised five tons of cured hay to the measured acre, although the ground on which I raised that quantity of hay had not been manured for years previous. I own a good many horses, and many of them I have wintered entirely on Hungarian hay, from December to April, they not having had a mouthful of anything else, and in all the wintering of horses that I ever did I never had them do as well or look better in the spring than those fed on this hay. I continue to sow Hungarian, and now consider it the most profitable grass crop that I can sow. My farm is a flat, mucky soil, with a stiff clay subsoil, below the depth of the plow. I think this wholesale denunciation of so valuable a farm produce is not right.—*Rural Home.*

**Cement for Cracked Hoofs.**

Mr. Defay has discovered a preparation, by means of which sand-cracks or fractures in hoof or horn may be durably cemented up. Even pieces of iron can be securely joined together by its means. The only precaution necessary for its successful application is the careful removal of all grease by spirits of sal-ammonia, sulphide of carbon, or ether. Mr. Defay makes no secret of its composition, which is as follows:—Take one part of coarsely powdered gum-ammoniacum and two parts of gutta-percha, in pieces the size of a hazel nut. Put them in a tin-lined vessel over a slow fire, and stir constantly until thoroughly mixed. Before the thick, resinous mass gets cold, mold it into sticks like sealing-wax. The cement will keep for years, and when required for use it is only necessary to cut off a sufficient quantity, and re-melt it immediately before application.—*English Live Stock Journal.*

**The Dairy Cow.**

A writer in the English *Agricultural Gazette* says of dairy cows and their treatment, that, taking quantity and quality as the test of excellence, cows are most productive from their second to their fourth calf. The milk from old cows usually contains a greater percentage of water than that from cows in their prime. Old cows are held in light esteem for the purpose of the grazier, and when fat, the meat is of less value than that of younger cattle; hence, on the score of economy, it is a bad practice to retain cows in the dairy much beyond their prime. All inferior milkers, and any who may have lost a quarter, we would at once draft out of the herd. Depend upon it, the milk trade will gradually effect a great improvement in the cattle of this country. The quart-pot test daily lays bare all shortcomings and imperfections, and places them prominently before the notice of the farmer. Where practicable, cows drafted from the herd should be fattened off on the farm.  
One important desideratum in the dairy economy of this country is an improvement of the farm buildings. The practice of storing large quantities of hay in the sheds or shippens prevails to a large extent. We cannot conceive anything more injurious to the health of cattle. We maintain that every animal requires a certain cubic area of free breathing space, in order that the ordinary functions of life may proceed unimpeded; a free circulation of air and an even temperature are conducive to health.  
Cows in milk are particularly susceptible to atmospheric changes, hence the cow-house should be warm, but well-ventilated. Low temperature reduces the flow of milk, hence cows in full profit should never be turned into the pastures during the winter months; gentle exercise and a liberal supply of pure water is conducive to the health of all pregnant animals; we should therefore recommend that all in-calf have daily exercise, though not too many hours' exposure during severe weather. No animal more readily resents harsh treatment than the cow. This is practically demonstrated by the yield of milk that can be obtained by different individuals from the same animal. It is a curious fact that all excitement, whether arising from the stings of gad flies, hunting with dogs, or racing to the milking fold, considerably lessens the yield of milk. I have mentioned this to remind you that kind treatment is of pecuniary value.

**Stabling Cows the Year Round.**

The great question among farmers is how to derive the greatest amount of profit from that noble animal, the cow, which, of all animals, is the most neglected for health and comfort. My remarks will be alike applicable to the village man with his one cow, or the farmer with his herd of five, ten, or fifty. Is it beneficial for the cow, after she is milked at night, to turn her out in the field again? I say it is not; for the reason that all she gets is injurious to her health, for all the poisonous atmosphere, called dew, that falls on the grass is taken into the stomach, and then she has to lie down on it and the cold wet ground. The result is that nine out of ten have the scours in the morning, and are turned out the next night, and so through the season to take this poisonous stuff into their stomach, that should be left on the grass to make it grow, and the cow in the stable chewing her food that she has eaten through the day; then, in the morning, she will be ready to commence her day's work with a good appetite. But you farmers may say the cow must eat nights, as in hot days she will lie in the shade. If observation and experience are of any value, they teach that cows stabled nights will eat all day, and what they eat is then free from all poisonous dews and in its most perfect state for the stomach of the cow, who is ready when returned to the stable at night, after being milked, to lie down and give a larger mess of milk, leave two or three hard droppings for the manure pile, instead of it being scattered all over the stable, as is the case when they lay out nights—or left in the field to create flies, worms, and bugs to annoy them as they come near it and eat, the manure which is lost from the 1st of May to the 1st of November.  
Six months cows lay out nights, and during this time each cow will make two good loads of manure, worth to any farmer \$3 per load to apply on his farm, for if I pay \$1 per load in the city, and draw it eight miles, it costs me \$3, and then it is not half as good. Twenty loads of manure which you would get from your cows by stabling would make a fair top-dressing for two acres fall wheat, or four acres meadow, worth \$60. From little acorns big oaks grow.  
If farmers generally would save their manure by stabling their cows they would not have to discuss

the question how to enrich their farms, but would find their farms enriched and their cows improved in condition also. I mentioned the fact of flies eating sores on cows. In the fall of 1870 many cows were sore from shoulder to hoof, and, if I mistake not, some died from the effects. Now, flies annoy the cows from 5 or 6 o'clock p. m. till 9 or 10 o'clock at night; hence if stabled at 6 o'clock, and the stable well ventilated, they are free from their annoyance. And another saving, the boy or hired man and dog have not got to get up at four o'clock a. m. and begin their rounds to find the cows, some here, some there, some in the woods, and some off in that other lot, till more than one half day's work is gone, and fifty cents gone in the bargain for his work.—*Chautauqua Farmer.*

**Canadian Horses.**

A report from Montreal speaks of the exportation of a considerable number of Canadian horses for the English market. It should be understood, however, that most of these are from Ontario, a considerable number of them having been sent from the county of Oxford. Some doubt has been expressed as to the question of profit as attending such operations. A contemporary appears to dispose of the question satisfactorily as follows: A good common roadster, of bone and substance enough to draw a four-wheeler, and six years old, is worth in England \$350. Here he costs \$150. Freight, forage and insurance against absolute loss amount up to \$75; expenses here and there of man and beast to \$25; and the venture nets \$100 per head. A buyer who knows the class of animals wanted in England by the moneyed classes can do even better. A long, short-legged, weight-carrying horse with safe action, and, to insure some speed, got by a thoroughbred sire, can be obtained in Canada for half the price he is worth to a wealthy country gentleman in England. A hundred guineas is there no great sum to ask for such a prize, while fifty is the biggest figure he could sell for here. But the most important feature of the business is that the English market cannot be possibly over-sold, while the supply in Canada is illimitable. On this account stock raisers will be safe in adopting a system that will not only be of profit to them personally, but will at the same time add materially to the export trade of the Dominion.

**More Milk With the Cream.**

It is the practice with some butter makers, when skimming milk, to remove as little milk as may be practicable, while others prefer to take in bulk about as much milk as cream. C. L. Smith writes, in connection with other topics, that when the milk is put in the pans in a heated condition, and placed in a warm room, perhaps many of the butter globules were exploded by the heat, and that they mingle with the milk like alcohol with water, but to churn all the milk would be to get more butter. There are times when the milk sours before all the cream has risen; yet the milk must be nearly if not quite as good from the same cow that is being fed the same food in a warm morning as it is in a cool morning. But we often get twice the amount of cream in the cool days that we do in the warm days, and the quality is better. Take, for instance, a sultry day of August, when the cream will hardly pay for the labor. Now take a good, cool day, when the milk will yield a nice cream. Is it to be supposed that there is that difference in the milk produced from the same cows on those days, when the cows are fed on the same pasture, that there was in the amount of butter made from their milk by skimming the cream only? My judgment is, that by churning only the cream, the dash of the churn must injure the butter globules, and make the butter salvy, as the friction is more directly applied to them than would be the case if milk was mixed with the cream. From observation, I believe too many butter makers do not skim as deep or churn as much milk as they ought.—*Interior.*

**THE SLOPS.**—How common is it for the kitchen authorities in a farm-house to throw the slops upon the ground, just outside the kitchen door, and perhaps within six feet of the well. I have known of a boarding house epidemic of diarrhoea which could be traced to no other source than the contamination of the well water by a shallow pool of sun-exposed, foul-smelling slops. A cemented cistern should be built about 75 or 100 feet from the house, and at a distance from the well, and to this all the kitchen slops, vegetable waste, &c., should be conducted through a suitable pipe or conduit. From the cistern these matters may be fed to the pigs, or thrown upon the ground at a proper distance from the house.



**Orchard and Garden.—No. 9.****HINTS FOR THE MONTH, BY H. ORTL.**

Everything should be done before the winter sets in that will save time in the spring. Those who, having purchased trees this fall, unless their ground is very dry, or they make it so, would act wisely to heel their trees in a high sheltered spot, or else bury them underneath the soil altogether; still better it would be to put them in the cellar or root-house, loosening them out of the bundle and cover the roots over with dry earth, sand, or sawdust. Fall planting is as successful as spring if only a little attention is paid to drainage and mulching. We would advise all who have cellar-room and intend planting, to purchase in the fall; they will in most cases procure better stock, more true to name and less exposure in transit. Those who have already planted should be careful to stake immediately, and also to heap the soil a foot high round the tree, which will serve as a protection against mice, frost, &c. Give bearing trees a good mulching of well rotted manure, all kinds of fruits will be benefited by this operation.

Raspberries, currants and gooseberries should be well manured; this can be easier done now than in spring, the ground being dry and firm.

Grapevines will require pruning according to the various systems practised by the growers, and left ready to be laid down when opportunity offers, and to be covered with earth; we think this to be the simplest and safest covering.

When pruning the vines a few shoots might be left at the base for the purpose of layering for young plants. This has been a favorable season for ripening the grape, all varieties succeeding finely and ripening in localities that have not been blessed in grape culture for some time. Nothing like thorough efficient drainage in all seasons.

This is a good time to make and plant cuttings of currants, gooseberries, willows, poplars; in fact, the majority of stock propagated by this method. Having trimmed your bushes, make the cuttings of the new wood, it being best, from eight to ten inches long; select a good, loamy, dry piece of soil, which manure and plow or dig deeply. Having got it into decent condition, draw a line and cut out a trench with the spade deep enough to receive the cutting so as to allow one or two buds to be exposed (as shown in cut), then fill in and tread firmly, covering and finishing up evenly and neatly. After your piece is planted be careful to mulch the rows with manure, or other substance, to prevent upheaval by frost. By following these few directions you can grow any quantity of fine bushes for your own planting, or can be disposed to good advantage.

Be careful to collect all the leaves and other litter to be spread on beds and borders; all hardy shrubs and flowering roots are benefited by mulching, which will prevent the frost from penetrating too deep.

Roses should be cut to within a foot of this season's growth and carefully covered. All trees and plants suffer as much or more from exposure to the sun than the frost; of course it is the two extremes that makes the mischief; anything that will shade stock will therefore be of value. In protecting roses care should be observed not to use any wet matter, or that which will retain moisture, as the wood rots very easily, and moisture intensifies the frost; we have known a fine collection of hardy roses entirely ruined by wet and rotten mulching.

Rhubarb might be dug up and divided, if only a few roots, and replanted in a rich piece; no well ordered garden should be without a good patch,

and a bed of asparagus also. The procuring of a few plants of each costs but a trifle, and once in possession, can be indefinitely multiplied.

Seeds of the barberry and blackthorn should be bruised and washed a little before sowing; mixing with sand will facilitate the operation; they can be sown in drills similar to turnips. The nuts of the horse chestnut might be gathered now and sown in drills, covering with an inch or so of soil; they would require mulching after sown. Mountain ash seed might be gathered and treated as directed. The time is coming, and not far distant, when every effort will be necessary for the propagation and planting of trees, even for the ordinary purposes of fencing and firewood, let alone what will be required for building and manufacturing.

All tools and machinery will require collecting and storing away; oil thoroughly to prevent rust, and arrange things in proper order.

Examine your drains; see that they are in a working condition.

**Correspondence.**

SIR.—I left Winnipeg at 1 p. m. on the 23rd of September to make a short walking tour. For four miles out of Winnipeg, on the Portage La Prairie road, you find a very fine country, well settled by old settlers. About three miles from town there is a large brewery, where I stopped and talked to the brewer, who seems to think that there will be a good demand for barley when the season opens for brewing, which will be very shortly. A little further on is the farm of Hon. James Mackay, who, I

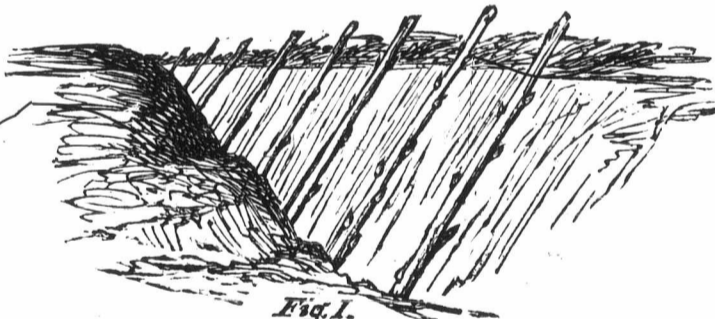


Fig. 1.

believe, has between 260 and 300 acres under crop. I am sorry to say he was not at home, so I could not see the place. From here I got a lift with a young Irishman who is going to settle up here. He has been up here a year now, and says that he likes the country very much. Thanking him when we got into the parish of Headingly, I got out and walked down between two farms to a gentleman's who I travelled from Ontario with. Not finding him at home, I went on to a Mr. Hall's, who I had a letter of introduction to, who lives about one mile down the River Assinaboine, on which Headingly is situated. When I got there he was out in the field digging potatoes, so I thought I would go out there and see him, and in that way I should be able to see what sort of crop he had. After showing him my letter of introduction, he very kindly asked me to stay the night with him, which I did very willingly. I must say I was surprised at the crop of potatoes. I think that they would go about 400 to 500 bushels per acre. I had no time before dark to go over the rest of the farm, but Mr. Hall very kindly gave me the benefit of his experience during the evening. He told me that the wheat especially, and all the grain somewhat, is damaged by the very heavy rains that there were for a week or two just when the grain was ripe. All the time through the grasshopper plague Mr. Hall was lucky enough to save a good deal of stuff. On the morning of the 24th (Sunday) I went round the place, and saw crops that were growing and also the grain which is stacked. The wheat is not bright, but, all the same, I think it will make a very fair sample of flour. I went out to see some timothy which Mr. Hall saved this year, and some of it was three feet high; I never in my life, saw such a growth in one year. The next thing that I went to see was the garden. If anyone had told me that vegetables could have been grown to such size I would not have believed them; parsnips 30 inches under the ground, cabbages as big again as in Ontario, and all other vegetables in proportion. Then came the

fruit—plums and apples growing nicely, but not bearing yet, though there were a few Transcendent crabs bearing. Small fruit seems to do well here, though, of course, I could not see them bearing, as they are all over. From Mr. Hall's I walked along the banks of the river and saw the country, which I think is a very fine country for emigration: vast prairies composed of from 13 inches to 4 feet of vegetable earth and a clay subsoil, which is the best soil possible; there is not the slightest doubt that it will grow immense crops. At night I stopped at a Mr. Morgan's, an old settler, and he told me that he only once had a total loss of his crops, and that was from the grasshoppers. Mr. M. is supposed to have one of the finest gardens in the Province, and he certainly has the best one. I have seen from about three acres, he told me he made \$1,400 last year. This year he expects to have 10,000 bushels of roots to put in his cellars, and he expects to realise good prices. I believe that Mr. Morgan's crop will average nearly double a usual Ontario crop. I will give you a short general account of the country. It may be called a vast prairie, but it has some wooded country round the rivers and lakes. The best place now for emigrants to go is to the Pembina Mountains; it is a fine country with both wood and prairie; but I think that it will mostly be taken up next spring. Some people in Ontario think that this country is destitute; but really there is more life here than in Ontario. I will write no more for this month's paper, as I shall be intruding; but if any Ontario farmers want to know anything about the country I shall be glad to tell them. W. H. DISBROWE.

SIR.—About the marl: where I have applied it at the rate of two or three hundred pounds to the acre, it did not appear to the eye to have derived any benefit from it; but where I have put a couple of tons of it per acre it was quite visible, especially on potatoes, peas and clover.

This is my sixth year's subscription, and I am not sorry for the money I gave for it, for I consider it is worth (your paper, the ADVOCATE, I mean) many times the money I gave for it; I am pretty sure that I have made some hundreds of dollars by the advices I got from it, and expect to make some more. In short, I consider you the best friend that I have.

C. S. DIT B.

Pentanguishene, Sept. 26, 1876.

[Marl, as with other fertilizers, varies in strength in its constituent parts. That applied by you must be uncommonly rich in its constituents, or the quantity (a couple of tons) would have little effect. An American writer says: "We often use the

marl alone for potatoes, cabbage, &c., also as top-dressing for grass; for this latter sometimes from 15 to 20 tons to the acre." The beneficial effects from an application of marl are not wholly immediate, but improves the fertility of soil for some years, in this respect resembling the effects of lime. Would Mr. dit B. be kind enough to write again, stating the particulars of its application?—Ed.]

SIR.—I have a good horse for some time troubled with ringbone in the fore feet. Can you inform me through your valuable paper of any cure for it? Petrolia, Oct. 17, 1876. W. H.

[The only reliable cure is to have him fired and blistered.—J. D. O'NEIL, V.S.]

SIR.—Having read in your FARMER'S ADVOCATE that a successful trial had been made in Scotland to hoist stumps out of the ground with dynamite, we take the liberty to inquire of you if it could be sent for, and how much each cartridge would cost, as there is a great many pine stumps in this locality, and would be anxious to give it a trial. Please insert, if possible, in next.

FREDERIC ALLEMARD, Eden P. O.

Bayham, Oct. 9th, 1876.

[In reply to Mr. A., we regret we cannot give him the information or the quantity of dynamite used in the removal of stumps, or its cost. The experiments referred to in our last number were made in Scotland. Its value for removing stumps is denied by some, though as strongly asserted by others; among the latter is the *Scientific American*. We would wish much to see the experiment tried here, as experiments alone can decide the disputed question. A trial might at first be made on a small scale. If what is claimed for it be true, it will be extremely beneficial to farmers owning partially cleared farms.—Ed.]

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SIR,—According to promise, I write you about the free grant lands, and things in general, in this (Algoma) district. On my arrival here I found a great change in the appearance of things since I left last fall. There are twenty miles of track laid on the Canada Pacific RR., commencing at Fort William, north-westward, and running through the township of Oliver; there are two engines and ten flat cars at work in laying the rails, and the road is now being graded from the Fort to Prince Arthur's Landing, five and a half miles, and it is expected the cars will be running to Prince Arthur's Landing this fall, which will secure the terminus to Prince Arthur. The stone round house and stone jail, court house and registry office, are progressing favorably towards completion, and all other Government works seem to be progressing favorably; but there is one item in the expense of carrying on the work in this section of country that could in a short time be greatly lessened if agriculturalists would properly pay attention to farming here, as the free grant lands are convenient, and really good. The Government is paying about half a million of dollars annually for produce for the works, and as it all has to be brought here from below by the boats the freight add greatly to the cost of the same,

and as the railroad will be some five years yet in building to Fort Garry, farming is a profitable subject for farmers to study. The fact of good land being given in any way near such a good market, where there is a rail and gravel road leading into the town. All kinds of produce do well here, and it is a fact patent that the land will produce 3 tons of timothy hay to the acre, and 300 bushels of potatoes to the acre has in several cases been produced. The climate is good, and at this last day of Sept. the late sowed peas are in bloom, and the potato tops are quite

green. I have spent a good deal of time, within the two last seasons in exploring and selecting good free grant lands for friends in my own neighborhood, and I am prepared to locate for a good many this fall and winter, 160 acres to any man or woman over eighteen years of age, subject to settlement duty, to clear 15 acres in five years, and build a house 16x20 on each lot of 160 acres. I have procured maps, got up by the Government surveyer, showing all the field notes. These lands are all of clay loam, lightly timbered. My address will be until spring, Box 527, Toronto, or at Markham, and I am willing to communicate with any person who will enclose a stamp to the above address.

SIR,—I enclose you a few oats and wish you to tell me if you can, whether they are a new variety or not. I got one peck from Mr. J. H. Andre, Bingham P. O., Tioga County, New York, America. He claims that they are a new oat. But however that may be I think they are a good kind and will do well, especially on light land. I had nine bushels from one peck, they weighed forty three pounds to the bushel. Fall Wheat is a very poor crop in this part of the country, but I agree with you that if only Scott and Clawson wheat were

sown the country would be a great deal richer in wheat than it is at present. My Scott wheat was twenty bushels and Treadwell eleven bushels to the acre. I heard yesterday of a man, a few miles from here, having 15 acres of Fall Wheat. He left 10 bushels at home and took the rest to market at one load. Another told me that he only had 30 bushels from 6 acres. Still people will sow the old seed, at least the great majority of them. I suppose they are like the Dutchman that knew his was good seed having had it 20 years. I have sown 2½ bushels of Clawson raised from the 4 ounces you sent 2 years ago, when I got some Scott wheat from you. The Australian Oats is very good, but will not weigh so well as last year. I think people make a great mistake in sowing the old seed so much, and not even trying to get a change.

JOHN PARKINSON.

Teeswater, Oct. 4, 1876.

[We have never raised any oats like these you have sent. There are none like them raised in this part of Canada. We cannot say if they are superior or inferior for general cultivation. If they continue to yield with you as will for another year we shall be pleased to give further accounts of them.—Ed.]

CROP RETURNS FOR 1876.—Hay crop was abundant. Fall Wheat very poor, from 10 to 15 bushels per acre. Spring Wheat about two third crop or from 15 to 20 bushels per acre. Barley an average crop, good sample, small berry. Oats heavy crop but a great amount of smut. Peas the best for many years. Root crop suffering for want of rain. Potatoes are a good crop and excellent quality.

THE WAY I TILL POTATOES.—I scrape the loose dirt back to the edge making the pit, say three feet wide and twelve feet long, drive a crotch or piece of board down, one in the centre of the pit and one at each end so the top of them will be about the same height as the potatoes when the pit is finished. When you want to cover put a small rail or pole on the crotches along the top, then a short piece of board from the pole to the ground on each side at both ends and centre (rafter style) and then board on these like sheeting, then cover over the boards. The space between the potatoes and covering is the safe-guard.

LAND PLASTER.—I tried an experiment in sowing Land Plaster this season. To four acres of meadow I sowed two bushels of Plaster. I left a strip across the field in the centre about two rods wide which I did not sow any. When I cut my hay there was not more than half the amount of hay

on the strip that there was on the same amount of land where the Plaster was sown and in the after-grass there was not more than one quarter the quantity of feed. It made the most difference on the clover.  
C. W. R.

SIR,—If it is not intruding on you too much, and if you have the means of knowing, then would you kindly undertake to give me some information respecting steam ploughs? Are they used at all in Canada, and if so, where? What (about) is the cost of them complete, or the separate articles that go to make up the complete

apparatus for ploughing? Also, where are they made? can they be used to advantage on a farm well cleared and free of stumps and stones, except a few hard-heads; or are they too expensive to make the use of them pay? How much can be ploughed in a day with one of them? Any further information that you may deem necessary will be thankfully received.

G. F. CHARLES, Wolfe Island, Ont.

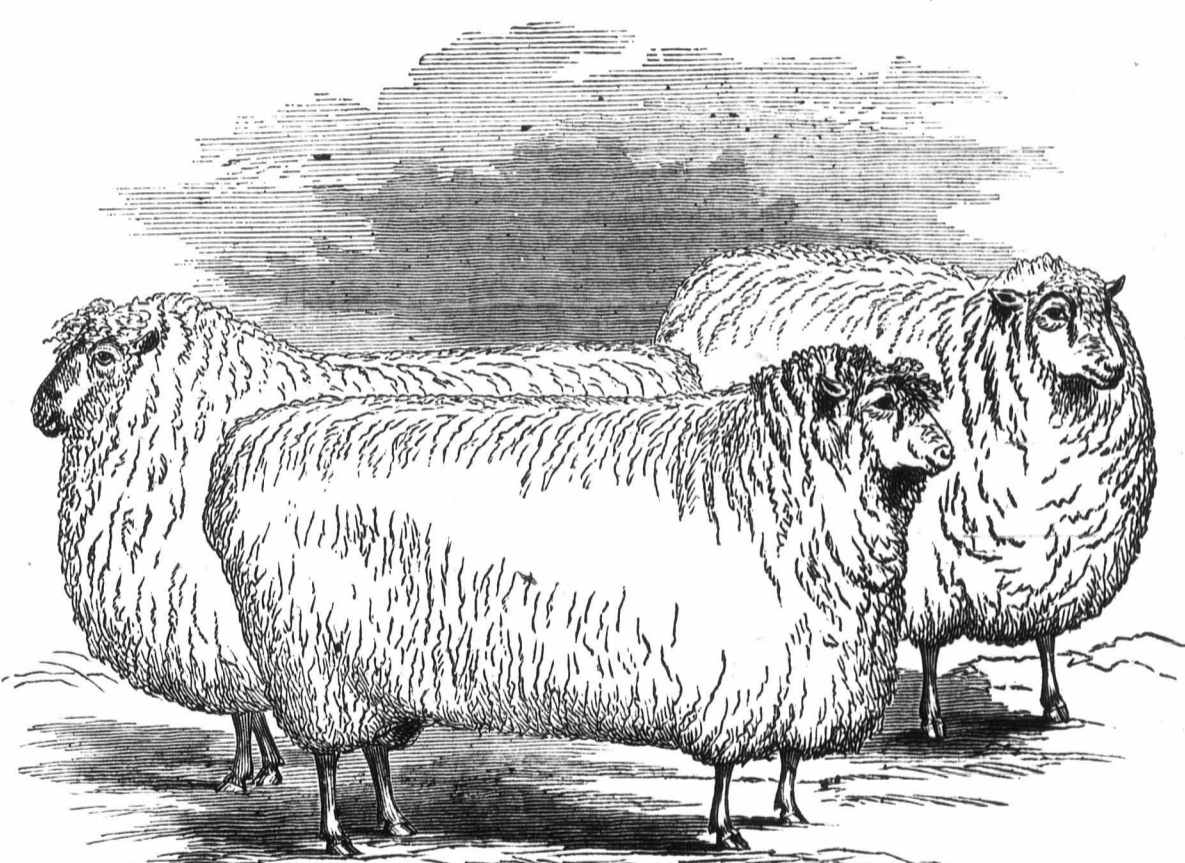
[We are not aware of any steam plough being used in Canada. There are a few used in the States: in England there are near two thousand in use. We were surprised that at the great Centennial Exhibition not one could be found. We believe they can be used to advantage on well-cleared farms, but do not think they would pay any individual farmer we have yet seen or farm we have been on, because the farms are too small, unless several farmers would join together and procure one, or one man travel with the machine, as they now do with a threshing machine. Messrs. Aveleny & Porter, of Rochester, England, are manufacturers of steam ploughs. There are many other manufacturers in England: we do not know which is the best. Will give more information about them in some future number.—Ed.]

Cotswold Sheep.

The above cut represents a flock of Cotswold Sheep, the property of F. W. Stone, of Morton Lodge Farm, Guelph. Mr. Stone has imported more Cotswold Sheep into Canada than any other importer. He now has a large flock from which Breeders can select different strains of blood to suit their requirements.

SIR,—I think it due to you to report the merits of the Oats called "White Australian," obtained from you two years since. This dry season it has yielded at the rate of 46 bushels an acre, while Tartarian Black oat has yielded only 30 bushels to the acre. The White is entirely free from rust, the other is not. The straw is at least 15 inches longer, beautifully white and clean. The grain of the white is fuller and plumper than that of the black. Both sorts were put in the ground at the same time. The land for both is sandy, equally well manured and cultivated. The two kinds were planted side by side, therefore nothing can be plainer than the superiority of the White Australian. Wherever you obtained it you deserve credit for introducing it into this district.

HENRY LANDOR, SUPT., Asylum for the Insane, London, Ont.



COTSWOLD SHEEP, THE PROPERTY OF F. W. STONE, GUELPH.



**Agriculture.**

**Feeding Value of Oats, Beans, Maize and Bran.**

Every good groom knows that sound oats and beans in due proportion, and at least a year old, are the very best food for a galloping horse; the only food on which it is possible to get the very best condition out of a race horse or a hunter. It has also recently become known that horses do slow work and get fat, indeed too fat, on maize, Indian corn, which is frequently one-third cheaper than the best oats. In the East, horses are fed on barley, and it is a popular idea with English officers who have lived in Persia and Syria, that the change of food from barley to oats often, when imported, produces blindness in Arab horses. Now, although no men understand better or so well how to get blood horses into galloping condition as English grooms, they do not, and few of their masters do, know the reason why oats and beans are the best food for putting muscular flesh on a horse. The agricultural chemist steps in here, makes the matter very plain, and shows that if you want pace, Indian corn, although nominally cheaper, is not cheap at all. According to Dr. Voelcker's and other chemists' analysis we find, in round numbers, in oats, beans, barley, and maize, the following constituents:—

	Oats.	Beans.	Barley.	Maize.
Water	14.3	14.5	14.3	14.4
Nitrogenous or muscle-producing compounds	12.0	25.5	9.5	10.5
Starch and other non-nitrogenous heat and fat producing compounds	54.4	43.0	64.1	61.0
Oil, as ready-made fat	8.0	2.0	2.5	7.0
Indigestible woody fibre	10.3	11.5	7.0	5.5
Mineral matter (ash)	3.0	3.5	2.6	2.1
Total	100.0	100.0	100.0	100.0

It was a common saying in Leicestershire, before deep draining, clean-cut fences, increased sheep feeding, had improved agriculture at the expense of fox hunting, after one of those five-and-forty minute runs at best pace that are now so rare:—"it found out the horse that ate old beans and best oats." In fact, they made experiments they did not understand, which it was left for the modern chemist to explain.

When we feed a bullock, a sheep, or a pig for sale, after it has passed the store stage we want to make it fat as quickly and as cheaply as possible; but with a horse for work the object is, give him muscle—in common language, hard flesh. There are times when it is profitable to make a horse fat, as, for instance, when he is going up for sale, after a severe hunting season. For this purpose an addition of about a pound and a half of oil-cake to his ordinary food has a good effect. It is especially useful when a horse that has been closely clipped or singed is in low condition. It helps on the change to the new coat by making him fat. A horse in low condition changes his coat very slowly. Now oil-cake is composed of:—

Moisture	12.00
Oil	11.50
Nitrogenous compounds	29.70
Mucilage and digestible fibre	27.80
Woody fibre	12.00
Mineral matter (ash)	7.00
Total	100.00

When from any cause there is difficulty in getting a supply of the best oats, an excellent mixture may be made of crushed maize and beans, in the proportion of two-thirds of maize and one of beans, which exactly afford the proportions of flesh-forming and fat-forming food.

Bran is a very valuable food in a stable for reducing the inflammatory effect of oats and beans. Made into flashes, it has a cooling and laxative effect, but used in excess, especially in a dry state, it is apt to form stony secretions in the bowels of the horse. Stones produced from the excessive use of bran have been taken out of horses after death weighing many pounds. When sawn through they appear to be composed of a hard crystalline mass, deposited in regular annular rings, resembling in appearance the concentric yearly rings of wood; they prove to be composed of phosphate of magnesia and ammonia. Millers' horses are particularly subject to this malady. The best way to guard against it is to add half a pint to a pint of linseed, boiled until quite soft, to the mash of each horse.—*English Live Stock Journal.*

**Potatoes an Exhausting Crop.**

Potatoes are by far the most exhausting crop usually sold off the farm. Turnips come next when they are sold off. Grain crops remove a comparatively small quantity of manurial constituents. These facts show the reason why, while wheat can be grown successfully year after year on suitable soil, without the return of any of the ash constituents, the same cannot be done with either potatoes or turnips. While potatoes and turnips contain much nitrogen, a nitrogenous manure is scarcely required for their growth if the soil is in good condition. The fact that green crops are so far independent of nitrogenous matter in the soil is no doubt due to their having broad leaves to take the ammonia from the air, and keep spreading roots to gather what they require through a greater mass of soil. The same remark applies to the leguminous crops—beans, peas, vetches, clover, etc. During the growth of clover, for instance, nitrogen even accumulates in the soil. So, although leguminous crops contain much nitrogen, nitrogenous light manures are found in practice, not to be required. On the other hand, an application of phosphoric acid sulphuric acid and lime, which can cheaply be applied as a mineral superphosphate, generally produces a most marked effect.—*Prof. Stewart in North British Agriculturist.*

**Harvesting Mangold Wurzels.**

The harvesting and storing of mangold wurzels is among the most important of farm operations. When a crop shows signs of flagging leaves, either from lack of nourishment or from the attack of fungi, or both, it is as well to put them together as soon as may be convenient; but with regard to those which are still vigorous when frost begins, it will be well to watch the glass and other weather signs, as a few degrees of frost for one or two nights will not greatly injure the crop; and indeed we have harvested mangold as late as November, which had been visited by frosts so severe as to cause considerable alarm for its safety. If mangolds be harvested in dry days, succeeded by frosty nights, we make a point of commencing to pull until all frost has been removed from the plants, and then not to take up more than what can be conveniently carried before night sets in, as the leaving of roots exposed flat on the ground on a frosty night may cause premature rotteness. If, however, they cannot be carried, it will be well to protect them by spreading the leaves over the roots, either as they lie in rows or in gathered-up heaps.

Our mode of harvesting is to pull them up and place in ranks wide enough apart to allow of the passage of a horse and cart between the ranks, and as they all lie side by side the leaves are cut off with a short hook, or a broken hook does well for the purpose. Here, however, great caution should be used. The work people always cut them too close; in fact, they too often cut off the leaves in one bunch, thus taking with them a portion of the crowns. We therefore watch this part of the work with great care, and give directions that nearly all the life-stock (petiole) be left on; and, indeed, we are not particular as to leaving whole leaves here and there, as when the roots are caved the leaves soon dry up and act as a convenient packing to the roots.

We find, too, that dirt on the roots soon dries up, so that we are not over-particular to shake all this off before storing; at the same time we confess to a preference for yellow intermediate mangold, on account of its very smooth outline and few rootlets, because it can be pulled with half the labor of the coarser sorts, and will come up so free from dirt that the knocking together to shake off the dirt on pulling up is rendered unnecessary. This should be avoided, as it is apt to bruise the skin and so do mischief; and when these are used they scarcely require cleaning at all, or, if so, it will be of the very slightest kind. In stacking, the first point for consideration will be a convenient site for the ready utilization of the crop. This fixed upon, we choose the least exposed position; if in the field, the leeward side—"in the lew"—is chosen; if in a yard, out of the way of cutting winds. Anyhow, too near a public road should be avoided, as they are liable to be stolen at night by some carter or other person with a conveyance—"they are so useful for horse or cow or pig."

We usually place a few roots near the stable expressly for the horses, and when we have decided upon all the conflicting points of position, a cave is commenced—that is, a heap which we make about four feet at the base, on the bare ground (we do not like pitting, as the bottom of pits may become

wet). The roots are neatly stacked in a triangular form, at an angle of about 40 degrees, and this is added to for any convenient length.

As the work is carried on the stack is lightly covered with loose straw to keep out the frost, and the thatching should be carried on as soon as possible. Our thatch for this crop consists of yealmed wheat straw from the threshing machine, or we may use a thatch that has been previously employed on the corn or hay ricks. We never stint in thatch, as when well applied we think it the best protection to the mangold heap. Some of our farming friends prefer to cover over this crop with a plaster of clay; but if this be efficient to keep out the wet, it will scarcely admit of ventilation from the heap. Thatch, on the contrary, keeps out wet, keeps out cold and keeps in warmth, allowing at the same time free ventilation from below. We have always trusted to the thatching alone for protection, and must say that we are never plagued with any extent of rotten roots. We feel convinced that, if stored and protected as we have indicated, this valuable crop may be preserved in the best possible condition.—*London Field.*

**Yard Manure.**

Every farmer has the materials on his own farm to enrich it. How shall he apply them? How make his compost heaps? I answer, with his yard manure, and the soil mixed with it; and in the room of ashes or lime to make it decompose, give me hogs' noses. Writers may talk about their chemical or mineral agents, but for me give me hogs. Yes, keep hogs. Keep them in your manure cellars, and throw in your coarse materials; their noses will sooner decompose a sod than all the nostrils of the chemist. Hogs will work better than Irishmen, whose trade it is to spade and toss up the earth. Hogs will work seven days in the week, while you must be pretty lucky to find a human laborer who will serve you faithfully through six. If a farmer has a dozen head of cattle he may make 50 cords or 200 loads of excellent manure every year. From, say the first of July to September, he must occasionally haul in other materials. Persons living near the city may buy manures, but those living some 10 miles away cannot afford to haul it to their farms. I, for one, would not want to haul it, for I make just as good for less than half what it would cost me in Boston. Some farmers with 40 head of cattle, I am sorry to say, make less manure than others with but seven head. But I could not advise any of my friends to follow the example of the farmer with the 40 head. My advice to all is, keep cattle; make your hogs work—no labor is cheaper than hog labor, and none brings a better return.—*Massachusetts Ploughman.*

**Lime for Weevil.**

A correspondent of the *Country Gentleman* writes as follows:

Some years ago, hearing complaint of weevil in wheat about the close of harvest when I was ricking my wheat, I got fresh slaked lime and threw it over the rick in building it, laying two courses of sheaves, then lime sufficient to whiten the stack. There was no weevil in my wheat. A neighbor who threshed his wheat from the shock came to me a few days after and said he should lose his wheat, for it was alive with weevil. I told him to throw lime over it, and shovel it through his wheat, which he did. Two days after there was not a weevil to be seen in it.

Our farmers will do well to remember the above and try it. As a precautionary means it should be tried in every stack, and can as well be tried in the cleaned wheat. An intelligent gentleman has informed us that twenty-five years ago, when the brewers in New York had large quantities of barley on hand, they found that the grain put up in large bins was almost safe from the weevil; the little creatures worked a little in the top of the bins, but did not extend down much; besides a dust accumulated where they worked and destroyed them in a few days.

The largest farm in England consists of 3,000 acres, and belongs to a man named Samuel Jones. In its cultivation he follows the "four course" system, the whole extent of the farm being divided into four great crops: 750 acres to wheat; 750 to barley and oats; 750 to seeds, beans, peas, etc.; 750 to roots. His live stock is valued as follows: Sheep, \$35,000; horses, \$15,000; bullocks, \$12,000; pigs, \$2,500. The oil-cake and corn purchased annually amount to \$20,000, and artificial fertilizers about \$8,000.



### Deep Soil.

Among the peculiar features of the exhibit of Iowa at the Centennial, is a sample of her soils. She has long glass cylinders over a foot in width and many feet in length, and in this is placed earth, just as it exists. On the top is the black soil, then the subsoil, and so on deep down to "hard pan," "solid bottom," or whatever the end is called. This enables the stranger to see how deep is the rich black soil, and is very attractive to the visitors. There is a glass pillar for each county, and the soil of each county, just as it is, is represented each by itself. There is no doubt it is one of the very best methods of showing how deep is the soil of Iowa, and that the fact will have at least its due weight to those who are seeking homes in the West.

But after all we must remember that it is not alone deep soil that it is to make good farm land. Though rich black soil is a hundred feet deep, it is only the first foot or so that is of any material value to a good crop. Some roots go deep, but the chief feeding roots are near the surface, and in time they will exhaust the soil, and, unless the lower strata are brought to the surface, at some expense, the crops will be poor. This has been found the case in Ohio. Here was deep, rich soil, as deep as any one could wish, but in a quarter of a century it gave out and many a wheat field has been laid down again to grass, and cattle now graze over land which was once the grain-raiser's pride. The subsoil might be brought up to the top, but that is too expensive. No way is like the old way in many things, and no way of keeping up the fertility of the soil is like the old way of feeding it annually with manure. Soil may be as deep as one chooses and laughter may be bestowed upon our western journals and eastern farmers who talk about manuring, but the richest western soils are no exception, and the time will be when these deep Iowa soils, as represented in these Centennial glass collections, will have to be annually manured like all the rest.

Even the deep ploughing, the turning up of this rich subsoil, is not always the best plan, even when the expense of turning it up is not so great an object, for, notwithstanding the advice of the great farmer of Chappaqua to "plow deep," prairie men never appreciated it. The universal testimony is, that in breaking prairie for cultivation the shallow plowed land yields the best crops. There is reason for it, but we need not give it here, where only the undoubted fact is of consequence.

We are glad to know that Iowa soil is deep and rich, and see the evidences thereof at this great Centennial Exhibition. It does no harm whatever, and in many ways the exhibition does good. But in the name of good farming we must point out that for permanent and genuine agriculture it is of little account. The English have no virgin soil, no black, deep bottoms to their land, but by judicious and cheap management it yields to-day crops of which the black lands of Iowa might be proud. —*Germania Telegraph.*

### Clover and Wheat.

Time and again, says the *Indiana Farmer*, it has been shown that wheat is almost certain to be a good crop upon land previously run to clover. Equally often has it been shown, by actual trial, also, that clover can be made a profitable crop to the farmer. When we consider that these two facts are well known, is it not a little singular that farmers will persist in taking their chances in wheat crops in land not naturally fitted for wheat? Year after year this is done on land not possessing the elements required to produce wheat, but which would produce clover, which in turn, while making a profitable crop, would put the soil in precise condition for a wheat crop. Why not observe these plain facts, and thus become more successful?

Dr. Weisk, of Germany, has shown by actual and repeated experiments the true value of clover as a preparatory crop on wheat land, and, indeed, for corn and other crops requiring similar elements of soil. It was shown that a single acre of clover left enough nitrogen in the soil to produce 116 bushels of wheat; phosphoric acid for 114 bushels, and potash enough for 78 bushels. These are the active and essential elements of soils for producing wheat. We urge again that it is both a useless waste of time and labor to plow along without method or information, or what is still worse, without disposition to yield to what is known on this subject in the production of wheat. If ever the production of wheat is increased, these well known and well tested facts must be observed. It may be true, and is, that there are sometimes failures in wheat crops even in land so prepared. But these are clearly traceable to conditions of climate and atmos-

phere, character of land, and want of drainage. Lands which are now annually producing poor crops of wheat and corn, can be made to nearly double their production by running them to clover, and at the same time the clover itself may be made a valuable crop.

One other consideration regarding clover. Farmers frequently say that in their sections of country clover freezes out. Now, we suppose that if people should attempt to wear linen coats during the winter, they would freeze also. What we mean to say is, that no grass field should be pastured bare late in the season. The practice indulged in of grazing land bare to the roots of the grass is the chief cause of its freezing out. A reasonable aftermath should be left for winter protection, and there would be little of this freezing out heard again. —*Rural World.*

### Experiments in Farming.

A writer in the *Vermont Farmer* says: A large class of farmers at the present time apply the manure in the spring, do a good share of their plowing in the spring, when the team is the least able to endure the hardship, and it is really harder plowing at that season than any other. Now I have become satisfied beyond a doubt that the best time to plow and apply manure is in the summer as soon as may be after haying, and as soon as the middle of October. I commenced to draw the manure soon as the first of September, spreading it, invariably, from the cart, and all the better if harrowed in the same day, as I believe that manure loses its strength by evaporation. Land thus prepared will not only help to facilitate the work in the spring, but will give better crops than by any other way I have tried. I have handled from 100 to 150 loads of manure the last March and put it in large heaps to lay till the middle or last of May, and have then applied it to the soil, and I had rather have two loads put on in the fall direct from my barn cellar than four loads in this way, as it leaches and dries up so that it becomes of much less value. I have for years applied my manure both ways, but should have adopted the new way years ago had my cellar been large enough to hold a year's stock of manure. In most cases, when I seed down to grass the first year, I get splendid crops of grass—the reason of it being that the land is not worn out by cropping before I seed it down, and the manure gets incorporated in the soil and is ready to act at once. How many times I have seen little heaps of manure (about six to the load) lay over plowed fields and on the grass land, to be spread the next spring. Where the heaps lay the soil is too rich, and it sown to grain it all lodges, the straw is almost worthless, and the grain does not fill. If potatoes are the crop, one will have a good growth of vines and a legion of small potatoes. If grass land, the grass where the heaps lay is all killed out, and in return noxious weeds come in. In building barns many make a mistake by not having more room in the manure cellar. It should be at least nine feet high—ten is better—with trough shape at the bottom, and cemented so as to preclude the possibility of losing the best of the manure. The stable should be 16 feet wide, so as to drive in with muck or other absorbents, and there should be a space back of the trench, three feet wide, (a bin like) and three or three and a half feet high, for storing absorbents. With such a stable, where the cows are kept in nights the year round, and the manure applied in the fall, instead of having a farm running down, it would make one smile to see the increase in the crops. Who says my way is not a good one?

### Alfalfa or Lucern.

Alfalfa, the *Pacific Rural Press* says, was transplanted into Greece from Persia nearly five hundred years before the Christian era. At present it is largely cultivated in England, France and other parts of Europe, and gives great satisfaction as a forage plant. It is being introduced quite extensively into our own country, and though as yet California is far ahead in its culture, in time alfalfa will, we take it, be a prominent crop in all places where the winter is not too severe. Perhaps, even more noticeable than its rapid and enormous growth, is its hardiness and ability to withstand our long dry seasons, and to remain fresh and green when nearly everything else succumbs. On the pampas of South America it thrives, and appears rather to enjoy the drouth than otherwise. The power to withstand great heat and dryness comes from the long, searching roots, which are sent deeply down into the soil to find the moisture that is inaccessible to other less energetic vegetation.

### Home-Made Manure.

In searching for manures we believe it is a safe plan, in that as in many other things, to follow the dictates of nature. Nature draws her supplies of fertilizing material from decomposing rocks and falling leaves, and while we have not yet learned to extract the potash from the granite, yet we are already drawing large supplies from minerals richer in that fertilizer, though more rare. And we believe as our needs become greater, the supply will be brought to light. Already we derive immense quantities of potash from Germany, and of potash and the phosphates from the kyanite of Canada, while the fossil bones of fishes of thousands of years ago, from the swamps of Carolina, are yielding their rich treasure for the fertilization of the fields of the whole world. But all these products have their specialties; there is not one universal manure, but one which really costs nothing and is good for all crops; that is derived from the barnyard, the henhouse and the pigsty.

A farmer may go on from year to year raising large crops and selling them, and then buying his manures from the product of the rocks, the fossil bones of antediluvian fishes, or the medicated bones of the cattle which feed our cities, and he will really be growing poorer every day, though he may be putting money in his pocket. But if he keeps cattle and saves their manure he is every day adding to his own wealth and to the value of his land. It is the old story of raising at home instead of buying from abroad; keeping cattle and saving farmyard manure is manufacturing your own fertilizer instead of buying it. The amount of grain necessary to keep the cattle would not buy half as much nor half so valuable a manure. Then the pasturage and the return to the soil by that means, while in the end the cattle more than pay for all they eat and are constantly yielding revenue and food for the family.

### Turning in Clover.

I once had a very poor, exhausted lot come into my possession; the field was naturally good, but run down. It was under the plow the year before. I sowed it to oats, and stocked thoroughly with the large kind of clover with the oats. The oats grew only about six inches high, but there was an excellent catch and growth of clover. The next season the clover stood thick and high; I sent the harrow ahead of the plow, exactly as I wanted to plow, and not much faster. When the harrow came round, I took my bag of Nova Scotia plaster, and sowed one cast at the rate of three bushels to the acre; then followed with the plow, about seven inches deep, until the field was finished. The clover was in blossom. In August I harrowed it thoroughly, and sowed to rye. I had an excellent crop of rye, and have never failed to get a good crop on the field since, except in a small corner, which was too stony to turn the clover under at the time. All the crops since have showed the effect of that clover and plaster. The stones on the whole field have since been removed, and, with others, form a handsome fence on the four sides of the field, and I can now hoe, mow, or pasture at pleasure.

### The Best Farmer.

Farming is the changing of material (manure) into grass and grain, and thence into pork, beef, wool, etc. When the land is purchased, it is this raw material (fertility) that is paid for; that alone is the value. The rest is mere sand, or clay, or rock. The object of the farmer, then, should be to secure his material as cheap as he can and use as much as he can, always keeping his machine, the farm, in good working order, mellow, well drained and clean. Instead of this, we are too apt to abuse the machine. The object of the farmer, then, must always be manure, fertility—how he can get this raw material cheapest, and work it best into grain, grass, etc., and thence into other products, such as are of most advantage to him. The best farmer is he who raises the best and largest crops on the smallest surface of land at the least expense, and at the same time annually improves his soil; who understands his business and attends to it; whose manure heap is very large and always increasing; whose corn crib and smoke house are at home; who is surrounded by all the necessaries and comforts of life; who studies his profession, and strives to reach perfection in it; who keeps a strict account of his outgoes as well as his incomes, and who knows how he stands at the end of each season. Such a farmer, in nine times out of ten, will succeed, and not only make farming a pleasant but profitable occupation.



## Canadian Agricultural Notes.

## Ontario.

## MUSKOKA.

A writer in the *Stratford Herald*, in "camping out in Muskoka," gives some pleasant descriptions of the natural beauty of that section of country. Of the vicinity of Bracebridge he says "its situation is highly picturesque and being built on a commanding site and the land pretty well cleared, a regular panorama unfolds itself to the view. Deep valleys and mountain gorges, one the haunt of bears and wolves, and forest-clad hills glowing in their verdant beauty, surround the village like a vast amphitheatre. Here and there some gigantic lord of the forest rears his stately head, its majestic form sharply outlined against the light blue sky; isolated groups of beech and maple dot the landscape in different directions, while groves of young forest trees crown the irregular surface of the surrounding hills." Rather rough ground this for the plow and cultivator, though the excellence of the soil is clearly shown by the heavy birch and maple. But all is not broken ground. The writer proceeds in his journey: "The mighty forest still holds its own, and will do so till the gleaming axe of the settler grapples with it. The rich deposit of leaves lying for untold years, and pulverized matter of all kinds that once blossomed and then withered, with no one to see them, will be upturned by the plough, and the immense waste of brushwood and rotten trunks will give place to gay meadows and green fields. We passed some magnificent ferns five or six feet at least in height, and the wild flowers and flora of all kinds would bring joy to the heart of an enthusiastic botanist. Jasmine and primrose, myrtle and sweet brier and the wild rose bud and bloom, and waste their sweetness on the desert air, and die as they lived in loveliness and obscurity.

Well may Canadians who own such a territory, giving such evidences of its natural wealth even in its roughest section, anticipate a great future for the Dominion.

At the Agricultural Show held at Appin, 34 distinct varieties of grapes were exhibited, grown in the open field at the Ekfrid Vineyards. So favorable a season for this fruit has not been since 1870; the summer heat having been great, and the absence of severe frosts this fall, allowing even the Catawba, one of the latest, to mature. Specimens of this grape were shown almost fully ripe.

Last week Mr. Whaley, of Stratford, and Wm. McClain, of Goderich, shipped to the Albany and New York markets 24 car loads of sheep and lambs—4,560 head—costing \$24,450. Six loads were shipped direct from Canada, and the others bought at Buffalo and Suspension Bridge from other Canadian shippers.

The Goderich grain market has been very lively during the past week, and the receipts of grain have been pretty large. About 4,500 bushels of wheat were received at the Harbour Mills during last week. Shipments have been made as rapidly as the scarcity of cars and the bad weather admitted. Wm. Seymour & Co. shipped 1,200 bushels peas and 1,000 bushels barley by rail, and commenced loading the schooner Ontario on Monday with 7,500 bushels of wheat, 3,000 bushels more to be taken on at Bayfield, for Kingston.

A gentleman lately returned from Manitoba furnishes the *Almonte Gazette* with the following information:—"The soil of Manitoba is unquestionable good, is of a rich black colour, and is remarkably adhesive when wet. The absence of the grasshopper this year has given it an opportunity of showing what it can produce. Wheat, though not quite up to the quality of some other years, will average 30 bushels to the acre, and sells at 80 cents per bushel. Oats are a splendid yield, averaging from 60 to 70 bushels an acre, and selling at 40 cents."

## DISTRICT OF ALGOMA.

A correspondent writing to the *York Herald* thus speaks of Algoma:—"For the most part, the shores of the Lake are rocky; the ridges rising from a few feet to 1,000, though the latter elevations are rare, and are confined to the northern shore of Lake Superior. Traffic being almost exclusively confined to the water, many land seekers judge the whole country by the rocky shores, and imbibe the notions that the place is unfit to support a fair population, and no doubt such has been the cause of its slow improvement. Happily, all men are not alike, and while a few have refused to make a faithful comparison with places, we have, along the shores of Huron and part of Superior, many farmers who are comparatively well off,

while small villages here and there dot every few miles. The soil is principally a clay loam, or sandy clay, easily cultivated, and very prolific; timothy grows to the height of six or eight feet, while roots of all kinds give a proportionate yield: seventy bushels of potatoes have been grown from one bushel of seed. On the whole, the land will favourably compare with the northern part of Halton and Peel and the ridges of York. The major part of the land is free grant, while the balance is sold at twenty cents per acre; and each adult, male or female, may obtain 160 acres of Free Grant 320 of the latter; and after the lapse of five years may apply for a Crown Patent, which will be granted if the laws relating to said Free Grant Lands have been complied with, viz: to have cleared and under cultivation fifteen acres, a house erected 16 x 20. Hay averages \$20 per ton; oats 50 cents per bushel; corn \$1; barley \$1; peas \$1; so that the demand is always and will be good. Prospects are bright to those who have a lot here.

## Quebec.

## AN EXTENSIVE MODEL FARM.

A correspondent of *Le Journal* furnishes some interesting details with respect to the largest of the eight model farms of the Quebec Seminary in the neighboring parish of St. Joachim. This farm covers some 800 acres under cultivation, and from these are annually raised about 1,200 bushels of wheat, 30,000 to 40,000 bundles of hay, not including beach fodder, besides supporting a very large stock of the best horned cattle, in which are comprised some 54 milch cows, from whose products from 6,000 to 7,000 lbs. of butter are annually obtained, in addition to the quantity of their milk used in the maintenance of their calves. All the latest improvements in the way of agricultural implements are to be found on the property, and every facility that can be devised to expedite and accommodate human labor in the tillage and general and harmonious operation of the farm is said to be provided.—*Quebec Chronicle*.

The report of the Fall Show of the Sherbrooke Agricultural Society came to hand too late for notice in our October number. The exhibition was held on the grounds adjoining the railway depot. It was very successful, superior to any preceding year, and the number of people present was greater than on former occasions. The show of horses was large, and of the saddle horses especially some received high commendation. There were some very good cows exhibited, and the display of horses was fully equal. Of sheep, the show was considered superior to those of former years. Swine was fully an average. The quality of the produce of farm and dairy were worthy of that prosperous country, the Eastern Township, while the show of agricultural implements bore indisputable witness to the improvement of agriculture.

## SHERBROOKE CANADIAN MEAT AND PRODUCE COMPANY.

*Le National* says: "This industrial enterprise is a thing unique in America. You stand and see brought into the slaughter-house a live animal, an ox or a sheep, and in the space of a few hours its meat will be found prepared, seasoned and cooked in tin cans, which are made at the same time with astonishing rapidity by means of a set of machines run by steam-power. What, perhaps, is the most astonishing, is the complete absence of any offensive odour in such an establishment, and also in that part occupied as the slaughter-house perfect neatness reigns throughout."

## Nova Scotia.

## THE PROVINCIAL EXHIBITION.

Was opened on the 9th of October, the Hon. Governor Archibald presiding, and an able address was delivered by Col. Laurie, President, of the Central Board of Agriculture. In '74, the last exhibition, there were only ten thoroughbred animals exhibited by private individuals; there are now exhibited 10 to 15 times as many. Among the principal exhibitors are Col. Starrett, with his herd of Ayrshires, some fine animals; Col. Laurie, with fine herd of Devons, some very deserving animals; Dr. Lawson, with his Durhams, and many others. The Exhibition was quite a success. The grounds are new, and not altogether as level as they will be, and situated upon a high elevation just outside the town, giving a splendid view over the neat and prosperous town of Truro.

*Cattle*.—As improvement goes on in the world to advance all branches of agriculture, to improve our stock, we as Canadians have not fallen in the rear; our stock to-day stands amongst the foremost, and we feel proud of Nova Scotia's progress. Let

each one invest a few dollars in a good sire animal who does not already, instead of allowing the cows to run with the runt of the road, and mark the effects. The animals exhibited were a fair lot, there were some good animals and some very inferior. The kinds exhibited were Durhams, Devons, Ayrshires, Alderneys, and grades; a good number of each, except Alderneys.

*Horses* were, I think, rather below the mark. There were very few, if any, really good heavy horses, and not a great many first-class roadsters, and a less quantity of blood. Dr. J. T. Jenkins, of Charlottetown, P. E., had a fine trotting stallion here which was on its way home from Philadelphia, and I believe the only one exhibited there from the Canadas.

*Sheep*, as a flock, were very inferior, and I would like to see a little more enterprise in the improvement of so fine an animal for our country.

*Pigs*.—There were quite a number exhibited, 3 or 4 very good pens of improved Berkshires, and a lot of Chester Whites, nothing remarkably striking; no other kinds on exhibition.

*Poultry*.—A poor show of poultry, taking it altogether; only a few good coops.

*Fruit, Roots and Vegetables*.—The display is very creditable. As fine a show of apples as you would see; each County computing against the other, each having a space occupied and a large placard above. Other fruits were not so good, being little shown. No Peaches, poor Pears, and a small display of Grapes, although some good bunches. Roots and Vegetables were shown in great quantities, especially potatoes, and some excellent samples they were. Turnips, Carrots, Mangels, &c., all very good, each having a large space occupied. If it were so arranged to have such things as Potatoes, Turnips, or anything of such nature put in boxes or wire baskets of the same size and arranged in rows, how much better it would look than as now, each man finding his own; some an old bag, some old dirty boxes arranged in no uniformity, and not showing off to any advantage whatever; nevertheless, the show in this department was good.

*Ladies Department*.—In rag and yarn mats, Nova Scotia ladies excel, for the large number on exhibition shows considerable industry and taste in patterns, a display that would hold a good place anywhere; and the ladies deserve credit in this department. But needle work, such as tatting and other fancy work, I have not seen in Nova Scotia particularly; at any rate I have never been at an exhibition where so little of such was on exhibition. Scarcely any of such fancy work at all. Probably there were no prizes given; I do not know, but something was wrong. The exhibition closed on the 14th, proving financially a success. I believe people were all satisfied with what they had seen. There was an agricultural meeting or discussion held during the week, I am told, to discuss the advantages of improving stock or disadvantages.

Truro, N.S., Oct. 12, 1876.

SCRUTATOR.

P. S.—The imported animals mentioned in last issue were all good animals, and brought what the Board considers rather low prices.

## New Brunswick.

In commercial circles there has been moderate activity of late, and the increased arrival of tonnage from sea has had a tendency to renew confidence, and a more favourable winter than at one time seemed probable is now looked for. In the leading branches of business the experience of the past has had a good effect. The readjustment that has been going on in nearly all circles has at least curbed speculation, and largely stopped reckless grading. Good times are looked for in consequence of the abundant harvest. In this Province particularly, the crops have been much above the average, and herein lies the hope of future prosperity. In the lumber business things are working into better shape, and cargoes for shipment show improving prices. Freights can hardly be called good, tho' some recent charters indicate an advance. In ship building there is the usual amount of stir, and new vessels are coming into port every now and then for outfit. Vessels are more cheaply constructed now than heretofore, and this, no doubt, accounts for the numbers in contractors' hands. Some 30,000 tons are now in process of construction here. Vessels this year have been more remunerative than for some time past, and the outlook is very favourable. The shipping interest generally promises to yield good returns. There was never a time in the history of St. John when building operations were carried on more extensively than at present. Several large and substantial warehouses and numerous dwellings are going up all over the city.



## BIG POTATOES.

A correspondent at Nashwaak Village writes as follows to the *Colonial Farmer*:

"I noticed in the *Telegraph* of the 11th inst. mention made of a large potato grown in Annapolis, N. S., that weighed 1 lb. 5 oz. This had led me to boast of larger potatoes in this locality. Mr. W. H. Bradley raised three potatoes of the early rose variety, which are now in the possession of the writer, that weighed respectively 3½ lbs., 3 lbs., 1½ lbs. The largest and smallest have been seen by a number of persons.

"The potato crop is very abundant and has never been better. C. L. Goodspeed, Esq., has raised about 1,500 bushels, and H. Sloat, Esq., a like quantity. Crops of every description with us are above the average, with the exception of wheat; the failure of this crop is attributed to the extreme heat at the time of filling. In some cases early sown buckwheat has met with a like fate."

## Prince Edward Island.

## CATTLE SHOW AND EXHIBITION.

The Cattle Show and Exhibition, which came off in Charlottetown on Thursday and Friday of last week, was, we understand, both in respect of quality and the number of animals on exhibition, superior to any previous effort in that line in the Colony. Of horses 122 were entered, horned cattle 72, and 67 sheep, while pigs were out in great force, and are represented as splendid specimens of that genus. The advantage of securing improved breeds of horses, cattle, sheep, &c., was very evident, but we trust to see this feature more generally attended to in the future.

The Exhibition in the Drill Shed is spoken of as being more than ordinarily good. The exhibit in woollen goods was very superior. Vegetables, fruits and grains were quite up to the mark. The carriages and sleighs are represented as more than ordinarily fine. Our neighbor Mr. Hunter, brought down a very superior piece of workmanship in the shape of a wagon—all made of Island hardwood; but we do not find his name among the successful competitors. It is evident, however, that if we are to have Provincial Exhibitions, we must have buildings erected for the occasion; as all who were present last week declared the crowded state of the Drill Shed to be insufferable, and that many of the goods could not be shown to advantage.—*Pioneer*.

We understand potatoes are an excellent crop this season, and they seem to be in good demand. Capt. Foley, of Alberton, is loading the *Minnie J. L.* for Saint Pierre, Nfld. Twenty-five cents are the figures so far.

## Manitoba.

## THE PROVINCIAL EXHIBITION.

Winnipeg, Oct. 6th, 1876.

Last Wednesday and Thursday were gala days in the capital of the Prairie Province. On entering the room the first thing that catches the eye is St. Boniface in motto form suspended across the room. On entering the door is Class 18—Domestic Manufactures—consisting of blankets, socks, shawls and cloth; there was a very good show in this class, especially in socks and blankets. Next we came to Class 19—Needlework. Of this class I shall only say the display was equal in quality, if not in quantity, to the Provincial Fair of Ontario. Miss Spencer carried off the 1st prize for wadded work, a mantelpiece cover, and it is well worthy of it. In raised Berlin work Mrs. H. Y. Hoskings takes 1st with a piece of work which is by far the finest in the class; it represents an old-fashioned country family, and the expression on the faces is wonderfully well worked in. Next we come to Class 20—Leather Work. In this class we especially notice two very nice sets of harness, and a bridle and saddle, shown by Cain & Steinhoff, which carry off three prizes, also one or two very fine moose deer skins, and a very fine case of boots and shoes, shown by W. Wellhand. Class 21—Fine Arts. The show is as good as can be expected for a new country. Class 22 is Miscellaneous. Cabinet work comes under this head. There are only two exhibitors; Messrs. Bishop & Shelton having a black walnut parlour suit, and Messrs. Gorrie & Co. show a Turkish parlour suit, both entered as home manufacture (that means Manitoba). Flour also is in this class, and is of excellent quality, being white and dry. And last, but not least, we come to 35 lbs. of timothy hay, 3 feet long, and sown last spring, and I have seen finer timothy in my travels through Manitoba than I ever saw in Ontario. Class 13—Manufactures.

The only thing worthy of mention at all was the show of implements by Mr. Dick, who takes the diploma, as there was no competition. Class 14—Grain—was the worst part of the show. There has been hardly any threshing done yet in the country, and the consequence is there was very little grain shown, and what was did not come more than 10 or 12 miles. The prize wheat weighed 64 lbs. There were two very good samples of marrowfat peas, one sample of good oats. Class 15 A—Roots. This class is the head of the tree, being far ahead of what I expected. There was a Swede turnip weighing 36½ lbs., but it only came in second, as the rest in that entry were not so good; the 1st prize lot averaged 21 lbs. The 1st prize white turnip weighed 19½ lbs. Carrots were common from 1½ lbs. to 2½. Parsnips were common weighing 2½ lbs. There were plenty of onions weighing 1 lb. each. Mangolds were not at all good, the best ones weighing about 12 lbs. But the cabbages were tremendous, one showed weighed 36½ lbs. with its outside leaves. There was a very large show of potatoes, chiefly Early Rose, Peerless and Regents; 2 lbs. was a common weight. Kohl rabi are ahead of anything I ever saw. There were winter radishes weighing 6 and 7 lbs., and they had a very fine flavor. Citrons, which are very fine, being 10 inches in diameter. There was a large assortment of beets, which are very good. Class 15 B—Fruits, Preserves and Wines. There was only one sample of apples, shown by W. B. Hall, Headingly, who carried off the greater number of prizes in this class. Class 17—Butter, Cheese and Honey. There was a large display of excellent butter, no doubt stimulated by the handsome prizes offered (all together about \$150). The 1st prize, \$10, for a firkin, was given by Lieut. Gov. Morris. The show of cheese consisted of three or four very tasteless cheese, home made; at present there is not a factory in the country, but there is an excellent opening for one. There are two boxes of honey, shown by Mr. Robertson, Roseau River, who says that bees do very well with him. Class Live Stock.—Nothing very particular to note about them. Amongst the horses there were two very nice general purpose teams, and a very nice general purpose stallion. In the cattle class there was only one animal of note, a thoroughbred yearling bull, Isabella's Oxford 1st, by Fegil's Oxford 3rd, dam, Isabella 2nd, imported by Robinson & Willson, of Rockwood; he is fuller in the chest than any yearling I ever saw. There are only one or two entries for pigs and sheep. The Directors had offered very large prizes for some small things and only small prizes for stock, and therefore the stock is badly represented. Cattle is going to be one of the mainstays of this vast prairie country for some years to come; and if good breeding is not encouraged it will be an immense loss to the country. The Directors deserve great praise for their indefatigable exertions to make everything go off well, especially Mr. Stewart, the treasurer. W. H. D.

## MORE ABOUT PEACE RIVER.

(From the *Manitoba Free Press*.)

A number of leading gentlemen of the city, who have a lively interest in the new North-west, were invited to inspect some samples of wheat and barley gathered from fields and gardens on the Peace River. To say that they were interested is too mild an expression; they were enthusiastic and wonder-struck by the simple evidences of such wondrous samples of grain from a county hitherto considered too far north for hunting purposes even. The wheat sown was gathered at Fort Chippewyan, on Lake Athabasca, in latitude 53°, and is undoubtedly the finest sample ever seen here; it will weigh about 68 pounds to the bushel. Some of the same, shown in the ear, displayed five grains to the cluster, and seventeen clusters to the ear. As two is the average of grains to the cluster in the Eastern States, and three grains in Northern Minnesota and Manitoba, the superiority of the Peace River country for grain is apparent—the average there being five, and Prof. Macoun has noticed six grains to the cluster. This goes to substantiate Blodgett's theory that all grains reach perfection at the northern limits of their growth. The barley shown was also magnificent; Mr. Gouin, a good authority, said it was the best he ever saw. Regarding its growth, Prof. Macoun saw where it had grown thirty ears to a single root, twenty of which were fully ripe. He had counted a hundred grains of wheat to the head, and found many numbering eighty. The wheat shown was sown on the 22nd of May, at Fort Chippewyan, and he found it in the sheaf on the 22nd of August. Planting is usual from the 1st to the 16th of May. He did not see any Indian

corn, but he met a man named Shaw, (mentioned also by Butler), who had raised ripe corn for three years consecutively. Professor Macoun remarked, most timely, that it should be remembered that this cultivation from which his observations were made was only casual, desultory, and carried on chiefly by half-breeds.

A most remarkable point was mentioned by the Professor, viz., that he found arborial plants just as he left the Mountains; proceeding north-easterly he saw no more, but found kinds indicating warmer and drier climate until he turned at Athabasca Lake to come south-eastward to the Saskatchewan. This will not be wondered at, however, when it is known, as Professor Macoun heard there, that at Fort Laird, in lat. 60, the climate was considered better, and wheat was easily raised. Respecting other resources, he stated that petroleum, crystal salt, and gypsum were seen by him in large quantities.

This magnificent country, which Prof. Macoun estimates to contain one hundred millions of acres, where wheat reaches its highest perfection, apparently merits greater attention than has hitherto been given to any portion of our North-west.

## British Columbia.

A gentleman in Ottawa has received a letter from Mr. Thomas Atkins, who left there in the spring with a party of some thirty persons to locate in British Columbia. He says it is a splendid country, and his neighbors have informed him that he can plough all winter if he wants to, as there is seldom any snow. The letter is dated the 30th of July, and was twelve days on the way. The crops were reported as looking well. Wheat grows about five feet in height, and the average yield is fifty bushels to the acre. Barley and oats return sixty bushels to the acre. The following, which relates his own experience, will be found interesting to many of our readers. He says:—"I took a farm from the Hudson Bay Company, composed of 200 acres, for which I pay a rental of \$100 a year. I began to plough on the 1st of May, and have now fifteen acres of oats, eight acres of barley, two acres of potatoes, and two acres of turnips; was two late to plant wheat this year. They all look well. I had a good crop of hay. My stock consists of 14 cows, 2 horses, and 14 pigs. From the cows we make 40 pounds of butter a week, which we sell at 50 cents a pound, and when the miners come down in the winter season it sells for 60 cents a pound. Our wild bush is full of pigs; and there are plenty of grouse and deer. Farms can be got on the Island of Vancouver, where we are, at \$1, an acre; but labour is high. Men get \$30 a month and board, right along. Free grant land, 160 acres, can be got on the main-land for nothing. Any man who is contented can do well out here. It is a splendid farming country, while the mountains are rich with minerals; the streams are teeming with fish, and the forests abounding with game. With the railway it would open the country to settlement, and many who now find their way to the Western States would prefer to settle upon Canadian soil and live under the British flag.

## Feeding Fowls.

A correspondent of the *Poultry Nation* says:

My experience in feeding fowls is that medium-sized hens will consume about one and three-fifths gills of grain and vegetable matter each, daily, in winter, when in active laying condition; and also that it makes no difference as to the amount consumed, whether food is kept constantly before them or whether they are fed twice or thrice daily, provided they are allowed all they will eat up clean. For the past two years circumstances have compelled me to feed but twice a day—morning and afternoon—but I find that the fowls get very hungry before the afternoon meal, and will bolt their food like hogs, and, if allowed all they will eat up clean, are liable to overeat and become diseased in consequence. Then it sometimes happens that hens are on the nests to lay at the time of feeding, and cannot be coaxed off to eat, and they must either be fed on the nest or go hungry until the next meal, which, in cold weather, seems a little unmerciful. Hitherto I have believed in and advocated regular feeding—twice or three times each day—for all breeds, but my experience during the past two years inclines me to the opinion that, unless the smaller varieties can be fed three times a day, it is better to keep food constantly by them.



## Garden, Orchard and Forest.

## Barberry for Hedges.

Some time since a letter of inquiry was forwarded to me by the editor of the *Farmer*, with the request that I answer the queries. Sickness has prevented my answering sooner. The queries are, first:—Where can seed of barberry be obtained? This I cannot answer positively, but I think almost any dealer in tree seeds can furnish them. The advertisements of such should be found in the *Farmer*. Thos. Meehan, of Germantown, Penn., I think keeps them. Second:—How are they propagated? They may be started in nursery rows, and at the age of one or two years be transplanted to the hedge row; or the seed may be drilled in where the hedge is to be grown. In the last case it is best to open a good furrow and scatter the seed well over the bottom of this, so that the row of plants may be some eight or ten inches wide. Cover with fine soil and they will grow. If not thick enough, cut back to the ground during the next fall or winter, and they will thicken up. As to the cost of seed per bushel, I can only say I do not know anything about it.

The same querist also asks for information about the silver thorn. This is *Eleagnus parvifolius* of botanists. This plant does not have thorns proper, but the small twigs become sharp and hard, and increase in numbers each year, and thus in a few years become a formidable barrier to all domestic animals. It is said to have been tried quite extensively at the North, and it has given entire satisfaction as to hardness and other qualities. It is well adapted for ornamental hedges on account of the beauty of both foliage and berries. It seeds quite freely, and at a very early age, so that a few plants will soon furnish all the seed needed to start all the hedge desired. I know of no one who has the seed for sale unless it is the party named above, though perhaps dealers who advertise in the *Farmer* can supply them. It may be said of both the above named plants that they are not large growers, and excepting in good soil, would hardly make such a hedge as a man would want to enclose cattle and horses; but if the soil is rich and moist, they will turn any ordinary stock. They bear pruning well, but of course do not need it as do the honey locust and osage orange, which must be constantly pruned to keep them within reasonable bounds. The barberry and silver thorn, on the other hand, do not incline to grow beyond a fair height for a hedge, and about all the pruning they need is to keep them in proper shape. I incline to think that "Subscriber," should he try either or both of the above, will derive satisfaction as well as profit from the experiment. At any rate, he will gain an experience that will be of value to himself, and, if given to the world, probably of interest to the public.—*Ohio Farmer*.

## The Borer.

Were it not for this intolerable, abominable, curse to the apple grower, we would soon have this fruit in great abundance; but under existing circumstances, there is not much danger of an over-stock.

A few days ago we were called upon to look over an orchard of about sixty trees, planted about four years ago, and lately fallen into the hands of the present owner. One single tree in the whole lot was free, while all the others had from two to ten or a dozen borers in them—half the trees past saving, and the balance more or less injured. There was another instance near by where a man from New York had bought a place with about one thousand thrifty young apple trees thereon, in which I doubt if there are one hundred of them free from this pest. He was surprised when we called his attention to it, and now has a man engaged to look after them. But our duty is to call the attention of every one of our readers to their own trees. Cut out all the borers, and then bank clean fresh earth around the trees six inches high; by spring the wounds will have calloused and stand a better chance to recover. By doing it now, you may save many a tree from destruction, for the damage that the borer will do from now until the ground is frozen, is not a little. There seems but one sure remedy against them, and that is to wrap the tree with cloth or paper from under the ground to several inches above; and this should be begun when the tree is first planted. This is against the round-headed borer; the flat-headed one, that works in the trunk and limbs, will never trouble a well-trained tree—that is, with a low

head and no large limbs ever cut off; as it don't attack a sound place, but only spots where the bark has been scorched by the sun, or the dry bark around where a limb has been severed. We will venture to say that whoever follows the plan last suggested, will have no trouble with the borer.—*Rural World*.

## Mixing Soil Around Fruit Trees.

In disposing of the soil, which had been dug from the foundation for a new house a few years ago, it had been spread under the adjoining trees to the depth of ten or twelve inches, and at the present time every tree so treated presents an unhealthy appearance, which may gradually, but will most surely, end in premature death. This injudicious practice should be condemned on every hand, so that the ignorant, as well as the careless, may be forewarned of the evil consequence which must eventually ensue. If soil must be so disposed of, it should be as nearly as possible of the same texture and composition as that in which the trees are growing, and then only to a very limited depth, so as not to destroy, even for a short time, that natural porosity of the surface soil which is so largely produced by the roots themselves. In respect to those trees which are not so easily injured by this practice, and which will bear any reasonable amount of soil being laid over their roots, I still think the same rule in respect to the texture and composition should be, as nearly as possible, adhered to, and if placed near the stem, a cavity quite round the tree, and down to the base, should always be left, and of sufficient width to allow a free circulation of air, and also to admit of being cleared of any matter which may, and does, freely accumulate in it. The sloping bank system answers well in some situations and has the advantage of showing more of the trunk, but if the surface of the ground inclines to that particular point, or the soil be very tenacious, or if the ground be not of a thirsty nature, evils may accrue from an accumulation of too much water.—*The Garden*.

## The Forests of the World.

The forests of Europe are estimated as being 500,000,000 acres in extent, or about 20 per cent. of the whole area of the continent. In North America it is reckoned that 1,460,000,000 acres are covered with trees, of which 900,000,000 are in British North America. In South America the forests occupy 700,000,000 acres. The total amount for the two continents of the New World and Europe gives 6,600,000,000 geographical miles. The proportion of forest land to the whole area of Europe, as above stated, is computed at 20 per cent.; in America 21 per cent. Supposing, therefore, 20 per cent. to be the proportion in Asia, Africa and Australia, the grand total of the forests of the world would cover a space of over 7,734,000 geographical miles. The areas of State forests and woodlands are estimated at the following figures in the following European countries: Prussia, 6,200,000 acres; Bavaria, 3,294,000 acres; France, 2,700,000 acres; Austria, 2,230,000 acres; Hanover, 900,000 acres; Wurtemberg, 469,007 acres; Saxony, 394,000 acres; England, 112,376 acres.

The range in the height of trees varies from the miniature alpine willows of a few inches in height to the stupendous *Wellidgtonia*, which grows to the height of 350 feet, although it is stated that one of the eucalypti often reaches a height of 450 feet in Victoria. In Slavonia, a tree called the *sapin* attains a height of 275 feet, and the umbrella pines of Italy 200 feet. The California big tree is said to girth 96 feet.

The destruction of woods and forests, however, is very enormous, and in the majority of instances no attempts are being made for their reproduction. In South Africa, we are told, countless numbers of beautiful forest trees are destroyed and laid waste annually. In New Zealand the 30 per cent. of forests existing in 1830 had sunk to 28 in 1867, and to 18 in 1873, which rate of reduction, if continued, would result in the total destruction of New Zealand forests by 1889. In America, in the United States especially, the consumption of timber is enormous, and although public attention has been called to the matter, and the United States statute of March, 1875, imposes a fine of \$500 or a year's imprisonment for wanton injury or destruction of trees, and also a fine of \$200 or six month's imprisonment for allowing cattle to injure trees "on national grounds," the yearly consumption and improvident use of timber is almost incredible.—*Land and Water*.

## Larch Bark for Protecting Trees.

I have used Larch bark extensively and successfully in protecting newly-planted fruit and forest trees in open spaces from sheep as well as from "ground game." The extra casing of bark will also protect the trees from cattle, but these commit greater injury by rubbing than by nibbling. Any kind of bark will do provided it is dead—that is, that it has been removed from the trees for a few months. Rabbits will not nibble dead trees nor juiceless bark. I was led to use of loose bark as a protector to trees by observing that while the bark of freshly planted trees were devoured by the vermin, the stakes which supported the said trees were never touched. I therefore enveloped the trees with loose Larch bark, and was gratified to find that the rabbits were completely baffled and the stem perfectly safe. More than twenty years' experience has convinced me that this is a cheap and perfect remedy against rabbits and sheep injuring the stem of trees. If those who cannot obtain bark by other means will go to any large saw-yard they will find loads of outer strips thrown away and which the owner of the yard will be glad to have cleared away for next to nothing. These strips carefully tied round the stems of trees will afford them perfect protection against the inveterate, annoying, and injurious nibblings of rabbits and larger animals.—*London Journal of Horticulture*.

## How Do You Make Cider Wine?

This question is asked by a correspondent of the *Village Record*; and as it is unanswered we will undertake the task. The cider for this purpose should not be made until December, when it should be barreled and placed in a vault or cool cellar, and left there until February or early in March, when it should be bottled, using champagne bottles, well corked and wired; the cork should be driven down to an eighth of an inch of the mouth, so that the wire can grasp it. Use good-sized copper wire, which will require only once passing over the cork, provided it is well secured around the neck of the bottle. Then return the bottled cider to the cellar, laying the bottles on their sides, and it will keep for years. Be sure that the bottles are thoroughly clean, which should be attended to just before the bottling begins. Some persons—and it is the method of the North Jersey "champagne" cider makers—filter the cider before putting away in barrels. It is true this removes all sediment, but we cannot perceive that it adds to the flavor or keeping qualities of the cider.—*Germantown Telegraph*.

## The Useful Work of Insects.

Insects are useful in destroying dead vegetable substances, which are even more pernicious to man than animals in the same condition, and not only the soft and succulent portions, but even the solid wood is destroyed by them. In the immense forests of the tropics the ground would be covered, and new shoots be choked up by the ruins of trees which had fallen by accident or age, and which it would require ages to disperse without the aid of insects. But no sooner is a tree fallen than one tribe of animals cut its bark to pieces, another bores holes in it in all directions, so that the moisture from dew or rain may stand, decompose and soften. Others come in to eat off the parts that are softened, and so on till it is entirely broken up and scattered, and this is done with such expedition that they will, in a few weeks, destroy and carry away the trunk of large trees without leaving a particle behind, and in places where, two or three years before, there was a populous town, if the inhabitants, as is frequently the case, have chosen to abandon it, there will be a very thick wood, and not a vestige of post to be seen.

## "Hide-Bound" Trees.

Trees that have long stems exposed to hot suns or drying winds, become what gardeners call "hide-bound." That is, the old bark becomes indurated—cannot expand, and the tree suffers much in consequence. Such an evil is usually indicated by gray lichens which feed on the decaying bark. In these cases a washing of weak lye or of lime water is very useful; indeed, where the bark is healthy, it is beneficial thus to wash the trees, as many eggs of insects are thereby destroyed. We would, however, again refer to linseed oil as a wash, as far more effective for insects, and would, perhaps, do as well for moss and lichen. After all, these seldom come when trees are well cultivated. It is neglect makes poor growth, and poor growth, lichens,—*Gardener's Monthly*.

## The Cent

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**The Centennial—The Display of Fruit.**

PHILADELPHIA, October 8.—The display of fruit at the great Exhibition is in Pomological Hall, back of Agricultural Hall. For some cause only a part of the States are represented. Pennsylvania has 200 varieties of apples, 42 of pears, and only a few grapes. A comparatively new apple, known as Cornell's Fancy, has great merit; is rather acid, mealy, of choice flavor, matures in August, and is of high color. Another is the Doctor; sub-acid, and matures in September. The grapes sent from the eastern part of the State are Concord, Clintons, and Telegraphs—a poor list. On the shale lands in Western Pennsylvania, the Delaware, Iona, and other choice sorts have done well.

Ohio has 120 varieties of apples, 20 of pears, 25 of grapes, in charge of the Secretary of the State Horticultural Society, and the display is highly creditable. The first extensive vineyards made in this country were in the vicinity of Cincinnati, but now this fruit has so generally failed there that no sorts, unless it be the Concord and Ives, are recommended. Probably the reason of their failure arose from having selected and planted almost exclusively the Catawba, certainly among the best of all grapes, but it is wholly unsuited to the rich limestone soil. Canada has 280 varieties of apples, 62 of pears, 14 of peaches, 27 of grapes, 8 of grapes under glass, 42 of plums, 4 of fruits in glass jars. On the whole, it is the best display of fruit. It will surprise many that a region so far north should raise so much fruit, but it has the advantage of having a moist climate; indeed, Lower Canada is surrounded by heavy bodies of water on three sides. Connecticut exhibits 220 varieties of apples, 13 of peaches, 27 of pears, 9 of crabs, and 22 of grapes, the last of which are of excellent quality. Massachusetts shows, through Marshal P. Wilder, 300 different kinds of pears, and through Hovey & Co., 175 of pears and 65 of apples. The fruit is all of good quality. Perhaps no other State raises better pears or winter apples. Kansas has 200 sorts of apples and fine Delaware grapes. The same State has a large show of apples besides in the Colorado-Kansas building, the specimens being uncommonly fine, but the quality of the keeping sorts is not high. The leading sort recommended is the Ben. Davis, a beautifully coloured apple, but it is of such poor quality that it is utterly unworthy of cultivation. Iowa has 342 kinds of apples—a highly creditable display—and the quality is good. Nebraska, lying on the west of Iowa, also has a good show; and the capacity of these States for raising fruit may be considered immense. Oregon displays twelve varieties of apples, thirteen of plums and prunes, and thirteen of pears. The quality is excellent.

California sent two carloads of fruit, largely composed of pears and grapes. One carload perished on the way. The pears of this State are unexcelled, and they are raised without difficulty. The grapes are unrivalled, but it may be questioned whether the Delawares and Catawbas raised on the islands of Lake Erie do not possess higher qualities.

New Jersey's exhibit is made by a few individuals, presenting extraordinary fine specimens, the Delaware grapes being almost perfect.

The best show of fruit from New York is made by Ellwanger & Barry, who have 158 varieties of apples, 122 of pears, 57 of plums, and 62 of new seedling grapes, out of which something of value may be looked for. The Urbana Wine Company displays remarkable Delawares. The western part of New York, with its magnificent apple orchards, ought to have been better represented. This criticism applies also to the grape region extending from Niagara around the southern shore of Lake Erie to Detroit. The District of Columbia presents a fair display of grapes and pears. Wisconsin has 219 varieties of apples, 110 of crabs, some highly valuable; 13 of pears, 2 of plums, and 32 of grapes. Strange as it may seem, the Delaware is raised in some parts of this State at great profit. Pears are not recommended, and but few are raised.

Minnesota has 120 sorts of apples, and one plum and one pear. The climate is cold and the winters are long. By selecting the hardest sorts, and by raising their own stocks, they are now raising apples satisfactorily. This is a triumph over formidable obstacles which should encourage those now in despair. Michigan is represented by some of her best fruit-growers with 150 varieties of apples, 15 of pears, 10 of plums, 40 of grapes—all the best of their kind. The winter apples can be kept the longest of any in the world. No State in the Union is equal to Michigan for raising a general line of fruits.—*Cor. of N. Y. Tribune.*

**The Black Fungus on Apples.**

This disease has been a growing one in this country, selecting for its subjects many of our most delicious varieties, and soon rendering the culture of an affected variety unprofitable. It fastened, many years since, on the old Newtown Pippin, one of the best long-keeping varieties we ever grew, and rendered its culture hazardous. It drove the Fall Pippin, one of our richest fall apples, out of the market, and it has affected, in a greater or lesser degree, the Swaar, Spitzenberg, Fameuse, and other apples of the highest quality.

It is a skin disease, but when it attacks an apple in its early growth, the black spots are apt to crack and the fungus follow the cracks into the core, and stop the growth of the fruit or of the side worst affected. When it appears after the fruit is nearly grown, it does not greatly damage it for immediate home use, but if barreled for shipping, as soon as the apples sweat, the fungus spots commence decaying, and spread over the fruit, soon rendering it worthless.

We have in our orchard quite a number of trees of the Fameuse, one of the most delicious of autumn apples, and one of the worst affected by the fungus. But few years pass when they are free enough from the disease to admit of barreling, but as they find a pretty ready home market, we have retained them. This is one of the years when they are sound enough to admit of barreling, and it would be very interesting to know what influences have contributed to keep off the fungus this year; but this, as well as the cause of the disease, is still wrapped in mystery, and must be classed with pear blight, mildew, and other diseases whose cause and cure are unknown.

We have written of the fungus as affecting the apple, but it also affects the pear. It has nearly driven the White Doyenne, once our most popular variety, out of cultivation, and has seriously threatened Flemish Beauty and even Seckel. Verily we have much yet to learn about the diseases, and the insect enemies of fruits.—*American Rural Home.*

**Orchard Grass.**

From Mr. Henderson's book on grass culture we call the following information with reference to orchard grass:—

It is native to America, and from its adaptability to the various soils, its early and late growth, luxuriant foliage and nutritive qualities, is well entitled to an equality with any grass, either native or foreign, which is being cultivated in this country. Orchard grass, when sown with clover, grows rapidly, starts in the spring early, and by this similarity of habit makes a suitable grass to mix with it. For pasturage it is greatly to be valued, for three reasons:—It stands drouth better than any other grass, will bear heavier stocking, and is the very earliest to appear in spring.

Orchard grass, by its great amount of fibrous roots, tends to improve instead of impoverish the soil; an orchard grass sod generally turns up a good dark color on being plowed. It is not at all fit for a lawn, as it sometimes grows in bunches or tussocks, especially when sown thin. The proper quantity, when sown alone, is two bushels to the acre; when sown with clover, one bushel is sufficient. Perhaps there are no other two grasses that can be sown together with so great advantage as red clover and orchard grass; by their union the crop is nearly double what it would be if each were sown separately; they grow and flower well together, come to maturity about the same time, and the clover is supported from falling by the uncommon strength of the orchard grass.

**Fruit.**

Many, if not all sorts of pears, are immensely improved by being subjected to a temperature of 100° for an hour or two previous to being eaten. To take the best kinds of fruit direct from the fruit-room, which may not be half a dozen degrees above the freezing point, is not doing justice to the fruit or, I must add, the owner. Let any one test fruits of any good sorts of apples and pears, some "stinging cold" and others artificially warmed, and note the superiority of the latter, which is to my mind conclusive.

SUPERPHOSPHATE.—D. L., of Caledonia, N. Y., writes the *German Town Telegraph*: Many of our farmers are testing superphosphate upon barley and corn. I noticed a piece of fall wheat treated with it. One width of the drill with, and the next without it. The difference was plainly in favor of the phosphate. The amount sown was about two hundred pounds per acre.

**Notes on the Garden and Farm.**

Though horizontal farming is expensive of labor and backaches, yet we are quite certain that more machine labor may be economically employed in roof-raising. The expense of cultivation has been the great drawback to the extensive growing of the turnip in this country. Yankee ingenuity ought to remedy this difficulty. In the matter of topping and lifting from the soil for example, the English manufacturers advertise an implement which reports says is a real labor saving machine. It is simple and ought to be cheap. Some of our enterprising dealers might either import the implement or adopt the principles involved. It serves for other roots as well. By its use 8 acres can be topped and pulled per day, requiring the labor of one man and a horse. By comparing several states, we find the average cost of production to be less than 20 cents per bushel. By improved methods of cultivation, and intelligent use of manures, this can doubtless be reduced one-half. It is the testimony of those who have tried it, that turnips are worth at least twenty-five cents per bushel for fodder. In the vicinity of cities and manufacturing villages we have known them to bring 75 cents per bushel, and sometimes as high as \$1.00, for table use.

CANADA OR THE WESTERN STATES?—Many people will be dissatisfied with their prospects in this life, no matter whether they be bright or dark, but the change to better their condition by a removal from Canada to the States generally turns out a fraud, a delusion and a snare. A short time ago, a number of Germans living at Breslau, a few miles west of Guelph, took a moving fit, and nothing would satisfy them until they packed their household chattels and removed to the Western States. They remained there two or three years, battling with the grasshoppers and drinking in those gentle Washoe zephyrs which roll over the prairies with force enough to blow a man's hair off, and finally came to the conclusion that Canada was the best country to live in after all. A number have returned to the vicinity of their former home, with a feeling of intense disgust for the land of the West.—*Guelph Mercury.*

A neighbor of mine recently informed me that he had lost a most valuable horse by a casualty by no means uncommon. A knowledge of a simple remedy would have prevented this loss. The horse trod upon a nail, which entered his foot. Lameness followed, the nail was extracted, but lockjaw supervened, resulting in death. An unfailing remedy in such cases is muriatic acid. If, when a nail is withdrawn from a horse's foot, the foot should be held up and some muriatic acid be poured into the wound, neither lameness nor lockjaw need be feared. Why the iron should have the effect, which it frequently has, and the rationale of the above remedy, I am unable to explain; but of the certainty of the counteraction of disease by this perfectly safe application, I am well convinced.—*Rural Home.*

EFFECT OF DRAINING AN ORCHARD.—The *Gar-dener's Chronicle* once related a case of an orchard of apples and pears, plums and cherries, which was planted in a heavy clay, trenched down to an iron pan on which it rested. For a few years the trees grew very well, that is to say, as long as their roots were near the surface and got the warmth of the summer's sun, but as they advanced downward the growth became small, and by degrees less and less, till at last the trees ceased to grow, and nothing flourished except grey lichens, with which the branches soon became covered.

All coarse weeds may be removed by dropping into the heart of each oil of vitrol. It should be applied with a stick notched round for an inch or two at the end, the better to hold the liquid, one dip of which will hold enough to kill three or more plants, one drop being sufficient if the acid be good. The vitriol hisses in burning up the weeds. The sticks should not be pointed; the bottle having a wire round it convenience of carrying. It is of course needful to intrust the vitriol and its use to a careful person.

A horse, no matter how vicious and obstinate he may be when attempts are made to shoe him, can be rendered quiet and manageable by making him inhale, during the operation, a few drachms of the ethereal oil of parsley dropped on a handkerchief. A large number of trials of this substance have been made with the most troublesome and violent animals, and in every case with perfect success.



**THE FARMER'S GRINDSTONE.**—No tool is more essential on the farm than a good grindstone; it is therefore necessary that every farmer should have one, and know how to take proper care of it. Formerly, the only grindstones used in the United States were imported from England. Then the Nova Scotia stones were introduced, and found to be a great improvement on the English ones. Ohio grindstones then made their appearance, and are largely used by farmers throughout the West. Last and best of all, the Lake Huron grindstones were put into the market, and they are superseding all others, as they have a fine, sharp grit, and leave a fine edge. A grindstone should always be kept under cover, as exposure to the sun's rays hardens the grit and injures the frame. The stone should not run in water, or stand in water when not in use, as this causes soft places. The water should be allowed to drip from some vessel placed above the stone, and the drip should be stopped when the stone is not in use. All greasy or rusty tools should be cleaned before sharpened, as grease or rust choke up the grit. The stone should be kept perfectly round.—*Hamilton Times.*

It requires ten or twelve acres of land to support one person on meat alone; for one acre employed in feeding cattle only produces eight or ten ounces per day, and it requires from five to ten pounds of flesh a day to support one man if he lives on flesh alone. The quantity of land required to keep one ox will produce an abundant supply of vegetable food for at least four persons. One acre of wheat, barley, oats, or corn, will support two or three persons; one of potatoes or yams, enough nourishment for nine persons; and Humboldt estimates that an acre planted with bananas is sufficient to support fifty men.

**COST OF CATTLE FREIGHT.**—The first shipment of cattle through by rail direct from Chicago to Lewiston, Me., arrived at that place one day a short time ago on the Grand Trunk Railroad. They were about six days on the way, and the cost of forwarding was about \$85 per car. The whole expense, including care and feeding, was about \$10 per head. The cattle were taken out and fed and watered every twenty-four hours, and allowed once or twice a rest of twelve hours on the way. They shrank sixty pounds a head, and came out in good condition.

Our readers may have observed that when treating of laying land down to grass, or the after management of pasture, we have laid great stress on the use of the roller, not only at the time when the grass seeds are sown, but also afterward. We should, perhaps, have been more particular when mentioning the roller to have laid stress upon its weight. The light wooden roller so much in use, is for the most part, quite inefficient; and in the case of grass land, it might as well be rolled with a quart bottle as with one of them.—*[Irish Farmer's Gazette.]*

Mr. Thomas Duckham, the English judge of cattle at the Centennial, who resides at Baysham Court, near Ross, Herefordshire, is well known as a successful farmer, but has attained greater celebrity as the editor of the Herd Book of Hereford Cattle. He has been visiting the Western States during the past week or two, and is now paying a visit to Canada, with which he expresses himself as highly pleased.

The parsnip has many valuable qualities which commend it to both farmer and gardener. Hogs and bullocks are fattened upon it in a very short space of time, and the flesh is considered of superior flavor, while in cows it produces an extraordinary yield of milk, having a rich color and affording butter of excellent quality.—*Schenck's Gardener's Text Book.*

Dr. Jenkins has returned from Philadelphia. His trotting Stallion "Royal Harry" took first honors in the trotting class, over 5 years old, and as a Roadster Stallion, he excited general admiration. The "Royal Harry," we learn, brought P. E. Island more into notice than did all the other productions of the Island at the Exhibition.—*Patriot, P. E. I.*

There are said to be 18,000 sq. miles of coal in the Province of Nova Scotia, or about one-third more than in Great Britain, which contains 11,900 miles. The deposits probably equal all the coal in Europe, Russia not included.

A very large quantity of pressed hay is being shipped from the neighborhood of Cartwright, per Windsor and Lake Superior Line, to Mr. J. P. Donnelly, at Bear Island, Lake Superior.

The Story.

A Proud Wife.

A STORY IN TWO PARTS—PART THE SECOND. CHAPTER FIRST—(Continued.)

"Yes!" he repeated wonderingly. "You could have remained in England, and with those great talents with which heaven had endowed you, have made your way as successfully—if not as rapidly—as in the land wherein you found your fortune. I think—though it may be only my poor opinion—that genius never dies neglected, but finds its way into the foreground, backed by honesty and perseverance; I do not believe in the cant of clever men being kept down by opposition."

"But you were not satisfied with life here, or life with me, and you went abroad, Gilbert."

"Without a dissenting word from you—almost at your wish."

"Ah, I should have spoken out then, not now. I acknowledge that mistake. I left it for your heart to see. I thought that you understood me, and that, with eyes wilfully blinded, you went your way alone."

"If you had accompanied me—"

"Again I interrupted him."

"If I had accompanied you, I should have been the drag upon your efforts, your freedom, as I had been in England, and have marred many of those projects which without me you have carried out. I might have lived to have heard your reproaches for depriving you of the one opportunity of independence that had been offered you, and you would have found no solace in my sympathy, or in my sorrows at your own ill-fate. I accept that view of the case—you married too early. You were better without me abroad, you are better without me now."

"And have I struggled on for years to receive this welcome home?"

"This is my home, Gilbert, not yours. I have learned contentment within it; leave me to its enjoyment, if you please."

"You set me apart from you—you tell me that you have outlived all the love you had for me, then?" he cried passionately.

"I tell you, Gilbert, that were you dearer to me than you have ever been, my pride would not let me return to your side. I am glad to hear that you are rich, but I cannot share those riches with one who would not let me share his poverty. You earned them for yourself, not for me. You have for years distrusted my power to be of service to you, and you have so surely proved that you were right, and could rise in the world more effectually without my encouragement and love, that I cannot face the humiliation of that independence which my absence from you has only helped you to create. I will not go back to your home—I will have no interest in your greatness."

He was in earnest in his efforts to make me regard less sternly the prospect in advance of me, but I resisted and kept strong. If he had reasoned less with me and told me more of his old love, I might have wavered, heaven knows, for I was a woman who had suffered much, and he by his selfishness had sorely injured me. He was angry, and thought only that my pride had driven away in the years that had intervened since we said good-bye to one another, and his parting words would have kept me at arm's length of him, had my courage been inclined to give way at the last moment.

"You have learned to love some one else better than me, and this is your excuse. Be it so, madam. I will not trouble you again."

Then he seized his hat and went out into the hot roadway, with a fierce face. This was the meeting to which I had looked forward for long years, and thus in my pride I cast myself away from him, and preferred the misery of life without him to the grandeur of a home I had not helped to raise.

CHAPTER THE SECOND.

THE CRISIS.

I thought that Gilbert would have written to me after awhile, renewing, perhaps, his wishes by letter; or when a week or two had elapsed, that he would have called upon me to inquire if my resolution were final, and all was really at an end between us. But my pride had aroused his own, and I heard not from him again. We had chosen our separate paths, and we were of strong wills, that could pursue them to the end. We made no allowance for by-gones, and we let the time pass on, and widen the gulf between us.

I read of him as Mr. Graham, the celebrated engineer—the man who had carried forward some successful works in that country where he had not cared to take me, and who had constituted himself already an authority on those great problems which it took the wisest heads of his circle to solve. I read of him as receiving a special appointment which was a fortune in itself, and I was glad for his sake that all the fame for which he had longed and for which he had striven had come in the full tide of his strength and manhood. I knew that every fresh success took him further from me, that there were no apologies that I could make in which he would believe, and that my own pride had destroyed every hope of a return to him. I could not say, "You are famous and rich, I will come to you;" and his seemed not the generous spirit which would make a second concession. I believed that he was glad to be rid of me, that heaven help me!—there was some one younger and fairer whom he loved, and who was, perhaps, waiting for my death to share his successful life; that I was the blot on all that rejoicing which should naturally be his now.

I strove to forget him in the books I wrote; I was grateful to that gift which shut him from me for a while. I worked hard and incessantly, and became, under the literary name that I had assumed, better known than I had anticipated. I saved money very fast, and I grew more pale-faced and old-fashioned than when my looks had startled Gilbert on the summer day he came to tell me how rich he was. Ah! if he had only told me how rich he was in love still, how he had looked forward to meeting me again, what a misery of thought we might have spared each other.

I kept to my country home, thinking that he might return some day, and he sent me instead his solicitor, a tall, white-haired old gentleman, who had come to propose terms for a mutual separation, to offer me, on behalf of Mr. Graham, the sum of five hundred pounds a year.

"I will sign no needs—I will have none of Mr. Graham's

money," I repeated passionately. "Inform your client that I am quite able to support myself."

"You do not see that it is Mr. Graham's consideration for you that induces him to make this proposition," said the solicitor. "If incompatibility of temper will not allow you and him to live together, still, as his wife, you—"

"Sir, I will hear no more. If it were a question of dying of starvation, or touching a penny of that amount which you would place at my disposal, I would prefer to starve."

"I am sorry to see that you are still inveterate against Mr. Graham," said the lawyer, "that your peculiar views of his duties and your own still form barriers in the way of any better understanding of each other."

"I bowed very stiffly to this, and after a few common-places the man of law took his departure, and went back to report on my stubbornness and my intensity of hate. I guessed all that he would say; but I was too proud—still too proud—to try and explain for myself that it was my husband's love I yearned for, and for nothing else.

Thus three years more passed away, and I had settled down to my life, and looked not forward to anything brighter or better till the end was reached, when the great panic came at which men covered a little while ago. A considerable portion of my savings was swept away. The bank in which my money had been deposited for interest was crushed like an egg-shell by the iron pressure of the money market, and one read of nothing but ruin in the papers. I read of my husband's ruin in the record of the unfortunates who had gone down in the storm; of his railway speculations and contracts, and now he, with fifty others like him, were swept upon the world to face the bankruptcy court and utter shame. The world had no mercy on him then, no consideration for his genius, or his own belief in those who had entangled him in the meshes of a great contractor's business which proved unsound and almost fraudulent. The honor of Gilbert Graham was at stake, and the press laughed at his dreamy explanations, and had no mercy on him.

It was I who understood Gilbert, not the world. I knew the extent of his ambition, the depth of his faith in strangers who could flatter him and yet be plausible, the weakness of his character which trusted too readily at first, and the honour that was in him, and which set his own name the first thing in his heart—ay, a long way first, or he and I had never been parted for a day. In his misfortune I knew the depth of my love for him, how much of pride had kept me back when my affection would have led me to his feet to ask forgiveness. I thought that he had long outlived all love for me, that he had only sought me out for duty's sake, and that I had played into his hands, and given him peace and independence by holding forever aloof. But now that he was in trouble—very wretched, very poor and friendless, with the world against him, a world of unfortunates calling him a schemer, I found the strength of will to face him, or the courage to give up that strength of will which had kept me so long apart from him.

It was in the house which he was to resign to-morrow that I met him. There were bills of sale of the furniture upon the walls by order of the Court of Bankruptcy, and in one room of the splendid mansion that had been his, I found my way unannounced by the servant, whom I had bribed not to precede me.

It was my turn to be surprised at the change which disappointment had made in him. He had aged indeed in his lower estate, he had grown grayer than myself now, and all my pride melted away to see him in his fall.

"Ellen, you here?" he said, half-rising, and sinking like an invalid back into his chair wherein he had been poring over the figures which were never to come right. "I did not expect to hear from you again."

He spoke coldly, almost harshly, but no stern tones of his could daunt me in the days of his disgrace. I was only proud when he was rich and famous.

"You are surrounded by trouble, Gilbert, and I—I wish so much to share it with you."

"This is no place for you—no fitting time to distress me by your presence," he said, turning away his face.

"Oh?" do not say that I distress you now; but consider me the wife again, the friend—if you will let me, even the counsellor."

"I am disgraced—irretrievably disgraced. They will tell you outside there that I have schemed to rob the widow and orphan of their heritage, and that my downfall is fair retribution."

"They will make many cruel charges of which our consciences will hold us blameless, Gilbert, and together we may begin the world again. I have not come," I said timidly, "to hamper you with a wife at a time when all your energy may be requisite to surmount the barriers in your way, as you have surmounted them without me before this, but to ask you to let me work for you till the clouds have somewhat cleared. I—I could not come without being of help to you, knowing all that parted us when we were poor."

This was not the old pride setting itself up strangely at the last, but the old fear that he should think that I added to his difficulties, when he needed much support. He thought it was the old pride until he understood me better, until, for the first time in his life, I let him see the whole truth which had rendered me unhappy.

"Yes—I was wrong and selfish, Nell," he murmured.

"No—I was wrong in my resolves, and selfish in my determination, for all the grief it brought to me," I confessed.

"We were both wrong in our ways of making things come right," he said; "but I was not content, and here I sit the moral to a life's ambition. But it was not want of love that took me first away from you, and you might have been more merciful, more womanly, knowing that truth so well when the old love brought me back."

"Ah! a woman sees nothing well when she is jealous and at a distance from the loved one; and you—you spoke, Gilbert, of the money you had brought back, not the past affection."

"Yes—I see my mistake, and you must learn in time to forgive me."

"Ah! forgiven now, as the wife is forgiven all the stubbornness and pride engendered by her love for you? You will say that?"

He said it with a lip that faltered very much; he spoke of his own firmness, which would not make one step towards me after I had repelled his wishes so coldly and indignantly.

Our last quarrel was over, and we began the world together, an old-fashioned, grey-haired couple, who had sulked with each other for years, and preferred to be misunderstood rather than make one step away from that selfish dignity which preyed upon all peace.

Thus we began together the new life. We are very happy now, and working onwards patiently. If we look back at times at the gloomy retrospect wherein all past enmities lie buried, it is not to utter one reproach, but to read our lesson from it.

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Uncle Tom's Department.

Winter Song.

Summer is all very well, you see—
Boating, swimming, and that,
And catching a fish is a very good spree,

DEAR NEPHEWS AND NIECES.

I have not heard from so many of you as I should like, however, I suppose you are all busy preparing for hoary-headed old winter,

SQUARE WORDS.

- 134.—Joins the hands to the arm; a wanderer; the tooth of a large animal; slaves employed in husbandry; a place of the meeting of lovers.
135.—To cry like a sheep; a large spoon; the Christian name of a male; sprightly; opinion.

- 136.—To entangle; relating to a ship; to shun; to lift; exceeding another in years.
137.—A character in the "Lady of Lyons"; vigilant; a confused mixture; a plea for public sports; the vapour of hot liquor.

POPULAR SONGS.

- 138.—The, in, neat, lad, struggle past harm.
139.—Eh, gin, hit truth, plain men work.
140.—Rain I take blame.
141.—Sport for, John.
142.—Haw, line, law, we test real heresy.

ENIGMA.

In me are placed all sorts of things,
Coats, waistcoats, money, pins and rings;
That I am useful none deny;

DOUBLE ACROSTIC.

A town in Ireland, a city in Syria, a town in France, a river in England, a town in Illinois.

DIAMOND PUZZLE.

145.—Firstly a vowel you will place,
Then something that with winter comes,
And next a language you will trance

PICTORIAL REBUS.

The above rebus is rather difficult to decipher, but some of our readers have said that many are too easy, and some say they have found every one too easy.

RIDDLE.

What is that which supposing its greatest breadth to be four inches, length nine inches, depth eight inches, contains a solid foot.

CHARADES.

148.—My first sometimes white as milk,
And oft is composed of silk,
And though it's somewhat like a fable,

149.—Whole I am a kind of weed; behead and I am an extremity of an animal; twice behead and I am a member of a body; behead again and I am a kind of liquor; curtail and transpose my remainder and I am a term used to denote a musical sound; now behead and I am a vowel.

ANAGRAM.

Ho! ibd em out os oson ediede
Towudd rigeve me umhc ot part

I enver nea cobense ougr ribde
'Tlli oyur aveh now ym thera.
ANNIE. J. M.

NUMERICAL ENIGMA.

I am composed of 22 letters.
My 4, 14, 6, is what many long to hear, when 10, 19, 3, 14, makes them ask a question.

Answers to October Puzzles.

115.—Macbeth.

R A T
J O L L Y
R A I L W A Y
F L O A T
T O P
N

- 117.—Cap-it-a late. 118.—Black Sea. 119.—Chair, hair, air.
120.—Birds of a feather flock together. 121.—Looking-glass.
122.—Toronto. 123.—The Chevrolet. 124.—Massa whip I (Massawippi, name of a post office and lake in Quebec.) 125.—A Cannon. 126.—Liverpool. 127.—Because he sets down three and carries one. 128.—When U and I are one. 129.—The nose. 130.—Because he is in Seine (insane). 131.—Because she tries to get rid of her weeds. 132.—The sun and your boots; it takes the shine out of both. 133.—Chatham.

Names of Those Who Have Sent In Correct Answers to Oct. Puzzles.

Edith H. Cullen\*, Annie J. Nicholson, Jas. H. Cross, J. E. Lovekin, A. Martin, W. Broughton, T. M. Taylor, Frank Lawson, Mary Curry, Janet Hartley, Martha Martin, J. Winlow, J. Reynolds, Kate Jeffery, Lottie Glass, Eva Mason, S. Scott, Louie Fairbrother, Samuel Evans, Eben Church, Sarah McMann, A. Minkler, Wm. Gould, L. Jarvis, Annie Simpson, A. Brook, Eleanor West, J. C. McAlpine, Octavius Craig, Sarah Fitz Gibbon, Maria Homer, Charles Wright, Minnie Morris, Edwin Summers, Stephen Glover, Arch. Johnson.

Humorous.

A little miss, writing to her father on the first day of her entrance at boarding-school, says:—"The first evening we had prayers, and then singing, and a passing around of bread, which I did not take because, not being confirmed, I thought I had no right to take communion. Afterward I learned that I had lost my supper.

A Vermont youth at his mother's funeral said to the neighbors: "Me and my father are obliged to you all, and hope soon to be able to do as much for you."

"Please do not handle," is the Swiss request; "Fe touchez pas s'il vous plait," bows the Frenchman; "Visitors must not touch," says Johnny Bull, firmly; "Hands off," growls the Yankee.

Too FASTIDIOUS.—Passenger on Train: I say, young man, that pipe of yours is rather foul. Second Passenger: Indeed, Sir. Well, it's very odd no one else made any complaint before, and I've smoked it for the last three years.—[Fun.

"I have just reached my 18th year," lisped a Chicago maiden to her lover, the other evening. Just then her half grown brother happened to come in, and thoughtlessly exclaimed: "Why, sis—you only 18? You've been 18 ever since I knew you!" Of course the boy lied, but then the effect, you know—the effect.

"You'll never marry agin, Susie, you grieve so arter Izick. Was it twice? you fainted, or three times, at the grave?" "Bless yo soul, Sary, it was free times I fainted, an' de last time I nebber like to come to." "Oh, Susie, you'll nebber marry agin, will yer?" "Bless yo soul, Frank Dunn ax't me 'bout dis before my husband died, an' I promised him if he died I'd have him, an' I b'longs to de church, an' I won't tell a lie."

Overdoing it!—Bashful Spooner (on his honeymoon): "Larry, my wife and I have been noticed that the townspeople stare at us very hard. I hope you haven't been telling anybody that we are newly married?" Larry (the faithful factotum): "Me tell 'em, sor? Is it likely O'id go agin my express orders? Why, whinever anybody thryed to pump me, sor, O'ive towled 'em you wasn't married at all."





## Minnie May's Department.

## A Few Hints about Kitchen Work.

MY DEAR NIECES,—Now that the days are getting so short, we are apt to find ourselves all in a muddle; particularly, if we do not manage our kitchen work judiciously. The hands may be broad and the arms strong, and the mind ever so willing, yet chaos will prevail in the kitchen when there is no head work. One of our foremost requisites of a well ordered kitchen is a clock. Then if we watch its hands through all our operations, and try if we can have our breakfast dishes washed and put away by such an hour; all our sweeping and dusting done within a certain time; our dinner prepared and ready to put on (for I find there is not half the trouble in cooking if we have our meat and vegetables put on to cook in good time).

Laying out work for each hour is the true way to accomplish much in any pursuit. It is true that you will not always bring matters out even, but by going by a clock you can accomplish more than you would without system. Many girls linger and dally over their morning dishwashing, who, if left to themselves, would barely get their kettles washed in readiness to put on the dinner. Of course, before breakfast and dinner, it is necessary to make sure there is plenty of water in the kettle or boiler; as hot water is indispensable in dish washing. Remember to have morning kindlings at hand, the sponge set, the basket of clothes sprinkled and folded, the next day you find the great advantage by taking suitable forethought about your work. Come, my little nieces, whatever you do, do well; put your shoulders to the wheel is a good old motto. There is no merit in being contented with a low, shiftless, slovenly way of living; a wholesome discontent which will spur one on is far better. Indeed, it is a moral duty for everyone to improve their condition to the extent of their abilities. Be up and doing, and make your home happy.

MINNIE MAY.

MY DEAR MINNIE MAY,—Amongst your many recipes I have not noticed one for making pumpkin pies, which, I think are very nice. I take pleasure in offering you mine, which I can recommend. I cut the pumpkin in thin slices and boil it very tender in as little water as possible. When nearly done be careful it does not burn, as it is apt to do so. When done, drain off the water, and let the pumpkin steam or dry on the back of the stove for ten or fifteen minutes. Now mash and rub them through a sieve. The more milk you put to it, the more eggs you will require; and the less milk, the less number of eggs. A quart of rich milk to a quart of pumpkin and three or four eggs is a good rule. Ginger and nutmeg are my favorite spices, though many like cinnamon and cloves. Sugar or molasses may be used for sweetening. I use sugar in proportion of two heaping tablespoons to a pie. You must have a very hot oven for these pies, as it is difficult to brown them without. It is a good plan to heat the butter scalding hot before putting into the pie.

LUCY SIFTON.

## ERRATA IN OCT. NO.

In the recipe for cough and sore throat, it is misprinted ginger; it should have been vinegar. Dear Minnie May, if you or any of your nieces should try this recipe you will find it quite warm enough without the ginger.

J. P.

## Useful Recipes.

## BOOT GREASE.

Take 1 lb. tallow, 1 oz. beeswax, 4 large table spoons castor oil; colour with lamb black. This mixture is the best water-proof for boot back I have ever used.

## HAIR OIL—CASTOR OIL.

Put enough alcohol into the oil to cut it; scent to suit yourself. This oil will clean the scalp and promote a good growth of hair. It is better than any Baurine or Hair Vigour, or any of the patent mixtures we hear so much about. C. W. R.

## TEA CAKES.

Two cups sugar, 1 cup butter, 4 eggs, 2 tea-spoonfuls soda, lemon flour enough to work out.

## SPONGE CAKES.

Three eggs, 1 cup of sugar, butter, size of an almond; soda, cream of tartar, and lemon; 1 cup of flour. JENNIE.

## BREAD CAKES.

A loaf of bread soaked in milk or milk and water overnight. In the morning stir in a tea-cupful of flour, two eggs beaten till light, a small piece of butter lard, a tea-spoonful of soda, and a little salt. Mix very smooth, and drop from a spoon upon the griddle.

## IRISH STEW.

Take two pounds of potatoes; peel and slice them; cut rather more than two pounds of mutton chops, either from the loin or neck; beef, two pounds; six large onions sliced; a slice of ham or bacon; a little pepper and salt. First put in a layer of potatoes, then a layer of meat and onions, sprinkle the seasoning, then a layer of potatoes, and again the meat and onions and seasoning; the top layer should be potatoes, and the vessel should be quite full; add a spoonful of mushroom catsup. Let the whole stew for two hours; be very careful it does not burn.

## HAIR WASH.

Half an ounce of gum camphor dissolved in two quarts of hot water, one ounce of glycerine, half an ounce of borax. Shake well and wash your hair. Brush the hair, and then rinse in clear water. Use it twice a week. For hair if falling out this is particularly good. It cleanses the head and gives to the hair a beautiful glossy look.

BLANCHE PLASTON.

## SPICED APPLES.

Eight pounds apple after it is paired and cored, four pounds of sugar, one quart of vinegar, one ounce each of stick cinnamon and whole cloves. Boil the vinegar, sugar and spice together, then put in the apple and boil till tender. Take out the apple and boil the syrup till thick, then pour it over the apples.

## APPLE MARMALADE.

Peel and cover two pounds of acid apples, and put them in an enamelled saucepan with one pint of sweet cider and one pound of crushed sugar. Cook them by a gentle fire until the fruit is very soft, and then squeeze it through a cullender or sieve. If not sufficiently sweet, add more sugar. It is delicious eaten with scalded cream.

## HOUSE-CLEANING.

Pumice-stone will remove marks from hard-finished walls, also from soapstone stoves. Carpets may be cleaned by scrubbing them with water in which ox gall has been mixed, or with water and ammonia, one gallon of the former to one tea-spoonful of the latter; use a scrubbing-brush and cloth as for cleaning unpainted floors, and change the water frequently; before being scrubbed they should be shaken and tacked in place. There is no nicer treatment of closets where food is kept than first washing the walls with soap-suds, covering them with a coat of sizing, and over that putting two or three coats of paint on ceiling, walls, shelves, and floor; after this washing with soap-suds will make everything perfectly clean and sweet. Paint on the walls of a kitchen is much better than kalsomine, whitewash, or paper, since it does not absorb odors or peel off, and can be quickly and perfectly cleaned. Any woman who can white-wash can paint her own kitchen. It needs first to be washed with soap-suds, then covered with a coat of dissolved glue, and then with paint. A broad, flat brush does the work quickly.

## MITTENS.

The *New York Herald* tells its readers how to make cheap and warm mittens from the skin of the sheep:

During the period of more than thirty years past, we have been accustomed to make cheap and durable mittens in the following manner, to be worn when performing all sorts of out of door work. A good sheep-skin is purchased for \$1, which has been tanned with the wool on. The wool, of course, is short—not more than half an inch in length. A sheepskin of medium size will make from three to four pairs of mittens, as per the size of the hands. A pattern was first made out of stiff brown paper. The paper thumb piece must be neatly fitted to the pattern. Then the leather will fit the thumb-hole. One pattern will answer for both mittens if the leather is turned over after one mitten has been cut out. Sometimes the mittens are made with the wool outward, and sometimes the wool is inside. When mittens are to be for handling wool, stone, lumber and other things which are liable to wet them the leather is smeared with a coat of coal tar, which must be dried in before the fire. A coat of coal tar will prevent the leather from becoming wet like a piece of

cloth, and it will also make the mittens wear like hemp. Apply tar only to the parts that are most exposed to contact with the materials to be handled. In lieu of sheep-skin we have sometimes employed tanned calf-skin. Mittens will keep hands much warmer than gloves. Procure a glover's needle of triangular shape, let the edges of the leather be wetted before the mittens are sewed, employ strong thread, well waxed with beeswax, and the mittens will render excellent service.

## A GOOD WAY TO KEEP APPLES ONE YEAR.

Years ago, when we produced large quantities of fruit, we always kept apples in excellent condition during the entire year. At a recent agricultural convention in Utica, N. Y., a quantity of apples were exhibited which were plump, fresh, and of good flavor, quite as good as the same kind of apples are ordinarily on the approach of spring. The apples had been put up in refuse boxes the year previous, and in the following manner: A layer of dry sawdust was sprinkled at the bottom of the box, and then a layer of apples placed in so that they do not touch each other. Upon this was placed a layer of sawdust, and so on till the box was filled. The boxes, after being packed in this way, were placed on the wall in the cellar, up from the ground, where they kept perfectly, retaining their freshness and flavor until brought out.—*N. Y. Herald*.

## LITTLE ATTENTIONS.

How much we might make of our family life, of our friendships, if every secret thought of love blossomed into a deed! We are not now merely speaking of personal caresses. These may or not be the best language of affection. Many are endowed with a delicacy, a fastidiousness of physical organization, which shrinks always from too much of these, repelled and overpowered. But there are words, and looks, and little observances, thoughtfulness, watchful little attentions, which speak of love, which make it manifest; and there is scarcely a family that might not be richer in heart wealth for more of them. It is a mistake to suppose that relations must, of course, love each other because they are relations. Love must be cultivated, and can be increased by judicious culture, as wild fruits may double their bearing under the hand of a gardener; and love can dwindle and die out by neglect, as choice flower seeds planted in poor soil dwindle and grow slender.

## HOW TO PROMOTE PEACE IN A FAMILY.

1. Remember that our will is likely to be crossed any day, so prepare for it.
2. Everybody in the house has an evil nature as well as ourselves, and therefore we are not to expect too much.
3. To learn the different temper and disposition of each individual.
4. To look on each member of the family as one for whom we should have a care.
5. When any good happens to any one, rejoice at it.
6. When inclined to give an angry answer, "to overcome evil with good."
7. If from sickness, pain, or infirmity we feel er- ritable, to keep a strict watch of ourselves.
8. To observe when others are suffering, and drop a word of kindness and sympathy suited to them.
9. To watch the little opportunities of pleasing, and to put little annoyances out of the way.
10. To take a cheerful view of everything, even of the weather, and encourage hope.
11. To speak kindly to the servants, to praise them for little things when you can.
12. In all little pleasures which may occur, to put yourself last.
13. To try for the soft answer that turneth away wrath.

## ET CEPERAS.

Always leave the draft of a stove open when there is no fire in it; by this means a room can be cleansed from impure air, as the open draft acts as a ventilator.

To prevent dust rising from a carpet when being swept, sprinkle coarse dry salt over it. If the carpet is much soiled, rub the salt well into the fibers, with the broom; then give a thorough sweeping, going over the work several times. The result will be satisfactory, as it gives a fresh look to colors dimmed by dust, and a sweetness most desirable. We consider salt far ahead of tea grounds or a wet broom, in cleansing a dusty carpet. The salt can be gathered up after it has served its purpose, and with the dust can be cast into the asparagus bed. As asparagus requires salt for food, we "kill two birds with one stone."



Miscellaneous.

It seems to be a unanimous opinion among those who have tried crosses of the Jersey with other good milking breeds that the result is a cow unequalled by any of the pure breeds for butter or cheese. We predict that this cross is destined to grow in popular favor.

ABOUT MILKING.—Five per cent., and perhaps ten, can be added to the amount of milk obtained from the cows of this country, if the following rule is inexorably followed, says the Iowa Live Stock Gazette:

Never hurry cows in driving to and from the pasture.

How much, in the case of many fruits, the quality is influenced by the stock I saw lately, when we gathered here, among other pears, the Rokeby. This sort was taken from a tree worked on the pear stock, and was, in every stage of ripening, very bad, being dry and mealy, while the same sort, worked on the Quince, in the same ground, was full of juice, melting, and deliciously flavored, and a fortnight earlier.—[The Gardener.]

The Scientific Farmer says that the best way to prevent overheating of compost is to pack the surface down solidly by simply treading upon it with the feet (after pulverization), or, still better, to spread a little earth over the pile, taking care to pack it somewhat. Either method tends to exclude air, and thus prevents too rapid oxidation.

Back is good, nothing better can be had, but a few loads of marsh mud is better than any application of the feet, or of earth, and their is plenty of it in this State.

THE CROW.—A crow was recently killed in the orchard of Mr. Barbric, of Plymouth, Me., and upon opening his crop more than twenty nests of caterpillar eggs were found, showing that this much-abused bird had dined on about four or five thousand caterpillar eggs. The crow is not only a scavenger, but very useful also in destroying insects and worms that prey upon crops. The damage it sometimes does to young corn is more than counterbalanced by the service it renders on the farm.

When I find a forked tree that it is likely to split I look for a small limb on each fork, and clean them of leaves and lateral branches for most of their length. I then carefully bring them together and wind them around each other from one main branch to the other. In twelve months they will be united, and in two years the ends can be cut off. The brace will grow as fast as any other part of the tree, and is a perfect security from splitting. I have them now of all sizes, and I scarcely ever knew one fail to grow.—[Prairie Farmer.]

An important fact bearing on the possible rivalry of India with America as a wheat-producing country is thus stated in the London Times of the 31st ult.—Wheat is at this moment selling at 6d. a bushel in Central India, while we are paying some 20 millions a year to America for grain, solely because it costs three times as much to bring wheat to the coast in India as to carry it to England from the ports. What would be the state of India at once if England were paying to her 50 millions a year more than she now does for wheat and other produce?

Professor Wilder, of Cornell University, gives these short rules for action in case of accident:—For dust in the eyes, avoid rubbing; dash cold water in them; remove cinders, etc., with the round point of a lead pencil. Remove insects from the ear by tepid water; never put a hard instrument into the ear. If an artery is cut, compress it above the wound; if a vein is cut, compress it below. If choked, go upon all fours and cough. For slight burns, dip the part in cold water; if the skin is destroyed, cover with varnish. For apoplexy, raise the head and body; for fainting, lay the person flat.

The fact that stock which is not prospering is just a machinery for the destruction of farm produce ought to startle many a man who will read these words. Let him remember, too, that all live stock are inevitably machines for destroying a certain portion daily, which is as directly daily wasted and burned up in every animal that feeds, as if it had been put on the fire. How much greater the premium then on keeping cattle, whose fattening is done in a life time of 700 days, than on keeping those whose fattening requires 1,200 days or more. The weeding of the flock and herd upon a farm is a part of live stock management which needs a much promptitude and decision as the weeding of our crops and fields.—English Gazette.

Stock Notes.

Sale of Thoroughbred Stock.

A number of fine cattle, imported a short time since by the Nova Scotia Central Board of Agriculture, were sold on the Exhibition grounds at Truro, N. S., recently. Fortune-Teller, a short-horn heifer, sold for \$335, the highest price ever paid for a heifer in that Province. The following is a list of the prices brought:—

SHORT-HORN BULLS.—Fifth Duke of Lorne, \$120, Onslow Agricultural Society; Lord Ernamar, purchased at the sale of the famous herd at Mr. Foster's, Kilhow, Cumberland, \$185, Bridgewater Agricultural Society; Wetherby Star, purchased at Mr. Foster's sale, Kilhow, \$270, King's County Agricultural Society; Kingston, \$185, Onslow Agricultural Society.

SHORT-HORN COWS AND HEIFERS.—Lady Mary, \$105, John Parker, Halifax; Maid of Oxford, 4th, \$145, Israel Longworth, Truro; Cambridge Witch, \$163, J. B. Fraser, Shabenaeadie; Fortune-Teller, \$335, Robert Putnam, Onslow.

DEVON HEIFERS.—Duchess of Edinburgh, calved November 29, 1874, bred by Her Majesty the Queen, Windsor Castle, \$70, Col. Laurie, Oakfield; Princess Victoria Adelaide, \$95, Col. Laurie, Oakfield.

AYRSHIRE COWS AND HEIFERS.—Merry Duchess, red and white Ayrshire cow, calved in April, 1872, \$200, C. P. Blanchard, Truro; Blyth, brown and white Ayrshire cow, calved in April, 1872, \$230, Aubrey Blanchard, Truro; The Nun, red and white Ayrshire heifer, calved in March, 1874, Col. C. J. Stewart, Amherst; Pearl Drop, brown and white Ayrshire heifer, \$125, J. A. McCurdy, Onslow; Cherry, red Ayrshire heifer, calved in May, 1875, \$70, W. Sutherland, Truro.

AYRSHIRE BULLS.—King of Hearts, red and white Ayrshire bull, calved in April, 1874, \$125, Milfordhaven Agricultural Society; The Shah, red and white Ayrshire bull, calved in May, 1874, \$100, Jacob Harvey, Brockfield.

SOWS—LARGE WHITE YORKSHIRE, ELLESMERE BREED.—These animals were purchased from the Right Honorable the Earl of Ellesmere, Worsley Hall, Manchester, and are from the same stock as that with which his lordship took the first prize at the Royal Agricultural Society's Exhibition at Taunton, \$60, Prof. Lawson, Halifax; Lovely Lady Lop Ear, \$75, John Parker, Halifax; Queen of Beauties, \$55, Col. Laurie, Oakfield.

BERKSHIRE BOAR.—Royalty, \$18, Guysboro Agricultural Society.

BERKSHIRE SOWS.—From the Royal Norfolk Farm, \$20, Smith Cox, Truro; raised at the Royal Norfolk Farm, \$25, Col. C. J. Stewart, Amherst.

COTSWOLD RAMS.—Raised by and purchased from H. Cole, Esq., Cirencester, Gloucester, \$27, C. J. Marshall, Milfordhaven.

Cotswold Ram, \$27, E. Chase, Cornwallis.

Cotswold Ram, \$29, C. Macfarlane, Cumberland.

Cotswold Ram, \$32, C. J. Marshall, Milfordhaven.

Cotswold Ram, \$21, A. Kirkpatrick, Shubenaeadie.

SOUTHDOWN RAMS.—Southdown Ram, \$23, D. Fitzpatrick, Nine Mile River, Hants.

Southdown Ram, \$26, J. R. Morrison.

Southdown Ram, \$18, D. Fitzpatrick, Nine Mile River.

Southdown Ram, \$14, R. Carr.

Southdown Ram, \$15, J. McCulloch, Halifax.

The Southdown Rams were selected by Mr. Brebner, Manager of Her Majesty's Norfolk Farm, Windsor.

EPHONS IN PROVINCIAL EXHIBITION PRIZE LIST.—Second and third prizes for Ayrshire cows should have read, Thos. Guy instead of Jardine & Son. Also, third prize for Durham bulls should have read, Col. O'Malley, instead of Jas. Gardhouse, Grindswald.

IMPORTATION.—Mr. John Little, of Greenwood P. O., Pickering, has imported per "Moravian" a fine flock of Cotswolds, selected from some of the best flocks in England. See advertisement.

Mr. F. J. D. Smith and others will have a joint sale of choice stock at Thornhill, York Co., Ontario, on November 15, 1876. Particulars will be found in advertising columns.

Persons wishing to procure improved Berkshires should read Mr. McCurdy's advertisement in this issue.

Persons wishing Cotswolds and Berkshires will see advertisement of John Snell & Sons, in this issue.

STOCK SALE.—A sale of thoroughbred stock took place at the farm of Mr. Wm. Whitelaw near Quelph. A large number of breeders were present from different parts of the country. The cattle, which were all Durhams, did not realize very satisfactory prices, no doubt owing to the general depression at present prevailing coupled with the fact that many farmers will be scarce of feed, in consequence of the partial failure of the turnip crop. The sheep which were of the Leicester breed, and all from imported stock, brought very fair prices.

Messrs. P. & J. Brooks, of Biddulph, have returned from the Centennial with some of their sheep, which gained silver and bronze medals. They sold two ewe lambs for \$200. Samuel Langford, of the same township, has also returned with his flock, having medals and honors. He expects the international gold medal for his ram.

The Farmer, England, in noticing the importation of a lot of Canadian cattle into England, says: "There is a ready market for both Canadian cattle and horses, which bring very large prices."

Patrons of Husbandry.

Annual Meeting of the Dominion Grange.

This meeting took place in Toronto on the 5th of October, and was fully attended by delegates and visitors. The Master delivered an able address, in which he expressed a desire of recognition by the United States authorities. The Secretary's address was very full; he commended paying the Dominion Lecturer to deliver addresses where needed; he stated the membership to be 17,500. The Lecturer reported no work having been done by him, as no funds were set aside for travelling expenses.

The Treasurer reported \$3,155.90 in the Treasury. The Committee on Suggestions for the good of the Order no doubt had enough to consider, as nearly every Patron has some idea to suggest. Their report commended the procuring of essays on chemistry, entomology and other subjects, and that one hour of each meeting be set apart for social improvement and enjoyment; they also commended that the opinion of Subordinate Granges should be taken in regard to establishing a school for farmers' daughters. They recommended discussions in Subordinate Granges regarding the advisability of establishing a mutual fire insurance company. They reported directly against the practicability of establishing an implement and machine shop; also against a life insurance company.

Dealings in implements, dry goods, groceries, &c. had in some cases been successfully carried on; the most intelligent and independent members desired to direct the attention of Patrons more to educational subjects, and considered that should be the main point in view.

OFFICERS ELECTED FOR 1877.

Worthy Master, S. W. Hill, Ridgeville; Overseer, Stephen White, Charing Cross; Lecturer, E. H. Hilborne, Uxbridge; Steward, Levi R. Whiteman, Knowlton, Que.; Assistant Steward, C. McGibbon, Douglas, N. B.; Chaplain, J. Manning, Schomberg; Treasurer, J. P. Bull, Downsview; Secretary, W. P. Page, Fonthill; Gate Keeper, Jessie Trull, Oshawa; Pomona, Miss Whitelaw, Meaford; Flora, Mrs. Lossee, Norwich; Lady Assistant Steward, Mrs. J. T. Gould, Foley. Executive Committee—Messrs. Daly, Newburg; Hughes, Sharon; Gifford, Meaford; Cole, Cole's Corners, and Drury, Barric. Auditors—Messrs. Cheyne, Brampton, and Lossee, Norwich.

LIST OF DEPUTIES.

The following are the Deputies in the different Divisions in Canada with their P. O. address. Parties wishing any information, or desiring to organize, will communicate with the nearest Deputy:—London Division, No. 1—E. Anderson, London; B. Payne, Delaware; W. L. Brown, Hyde Park; H. Bruce, London; E. K. Talbot, Arva; J. Ferguson, Barr; E. T. Jarvis, Nilotown; D. Baskerville, Evelyn, Grey Division, No. 2—A. Clifford, Meaford; Alex. Webster, Jackson, Niagara District Division, No. 3—D. W. Miller, North Pelham; Robt. Green, Attercliffe; Station; A. H. Pettit, Gimsby, Simcoe Division Grange, No. 4—Thos. Parker, Joy P. O.; Thomas Smith, Bramley P. O.; Thos. Duff, Cookstown P. O.; Richard Munn, Schomberg; P. O.; Timothy Connel, Stroud P. O.; Lambton Division, No. 5—(West Riding)—Wm. Cole, Cole's Corners; Peter Smith, Collingville, Halton Division, No. 6—H. Albertson, Trafalgar, Lucknow Division, No. 7—P. McKenzie, Lucknow; J. Tolmie, Tuxartan; J. S. Vaseow, Carow, Brantford Division, No. 8—J. S. Thompson, Brantford; W. E. Underhill, Burford; J. Wilson, Galt; Henry Tull, Ke. vin, York Division, No. 9—Robert Clark, Downsview; S. Duncan, Rich-



mond Hill; S. E. Phillips, Schomberg; J. Hagarty, Agincourt; Thomas Webster, Coleraine; A. J. Hughes, Sharon. Peel Division. No. 10—Francis Slietholm, Humber; Eli Crawford, Brampton; Guy Bell, Brampton, Ontario; N. Steen, Streetsville; W. J. Oliver, Derry West; R. Dick, Cheltenham. Kent Division, No. 11—A. McCormac, Morpeth; J. Wright, Chatham; J. Mann, Valletta; R. Wilkie, Rond Eau; A. W. Crow, Kent Bridge; D. H. Everett, Dresden. North Middlesex Division, No. 12—John Levi, Fernhill P. O. Durham Division, No. 14—Wm. Hall, Oshawa; J. D. Gould, Foley; R. D. Foley, Bowmanville. East Lambton, No. 15—Thomas Doherty, Uttoxeter; John Dallas, Thedford; J. McDonald, Alvinston. East Lambton Division, No. 16—Francis Kearney, Watford. Orangeville Division, No. 16—J. K. Decatur, Camille. West Middlesex Division, No. 17—S. W. Dell, Strathroy; Elgin Division, No. 18—Jabel Robinson, Hatherley. Lennox and Addington Division, No. 19—W. N. Harris, Napanee; M. Neville, Napanee; Uriah Sills, Napanee. North Simcoe Division, No. 20—Charles Drury, Barrie; E. Archer, Hillsdale; H. G. Lister, Rugby; R. Dixon, Ninonesing. Belmore Division, No. 21—Henry Smith, Gorrie. Oxford Division, No. 22—G. E. Harris, Ingersoll. Beaver Valley Division, No. 23—Noll McColman, Clarksburg; Wm. Hewitt, Heathcote. Prince Albert Division, No. 24—Robert McMorde, Kippen. Ontario Division, No. 25—Andrew Orvis, Whitby; J. Haight, Pickering. Wentworth Division, No. 26—M. J. Olmstead, Ancaster; P. S. Van Wagner, Stoney Creek; D. Patterson, Copetown; G. Gastle, Carlisle. Huron Division, No. 27—J. Smith, Newry. County Huron—James Livingston, Moncrief. Norfolk Division, No. 28—Isaac Austin, Port Dover; Levi R. Whitman, Knowlton, Quebec. Kent County—Robt. Wilkie, Rond Eau; Charles McGibben, Douglas, N. B. Bruce County—Thomas Blair, Kincardine; John Biggar, Burgoyne; Thos. Houston, Wellington County—Wm Woods-worth, Bowling Green. Stormont County—J. J. Adams, Wales. Wellington County—Robt. Cronan, Salem. Belleville District—W. J. Massey, Belleville.

#### New Granges.

530, Abingdon, William Parkson, Master, Abingdon; L. Williams, Secretary, Abingdon.

#### DIVISION GRANGES.

32, North Bruce, John Biggar, Master, Burgoyne; Alfred Shell, Secretary, Burgoyne. 33, Haldimand, Henry Coey, Master, Jarvis; Jesse Forster, Secretary, Rainham Centre.

#### Additional Correspondence.

SIR,—In reply to the enquiry from I. M. T., of Strathroy, as to the use of superphosphates on sandy soil, I beg to say that I have used 3½ tons during the last two years, principally on sandy loam, with satisfactory results.

For my hoe crops, which consists of carrots, cabbage, turnips, mangles, and corn, I sowed broadcast immediately after plowing, some 500 lbs to the acre, and harrowed in lightly, and then put in my crop in the ordinary way.

For grain I sowed some 200 pounds broadcast. My hoe crop has been most excellent, and I consider my money well repaid in the extra crop and comparative freedom from weeds.

Of course there is nothing equal to good barn yard manure for renovating land, but if the land is not too sandy to yield some sort of a crop as it is, there would be little risk in venturing say half a ton of superphosphate next year as an experiment. My land is good and would have promised a fair crop without the use of superphosphates. I used the lowest grade of the Brockville Superphosphate Company.

Barton, Oct. 17, 1876.

R. T. R.

SIR,—Can you furnish a plan of a building for saving human excrements, which will be cheap and easily built; for I am convinced that much is lost to the farmer in this one manure alone that would pay a good percentage had he a suitable building for the purpose of saving and utilizing it.

#### EXAMPLE.

[An ordinary privy can with very little expense be utilized for the purpose by doing away with the vault, and inserting on the level of the surface a drawer, as it is in an article of furniture. Any strong close-joined box will answer the purpose. It should occupy the whole space under the seat in width and length, not in height. Put a little dry earth in the drawer before using, and each time after using it; remove the contents as often as necessary, say weekly, to a pit, and keep it covered with earth. The accumulation is a great fertilizer, generally called pondrette. The dry earth is a good disinfectant, and prevents any offensive odour.—Ed.]

REPLY TO A CORRESPONDENT.—There is no doubt but that condiments of various kinds are highly advantageous in fattening stock. The virtue of many of our cattle spices are not sufficiently known among our Canadian farmers. As yet only the most enterprising are trying them, and find great benefit from their use. For particulars and price of Devonshire Cattle Food, see advt. of John Lumbers in another column.

#### Reports of the Barley Crop and Stock in Hand.

The barley crop of Canada has, within a few years, become of such importance that the interest centered in it is only second to that of wheat, the great staple of our agricultural products. The barley crop of this season has been light, but the growers of it, as far as we have been able to ascertain, have less ground for complaining than the growers of wheat. The following report must, from the great extent and acreage of the cultivation of barley, be of interest to our readers.

The Montreal Gazette gives the return of the barley crop of Canada, comprising reports from 103 points, of which 52 were average, 38 below average and 12 above average, against 97 reports in 1875, of which 54 were average, 1 below average and 42 above average.

The New York Produce Exchange Weekly of a late date stated the visible supply of barley from New York is 562,829 bushels, against 132,214 bushels at the corresponding date in 1875. It also says that Mr. R. H. Lawder has made a tour of inspection of the barley crop in Canada and northern counties of New York. He finds the area sown with barley somewhat larger than in 1875, and the yield less. He aggregates the deficiency this year as compared with last, fully five million bushels, and of the out-turn of the crop this year he estimates that one-quarter of the barley in Canada and New York is so thin and light in weight as to be unfit for malting. He estimates the excess of the old malt held from Philadelphia at two and a half millions more in 1876 than in 1875, thus estimating the surplus stock equal to the deficiency in produce.

#### Rumor of Epizootic in London Township.

We have a report circulated in some papers that there has appeared in the southern part of London township a disease of a most peculiar character among horses. We have made every enquiry; we have consulted three veterinaries among others, and they state that there is not to their knowledge any disease of an infectious nature—nothing, in fact, to afford ground for the rumor.

#### Well Done for Canada.

Sixty-eight horses were sent to the Centennial show from this Dominion. Of these fifty-two took prizes, and thirteen were sold. One span of geldings brought \$1,500 in gold. Since the exhibition of horses, the fruit show has taken place there; and in speaking of the display made in this department, the New York Graphic says:—"Probably the finest show of fruits is made by the Fruit Growers' Association of Ontario." The same journal adds—"The present display occupies the entire north side of the Promological Building, and is composed of 100 plates of apples, 200 plates of plums, 200 plates of pears, 90 plates of crab-apples, 25 varieties of peaches, 153 plates of grapes, and a variety of nuts." Canada not only carried off silver medals for plums, but also a number of prizes for apples and pears. For Shorthorns the prizes offered were such as would not be accepted. After the exhibition of sheep some English lots were offered for sale, but the prices offered were lower than could be obtained at some of our county fairs.

The flax crop has yielded well this season, while in almost all others there has been a deficiency. The cultivation of this crop has been continuously increasing. The flax at present grown in Ontario amounts to \$700,000 in seed and fibre.

We have received communications from Messrs. A. Gray, F. Malcolm, and C. E. Gardener, which will be inserted in our next issue.

HEARING RESTORED.—Great invention by one who was deaf for 20 years. Send stamp for particulars. Jno. GARMORE, Lock-Box 993, Covington, Ky. K-1

#### Molsons Bank.

At the annual meeting of the above institution, held last month, a most satisfactory and encouraging report of the past year's business was read, and after the usual provision for bad and doubtful debts, paying two dividends of 4 per cent., the rest was increased by \$40,000, and a balance remained to the credit of profit and loss account of \$10,169.98. Considering the hard times and the numerous business reverses of the past year, the management are to be congratulated on their success.

The Molsons Bank is one of the most liberal monetary institutions in the Dominion to the farming community, and an increased share of our agricultural banking business should attend their success and liberality. We are pleased to hear that a branch of this Bank will soon open at Ingersoll—the headquarters of our great cheese interests.

Mr. William Watson, of New York, has purchased of Mr. William Rodden, of Plantagenet, Canada, the Ayrshire heifers Lilly and Amelia, together with the bull calf General Montgomery. These animals attracted much attention at the Centennial, where they formed part of Mr. Rodden's exhibit.

Messrs. John Snell & Sons, Edmonton, Canada, have advices of shipment of a young Berkshire boar and three sows from the herd of Mr. Heber Humfrey, of Berkshire, England. The pigs from England Oct. 5. Messrs. Snell have also recently received the young boar Royal Tombs and his four sisters, "The Four Belles of Shelton," from the herd of Mr. Edward Tombs, of Shelton, Uxon, England, which are said to be extra good ones. This makes nine imported sows added to the Willow Lodge herd in the last four months, besides two fine litters which were imported in their dams. At the head of the herd as a breeding boar is Sir Donchester, Cardiff, winner of five first prizes in England, and used for three years with good success in the herd of Mr. Heber Humfrey.

#### Commercial.

##### ENGLISH MARKETS.

London, Oct. 28.—Floating cargoes—Wheat, at opening, quiet; corn, quiet. Cargoes on passage and for shipment—Wheat, at opening, quiet; corn, quiet.

Liverpool.—Wheat, on the spot, at opening, quiet; corn, on the spot, at opening, quiet; California white wheat, range of club, per cental, 10s 6d to 10s 10d; California white wheat, range of average, per cental, 10s 6d to 10s 7d; red American spring wheat, range of No. 2 to No. 1, per cental, 9s 1d to 10s 1d.

##### MONTREAL MARKETS.

The produce markets have lost all the elasticity produced by the warlike news from Europe, and have lapsed into comparative dullness. The decline in the West and the less favorable tenor of the English despatches caused a further reduction in values, but even this failed to stimulate the demand. The stock of wheat at present here is very small, but the enquiry is correspondingly so; we have not heard of any transactions of importance within the week, and the market may be quoted nominal at \$1.17 to \$1.20 for Canada spring. Flour has declined about 10c per barrel all round, and a fair business resulted at the reduced rates, the market closing weak. Peas sold in car lots at 80 to 90c, and in cargoes at 91½c per 60 lbs. Corn was lightly dealt in at 53c for mixed lots, and barley ruled quiet. The transactions in provisions have been on a very limited scale. Pork remains steady; butter and cheese, quiet and nominally unchanged. Pot ashes closed easier, at \$4.60 to \$4.61½, according to tars. Freights quiet, at 6s 6d for heavy grains per steamer and iron clipper to Liverpool and Glasgow.

##### CHICAGO MARKETS.

Wheat, unsettled; No. 1 Chicago spring, \$1.14; No. 2, \$1.10; No. 3, \$1.02; rejected, 92c. Corn, No. 2, 42½c. Rye steady and unchanged. Oats, firmer, 32½c. Pork, in less demand, \$15.25 to \$15.50.

##### NEW YORK MARKETS.

New York, Oct. 28.—Flour dull, prices slightly in buyers favor, at \$1.26 for new No. 2; \$1.28 for winter red western; \$1.30 for amber; \$1.32 for white. Corn, 58c to 59½c for western mixed. Barley dull, and in buyers favor, extra choice six-rowed state at \$1 to \$1.03. Oats reported dull, 35c to 51c. Butter, 20c to 30c. Cheese, 6c to 12c.

##### LONDON MARKETS.

London, Oct. 28.—Wheat, per cental, \$1.90 to \$2.01; tread-well, \$1.80 to \$2.00; red fall, \$1.75 to \$1.80; spring, \$1.50 to \$1.55. Barley, 90c to \$1.50. Peas, \$1.20. Oats, \$1.12 to \$1.15. Corn, \$1 to \$1.10. Rye, 80c to \$1. Buckwheat, 80c to 90c. Beef, per 100 lbs., \$5.50 to \$6. Lamb, per lb., 7c to 8c. Mutton, \$6.25 to \$6.62½. Dressed hogs, \$6.25 to \$6.62½; live weight, \$5 to \$5.25. Butter, roll, 20c to 24c; keg, 17c to 22c. Cheese, 9c to 10½c. Lard, 10c to 10½c. Straw, per load, \$2 to \$4.28c. Hay, \$8 to \$10 per ton. Suet, per load, \$2 to \$4. Potatoes, per bag, 80c to \$1. Beans, \$1 to \$1.20. Cattle, live weight, per 100 lbs., \$3 to \$4. Sheep, each, \$4 to \$5. Lambs, each, \$2 to \$3. Flour, per 100 lbs., \$3 to \$4.25. Oatmeal, \$1.55 to \$2.25.



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