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W. E. WELD, PROPRIETOR.

THE LEADING AGRICULTURAL JOURNAL PUBLISHED
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The FARMER'S ADVOCATE is published on or about the first of each month. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.

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CONDITIONS OF COMPETITION.

1.—No award will be made, unless one essay at least comes up to the standard for publication.

2.—The essays will be judged by the ideas, arguments, conciseness and conformity with the subject, and not by the grammar, punctuation or spelling, our object being to encourage farmers who have enjoyed few educational advantages.

3.—Should one or more essays, in addition to the one receiving the first prize, present a different view of the question, a second prize will be awarded, but the payment will be in agricultural books. First prize essayists may choose books or money, or part of both. Selections of books from our advertised list must be sent in not later than the 15th of the month in which the essays appear. Second prize essayists may order books for any amount not exceeding \$3.00, but no balance will be remitted in cash. When first prize essayists mention nothing about books, we will remit the money.

A prize of \$5.00 will be given for the best essay on "The Best Varieties of Small Fruits, and Methods of Cultivating the same." Essay to be in this office not later than the 15th of December.

A prize of \$5.00 will be given for the best essay on "Whether is July or October the better month for holding Agricultural Exhibitions in Manitoba and the Western Territories." Essay to be in this office not later than the 15th of November.

Our prize of \$5.00 has been awarded to Mr. Hilliard Taylor, of Crystal City, Man., for the best essay on "The Treatment and Care of Manure During the Feeding Season, to Render it Available for Use the Following Spring or Summer."

The McKinley Tariff, and What Will be its Effects upon Canada and the United States.

BY JOHN S. PEARCE.

Now that the McKinley Tariff Bill has become law, we shall endeavor to review the situation and see the way it is going to affect Canadians. This question has now been pretty thoroughly discussed, both pro and con, and we shall now try and take an impartial view of the question, and see whether the effect of this Bill or Tariff will not in the main be as much if not more to our advantage and to the disadvantage of the United States, as in the eyes of the United States people it will be to their advantage. We do not for one moment believe that this measure was framed with any special view to hurt Canada in any particular way. The ends in view were purely political and selfish motives. But if there is any unfriendly feelings among a few of the United States lawmakers, or if they thought that by framing such a tariff and making it law they were going to drive or force Canada into

ANNEXATION,

they never were more greatly mistaken. One of Canada's ablest and most advanced thinkers said in a recent speech, "During the past fifteen months I have been in every province of the Dominion, and after inviting the frankest interchange of opinion everywhere, I came to the conclusion that there is less thought of annexation now than at any time during the past forty years. The growing sentiment of

CANADIAN NATIONALITY

is quietly killing it out."

We think the United States people have made a great mistake in passing such a Bill, and we look upon this measure as one that will be largely instrumental in bringing about a reaction on this tariff question, and the result of the next general elections in the United States may be a surprise to some of the ardent advocates of high tariffs and protection. That the general effects of this high tariff will not be for the benefit of the masses as claimed for it, is very plain to any clear headed thinker, but the ultimate result will be to benefit the

MANUFACTURERS

and large corporations and syndicates. The loss of our products, such as poultry, eggs, potatoes, &c., to the American consumer will be more severely felt by him than the loss of their market will be felt by the producers of these articles in Canada, and the day may come when

the loss of the

AMERICAN MARKET

will have proved beneficial to Canada.

The Montreal Trade Bulletin, commenting on the new tariff, says:—

"The United States Customs authorities along the border will have to double their vigilance if they intend to cope with the many difficulties they will now have to contend with, in preventing the smuggling of farm products from Canada into the United States. Owing to the exceptionally high McKinley Tariff, there will be found parties on either side of the line willing to take the chances of shipping and receiving goods by the old-time 'underground railway,' to the detriment of the Government of the United States. If smuggling was carried on between Canada and the United States immediately prior to the enforcement of the McKinley Bill, what may not be expected now that the duties are so much higher. New England importers have already made statements to the effect that they are bound to have Canadian produce in spite of McKinley. The meaning of this, of course, can be construed in two ways, but as it had reference to certain products on which the duty is virtually prohibitory, it looks as if its significance hinted at evasion. It will be something extraordinary if some very high jinks are not played by American smugglers now that such splendid opportunities present themselves to that class of contraband operators. The border line dividing the United States and the Dominion of Canada is larger than that of any other two countries in the world, and brother Jonathan will be sorely tested in putting down a horde of smugglers which the McKinley Bill will undoubtedly bring into existence."

The Huntingdon Gleaner, commenting on the McKinley tariff, says:—"The chief products of the county, cheese, butter, peas and cattle, are unaffected by the McKinley Bill, which leaves untouched such small items of our farmers' revenue as tan bark, hides and pulp wood. Those who talk in an alarmist strain about the effects of the McKinley Bill on Canada, forget that a succession of preceding tariffs has restricted trade to such a degree that little was left to this new one to do. The underlying cause of the fears expressed of severe injury to Canada resulting from the McKinley Bill is the notion entertained by many who live at a distance from the frontier, that the United States offer an unlimited market for produce and at much better prices than can be obtained in Britain. The truth is, that depressed as our own farmers are, those across the line are in worse plight. Daily we see American cheese and butter on its way to Montreal for shipment, the market of sixty millions failing to require it, while the price of

cattle and hogs is lower at Malone and Chateaugay than in Montreal, and to such a degree that American farmers weekly smuggle them for sale to our buyers. Take it all round, the farmers of this district get fully more for their produce than those who reside in Franklin and adjoining counties. That being the case, it is unreasonable to assert the McKinley Bill can greatly affect the farming interests of Canada."

We also notice that the

SPANISH GOVERNMENT

has given intimation to the Washington authorities that United States breadstuffs will be excluded from Cuba and Porto Rico unless the products of those islands—tobacco and sugar more especially—are excepted from the restrictions of the new tariff. This would seem to offer Canada an opportunity of making herself heard at Madrid and Havana.

Again, there has been intimations from several sources that European countries, and no doubt other countries also, will intimate that they will not send exhibits to the

COLUMBIAN EXHIBITION

in 1892. Should the various manufacturers of foreign countries carry out this intimation it will be a serious blow to the success of that exhibition.

Another effect will be to diminish the foreign trade of the United States and to give an artificial stimulus to the domestic trade for some time at least.

THE CANADIAN BARLEY

trade with the United States is not after all likely to be destroyed. The opinion has been expressed by persons on both sides of the line that Canadian barley will continue to be imported in spite of the high duty. The fact that the Americans grow barley in excess of their own wants, while they make use of ours, is marshalled in support of this view; but, while a duty of 30 cents a bushel may not wholly exclude, it may well lessen the consumption. It certainly will not affect the trade this year, as most of the barley was across the line before the Bill went into force. A dealer at Kingston, who has handled 250,000 bushels this year, says that the farmers have received 10 cents a bushel more for their barley this year than for several years. There is, he says, very little more than enough barley now in this Province to supply the home demand. A certain quantity of Canadian barley they had to have. The American brewers had to have our barley, and they would pay the duty.

The American demand being now pretty well supplied very little of what is left could have been sold at American prices. Whether the farmers who still have barley on hand will get American prices for it will depend on their ability to act unitedly. The Canadian brewers are holding off in the hope that the farmers will be willing to let what they have left go at lower prices than have been paid heretofore. Whether the Americans would take our barley in as large quantities next year was a question of supply and demand.

Now, if the Canadian farmers went on growing the six-rowed barley the supply would exceed the demand, and they would have to be content with lower prices.

The check to the

EXPORTATION OF HAY

may be a good thing. To export hay is to rob the farm of its natural manure, and is only

courting a decline of production and fertility of the land when such is practised, and we cannot but look upon the stoppage of its sale as a benefit rather than an injury to the country. Let hay exporting sections go into stock or dairying, which will pay them much better.

PEAS

is another article upon which they have put a very high tariff, yet notwithstanding this they will have to have our green and wrinkled sorts for seed purposes. In fact they can't grow these sorts successfully in the United States. A prominent seed merchant of the United States made the remark that it would not matter if the U. S. Government put one dollar a bushel duty on garden and green peas they would have to have them and pay the duty, for, said he, "I don't know a spot in the United States that these peas can be grown profitably or to good advantage."

THE EGG

question has created a good deal of discussion and controversy, but to us it is clearly a question of a few months, when the trade will right itself, and things will go on as though nothing had happened. The Montreal Trade Bulletin says:—

"Now that McKinley's Tariff Bill has gone into force, and for a time at least excluded Canadian eggs from the markets of the United States, great interest is being manifested in the few trial shipments that are being made from this city to England. Altogether about 400 cases are going forward this week chiefly to London, each case containing thirty dozen eggs, which are put up in very good shape. The freight to Liverpool is 15s per ton, which is considered very reasonable. If the lots now being shipped sell at 9s. 6d. to 10s. per ten dozen, as anticipated, it is calculated that the net proceeds of sales will give shippers here about 20c. per dozen or over, which figures ought to satisfy them. But as we stated before the test is yet to be made. That great results are expected from these shipments to England, may be gleaned from the fact that 19c. has been paid on this market for strictly fresh stock for the London market, put up in first-class style. Several letters have been received from London, Liverpool and Manchester houses, by parties here outside of the egg trade, soliciting consignments, which shows that English dealers are looking to Canada for their supplies of eggs, but whether they can give sufficiently good returns to warrant other shipments has to be proved. It may be mentioned there is an impression in England, that as Canadian eggs have been shut out of the United States our surplus production must of necessity find an outlet on the other side. It is to be hoped that a large and profitable trade may be developed in exporting Canadian eggs to England."

A Montreal shipper has just had the returns from a shipment of 126 cases to the British market, and the returns are very satisfactory, netting the shipper the same price as was quoted in Boston and New York. Another shipment will go forward at once, and no doubt others will follow.

The trade, when it undertook this experiment, seems to have known more about markets and eggs and things than the able editors. It is remarkable in connection with the McKinley Bill discussion that, though the loss on the egg trade is one that the producer would feel least of all,

most talk has been made about it in the press. Though a trade with England is not yet assured, it seems quite within the probabilities. If present indications are borne out the egg cackle will soon stop, and perhaps in articles of much more value to the country the alarm will be found to be just as ill-founded. The

CONSUMPTION OF EGGS IN ENGLAND

is something enormous. Eggs are sent from Russia to England, and the time in transit is ten to twelve days. Now, if the Russians can send eggs surely we can do the same. J. G. Curry, an extensive dealer in dairy and other products in London, England, says, "I can place any quantity weekly on the London markets if Canadian eggs were sent fresh and properly packed. From samples that I have already placed on this market I have the universal testimony of the buyers who say that they are quite as fine as their own home products."

The trade in

POULTRY

will probably suffer more than anything else, the duty being three cents on live and five cents on dressed. But Britain is taking immense quantities of poultry from France and other European countries. Now, if the railway and steamship companies will only give our dealers and shippers every possible facility for the dispatch and careful handling of these goods, we shall have little to fear from the effects of the McKinley Bill. We have this assurance from one of the agents of one of the Montreal steamship companies, and from what we have seen and know, they are going to do all in their power to facilitate this trade. The Canadian route is by far the best for handling these goods in the summer season, and especially in hot weather. So much so that a great deal of the American goods go by this route in the summer season.

The following will give breeders some idea of what

AUSTRALIA

is doing to push the frozen meat trade, and no doubt our shippers will soon take up this same matter if it works and is practical:—

"A firm in Sydney announce that they have completed arrangements whereby parcels of one, two, three, or more frozen sheep or lambs can be delivered at any address in the United Kingdom—'delivery guaranteed.' Whether the practice of sending presents of this sort from the colonies to friends at home is to become established or not must, of course, depend upon the practical results of the experiment. As a fact, parcels containing frozen meat have already arrived in Surrey, and have been delivered in this way to private individuals.

"If mutton parcels from the Antipodes can be sent thus easily, why not butter, cheese, eggs, and fruit goods from Canada? Perhaps some of our enterprising Dominion shippers will catch on to this idea."

Principal Grant, in his address before the National Club in Toronto, when speaking on this question, said:—While our neighbors were preparing their unfriendly Bill, we gave them all the excuse that could have been desired, by placing new taxes on their corn and pork. At the very moment when we are more than ever dependent on the open markets of Great Britain, some of us propose to shut our doors against her, as the price of conciliating those who announce that we cannot be Canadians and

Americans at the same time. The United States may be selfish in politics, but they have never prepared anything quite so selfish as that. What course shall we take between the policy of the United States and that of Britain which are so opposite? We are between the two. What course shall we take? If we imitate the United States we shall proceed to double our duties on almost everything that we tax now. Every sane man will admit that we cannot afford to do that. We simply cannot afford to make living in Canada dearer. If we imitate Great Britain we shall at once reverse all our previous policy. We cannot afford so violent a disturbance as that. Is there any middle course?

For answer I shall indicate these points that I have thought out, though I shall barely do more than state them.

First—That to fill the gap made by the McKinley Bill in our volume of trade we must look chiefly to an increased trade with Great Britain. Great Britain is just as much our natural market as the United States. She is ready to take almost everything we produce, and distance by water is of far less consequence than distance by land. It is clear that we must buy more from her, as well as sell more to her, if we are to largely increase our dealings with her.

Secondly—If we are to have Commercial Union with only one country, it would certainly be more natural to form such a union with Great Britain than with the United States. There would in that case be less disturbance even of our own manufacturing interests, for the differences between Canada and Britain have led here to lines of manufactures, in which, under any arrangement with her, we could easily hold our own, or even preserve an unchallenged supremacy. On the other hand there is not a single line of manufactures in which the United States are not our keen competitors. Again, in any such union with Britain we could depend upon her staple trade policy and her friendliness, both matters of importance, as the history of our relations with the United States for half a century abundantly show.

Thirdly—Retaliation by us would be ridiculous. I do not say that retaliation is out of the question in every case. Sometimes it is the best way of bringing others to a reasonable frame of mind. Canada and Britain will not get any reasonable measure of free trade with the United States till unitedly they can offer something which, in the opinion of Congress, is as good as that which we want from them. Now, if Canada would agree to abolish its duties on British products and manufactures, or even keep on them a small revenue tariff for a short time, and if Britain would agree to discriminate against countries refusing any reasonable reciprocity with her and with us that would give us the weapon we need. That course would have other advantages. In my opinion it would be the best course, not only for Canada, but for Britain. This would teach the power of free trade to the farmers of the United States. They could not complain even a little, for imitation is the sincerest form of flattery. Besides, they have already done their worst. If you agree with me on these points it follows that we should approach the British Government with a reasonable offer, and find out whether any arrangement can be made. We have approached Washington time and again. Should we not try London now? We are dogmatically told that Britain will

never discriminate. It will be time enough for us to believe that when we are willing to share in the sacrifice that any change requires, or when she herself says so. It is clear that if we are to throw in our lot fiscally with any other nation we should do so with the Mother Country. It is also clear to me that the trade theory of Britain is right, though it does not follow that no exceptions can ever be allowed, or that there are no relative degrees of rightness. Since our neighbors will not trade with us we must do everything in reason to open the avenues of trade, not only with Britain, but with other countries. Commercial treaties with the West Indies on our side, and Australia on the other, a fast steamship service across the Atlantic, the deepening of the St. Lawrence canals, a cable and a line of steamships to Australia and New Zealand, are all moves in the right direction.

The alterations in the United States tariff which especially interests farmers, and not given elsewhere in this article, are as follows:—

	Former Duty.	New Duty.
Apples, green or ripe.....	Free	5c. lb.
dried.....	Free	5c. lb.
Eggs.....	Free	5c. doz.
Straw.....	10c. bush.	30c. bush.
Barley.....	20c.	45c.
Barley malt.....	10 p.c.	4 c.
Beans.....	4c. lb.	6c. lb.
Butter and substitutes.....	10 p.c.	1c. each
Cabbages.....	10 p.c.	6c. lb.
Cheese.....	4c. lb.	\$4 ton
Hay.....	\$2 ton	15c. lb.
Hops.....	10c. bush.	15c. bush.
Oats.....	5c. lb.	1c. lb.
Oatmeal.....	10 p.c.	40c. bush.
Onions.....	20 p.c.	40c.
Peas, green.....	20 p.c.	15c.
dried.....	20 p.c.	50c.
split.....	15c. bush.	25c.
Potatoes.....	20c.	25c.
Wheat.....	20 p.c.	25 p.c.
Wheat flour.....	1c. lb.	2c. lb.
Mutton.....	10 p.c.	3c. lb.
Poultry, live.....	10 p.c.	5c. lb.
Poultry, dressed.....	10 p.c.	5c. lb.

The New Restrictions as They Affect Live Stock.

The change that the new tariff will have on live stock exported from Canada to the United States is given in the following table:—

	Old Tariff.	New Tariff.
Horses and mules.....	20 per ct.	\$30 per head
Horses worth \$150 or over.....	20 "	80 per ct.
Cattle over one year old.....	20 "	\$10 per head
Cattle 1 year old or less.....	Free	\$2
Hogs.....	20 per ct.	\$1.50 "
Sheep one year old or over.....	20 "	\$1.50 "
Sheep less than one year old.....	20 "	75 "
All other live animals.....	20 "	20 per ct.

By the above it is easily seen that to be on as good a basis as regards the amount of tariff charged against our Canadian horses for work as formerly, \$150, or a few dollars less, must be the valuation. The present regulation is aimed to prohibit the trade in cheap horses. It has long since been foreseen that the horse breeders of the Western States were sooner or later to be considered. They have, like ourselves, a superabundance of cheap horses that no buyer wants, and as it was therefore necessary for the Government to make a show of assisting the producers of this class, hence the clause in the Bill as it now reads. Therefore the day for getting rid of cheap Canadian horses in the United States is practically gone. They have found an outlet hitherto principally for street car work in the eastern cities, which was only temporary, as there is no doubt the day for street car horses is nearly numbered, as the larger cities are fast changing to cable and electric cars.

With cattle the case is somewhat similar. The very best fat steers, fit for the English export

trade, have no higher tariff charges per head than the light-weight stockers, and the present tariff will put an end to this outlet for scrub steers, and will in this case also favor those that are breeding the right class and do more to banish the poor miserable trash that has been tolerated than columns of newspaper controversy.

With sheep the aspect is somewhat different. As regards butchers' lambs for the Buffalo market there will be no great change, as the shippers under the old regulations contrived to so undervalue their stock that they were admitted at the nominal rate of 60 to 65 cents per head, while the present tariff stands 75 cents per head for lambs and \$1.50 for sheep. The worst feature in sheep is in the duty that will be collected on breeding sheep that are not recorded. Many car loads have gone over for breeding purposes free that answered the purpose as well as recorded sheep for ranch and farm sheep raising, therefore the present Bill is a direct stroke at this trade, as the present \$1.50 per head will practically close this trade, and our farmers will have to feed sheep of this class for the English export market, the \$1.50 per head tariff being more than the difference between the two markets. That this tariff will be a benefit to us in the long run is easy for us to see, for with our own Northwest to stock we shall have no competitors in the British markets that are much account, as far as the live sheep trade is concerned, the South American countries being too far to develop an extensive live stock trade, and the United States having but a very small proportion of the mutton breeds, and the closing out of the class of sheep that are just the right foundation for mutton flocks will in time to come damage themselves, while in reality it will benefit us. As regards the commercial class of live stock this is as

near the situation as a review of this regulation at present discloses. It will necessitate more care in all lines of stock breeding. They will still want the best class of horses for carriage and saddle use, and they will go into the hands of people who will pay for them. There will also be a demand for all the heavy horses for city dray work we can furnish, and the present Bill does not interfere with those horse that are recorded. In cattle it will prevent any trade whatsoever outside thoroughbreds of some of the recognized breeds. A glance at the Bill as it affects breeding stock will here be of interest, and reads as follows:—"Any animal imported specially for breeding purposes shall be admitted free: Provided, that no such animal shall be admitted free unless pure-bred, of a recognized breed, and duly registered in the book of record established for that breed: And provided further, that certificate of such record and of the pedigree of each animal shall be produced and submitted to the Customs officer, duly authenticated by the proper custodian of such book of record, together with the affidavit of the owner, agent or importer that such animal is the identical animal described in said certificate of record and pedigree. The Secretary of the Treasury may prescribe such additional regulations as may be required for the strict enforcement of this provision."

With horses and cattle the matter is plain, as animals that are eligible for the record that is established for the breed they represent are generally to be found already registered. The high value of the animal, in proportion to the fee for recording, and the comparative small number held by each party, encourages them to

Midland Loan and Savings Company of Port Hope, which necessitated him moving about amongst the farmers in the adjoining counties. He also for some years before selling the farm conducted a considerable insurance and railway ticket business in Port Hope.

In 1882 he was appointed from amongst ten applicants to the position of Secretary of the Council of Agriculture. No doubt his experience as a farmer and cattle breeder was the turning point in his favor. He then applied his usual energy to the management of the Provincial Exhibition, to the organization of Live Stock Associations, and has met with great success in that line, as the heading of this article will show. Since 1882 he has edited five volumes of the Canada Shorthorn Herd Book, five volumes of the Dominion Shorthorn Herd Book, with the irksome labor of the change of Standard, one volume of the Ayrshire Herd Book, four volumes of the Canadian Clydesdale Stud Book and one volume of the Canadian Draught Horse Book, besides overseeing the registration of Hereford, Polled-Angus and Devon cattle, and Berkshire and Suffolk and Yorkshire swine. He also compiles each year a valuable report to the Minister of Agriculture of the proceedings of the Council for the year. As Secretary of the Provincial he has always shown great attention to the breeders of stock, and spares no pains in assisting them to record their animals, visiting a great many of the shows for that purpose. He is also well-known in Chicago, where he has visited nearly all of the fat stock shows that have been held there. He also was instrumental in starting the Provincial Fat Stock Show of Ontario, of which the seventh is to be held in Guelph this winter. He has also taken an active part in the International Association of Fairs and Expositions held at different cities, has been Vice-President for several years, and has read papers at nearly all of them. He is also one of the Directors of the Eastern Dairymen's Association.

Cull the flocks. Don't send to winter quarters a lot of old or inferior hens; better reduce one-half and keep those which will pay a good profit than to load the producers with a lot of worthless stuff.

Just as our last forms were closing we received the following announcement by mail:—"The Shorthorn herd of cattle owned by Messrs. Gibson & Burch, Delaware, Ont., will be sold by auction sometime in December, to close the partnership. This will be a splendid opportunity to obtain valuable and scarce specimens of Bates blood. The offerings will comprise specimens of Duchess, Constance, Waterloo, and Darlington families. Everything will be sold, to enable a settlement of the partnership business." To most of our readers the name of Mr. Richard Gibson is very closely associated with breeding and rare judgment in Shorthorn cattle, and the present offering will be found particularly attractive as the herd embraces a number of the most select families. See advertisement.

Yorkshires vs. Berkshires.

Mr. Sanders Spencer is certainly an adept in obtaining free advertisements for himself and his stock in England, and from his extending this practice to Canada with success, it may reasonably be inferred that he is an "expert" in such operations. Like others, I have read his letters with amusement, not unmingled with astonishment, at his audacious ingenuity, and certainly he cannot, like Bismarck, "marvel at his own moderation." In one of his letters he claims that the Improved Large Yorkshire was evolved from his herd, as if, by some special dispensation of Providence vouchsafed to him, Sanders Spencer, the whole breed of Large Yorkshires were completely obliterated except those miraculously preserved by the fact of being in his herd. It is needless to say that this is not the case, and there are several herds of pure Yorkshires

when I read his letters, which, when written on the pig question generally, are admirable, I now involuntarily look at the end expecting to see "Ivy Holywell Pigs." I had almost written "Holloway's Pills."

As a matter of fact, I believe Mr. Green's statement will be found substantially correct, but Mr. Spencer in contradicting it offers as proof merely the prices made at a recent auction sale, and carefully refrains from giving any names or some essential particulars, which I will now endeavor to supply. The sale was, I presume, one made by Mr. John Thornton for Lord Moreton, who was removing from an estate in Gloucestershire to one in Oxfordshire, and who had in consequence resolved to dispose of his herd which was composed of three varieties—Large Yorkshires, Small Yorkshires and Tamworths. The attendance at the sale was not large, and the Large Yorkshires, with due deference to Mr. Sanders Spencer, who was not, I believe, present, were not brought out in as good trim as either of the other two breeds, whose prices were, I see, satisfactory. Mr. Spencer next coolly proceeds to upset all recognized axioms of breeding by the extraordinary statement that "reputed winners" (whatever he means by that), "or being exhibited at Royal Shows, or even entry in the herd book proves nothing, and if your pig breeders buy on that ground alone they are doomed to disappointment." Now, Canadians cannot really swallow this, for we are well aware that the offspring of well-bred ancestors of individual excellence, than which there is no better proof than the result of a show ring, are always to be preferred, yet Mr. Spencer, although he places stress on the prizes won by his pigs, informs us this is all wrong, and the only deduction to be drawn from his letters is that to avoid disappointment one must buy from Mr. Spencer's own herd, and in the next place pay a good price for them. To an outsider it does look a little selfish, as well as an extravagant claim on Mr. Spencer's part, and it would be more dignified,



MR. HENRY WADE.

as well as less trouble to himself, if he placed his advertisement in the proper columns and paid for it as other breeders do instead of taking up valuable space in free advertisements of his pigs. Good stock, like good wine, needs no bush; and here a breeder who persistently adopted such a practice would be set down as a "windbag," a character which does not meet with much approval and gives rise to the suspicion that it must take a lot of blowing to sell his stock.—*Verb. sat sap.*

Mr. R. McTaggart, of Lothair P. O., planted one potato in five hills last spring, and obtained from the same seven large pails of excellent potatoes this fall, five potatoes from his pile weighing twelve pounds.

Mr. Wm. Braun, who lives a few miles north of Brandon, sowed this season two and one-half acres of peas, which he says will yield thirty-five bushels per acre. He intends sowing ten acres next year, but will mix them with oats, so they can be cut with the binder. He is satisfied they will prove a profitable crop.

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Ayrshires as Butchers' Beasts.

(Continued from September Number, Page 273.)

Mr. Buchanan in his article on Ayrshire cattle, published by J. P. Sheldon in his work entitled "Dairy Farming," says:—It was no uncommon thing in Scotland, at the time referred to in the last article, for breeders of Ayrshires to systematically under-feed their young heifer calves and yearlings in order to get the points developed which were then in most request, and this could not be continued without weakening and injuring the constitutions of the animals to some extent. Many people, seeing the stunted appearance of these half-starved Ayrshires, naturally concluded that, whatever their value might be for milk, they would never do for butchers' beasts. But this foolish and hurtful fashion has happily passed away, and with it the prejudice against Ayrshires as fattening beasts is fast disappearing also, as feeders have opportunities of testing the breed alongside of others.

Mr. William M'Laren, Herrington Hill, Sunderland, who has for a number of years fattened cattle extensively, says in a letter dated 26th April, 1878:—"I bought four Ayrshire calves in June and July, 1876, from Mr. J. M'Laren, Red House, Sunderland. They were very small and poor-looking, and, indeed, hardly seemed worth rearing at all, but we let them run about with the others, and gave them very little milk or attention; however, they seemed to freshen up wonderfully last summer, except one, which was lame nearly all summer—caused by 'foul' in the foot. They were put into boxes at Martinmas, and got good feeding, and I sold three of them in March at 10s. 3d. per stone of 14 lbs.; they weighed 47, 47, and 43 stones respectively. The one which was lame I have still, and he is now about as good as the others were when they were sold. They were very little to look at, and probably would not have sold for more than 40 stones in a market (they were all bullocks, and as nice as heifers), but I sold them by weight, as I knew they generally weighed much more than any one would call them." Mr. M'Laren gives a number of other instances of Ayrshires which he has fed, and for which he realised very satisfactory prices, and he concludes by saying, "I wish I could buy more of them to feed; if I have an opportunity I shall not miss it."

Those four calves were out of cows I had sold to Mr. J. M'Laren in the beginning of March 1876—cows which were all in calf to an Ayrshire bull, so that the calves were certainly pure Ayrshires. Mr. J. M'Laren sends his new milk into Sunderland, and probably those four bullock calves got very little of it during the two months, or so he kept them before selling—hence their small size; but when sold fat they could not have been above two years old, and yet the two best ones realized over £24 each, and the other, sold at the same time, over £22.

From these statistics in fattening Ayrshires we may conclude that there is not nearly so great a difference in the fattening qualities of the different breeds of cattle as is generally supposed; and when we speak of the lean, lanky, ill-shaped bullocks of sixty years ago, and contrast them with the handsome Shorthorn or Hereford which is prime fat at two years of age, we ought to remember that the breeding and treatment of the two animals have been as different as their appearance, and that the fat and handsome young animal we so admire has probably cost more to his owner during the last year of his life than

the other cost his owner during the whole of the four or five years during which he found his food in the fields, with perhaps the addition of a little hay or straw during a severe storm, or if kept in a yard in winter, with no other food but straw.

When estimating the value of any breed of cows for the dairy, we naturally look first to the quantity of milk they yield, but we ought also to take into consideration their aptitude to fatten; and if the Ayrshires were as unsuitable as some people think them for the stall, it might well be doubted whether men farming prime land should keep them, notwithstanding their admitted merits as milch cattle. Several farmers in and about this neighborhood keep pure-bred Ayrshire cows for the dairy. On these they use a pure Shorthorn or Hereford bull, thus increasing the value of the calves as butchers' animals.

Having a dairy, and selling the milk to a dairyman, my calves are reared on as little milk as possible, and soon sent away to find their food in the fields, where they get a small allowance of cake for a few months; after then they get no more cake at all, but about the 1st of November, when they are a little over 2½ years old, they are put into boxes and fattened with roots, meal, and a little hay. For a number of years I have sold nearly all of my own rearing of cattle to a butcher by weight, and in 1877 the average weight of these bullocks was 778 lbs. each, or nearly seven cwt. The first one was killed on the 10th January, the last on April 4th, and their ages would be, on an average, about thirty-four months. These figures were commented on by several persons, and one gentleman thought the cross-breeds, the offspring of an Ayrshire cow and Shorthorn bull, would not fetch the highest price of beef per pound. This drew a reply from Mr. Morris, the butcher to whom I have referred, in which he said, "I may say that I consider the cross admirably adapted for the trade (particularly now, as customers have become so fastidious as to what they eat); they have an abundance of good flesh, without the large quantity of fat common to Shorthorns and some other breeds, and are light in the bone." Further on he continued:—"Let half a dozen half-breeds be bought, with the same number of pure-breeds (Shorthorns), and fed together, I think the result would dispel a little prejudice that exists as to the merits of this cross." Mr. Morris had previously said, in reply to a question from me, as to whether he considered the cross-bred Ayrshires as good butchers' beasts as the Shorthorns, "They are better beasts, both for the butcher and the consumer;" and as he has bought nearly all my winter-fed beasts of this breed for the last four years, his opinion is entitled to respect, especially as he is a farmer himself, and fattens a number of good beasts.

In 1878 my cross-bred bullocks weighed from a little over six to nine cwt., each killed between February 13th and end of April, fed in the usual way, ages about thirty-five months on an average. I have no trouble in getting the top price per pound for them. For years they have paid me better than the larger cattle which I have bought in, and I have no doubt that a cross with a Hereford bull would yield equally satisfactory results.

WHAT CANADIAN BREEDERS THINK OF AYRSHIRES.

BY W. C. EDWARDS, M. P., ROCKLAND, ONT.

I have your enquiry as to Ayrshires, and beg to answer your questions as follows:—

We have had a herd of 20 to 40 Ayrshires for the past three years.

We are also breeders of Shorthorns, and while they are our favorites, yet we think the Ayrshires a good and profitable stock, and better adapted to some localities and to some farmers, than the Shorthorns. We cannot speak authoritatively of how they would compare with other breeds, as we have had no personal experience with any but the two breeds above named.

Up to the present the Ayrshires have proved more profitable to us than the Shorthorns, the reason being that, on account of the low prices of beef, we have had a very poor demand for Shorthorn bulls, while, on account of the boom in dairy products, we have had a good demand for our Ayrshire bulls. We are not in a position to give comparative values based on the beef and dairy products of the two kinds of stock alone.

Our opinion is that the Ayrshires are best adapted to such parts of the country as are specially adapted for dairy purposes, say in hilly regions where there are tracts of rough pasture.

We find the Ayrshires particularly healthy, and we believe them to be hardy, but we do not believe in testing the hardy qualities of any kind of cattle. All breeds of cattle can stand our summers, and their care and treatment should be such, from October until May, as not to test how hardy they are, for if it is done it is only at the expense of a depreciated value of the animal, no matter what the breed may be. At some time some breeds may endure hardship better than others, and it is our opinion that the Ayrshires would survive such bad treatment perhaps better than any other of the milking breeds.

We are not the partisans of any breed of cattle. We believe that each of the breeds have their good qualities and adaptabilities. We have chosen to be breeders of Shorthorns and Ayrshires because, in our view, these breeds are as well, or better, adapted to this portion of the country than any other breeds. We have a diversity of character of country in the Ottawa and St. Lawrence regions, and if we were giving advice based on our own observation, we would advise a farmer who has a fairly level farm, with good heavy soil and good grass land, to keep thoroughbred Shorthorn bulls at the head of his herd and breed Shorthorn grades. On the other hand, a farmer having a rough and hilly farm, light soil, and more or less stony, we should advise such to keep thoroughbred Ayrshire bulls at the head of his herd and breed Ayrshire grades. The result to the farmer in each case is sure to be successful if he only takes that care of his stock that he ought to take. In the hands of farmers who are educated properly to the care and treatment of their stock, and who take a pride in their animals, such will make a success of any of the breeds, while the result is sure to be the opposite in the hands of such farmers as neither know or care how their cattle are treated. The great question to solve, in our opinion, is not one of breed, but to get our farmers educated up to the proper care and treatment of their stock.

MR. J. A. JAMES' EXPERIENCE.

I reply to your paper enquiring in regard to my herd of Ayrshire cows and to their production, &c., I shall endeavour to answer you as shortly as possible.

The Ayrshire cows, as a rule, are good feeders,

good milkers, and when I have a good herd of them they are pleasing to the eye and profitable.

I have kept some nearly pure-bred Durham cows of good milking strain, and they have done well; they were larger than the Ayrshire, and they consumed more feed. The Ayrshires are smaller in size and consume less feed than the Shorthorn. The Ayrshire I have give more milk than the Durham on the same quantity of feed. They suit me better for dairy purpose. They give a good quantity of milk late in the season. My herd of twenty cows, mostly all Ayrshires, has averaged me in seven months 6,164 pounds each, beside what I fed to calves, &c., before the factory opened in the spring. I sold, before the factory opened and after it closed, 405 pounds of butter, besides milk for other purposes. The Ayrshire cows are kind, hardy and good feeders.

MR. JAS. M'CORMICK'S EXPERIENCE.

My experience with Ayrshires began in 1865 and has been continued with good results. As dairy cattle I do not think they can be excelled and when crossed on natives or other breeds, the offspring, when females, with rare exceptions, make good dairy cows. I have drawn fifty-five pounds of milk in one day from Ayrshire cows which were feeding on common pasture and received no other food. Twenty-four to twenty-six pounds of this milk made one pound of butter. In 1882 I sold a two-year-old grade heifer to Mr. Williams, ex-M. P. P., of Hamilton. When she was six years old Mr. Williams told me that he had received fourteen quarts of milk from her at one milking, and that she was the best cow he ever saw. In 1883 I sold one to Mr. O. R. Wardel, of Dundas, who afterwards told me she was the best cow that he had ever seen. In 1886 I sold another to Mr. Smith, of Sheffield, who told me he had taken fifty pounds of milk in one day from her. Mr. Adam Thompson, of Rockton, also bought one that gave about the same amount. I merely give the names of these men so that they can be communicated with at any time to prove my statements. My experience has taught me to prefer the Ayrshires. If the cost of keeping is taken into consideration, they are the best all-round dairy cows. We generally stop milking our cows about two months before calving, when we feed them straw and twenty pounds of turnips per day. With this treatment they gain in flesh; this proves how cheaply they can be fed. The profit of a cow depends largely upon the cost of keeping her. I find them to be equally as hardy as any native that I ever saw; I never lost but two, one with milk fever, which could have been prevented, the other, a bull, I had to kill on account of gravel. I might say I have thirty-six head in my stable, and a cough is never heard unless one is choked by something.

WM. STEWART, JR., MENIE, ONT., RECOMMENDS THE AYRSHIRE.

Some eight years ago I concluded to try the Ayrshires. We were then breeding grade Durhams, and previous to this we thought that there was nothing like the Durham, as we got quite a flow of milk when crossed on our native cows, and when too old for dairy purposes, they were worth something for beef. It occurred to me that if we could get as much milk from the Ayrshires as we could get from the Shorthorn grades would they not be much more profitable to keep, as the difference in cost of

keep would more than compensate for the amount realized in the extra amount of beef. Having my mind made up to the above, I concluded to give them a trial, so I purchased two heifers and a bull, with which to start my herd, placing them in the same stable with the others, and feeding the same feed to all alike. I noticed that the Ayrshires did not consume as much food as the Shorthorn grades, and that they appeared to be far thriftier and hardier. I have now kept Ayrshires for eight years, and am not sorry I made the change. With regard to dairy purposes, I think they are the coming cow; they are hardy and healthy, and will live and do well where any native stock will live. They are very quiet, and persistent milkers, at the same time giving a good flow, not for three or four months, but eight and ten months. I have cows in my herd now that have been milked for two years and not been dry a day. They are very prolific, breeding very young, and continuing to breed regularly until up in the teens. I have one cow in my herd that is now rising nine years old, and has had a calf every year since she was fifteen months old; she is now carrying her ninth calf. As cheese is one of our greatest exports it behooves the farmer to turn his attention to the raising of first class dairy stock—stock that will produce the greatest amount of casein or curd to the pound of milk. This is found plentifully in the Ayrshire's milk. This quality, coupled with their thriftiness, hardiness, docile temper and the ability to retain their flow of milk well through the season, makes them a most desirable dairy cow for the general farmer.

SOME COMPARISONS BY GEO. HILL, DELAWARE, ONT.

I am very pleased that you offer me a small space in your paper to say a word for the Ayrshires. I have had them for twelve years. I have had Durhams and Jerseys also in that time, and I find the Ayrshire by far the most profitable as a dairy cow. I find their milk, after the cream is taken off, is more nutritious than Jersey milk similarly treated. I was reading some time ago of a noted doctor of New York that had been testing the milk of these two breeds, and he said the Ayrshires was far the best as food for children, which is a great consideration. I have no doubt but there are some good Jerseys. But where is the farmer that could afford to pay up in the hundreds or thousands of dollars for one of these noted ones? I know of some that cost big money and they do not give enough milk to feed one calf well. I can get a good Ayrshire for from fifty to one hundred dollars. I only paid fifty dollars for my Ayrshire cow which took the first prize in her class at London in 1885. She was second prize cow of all breeds on the ground. I suppose some of Mr. Fuller's Jersey cows which competed cost some thousands, so I conclude the Ayrshires are the poor man's cow. I cannot close without a good word for the ADVOCATE, of which I have been a reader for about twenty years. I think it is like the grain of mustard seed. From a small beginning, it is now spreading its branches of good and useful knowledge over all the Dominion. May you be long spared to go on in the good work.

The Prince of Wales, who is President of the Hackney Horse Society, has been a very successful exhibitor of Hackneys this season. His stud of Hackneys at Sandingham has not yet been established three years and already he has begun exhibiting and winning with horses bred there.

Canadian vs. American Cattle.

The London Live Stock Journal copies the following paragraph from the Rural New Yorker of Sept. 27th:—"Some cattle owners near Grenville, New Jersey, are excited because some of their cattle have been seized and slaughtered by Government inspectors. Dr. Hauk, Chief Inspector for New Jersey, says he discovered a few cases of pleuro-pneumonia among the cattle and is determined to stamp the disease out."

Canada has so determinedly fought against the inroads of disease, by her strict quarantine, that she is absolutely free from any of the plagues that beset the cattle of other countries, and we further trust that our authorities will see to it that our vessels carry nothing but Canadian cattle, as such is the insidious nature of this disease that discredit may arise by our export cattle contracting this disease from a former shipment of diseased cattle shipped from one of the United States ports.

Chatty Letter from the States.

[From our Chicago Correspondent.]

Breaking the record on cattle receipts for two weeks "hand running" is all right for the record, and may be all right for those who have cattle to market after awhile, but it is certainly very rough on cattle prices just at present and those who have to take them. For the week ended Oct. 4 Chicago received 86,799 head of cattle, being the largest on record by about one thousand head. Last week, however, was another record breaker, receipts being 88,351 head. That is rushing cattle in at a rate that must soon make a big impression on the "cattle in sight."

Thousands of men are going on the theory that they must get rid of cattle at any cost before they are compelled to go to feeding them, and as a consequence the markets have been and are now very badly flooded with all sorts of low grade cattle. As illustrating that fact it may be stated that last week, when thousands of 1,000 to 1,400 lb. cattle, in poor condition, were going begging at \$3 to \$3.75, the few really ripe and prime cattle were selling at \$4.90 to \$5.25, or nearly as high as at any time for months.

The man who declares that the surest way of getting fifty cents for corn is in feeding it to cattle this winter may be a little over sanguine, but certain it is that the sacrifice of thin and immature cattle will either be felt in an emphatic way, or there are more cattle in the country than the most "bearish" calculators claim.

The western range cattle have lately sold at very low prices, but for the season so far prices will average about 25c. to 30c. higher than last year. Best western beeves last year, \$4.10; best this year, \$4.50. Handy fat 1,069 lb. steers of fine quality sold at \$4.60, while some good 1,750 lb. beeves sold at \$4.55.

A western sheep man predicts that good sheep will sell very high next spring. He bases it on the reduced numbers on feed and the growing demand.

Car lots of 135 to 140 lb. Dakota pigs sold at \$3.10, the shippers claiming there was nothing to feed them. It seems a shame to waste such material, but if it were not for such sacrifices the production might be overdone.

The London Farming World is in favor of abolishing the practice of offering prizes for steers over three years old at the Smithfield Fat Stock Show, and would offer prizes for steers under twelve months instead.

On the Wing.

Six miles north of Winnipeg two of our sons have been farming this season, and there we spent some days. The land here contains vast stores of plant food, and, with even a moderate amount of moisture at the proper time, is capable of producing wonderful crops. While at the farm, the potatoes were dug with a machine brought from Prince Edward Island, and which is particularly adapted to the work here, where the tops grow so strong and the soil is heavy. The chief point of merit in this machine is the revolving wheel behind having blades attached, which throw aside the tops and move the earth in such a manner as to leave the potatoes exposed. The potatoes were picked up by a strong force of all kinds of help available, such as white men, "breeds," squaws and Indians, not the least noticeable of which was a squaw who worked dexterously with her papoose fastened securely on her back. The farm produced twenty-five hundred bushels of potatoes from nine acres, thus yielding about two hundred and eighty bushels per acre. An offer of thirty-seven cents per bushel was refused, but, computing the value of the crop at that price, gives a profit of eighty-one dollars and some cents per acre. The land in this locality, being very rich and poorly cultivated, has become very badly seeded with weeds, but good cultivation overcomes them in a short time. In fact, as clean a garden as we saw was one that had been hoed but twice during the entire season. Our sons, from some ninety acres of land, produced nearly two thousand dollars worth of crops, which was certainly a good return, in consideration of the fact that the farm was taken late in the spring, and not a furrow of fall plowing done, and being noted as the dirtiest in the settlement. In the city of Winnipeg we ascended to the roof of the "Manitoba," a new hotel, seven stories high, in course of construction by the Northern Pacific and Manitoba Railway, and from this vantage ground were able to see the whole city and locate any house therein. From here the largest and tallest houses look small, and the entire city does not appear to be of great magnitude. The town of St. Boniface, with its schools and churches, shows to good advantage, and the serpentine windings of the "Red" may be traced for miles. Winnipeg is the distributing point for the wholesale trade in all lines for Manitoba and much of the Territories, and also for agricultural implements. Along the main line of the C. P. R. harvesting was in full swing at the time of our visit, and the vast expanse of wheat to be seen in many places was something amazing. About that time Mr. John Atkinson, of Alexander Station, stood on his stable and counted seven hundred stacks, and the grain was not all stacked even then. The Experimental Farm at Brandon is a point of great interest, and is visited by very great numbers of Manitoba farmers with seeming interest. Mr. Sandison, near Brandon, had eighteen hundred acres of wheat, which was expected to yield over thirty-five bushels per acre, but as the threshing advances it looks as though thirty bushels per acre would be nearer the mark. At Portage la Prairie Mr. Harold Sorby, late of Guelph, Ont., and brother of Messrs. D. & O. Sorby, of Clydesdale fame, has eight hundred and twenty acres of wheat, part of which has been threshed, yielding twenty-five bushels per acre, and the remainder will yield equally well.

When we compare the prospects of Manitoba and the neighboring State of Dakota, we find ample cause for thankfulness, honest pride and patriotism. In Manitoba it is almost impossible to find a man dissatisfied with the country, and instances of failure are rare. In fact, a gentleman who has travelled extensively there, says "he has yet to find the first instance of failure where a reasonable amount of energy and discretion was brought to bear on the business." In Dakota the state of affairs is quite the reverse, and many who have struggled hard and lived hard during the two last years, hoping for a turn in the tide, are actually forced to give up all to their creditors and go elsewhere, many being obliged to leave their families until they can earn money to take them out of the country. That Manitoba and the Territories are destined at some future date to become an important part of our Dominion and the British Empire must be admitted on all hands, and if the statements of American statisticians are true, and that by the year 1894 the United States will consume all the wheat she can produce, that time will not be far in the future. No state in the American union has as much fertile soil awaiting the advent of the tiller as Manitoba, while the whole United States has not one-half as much as our Northwest Territories.

The Fall Fairs.

Owing to the fact that almost all the fairs in the Province were held between the 30th day of September and the 10th of October, we were unable to attend as many of them as was desirable, and the decidedly unpropitious weather of the latter part of that time detracted from the interest in, or rather the success of the outdoor exhibits, to a very great extent.

AT OAK LAKE

An excellent display of live stock was made, and by men whose hearts are in the business, and who will be likely to carry it to a successful issue. Mr. W. J. Helliwell, of Ralplton, was the largest exhibitor of Shorthorns, and has a herd of which he may well feel proud. Mr. Proctor, of Virden, had a large number of animals on the ground, and won a fair proportion of prizes. Mr. R. J. Lang, of Oak Lake, showed a few very choice young animals that won chiefly first prizes. Mr. Todd, of Ralplton, exhibited an aged bull of good style and breeding, although too low in flesh to show to good advantage, and a very fine bull calf in the pink of condition. Donald McBeth, of Oak Lake, showed a few Shorthorns, among them an especially nice two-year-old heifer and a fine bull calf. Donald McFarlane, of the same place, was out with some half dozen Polled-Angus, most of which were good animals, although some were low in flesh. Mr. Lemieux showed a nice lot of sheep in the long-wool class, as did also Mr. Todd. In the Downs Mr. Helliwell did all the winning. Mr. Lang won most of the prizes on Berkshire pigs, Mr. Lemieux winning on a young sow. Mr. Donald McBeth won most of the prizes on draught horses with his Clydesdale stock.

AT VIRDEN

The exhibit was composed of much the same stock, as far as Shorthorns were concerned, with the addition of a few from the herd of Mr. Leask and Mr. Speer's bull Heir Apparent. In the aged bull class the judges had no light task in deciding between two such bulls as Mr. Helliwell's Lancer and Mr. Speer's Heir Apparent. At present Heir Apparent is the better animal of the two, but taking the three or four years difference in age into consideration, some of the spectators felt favorably disposed toward the younger and promising Lancer. After mature

deliberation, however, the red ticket went to Heir Apparent, and it is no reflection upon the younger animal to say that the award was properly made, as, while Lancer is no doubt destined to make his mark in the show rings of the future, Heir Apparent is now fully developed and has few equals in America. In the younger animals Mr. Helliwell again won the lion's share of the prizes, also first on herd. Mr. Proctor, of Virden, was very successful, winning first with his two-year-old bull and second on herd. Mr. Leask won several prizes, and Mr. Todd again won on bull calf. In horses the exhibit was very fine. The judge, D. McNaught, V. S., Rapid City, pronounced it the best exhibit he had judged in his twenty years' experience in that capacity. Mr. McBeth was again forward with his Clydesdales, and Messrs. Bouverie and Routledge made a creditable showing in several classes. Virden must be credited with the finest exhibit of vegetables of the season (potatoes and cauliflowers excepted), not that the Virden potatoes could be called inferior in a general way, but as an exhibit they were not equal to those exhibited at

PORTAGE LA PRAIRIE,

where, owing to a continuous rain of almost thirty-six hours, the exhibit was confined to the inside of the hall, but was decidedly good. Such an exhibit of potatoes and cauliflowers was probably never seen in Canada, if, indeed, in any country. Some magnificent oil paintings, crayon drawings, etc., were on exhibition, but the results of the competition must have been discouraging to the best artists. In crayon portraits and landscape oil painting, this was especially the case. There was a nice display of ladies' work, such as can be admired but not named by an agricultural editor. The butter exhibit was extra good, the percentage of butter fat being very large, and that of caseous matter and water very small. Mr. Lister, of Middlechurch, had his newly imported herd on the ground; but, owing to the bad weather, there was but little competition, and Mr. L. generously donated the amount won to the Society as a subscription for next season's show. The "Portage" show is well officered and well conducted, but the combination of the elements cannot be overcome.

AT CLEARWATER,

on the 17th, a large exhibit of cattle, horses, sheep and swine was made, many of which were of superior quality, but the rank and file of horses and cattle was much too low in flesh to make a really good display. A few nice Shorthorns were shown, and some really choice grades; and the herd of Ayrshires was a feature of the show worthy of encouragement. The swine throughout were of a superior quality, some of them equal to the winners at the best shows in the Province. The sheep were also of good quality, and the Shropshires among the best in the country. The grain was not A1, and the vegetables decidedly inferior to those shown in many other places. In dairy products the butter was excellent, but the cheese quite the reverse. One strange departure, and one not at all worthy of emulation, was the admission of horses to any and all classes without restriction, except that the carriage horses in harness must be above fifteen hands, and the roadsters below that height. It was not at all singular to see an animal sporting two red ribbons, which indicated first prizes. The closest competition, perhaps, in the whole show was between two draught foals, either of which was a credit to its breeder and the show, and so near alike in merit that a judge might honestly prefer either, one having a flat rib, but excellent in most other respects, a grand stifle being one of its superior features, while the other had a grandly sprung rib, but a little weak in the stifle. The red went, however, to the good quarters and the flat rib. Considering the lack of conveniences, such as buildings, cattle sheds, hall, etc., this show was certainly a credit to the Association.

Manitoba Strawberries.

The accompanying illustration represents a bunch of Crescent Seedling strawberries grown at the Brandon Experimental Farm, and photographed by Mr. Brook, of Brandon. Strawberries have certainly been proved a success at Brandon, and Messrs. Frankland and Magwood, of Stonewall, both of whom have favored us with their methods, have grown them with success, as well as many others, of whose methods we have less knowledge. It has been clearly demonstrated that strawberries can be profitably grown, and in view of the fact that there is no more healthy or appetizing fruit grown, even in the tropics, it is certainly advisable to cultivate them extensively in this country where first-class fruits are so seldom found. In our October issue will be found the method advocated by Mr. T. Frankland, and in the April number Mr. Magwood's method, which does not differ in principle from that of Mr. Frankland.

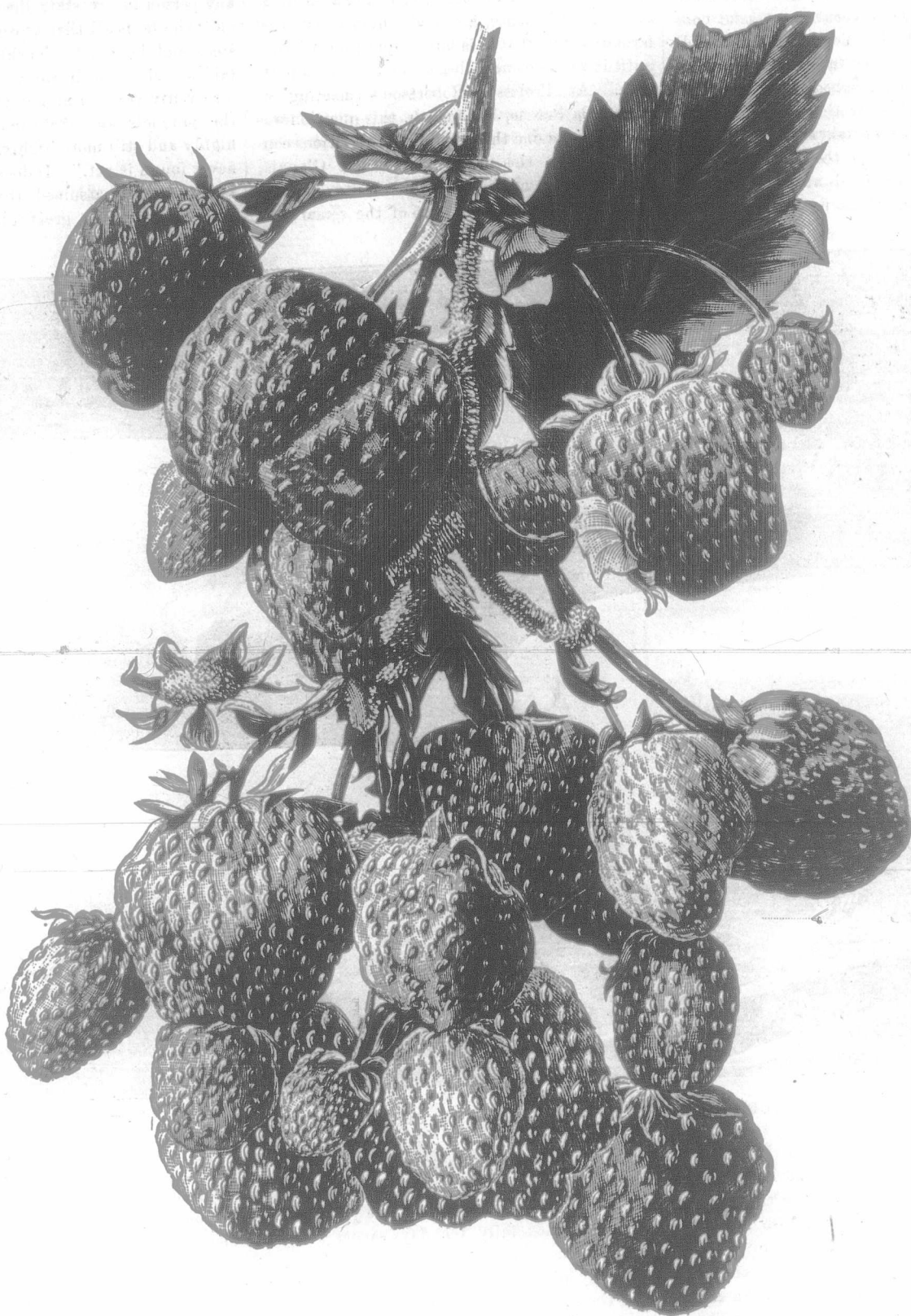
Eight of the best known hardy varieties of strawberries were planted on the Experimental Farm in the spring of 1890. All of these varieties wintered safely, but only two varieties, the Crescent and Captain Jack, bore any fruit during the past season. The Crescent fruited abundantly, the fruit being produced in large clusters, some clusters holding as many as thirty berries. The fruit was of fine flavor and some of the berries very large. The Crescent is known as a pistillate variety and will fruit best when planted with some other variety, such as Wilson or Captain Jack. The strawberries on the Experimental Farm received no more than ordinary cultivation, being planted in a piece of new scrub land which was well mulched with the decayed leaves of years. They were covered late in the fall with a thick layer of straw, part of which was removed in the middle of May, a light covering being left on till the first week in June.

Classifying Cattle for Exhibition.

The question of the date of birth of calves and other young animals placed on exhibition at the fall fairs, has elicited considerable criticism. In some instances, the prize list reads, calf of 1890; in others, calf under one year old; and in still others, the calves only are limited to January.

make better animals than those dropped in November. It is a very easy matter to forget the primary object of exhibitions, and govern ourselves as though an equitable distribution of the funds was the main object. Breeders of most varieties of pure-bred cattle prefer a fall calf, claiming that the milk carries it nicely through the winter, and it is of the right age to make the best use of the grass in the spring, and is sufficiently developed by fall to winter on hay the second winter; while a spring calf gets but little benefit of grass the first summer, and at weaning time, or shortly after, goes on dry feed, and as a consequence makes little growth during the first winter, and all too often none at all. This is a matter that might engage the attention of the Pure-bred Cattle Breeders' Association at its next meeting. It would probably be more satisfactory to all concerned to classify the animals as one year and under two years and under, etc., and allow any animal under one year or under two years to exhibit in the class.

Don't waste the flesh the animals accumulated during the summer, by starving or freezing them during the winter, as that means a loss of money. On the contrary, keep them gaining a little all the time, and when turned out to pasture in the spring they will gain much faster than the hungry, weak ones.



CRESCENT SEEDLING STRAWBERRIES.

This complication of matters is often very annoying, and it would certainly be in the interests of both exhibitors and exhibitions to have the matter definitely settled. It is claimed by some, that, as the majority of calves are dropped in spring, it is unfair to allow those dropped in the November previous to compete with them. This argument, however, has little weight until it is proven that calves dropped in spring

cream from milk set twelve hours makes a much finer article of butter than that set longer. The fat globules rise more quickly than other matter, and the cream from milk set twelve hours at a proper temperature contains a greater percentage of butter fat.

The Ayr farm, near Pendennis, had a crop of 230 acres of wheat and seventy of oats this season. They have 550 acres ready for next year's crops.

Mr. Featherston's Yorkshires and Suffolks.

Mr. Joseph Featherston, Springfield-on-the-Credit, Ont., has been importing and breeding Suffolk, Essex and Yorkshire pigs for twenty-four years, and has competed at the Provincial every year during that period. Also many times at Illinois, St. Louis, Indiana and other State Fairs, and has always been a successful competitor. He swept the Yorkshire and Suffolk classes at the World's Fair in New Orleans.

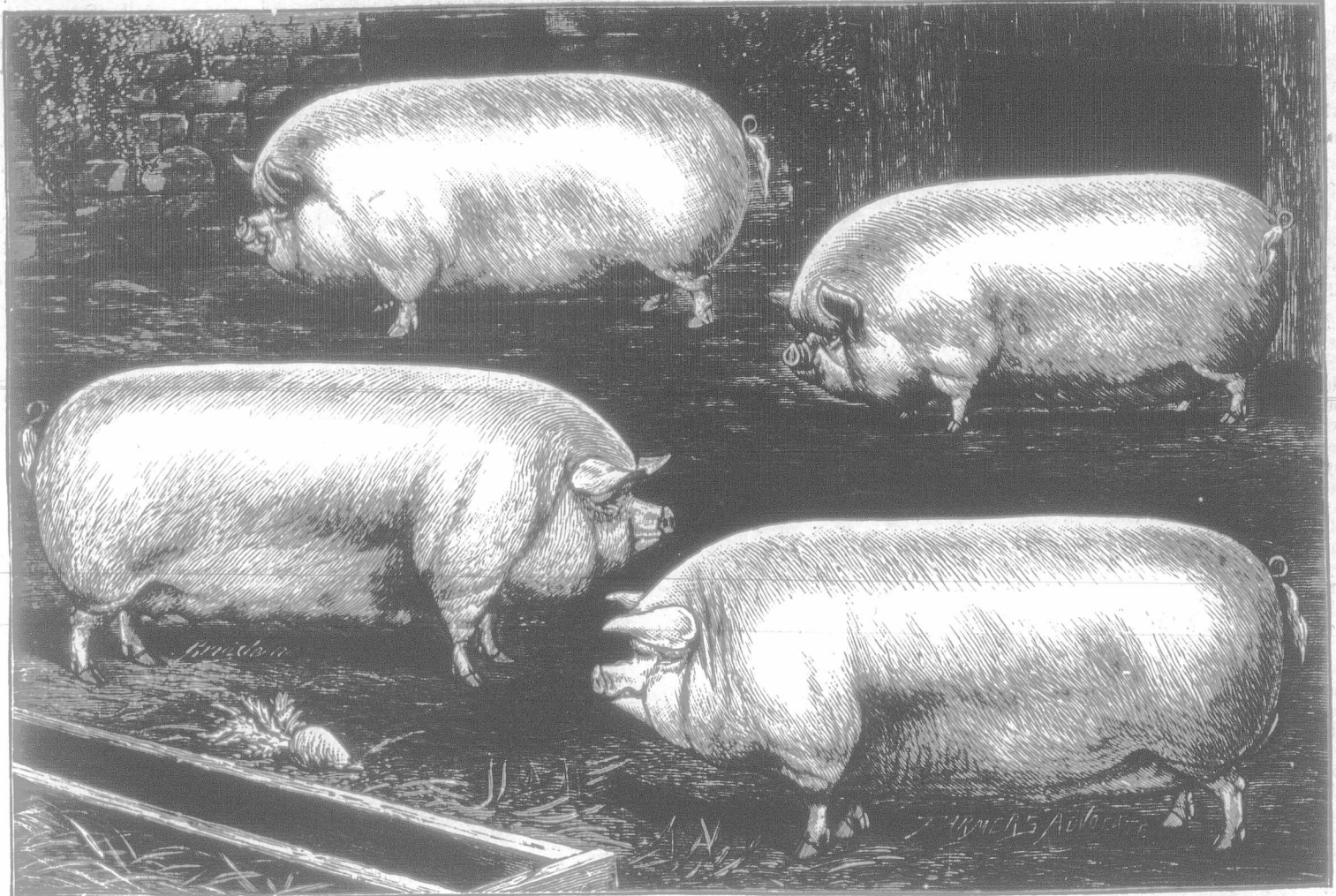
The Improved Yorkshire boar Sampson, illustrated in this issue, was at the head of the Improved Yorkshire sweepstakes herd at London Provincial, 1889; first in the aged class, and head of the sweepstake herd at the Industrial Fair, Toronto, in 1889; also first at the Central

prizes were won last year. This year Mr. Featherston's Yorkshires, Suffolks and Essex were very successful at all of Canada's great shows, including the above mentioned. His importations this year are of a very high order.

Manure Beneficial.

The question of manures, and the advisability of using them has not been considered a burning one in this Province, although most of our best farmers admit that it is but a question of time until it will become at least one of great importance. At Professor Robertson's meeting at Portage la Prairie, last month, this question was referred to as one that would require serious consideration in the near future. Mr. Glennie, Vice-President of the Manitoba Dairy Association, in commenting on some of the remarks of

J. M. Smith, of Green Bay, Wis., writing in an American exchange, says:—"Life is too short for me to fool it away in farming unless I make the land richer than any I ever saw in a state of nature." Mr. Smith, it is said, actually feeds more stock from the leaves, cornstalks, small vegetables, etc., that are unsaleable than any person in his state does on the same acres (45) who feeds all that grows on the land to the stock and don't sell a bushel of grain or vegetables. Mr. Smith says, "I have been trying for twenty years to find if there is any limit to the products an acre can be made to yield, if highly and still more highly fertilized, and have never found it yet." It does not always follow, as is frequently assumed, that land producing a growth of straw so great that it will not stand



PRIZE-WINNING SUFFOLKS AND YORKSHIRES, THE PROPERTY OF MR. JOSEPH FEATHERSTON, SPRINGFIELD-ON-THE-CREDIT, ONT.

Fair, Hamilton, same year. The Improved Yorkshire sow Snowflake was first at London in the aged class, and one of the sows that took the sweepstake and silver medal; also first at Toronto, and in the herd sweepstake pen. Mr. Featherston says:—"Sampson is nine years old and has sired more prize-winning pigs than any boar in Canada, including all breeds." The Suffolk boar was at the head of the sweepstake herd at London which won the silver medal; also first in the aged class at the Toronto Industrial, 1889, and head of the herd for the second sweepstakes. The Suffolk sow was first in the aged class, and in the herd sweepstake for silver medal at London; also first in her class at Toronto, and one of the sweepstake herd.

Within the last month Mr. F. has received from prominent English breeders seventeen head of Improved Yorkshires. All of the above

the Professor, stated, that although he lived on the famous Portage Plains, he had found manure valuable, not only in increasing the yield, but the grain ripened fully ten days earlier where the manure was applied than on the same land, immediately adjoining, that received no manure. During the same evening a man who claimed to work three hundred acres of land near "The Portage," and that he had been there for many years and *knew* that manure was of no use to the soil in that vicinity, and if it was he could not manure his vast farm once in ten years. Such is the difference in opinions, and which is correct in his conclusions is not difficult to determine. Summerfallowing most assuredly renders the latent plant food contained in the soil available for immediate use, but that it adds to that fertility to any appreciable extent is entirely out of the question.

up is too rich, but may be the result of a dearth of phosphoric acid in the soil. There is no instance on record of soil being too rich in all the elements of plant food, although the absence of one of the most important elements may bring the abundance of another so prominently to notice as to lead us to that conclusion if we take only a superficial view of the matter. We have constant proof of this in summerfallowing, which aids materially in decomposing the vegetable matter which forms nitrogen and does not in a corresponding degree prepare phosphoric acid potash, hence nitrogen is present in greater quantities, and as a result the crop "lodges" and the land is pronounced too rich.

Any breed of sheep is good if they have a shepherd — all breeds are poor if they are neglected.

Ponies and Pony Breeding.

(Continued from our Sept. Number).

THE SHETLAND PONY.

Sidney, in his admirable work entitled "The Book of the Horse," speaks as follows of the Shetland pony:—

Where a pony under 12 hands is required the Shetland breed is rarely excelled. In the Shetland Islands the soil and the climate make it impossible to breed a large animal of any kind, whether ox, sheep, or horse. There—as also in Devonshire and in Clydesdale—is a tradition that the native breeds were improved by stallions which escaped from the wrecks of the Spanish Armada. But there is not the slightest historical evidence of this cross, and it is much more likely that the Shetland is the descendant of the Norwegian pony, considering that the islands were long part of the Scandinavian kingdom. In districts and countries bordered by lands which will rear a full-sized horse, there is a constant temptation to the breeder to put his mares to large-sized sires. In the Shetlands there is not, and never has been, any such temptation; and, therefore, symmetry has not been neglected in favour of size. The breeds, however, have been very much influenced by the demands of the export trade. Lord Ashley's Acts, which came into operation about the year 1840, and forbade the use of boys as beasts of draught, created a demand for ponies small enough to draw coal-trucks on underground tramways. For the last thirty years they have been bred for that purpose rather than for riding or drawing pleasure-carriages. The "Druid" visited the Shetland Islands for the express purpose of adding a description of the ponies to his agricultural notes. He says: "Every one uses the ponies of the country. The Norwegian colors—dun, with black mane and tail, and a black stripe down the back—are in request; bays and blacks are most common, greys and chesnuts scarce. Piebalds are to be found but are not in favour with many native buyers, from an opinion that they partake of an Iceland cross, and are softer and slower than the true native Shetlander. The Icelanders average two hands higher than the Shetlanders. They are often imported in great numbers at Granton and Aberdeen. The best Shetlanders come from Unst. They are bred on a thin soil, studded with large red stones and kinds of rocks, amongst which one sees scores of ponies. Unst may be regarded as the heart of Shetland. If well kept, the ponies reach 44 inches (11 hands), but the average is 38 to 42 inches. Each cottar has generally a few ponies on the hill, which they catch, and offer to the dealers for sale in May and October. When the trade in ponies for the coal-pits was at its height five hundred were taken every year (not thirty mares amongst them), and about two hundred for general use, of all ages, from two to twelve years. These heavy sales, continued for some years, drained the Shetlands of aged ponies.

"In the Durham collieries Welsh ponies outnumber the Shetland. The Scotch have the lead in Northumberland, where larger ponies are required. The Scotch ponies, bred chiefly in Argyllshire, Mull, and Skye, and the western part of Ross shire, average 12 hands 2 inches, the Iceland 12, the Welsh 11, and the Shetland 10.

"Some of the ponies have not seen the light

for fifteen years. In well-regulated pits they are kept in as good condition as hunters, with green food in summer, and a full allowance of oats, beans, and peas, crushed and mixed with hay, chaff, and bran. They suffer most from indigestion—viz., greedy feeding when hungry—scarcely ever from diseases of the lungs or eyes. The average work is twenty miles a day, half with empty tubs.

"The Druid (a stallion) headed the Shetland pony contingent. His mares are duns, browns, mealy-bay, and a piebald. Colonel Balfour, the grandfather of the present proprietor, began pony-breeding at the beginning of the century. He improved the form. Where the colors did not come as the natives expected, they laid the blame on the black Orcadian waterkelpie, 'Sprunky,' who was, they say, the sire of the finest original or aboriginal ponies of the island. Three celebrated piebald sires and a grey are mentioned by the Druid. The stock are shifted from island to island as the grass suits. They require careful drafting to keep them down to 9 hands" (36 inches).

A Fleece of Wool.

Read Before the Dominion Sheep Breeders' Association by David McCrae, Guelph.

Wool is the most important of textile fibres. It was early used for clothing, is now a necessity in such a climate as ours, and in all parts of the world has been found the healthiest covering for mankind. Wool is a modified form of hair, distinguished by its slender, soft serrated structure. Just where animal fibre ceases to be hair and becomes wool is hard to say. One class merges into another and a regular gradation can be found from the soft silky Merino to the hard bristles of the wild boar. The serrated edges of wool gives it the property of clinging in yarn and felting in cloth. The serrations all lie one way from the root up. They can be readily noted by drawing a single fibre between the finger and thumb. One way it will slip smoothly, the other way it will feel quite rough. The finest Merino wools have 2,800 serrations per inch, with a diameter of 1-1800ths, Leicester about 1,800. The coarsest wools 500, with a diameter of 1-275ths of an inch. Fine wools are all wavy, those with the most serrations, being most finely waved in structure. In most wools the closer the staple and the more wavy the wool the more will it yield of the finer qualities. Loose, open fleeces yield more of coarser quality. Wools with a soft rich feel improve during the process of manufacture, whilst those with a hard bristly feel get coarser as they are worked. Wool varies in character according to the peculiar breed of sheep which yield it, and also with the nature of the soil, the food, shelter and climate. In wool of first-rate quality the fibres are fine, soft, elastic, sound, of good color and free from impurities. Combing wools require to be long instead of fine and soft, and for some purposes require to have a good lustre. Very little fine wool is grown in Ontario, combing and medium wools forming the bulk of the clip. Canadian combing wools are usually of a good length and with a strong elastic fibre, sound and good. There are, however, in some sections far too many cotted fleeces, and some with a disagreeable yellow bottom. Otherwise for a sound elastic fibre Ontario wools compare favorably with any other part of the world. In Manitoba and the Northwest some wools grown are brashy and tender and apt to be unsound in staple. In color our wools compare unfavorably with

British wools. The reason of this is not known to me. It may be the confinement in winter or the hot suns of summer, but the color is not in them. We are much worse in the matter of impurities. The big soft burrs in Canadian wool are a disgrace to the wool-grower and a source of much annoyance and loss to the manufacturer. They have to be clipped out singly or in bunches by hand. The same labor would have removed the weed before the damage was done. The best of farmers market their wool with a quantity of seeds, bits of straw, etc., about the neck of the fleeces. Feeding, as many do with racks, it may be difficult to avoid this, but it is none the less a drawback in the value of the wool. Wool may either be shorn washed or unwashed. An increasing number of farmers are shearing their wool unwashed; considering that the greater weight of unwashed wool counterbalances the difference in price. The washing which a fleece receives on the sheep is not enough for the manufacturer and the work has to be done again. Most Canadian wools are washed before being clipped, but the great bulk of the world's clip is shorn unwashed. A skilful shearer will clip the fleece from a sheep in one unbroken sheet. In this condition the fleece is spread out on a table or sheet, tags and dirty locks removed and loose pieces put by themselves, the sides folded over and the fleece rolled up inside out, the neck twisted and put around to bind the whole. When opened on the sorters table the fleece will unroll, retaining its form which greatly helps the sorting. There are two or three qualities in every fleece. Most Canadians will give from four to six grades. All wool has to be graded into qualities before it is ready for manufacturing. Generally the best part of the fleece is from the shoulder and sides of the animal. Over the neck and back the staple is more irregular and has frequently seeds and impurities. The loin somewhat shorter in staple. The breech is often the coarsest and sometimes is hairy and kempy. Belly wool is usually short and dirty. The front of the throat, fine but short. Some farmers do not remove the dirty dung locks, which should always be removed. Others gather them and put them in a single good fleece. Any careful handler can quickly detect this without opening the fleeces. Others roll up a cotted fleece with staple out, and if many be cotted roll all their clip in this way. Buyers are always suspicious of such wool and dealers ought only to buy at a reduction fleeces put up in this way. Wool clipped under a year old is known as "shorn lambs;" very little of this is made in Canada. First clip, at 12 to 15 months, is known as "hogg" or "teg" wool, and for many purposes this is finer and more valuable than the bulk of the clip. British dealers keep it separate. Second and following clips are distinguished as "wether" or "ewe" fleeces. Usually in Canada all are marketed together.

Selling cattle by their live weight does not yet give satisfaction to buyers in some parts of England and Scotland, as it is an innovation that does not allow of the balance always in the buyer's favor.

Prof. Kedzie of the Michigan Agricultural College, before the State Dairy Convention, said, "The most economical general manure for the farm is stable manure. It is a complete manure, containing all the elements necessary for plant growth, and in the most available form. Special and commercial fertilizers may be used to supplement barn-yard manure, but they only hold a secondary position."

Secrecy in Exhibiting.

The fall fairs are now over, and a retrospective view may prove instructive. It is simply astounding to view the exhibits at some of our fall fairs and consider the fact that ten years ago the ground where these exhibits are now produced was an absolute wilderness. At Oak Lake, Portage la Prairie and Virden, stock was exhibited that would do credit to any country in the world, and while the tide of agricultural progress has rolled majestically along, the fine arts have not lingered. The Virden people made a special effort to prevent the names of exhibitors from being known, by inclosing each and every entry ticket in a sealed envelope, which could only be legally opened after the prize was awarded. While the object of secrecy in such cases is undoubtedly laudable, it is simply childish to make such strenuous efforts to maintain secrecy in small exhibits, when the more valuable ones, such as herds of pure-bred cattle, worth hundreds of times as much, must of necessity be public. This secrecy business, however, is a great fallacy, and it is a direct insult to a judge to ask him to adjudicate upon a certain class of exhibits, and then to say in effect, we dare not let you know who owns these articles, lest you should not act squarely. And there is no method by which the ownership of an article can be kept from a judge if there is an understanding between the exhibitor and himself, but on the contrary it gives the judge a shelter behind which he can hide if accused of partiality or unfairness. Very many who exhibit do so to advertise the superiority of their stock or products, but if the names are not allowed on the entry tickets there is little or no benefit received. It is also very unsatisfactory to a visitor at an agricultural exhibition to be prevented from ascertaining the ownership of the various articles in which he may be interested. In fact, this secrecy, or supposed secrecy, is of no avail in the direction in which it is intended to be, and is decidedly against the interests of most of the exhibitors.

The Wheat Returns.

After much uneasiness on the part of both farmers and business men, the crop has been harvested, and quite a portion of it is now in the elevators or out of the country entirely. The summer just past has been one of intense anxiety on the part of all concerned, and a feeling of relief is accordingly experienced now that the crop is gathered without serious loss. From very close observation, and careful estimates, there has been a depreciation in the value of the wheat crop from all sources of about fifteen per cent. In some—in fact, in most—places some damage occurred from the wheat growing in the shock, and but for the very cool weather that accompanied the rains in the latter part of August and early part of September the loss would have been much greater. The damage from growing was done on a Thursday about the last week in August, before any were aware of the danger. The later rains, however, caused the wheat to bleach, and some experts claim a slight fermentation of the gluten took place; but this is doubtful, and requires a scientist to determine. The yield has been excellent, indeed, but will not reach the figures given by most of those who have given their opinions through the press. In many places the yield will not exceed fifteen bushels per acre, but in others it will reach thirty-two or even thirty-five. True, in some

instances forty or even more bushels may have been threshed per acre, but in no locality will the average yield come near that figure. Twenty bushels may be considered an average yield of the 746,058 acres actually sown, if we take into consideration the 31,850 acres destroyed by hail, and the lesser yield from the same cause in the adjoining districts. This gives us an actual total of 14,921,160 bushels of wheat. Of this there will be required for seed and home consumption nearly 4,000,000 bushels, leaving for export probably 11,000,000, which will sell at, from present indications, about an average of 62 cents per bushel, which will give us the snug sum of \$6,820,000. This sum, divided among the 14,000 farmers, gives an average of \$487 each from wheat alone. This estimate of the yield is much below many others, even below all others that have appeared in public print, but is very close to the mark, as will be seen later on; and, while early in the season as high as 90 cents per bushel was paid for some wheat, the amount is infinitesimally small in comparison with the vast amount yet to be marketed, and which must be sold on the markets of the world, and not to supply a local demand from large milling concerns lying comparatively idle for want of wheat. Further, there is a large amount of wheat damaged from various causes. From all that can be foreseen at the present time this estimate of the price is reasonable.

Farmers' Institutes.

If the farmers of this Province could once be induced to make a beginning in the Institute work, the result would surprise even the most sanguine. Men who at first view the work with suspicion, and even a certain amount of contempt, soon fall into line and render assistance in, as well as derive benefit from, the work. It is not the hardest working man that makes the greatest success of life, but on the contrary the best thinker. It is a positive fact that *no man can acquire wealth from the sale of muscle alone.* In the city of Winnipeg to-day muscle can be bought at one to one and a-half dollars per day of ten hours, while skill and brain command from two and a-half to three and a-half dollars per day of eight hours. The more skill and thought a man can dispose of in his products the better for him. If every bushel of wheat sold at seventy-five cents represents seventy cents worth of muscle and five cents worth of skill, farming is a dull and hateful business to that farmer, but if it represents twenty-five cents worth of muscle and fifty cents worth of thought and skill, farming is a delightful vocation. Is there not that difference in farmers and crops in some instances; it simply means that one farmer, by doing his work intelligently, which means economically as well, is able to produce a bushel of wheat at a cost of twenty-five cents actual expense, while it will cost the man who works without method or system, doing everything by main strength, seventy cents. Who can farmers learn from better than one another, and from their neighbors who have been especially successful in a certain line? What better method of learning than coming together preparing and reading papers on these subjects and discussing the same. The grant by the Local Government, of fifty cents per member, was a righteous act, although stopping short of its legitimate objects. It does not follow that an Institute must employ professors of agriculture, but they should secure the best local talent available. The ADVOCATE staff will be pleased to lend any assistance in their power in forming Institutes.

Exhibiting Grades.

The question of what constitutes a grade is one easily disposed of, but when a judge is asked to place the prizes on "grade cows," he is, if qualified for his work, in a dilemma. It is not at all uncommon to see a draft of these animals containing a very fine beef animal and an equally good one for milk. What is an intelligent judge to do under the circumstances? The beef points are entitled to equal consideration with the dairy points, and no more. Would it not be much better to offer prizes for both beef and milk grades, or else specify in the prize list what they are to be judged for, whether for beef or milk? Even if we admit the utility of a general purpose cow, it does not show us a way out of the difficulty unless we have a preference either for milk or beef, and make that preference known. Let us in future have in this class a prize for milking grades and one for beef grades.

Mixed Farming.

Notwithstanding the comparatively bounteous crop of this season, it has been one continued argument in favor of mixed farming. Early in the season, while drought affected the wheat crop, and in view of the disastrous effects of last season filling the mind of the wheat grower with tumultuous fears, the grass grew sweet and succulent on the prairie, and the cows gave large quantities of rich milk, while the young animals grew and put on the flesh in a manner eminently satisfactory to the stockmen. Later on, when the "wheat farmers" were trembling lest frost should blight their hopes, the stock farmer kept along the even tenor of his way with no fears to trouble his breast. During the last days of August and most of the month of September things looked gloomy indeed for the wheat grower, but did not in any way disturb the mental equilibrium of the stockman. It is evidently safer, at the present stage of agriculture, to follow a system of mixed farming, and it will at some time in the future be absolutely essential to success to do so.

Mr. A. B. Stickney, late of the St. Paul and Kansas City Railway, once remarked that in no country could twelve months wages be made from five months labor; men might do so occasionally, but that the population of any country could do so continuously was a great mistake. In growing wheat, men have made money in this country, and, no doubt will continue to do so; but that mixed farming will prove more profitable one year with another there is not the slightest doubt. Thousands of bushels of wheat will be sold this year at forty and fifty cents per bushel in localities where there was a little frost, and thousands of calves could be made worth five dollars more each by being fed two dollars worth of that same wheat in conjunction with and in addition to their hay ration. There are many reasons why the farmer should have both the animals and the grain.

Mr. R. P. Shank, of Wheatland, had good success with the one hundred trees sent him from the Central Experimental Farm, Ottawa, seventy out of the one hundred growing and doing well. The box elder and elm show the greatest growth. One out of six cotton-wood lived. The black locust, black walnut and butternut grew well this season.

An ADVOCATE representative travelling from Brandon to Winnipeg by way of Glenboro, came across a beautiful spring flowing out of the banks of the Assiniboine near Two Rivers, which has a fall of twenty five feet and a sufficient volume to run a large grist mill. There is no doubt but it will be utilized in the near future, as the extension of the Glenboro branch of the C. P. R. passes close to it.

Sugar Beets vs. Corn Crop in Feeding Milch Cows.

A bulletin of the Ohio Agricultural Experiment Station gives the results of an experiment in feeding sugar beets to milch cows, made during the past winter, together with a summary of two similar experiments, one made by the Station in 1889 and one by the Farm Department of the Ohio State University in 1879.

In the last named experiment eight cows were kept under test for eleven weeks; in 1889, twelve cows for eight weeks, and in 1890, twelve cows for nine weeks, the cows in each case being weighed daily, as well as their feed and milk.

In each of the three experiments the cows ate more hay and more total dry matter when feeding on beets than on other foods (hay, meal and bran in 1879, corn silage in 1889 and 1890) and in each case more milk was given from the beets than from the other foods, but it is not yet demonstrated that the increase of milk was produced economically.

For twelve years records have been kept on the farm now occupied by the Station, which shows that the average yield of beets over this period has been nearly sixteen tons per acre, against an annual yield of about fifty-five bushels of shelled corn per acre.

But a crop of fifty-five bushels of shelled corn, with its fodder, will contain nearly twice as much dry matter as sixteen tons of beets, and these experiments indicate that, whether fed dry, as corn meal and dry fodder, or as corn ensilage, the dry matter of the corn crop will be found about as effective, pound for pound, as the dry matter of the beet crop.

It is possible to raise much more than sixteen tons of beets to the acre. One crop of two acres is reported at 37½ tons per acre, and smaller areas have given still larger yields, but such crops require very rich land and thorough culture. Whether it is possible to produce a pound of dry matter in beets as economically as it can be done in corn is not yet definitely settled, but the probabilities are against it.

The Arden Rolling Mills, Arden Station, Man., owned by Messrs. David Moore and John McFarlane, are expected to be completed early in November. The machinery used is all of the latest improved patterns.

Mr. Wm. Miller, of Oak River, sowed six acres of Ladoga wheat on April 29, which was eighteen days after sowing Red Fife, and the two ripened on the same date. He intends giving it a better chance next season, and thinks it a better wheat for Manitoba than Fife, if its milling qualities are as good. Mr. Miller has a nice grove of maple grown from the seed which was sown in the spring of 1886. The trees are now eleven feet high, and form a complete wind-break.

In a Winnipeg commission house recently a representative of the ADVOCATE was invited to compare the merits of three consignments of cheese recently received. The first was tough and hard and of inferior flavor, the second of much better grade and of good flavor, while the third was rich and creamy, with a fine, sweet, nutty flavor that would command the attention of the buyer at once. Upon enquiry as to the makers of the different lots, it was elicited that the first or inferior lot was made by a Canadian who had learned cheese-making in Ontario with one of the leading manufacturers; the second by a Frenchman in the St. Laurent District, and the third and best by a Mennonite in the Niverville community. "These Mennonites," said the commission man, "know they are ignorant, and try by every possible means to overcome it, and as a consequence make a good article." This seems strange indeed, but the commission man was quite correct. The man who is aware of his ignorance tries to overcome it, but the man who thinks he knows all there is worth knowing will become careless and indifferent, and as a result his products will take a third place when compared with those of the painstaking man of even less knowledge.

A Mistaken Idea.

Hoard's Dairyman is one of the spiciest and most useful exchanges that reach our office, and it is accordingly more surprising to find the following outbreak of "bosh" in its columns:—

"Then there is another point that helps Canadian prices, not at all dependent on the quality of the cheese. England is a free trade country, at least in the matter of procuring food of which she cannot produce enough for her own people, and she has also a commendable pride in her own country and colonies that she indulges in just a little, till it comes to costing too much, and so never buys a dollar's worth of stuff from a foreign nation, except when she cannot get enough at a fraction more in price in her own home and colonial markets. We do not complain of this, for it is natural for us to help our own, and we indulge in the practice in other directions ourselves, and call it patriotism. These two points in which Canada has a lead on us, so far as the article of cheese is concerned, have been overlooked, and that little ignorantly, or thoughtlessly, imputed to quality."

The Dairyman has been for some time quoting prices of cheese in different Canadian and American cities, and endeavoring to prove that Wisconsin cheese is worth as much as Canadian cheese, less the difference in freight to the seaboard. In this it makes the serious mistake of averaging the prices of all their output, including young America's and flats, which, to supply a local demand are sold at a much higher price. The Dairyman has the candor to admit, however, that a considerable quantity of cheese from the Eastern States is shipped via Canada, and called Canadian cheese, and that "We are learning of Canada." There is about as much fact in the statement that England will pay more for the same article from her colonies than elsewhere, as in the silly assertion of some journals that Hoard's Dairyman is booming the "Extractor" on account of a few dollar's worth of advertising. The rock bottom of the matter is that the English market is more appreciative of a fine article than any American market, and, as a consequence, Canadian cheese brings the most money. Canada cannot afford by any means to rest content with past achievements, but she has the lead because she produces the best article, and will, it is to be hoped, strain every nerve to continue to produce the best and thus retain her present prestige.

Cream Raising by Dilution.

It has been recommended that in the absence of ice the addition of an equal quantity of water either hot or cold to fresh milk in deep cans would secure rapid and complete creaming. To compare this method with the ordinary one of setting the milk in deep cans in ice water, and further to test the efficiency of creaming by diluting the milk with water in various amounts and at different temperatures, experiments have been taken at Cornell University Experimental Station.

The milk was in all cases the mixed milk of the University herd, the cows of which are about two-thirds high grade Holstein and one-third high grade Jersey. About one-third of the cows were fresh and the rest had been in milk from five to eight months. The analyses were made by Mr. Harry Snyder, Assistant Chemist.

A large number of trials were made in which portions of milk diluted with an equal weight of cold water were compared with portions from the same milkings set in ice water in the Cooley creamer. The milk in some instances was brought directly to the dairy house after milking, thoroughly mixed and one portion set at once in ice water in the Cooley creamer, the remainder

was diluted with an equal weight of cold water and set in a Cooley can in the open room. In other cases milk was taken for the settings that had been carried on the milk route for about an hour and a half. All such cases are marked in the tables with an asterisk (*).

Skimming from deep cans was in all cases done by drawing the skim milk from the bottom of the can, care being taken not to draw the the skim milk off so closely as to disturb the cream.

Trials were also made in which a smaller amount of both warm and cold water was added to the milk, and a few trials were made with deep setting in the open air without the addition of water, of setting in shallow pans, and of setting in the creamer with the water of the University waterworks at a temperature of something over sixty running through it.

In the following table the results of the comparisons between setting in ice water and diluting with an equal bulk of cold water are shown, those on the same horizontal line being in all cases from the same sample of milk. The percentage of fat in the skim milk has been corrected for the amount of water added.

TABLE I.

DATE AND TIME OF SETTING.	Set in ice water in Cooley Creamer, Temp. 44 deg.			Set in Cooley Can in Air and Diluted with Equal Weight of Cold Water.					
	No. of hours.	Weight of Milk, lbs.	Per cent. of Fat in Skim Milk.	Weight of Milk, lbs.	Per cent. of Fat in Skim Milk.	Temp. of water added.	Temperature after setting.	Temperature of Room.	No. of hours.
Sept. 10, 7.00 a.m.	12	16.50	23	18.50	1.68	47	68	60	21
" " 10, 8.30 a.m.	12	16.50	23	19.50	1.68	47	68	60	21
" " 10, 5.30 p.m.	12	16.50	23	19.50	1.68	47	68	60	21
" " 11, 5.45 p.m.	12	16.50	23	18.75	1.60	49	67	62	22
" " 11, 7.40 p.m.	12	16.50	23	18.75	1.60	49	67	62	22
" " 12, 8.00 a.m.	12	16.50	23	16.50	1.24	60	74	63	23
" " 12, 8.00 a.m.	12	16.50	23	38	1.24	60	74	63	23
" " 12, 8.00 a.m.	12	16.50	23	39	1.24	60	74	63	23
" " 12, 8.00 p.m.	12	16.50	23	39	1.24	60	74	63	23
" " 16, 5.30 a.m.	12	16.50	23	10.25	1.04	47	65	62	24
" " 16, 8.00 a.m.	12	16.50	23	10.25	1.04	47	65	62	24
" " 16, 8.00 p.m.	12	16.50	23	16.75	1.46	48	66	65	12
" " 17, 5.30 a.m.	12	16.50	23	15	1.46	48	66	65	12
Average, 11 trials			23						1.23

*Carried on route. †The milk in these two cases had been carried on the route, but was heated up to 100 degrees before setting.

Armsby found in between two or three hundred settings of the milk of single cows, Jerseys and Jersey grades, an average of .35 per cent. of fat in the skim milk. We may therefore use our results with the Cooley creamer as a standard of comparison. It will be seen that when the milk was diluted with water there was contained in the skim milk nearly six times as much fat as when the milk was set in the Cooley creamer with ice water, or in other words, while 95.18 per cent. of the fat in the whole milk was recovered in the cream under the cold deep setting process, but 69.19 per cent. of the fat in the whole milk was recovered in the cream when set in the diluted process. That is, in 100 lbs. of milk containing 4.12 lbs. of butter fat, under the Cooley process, there would be a loss of but .20 lbs. of butter fat, and under the diluting process a loss of 1.27 lbs. It will be noticed

also that the per cent. of fat in the skim milk is no higher in those cases where the milk had been carried about on the route before setting, than it is when the milk was set directly from the cow.

Below is given in detail the results of ten settings where the milk was diluted with hot water. In the first three and last cases the milk was set in Cooley cans in the air, in the other six, the cans were put in the creamer and the water allowed to flow through constantly. In all cases skimming was done in twenty-four hours.

TABLE II.
Set in Cooley Cans in Air and in Running Water, and Diluted with Hot Water.

DATE.	Temp. of Milk.	Per cent. of Fat in Milk.	Weight of Milk, lbs.	Per cent. of Water added.	Temp. of Water added.	Temp. of Milk after setting.	Temperature of air or running water in tank.	Per cent. of Fat in Skimmed Milk.
Aug. 20	90	4.30	15	20	194	96	67	1.82
" 21	92	4.15	15	20	182	96.5	72	1.94
" 22	92	4.06	15	20	182	100	68	1.91
" 23	90	4.06	15	20	186	98	64	1.84
" 24	90	5.06	22	50	190	104	61	1.10
" 25	90	4.81	28	10	120	84	61	1.10
" 26	90	4.81	28	25	120	87	60	1.08
" 27	90	4.81	28	10	120	87	60	1.08
" 28	90	3.88	14	25	120	87	60	1.04
" 29	88	3.88	16	100	100	108	59	1.04
Average, ten trials								1.11

*Had been carried on milk route before setting.

It will be seen that so far as the fat in the skim milk is concerned, diluting the milk with various percentages of hot water gave but very little better results than diluting with an equal amount of cold water. Moreover, in all cases in which hot water was added, the milk was sour, or very nearly so, at the end of twenty-four hours, and in some cases souring had gone so far that the cream was much injured for butter-making. It will be noted that the surrounding temperature in these trials ranged from 59° to 72°.

Mr. J. L. Hills, Chemist of the Vermont Agricultural Experimental Station, seems to have obtained results by diluting milk with hot water quite at variance with ours. He found in the skim milk .37 per cent. of fat when the milk was set at 45°, .84 per cent. when the milk was set at 55° and not diluted, and .35 per cent. when the milk was set at 58° and diluted with one-third its bulk of water at 135°. Skimming was done at the end of twenty-four hours, and as with us, the cream was usually almost or quite ready for the churn when skimmed.

Beside the tests made with cold water, as given in Table I, several other trials, with the addition of various smaller percentages of cold water were made. The results are given in detail in Table III.

In the first four trials the cans were set in the air; in the last two they were set in the tank with water at 64° running through. In all cases skimming was done at the end of twenty-four hours.

It will be noticed in Table III that the addition of twenty to fifty per cent. of cold water gave almost exactly the same results as the addition of 100 per cent. of water as shown in Table I. Two settings, in which the milk was

TABLE III.
Set in Cooley Cans in Air and Running Water, and Diluted with Cold Water.

DATE.	Temp. of Milk.	Per cent. of Fat in Milk.	Weight of Milk, lbs.	Per cent. of Water added.	Temp. of Water added.	Temp. of Milk after setting.	Temperature of Room or Water in tank.	Per cent. of Fat in Skim Milk.
Aug. 20	90	4.30	8.5	20	54	83	67	1.09
" 21	92	4.15	15	20	54	87.5	72	1.76
" 22	92	4.06	15	20	54	86	62	1.51
" 24	91	4.65	30	20	54	84	60	1.18
" 24	91	4.65	15	20	54	84	63	1.12
" 29	90	5.05	12	50	62	76	64	.78
Average, six trials								1.24

not diluted at all, were made in Cooley cans, set in running water, and gave rather better results, as follows:

TABLE IV.
Set in Cooley Cans—No Water Added.

DATE.	Temperature of Milk.	Per cent. of fat in Milk.	Weight of Milk, lbs.	Temperature of Water in Tank.	Per cent. of fat in Skim Milk.
Aug. 24	91	4.65	35.5	63	.90
Sept. 13	90	4.81	28	60	.87
Average					.89

Three different trials of setting in shallow pans were made. The first one was only allowed to stand twenty-four hours; the second was allowed to stand forty-eight hours; the third stood twenty-four hours, but had added to it at the time of setting one-third its weight of water, at a temperature of 120°. The results are in the table below:

TABLE V.
Set in Shallow Pans.

DATE.	Temperature of Milk.	Per cent. of fat in Milk.	Weight of Milk, lbs.	Temperature of Air.	Temperature after setting.	Per cent. of fat in Skim Milk.
Aug. 31	90	4.81	12	64	90	.49
Sept. 14	92	4.31	100	62	92	.46
Aug. 31	90	4.81	12	64	94	.75

Setting in shallow pans without the addition of water gave much better results than any other system, except deep setting in ice water.

CHURN TESTS.

Five churn tests were made, two of cream from milk set in Cooley creamer, in ice water, two of cream from milk, to which an equal weight of cold water had been added, and set in air, and one of cream from milk set in shallow pans. The results are given in the table below:

The two churnings of Sept. 13 include the settings of Sept. 10 and 11, as given in Table I, and are comparable with each other, having been taken from milk that was thoroughly mixed and divided before setting. In the same way the two churnings of Sept. 18 are comparable. The cream was obtained from the settings of Sept. 15 and 16, of Table I. The churning of Sept. 16 was the cream of the setting of Sept. 14, in Table V. In all of these cases the cream was

churned when just ripe. The first two were churned at a temperature of 65, the second two at a temperature of 62, and the last at a temperature of 66. The buttermilk was drawn off when the butter granules were of the size of kernels of wheat, and the butter thoroughly washed in the churn, taken up, salted one ounce to the pound, and allowed to stand for twenty-four hours. It was then reworked and weighed. This is the weight given in the table.

TABLE VI.

DATE.	TREATMENT.	Weight of Milk, lbs.	Weight of Cream, lbs.	Weight of Butter, lbs.	Pounds of Milk required for one of butter.
Sept. 13	Milk set in ice water	114	23.25	5.85	21.31
Sept. 13	Milk diluted with cold water	100.50	15.50	2.75	36.54
Sept. 18	Milk set in ice water	86.75	18.	4.42	19.63
Sept. 18	Milk diluted with cold water	91.50	16.25	2.69	34.01
Sept. 16	Milk set in shallow pans	108	13.75	4.41	24.03

It is worthy of note that the results of the churn tests corroborate with emphatic significance the work of the chemist. While from 144 pounds of milk set in ice water 5.85 pounds of butter were obtained, or one pound of butter from 21.31 pounds of milk; from the corresponding 100.5 pounds of the same milk diluted with water under the conditions mentioned, only 2.75 pounds of butter were obtained, or 36.54 pounds of milk were required to produce a pound of butter, showing an actual loss in butter by the use of the dilution process of 1.94 pounds per hundred pounds of milk as compared with deep setting in ice water.

In looking up the literature of the subject while these experiments were in progress, we find that the whole idea of adding water to milk to hasten and perfect the milk is not new. Kirchner in his "Milchwirtschaft," p. 179, quotes with approval the experiments of Martiny and Peters. In these experiments one hundred per cent. of water was added to milk set comparatively shallow in open air at a temperature of 68 to 74, with results as follows, in two different trials with milk of different quality.

a. 100 grams milk without water gave 6.05 grams cream, 1.69 grams fat.

a. 100 grams milk with 100 per cent. water gave 10.41 grams cream, 1.00 grams fat.

b. 100 grams milk without water gave 7.3 grams cream, 2.94 grams fat.

b 100 grams milk with 100 per cent. of water gave 9.13 grams cream, 2.88 grams fat.

These figures in general coincide with our own except that in the second of the two trials closer results as between the two methods were obtained than in any of ours.

Finally we have grouped together the average percentage of fat in the skim milk under the several different methods of setting. In each instance correction has been made for the water added.

In eleven trials where the milk was set in the Cooley creamer with ice water, at a temperature of 44°, the average per cent. of fat in the skim milk was..... .23

In eleven trials where milk was diluted with an equal weight of cold water and set in the open air, the average per cent. of fat in the skim milk was..... .123

In six trials where milk was diluted with 20 to 50 per cent. of cold water, the average per cent. of fat in the skim milk was..... .124

In ten trials where milk was diluted with 10 to 100 per cent. of its weight of hot water, the average per cent. of fat in the skim milk was..... .111

In two trials where milk was set in deep cans without dilution, in running water at 60°-65°, the average per cent. of fat in the skim milk was..... .89

In two trials where milk was set in shallow pans, at 60°-64°, the average per cent. of fat in the skim milk was..... .48

In one trial where milk was set in shallow pans and one-third of its weight of water at 120° added, the per cent. of fat in the skim milk was..... .75

Our Dairy Competition for 1890.

The following tables show the quantity of milk given by each cow in our dairy competition at the recent Industrial Fair at Toronto, together with the values in each case:—

MILK RECORD OF FIRST PRIZE HERD
(Jerseys) owned by W. H. Reburn, St. Annes.
Jolie St. Lambert IV., calved Aug. 5th, 1890; served Sept. 6th, 1890.

Milkings.	Weight of Milk.	Per cent. of butter fat.	Total butter fat.	Per cent. of solids other than fat.	Total solids other than fat.
	lbs. oz.		lbs.		lbs.
12 9	2.83		.3654	9.63	1.2095
13 9 1/2	4.57		.6215	9.33	1.2688
13 13	4.92		.6789	9.07	1.2516
11 13	3.63		.4383	9.48	1.1186
11 15 1/2	3.96		.4752	9.07	1.0884
11 7	4.57		.5047	9.05	1.0853
Total	74 9		3.0040		6.9722

3.064 lbs. of butter fat at 16c. per lb..... 49.02
6.9722 lbs. of solids other than fat at 2 1/2c. per lb..... 17.43

No additional value being allowed for length of time after calving and pregnancy, the total value of milk is..... 66.45 cts.

Jolie St. Lambert V., calved last March 31st; served last July 2nd.

Milkings.	Weight of Milk.	Per cent. of butter fat.	Total butter fat.	Per cent. of solids other than fat.	Total solids other than fat.
	lbs. oz.		lbs.		lbs.
10	4.07		.407	9.08	.908
8 15 1/2	4.85		.4365	9.19	.8271
9 6 1/2	4.17		.3919	9.20	.8048
9 3 1/2	4.28		.3937	9.12	.839
7 10	4.36		.3313	9.08	.69
7 8 1/2	4.64		.3480	9.04	.678
Total	52 12		2.3084		4.806

2.3084 lbs. of butter fat at 16c. per lb..... 36.93
4.806 lbs. of solids other than fat at 2 1/2c. per lb..... 12.02

Value of milk, 36.93 and 12.02..... 48.95
Allowance for milking period (169 days, minus 90 days=79 days, 79 5-30 per cent., allowance for each day after the first 90 days, 13 per cent.) 13 per cent. of 48.95=6.36, which, added to the former value of milk, gives 55.3 cts.

Jolie St. Lambert III., calved April 4th, 1890; served June 26th, 1890.

Milkings.	Weight of Milk.	Per cent. of butter fat.	Total butter fat.	Per cent. of solids other than fat.	Total solids other than fat.
	lbs. oz.		lbs.		lbs.
11 1	4.91		.5490	9.35	1.0341
10 13 1/2	4.26		.4617	9.32	1.0102
12 3 1/2	4.87		.5844	9.15	1.088
11 11	4.68		.5475	9.22	1.0787
11 5 1/2	4.06		.4604	8.96	1.016
9 7 1/2	5.17		.4912	9.17	.8711
Total	66 7		3.0882		6.1081

3.0882 lbs. of butter fat at 16c. per lb..... 49.41
6.1081 lbs. of solids other than fat at 2 1/2c. per lb..... 15.27

3.0882 lbs. of butter fat at 16c. per lb..... 49.41
6.1081 lbs. of solids other than fat at 2 1/2c. per lb..... 15.27

Value of milk without the extra allowance..... 64.67
Number of days giving milk after the first 90 days, 75; allowance for each of these days, 5-30ths of one per cent.; allowance for the whole period 5-30ths x 75 = 64.67 = 7.75, making a total allowance of..... 72.42 cts.

MILK RECORD OF SECOND PRIZE HERD
(Devons) owned by Mr. Samuel Harper, of Cobourg.
Rose of Cobourg, calved Jan. 2nd, 1890; served May 10th, 1890.

Milkings.	Weight of Milk.	Per cent. of butter fat.	Total butter fat.	Per cent. of solids other than fat.	Total solids other than fat.
	lbs. oz.		lbs.		lbs.
17 4 1/2	4.94		.3546	8.53	1.475
16 7	3.88		.6378	8.79	1.445
17 11 1/2	3.39		.6000	8.56	1.515
17	2.82		.4794	8.91	1.515
17 15 1/2	3.36		.6048	8.52	1.533
16 15 1/2	3.80		.6460	8.60	1.462
Total	103 6		3.8226		8.944

3.8226 lbs. of butter fat at 16c. per lb..... 61.16
8.944 lbs. of solids other than fat at 2 1/2c. per lb..... 22.36

Value of milk without extra allowance..... 83.52
Number of days giving milk after the first 90 days, 167; number of days pregnant after the first 90 days, 29; extra allowance for 167 days giving milk, 5-30ths x 167 = 83.52 = 19.87; extra allowance for 29 days pregnant, 29 x 2-30ths x 83.52 = 1.72; total allowance for milk, 61.16 x 22.36 x 19.87 x 1.72 = 108.57

Susan, calved Nov. 6th, 1889; served April 5th, 1890.

Milkings.	Weight of Milk.	Per cent. of butter fat.	Total butter fat.	Per cent. of solids other than fat.	Total solids other than fat.
	lbs. oz.		lbs.		lbs.
3 4	5.83		.1894	9.34	.3835
2 9	5.07		.1297	9.97	.2552
3 2	4.18		.1295	9.39	.2910
3 10	3.42		.1231	9.75	.3510
3 11 1/2	3.47		.1284	9.31	.3444
3 11	3.71		.1872	9.31	.3444
Total	19 5 1/2		.8373		1.889

.8373 lbs. of butter fat at 16c. per lb..... 13.39
1.889 lbs. of solids other than fat at 2 1/2c. per lb..... 4.72

Value of milk without extra allowance..... 18.11
Number of days giving milk after the first 90 days..... 224
Number of days pregnant after the first 90..... 54
Extra allowance for 224 days giving milk, 5-30ths x 224 = 18.11..... 7.0
Extra allowance for 54 days pregnant, 2-30ths x 54 x 18.11..... .7
Total allowance for milk..... 25.81

Polly Perkins, calved Sept. 2, 1889; served April 5, 1890.

Milkings.	Weight of Milk.	Per cent. of butter fat.	Total butter fat.	Per cent. of solids other than fat.	Total solids other than fat.
	lbs. oz.		lbs.		lbs.
9 5	4.51		.4239	9.64	.9051
9 9	4.07		.3890	9.20	.8795
9 14 1/2	3.45		.3425	9.78	.9682
8 3	3.82		.3132	9.65	.7613
8 8 1/2	4.08		.3876	9.33	.8863
8 11 1/2	3.75		.3262	9.19	.7995
Total	54 4 1/2		2.1824		5.2309

2.1824 lbs. of butter fat at 16c. per lb..... 34.92
5.2309 lbs. of solids other than fat at 2 1/2c. per lb..... 13.07

Value of milk without extra allowance..... 47.99
Number of days giving milk after first 90 days up to 11 months..... 245
Number of days pregnant after first 90 days, 54
Extra allowance for 245 days giving milk, 5-30ths x 245 = 47.99..... 19.67
Extra allowance for 54 days pregnant, 2-30ths x 245 x 47.99..... 1.72
Total allowance for milk..... 69.38

MILK RECORD FOR THIRD PRIZE HERD
(Jerseys) owned by Smith & Sons, Grimsby.
Lady Lorne, calved April 3rd, 1889; served Aug. 6th, 1890.

Milkings.	Weight of Milk.	Per cent. of butter fat.	Total butter fat.	Per cent. of solids other than fat.	Total solids other than fat.
	lbs. oz.		lbs.		lbs.
Sept. 17th, a.m.	8 8	4.92	.4183	9.08	.7718
17th, p.m.	7 12	5.11	.396	9.56	.7401
18th, a.m.	7 11	5.67	.4385	9.05	.8088
18th, p.m.	7 14	5.11	.4086	8.75	.6913
19th, a.m.	8 13	4.99	.4368	8.82	.7717
19th, p.m.	8 6	5.35	.4484	8.85	.7426
Total	46 15		2.539		4.4143

2.539 lbs. of butter fat at 16c. per lb..... 41.44
4.414 lbs. of solids other than fat at 2 1/2c. per lb..... 11.03

Value of milk without extra allowance..... 52.47
Number of days giving milk after first 90 days..... 245
Number of days pregnant after first 90 days 0
Extra allowance for 245 days giving milk, 5-30ths x 245 = 62.47..... 21.18
Total allowance for milk..... 73.64

Miss Stoke Pogis, calved May 6th, 1890; served July 28th, 1890.

Milkings.	Weight of Milk.	Per cent. of butter fat.	Total butter fat.	Per cent. of solids other than fat.	Total solids other than fat.
	lbs. oz.		lbs.		lbs.
Sept. 17th, a.m.	10 8 1/2	5.84	.6132	9.8	1.029
17th, p.m.	9 9	5.81	.5983	9.9	.946
18th, a.m.	10 12	5.65	.6073	9.78	1.051
18th, p.m.	9 11	5.41	.5247	9.88	.958
19th, a.m.	10 6 1/2	5.49	.5709	9.71	1.010
19th, p.m.	9 8	5.47	.5196	9.96	.948
Total	60 1 1/2		3.872		5.943

3.872 lbs. of butter fat at 16c. per lb..... 61.95
5.943 lbs. of solids other than fat at 2 1/2c. per lb..... 14.85

Value of milk without extra allowance..... 68.8
Number of days giving milk after first 90 days..... 53
Extra allowance for 53 days giving milk, 5-30ths x 53 = 68.8..... 6.19
Total allowance for milk..... 74.99

Nettie of Grimsby, calved March 2nd, 1890; served May 26th, 1890.

Milkings.	Weight of Milk.	Per cent. of butter fat.	Total butter fat.	Per cent. of solids other than fat.	Total solids other than fat.
	lbs. oz.		lbs.		lbs.
Sept. 17th, a.m.	8 7	5.57	.4701	9.52	.8084
17th, p.m.	8 2	5.13	.4155	9.65	.7816
18th, a.m.	8 11	5.32	.4628	9.55	.8908
18th, p.m.	7 15 1/2	5.20	.4160	9.95	.7990
19th, a.m.	8 6	5.63	.4723	9.82	.8248
19th, p.m.	7 12	5.18	.4014	9.87	.7640
Total	48 11 1/2		2.6387		4.8015

2.638 lbs. of butter fat at 16c. per lb..... 42.32
4.801 lbs. of solids other than fat at 2 1/2c. per lb..... 12.00

Value of milk without extra allowance..... 54.32
Number of days giving milk after first 90 days 107
Number of days pregnant after first 90 days, 23
Extra allowance for 107 days giving milk, 5-30ths x 107 = 54.32..... 9.77
Extra allowance for 23 days pregnant, 2-30ths x 107 x 54.32..... .86
Total allowance for milk..... 64.95

Respectfully submitted by
A. LEHMANN, B.S.A.,
Asst. Chemist, Exp. Farm, Ottawa.

The Stillwater (Minn.) Penitentiary has arranged to manufacture binding twine.

The reported disease in the Canadian cattle landed at Dundee from the steamer Norse King was a mistake by the local veterinary, but all the same it caused considerable trouble as the cattle had to be held over, although advertised for sale.

Cheesemakers' Work, Wages and Thinking.

BY PROF. J. W. ROBERTSON.

I look back and see that cheesemakers are, perhaps, beginning to feel rather favorable to the endeavors of the Association along the line of its late work. They are not confining themselves to reading hints as to how to get through two hours earlier in the day, or to get an average that will read rather better than their neighbors'. The Association is beginning to lead the cheesemakers to look to a larger sphere of operations, and not to confine their thoughts to a narrow cheese vat, or to drown their intellects while considering its contents, but with eyes of observation to look out around and see where to apply themselves to make profits better, and how to keep a better cow which at the least cost will give better milk. Cheesemaking has not been paying the farmers of this Province as it should have been paying, and cheesemakers can never afford to live satisfactorily upon the losses of the farmers. But if cheesemakers will reach up to lead the farmers to multiply their profits they will get an advantage from the increased abundance the farmers have. If they are far-seeing enough to plan, not to get the whole of the profit, but a share of it, and not so much to reduce the average pounds of milk per pound of cheese, as to raise the average amount of production of 3,000 pounds of milk per cow to 6,000 pounds, they will not have to complain so much about what they are paid for making a pound of cheese. If the farmer gets, instead of 3,000 pounds of milk per cow, 6,000 pounds, he will not be so cheese-paring in regard to the cheesemaker's compensation.

Then cheesemakers render the best service they can to the factories in which they work when they expect something for something. I do not like a cheesemaker to expect something for nothing. I do not like a man to expect 95 cents per hundred-weight for doing the work of a man worth a dollar a day; and I do not expect the cheesemaker to give something for nothing, to give the skill of a man worth \$125 a month with his board, for such wages as would pay a man who can only shovel coal \$1.25 per day without his board. I would have a union to encourage the factory owners to pay for skill, lest the skill be driven out and the whole business goes down, and the whole Province suffer from the loss. I would have a man earning \$60 a month or quit and be a man somewhere else.

I would also have a cheesemaker become an experimental cheesemaker. The whole business of making cheese is experimental. No man knows the peculiar qualities of any cow's milk right down to their ultimate and peculiar characteristics, from day to day, and therefore every day's work is experimental. Now, we will reach safe conclusions only when cheesemakers learn to carry on experimental work with clearness by regarding every relation and result, and when cheesemakers do that, they will find by-and-by a plan by which they can make uniformly better cheese.

I would not have a cheesemaker blindly grinding out blind results by routine practice. I would have him so think out his business that his thought will go ahead of his curd-knife or steam-pipe. No machinery and no printed code of instructions can take the place of personal thought with any man who wants to succeed in his business. This is rather trying for some cheesemakers. It is probably tiresome sometimes for a man to think, or even to be stimulated to thought. Some men dislike to think seriously as much as they would dislike to be called out of bed at half-past four to catch the train by which they might be going to get married.

Guenon's Theory of the Escutcheon.

FOR THE FARMER'S ADVOCATE, BY JAS. W. ROBERTSON, DAIRY COMMISSIONER.

Francis Guenon was the son of a fruit grower and nurseryman in France. He had a great fondness for and displayed superior skill in the art of grafting fruits, and of propagating varieties to which he took special liking. A casual remark dropped by the boy's grandfather to the effect that in his opinion cows might be judged as easily and surely as fruit trees, if one only knew their good points, quickened his observation, and



CLASS I. Flandrine (with oval feathers and tabine feather).



CLASS II. Left Flandrine (with thigh feather).



CLASS III. Selvedge (with buttock feathers).



CLASS IV. Curveline (with batard feather).



CLASS V. Bicorn.



CLASS VI. Double Selvedge (with dart feather).



CLASS VII. Demijohn.



CLASS VIII. Square.



CLASS IX. Limousine (with vulvous feather).



CLASS X. Carresine or Level.

enabled him to make a discovery of the feature in cow form and life by which he has made his name immortal.

He classified the shapes into ten typical forms, as per the rough diagrams; each of these classes he divided into six orders, according to the growth and position of certain "epis" or feathers, which were the terms he used to designate certain particular marks or patches with a reverse growth of hair on the escutcheon. To the first class he gave the name of *Flandrine*, simply because he observed that many of the great milking cows which he saw in the Province of Flanders had escutcheons of that peculiar form. The second class was left-hand and to one side of the perineum. The third class or *Selvedge* received its name from its resemblance to the selvedge on a piece of cloth.

The fourth was *Curveline*, because of the curved top; this is a common form among many of Jersey bulls in Canada. The *Bicorn* is so called because of the double horn top which it has. The *Double Selvedge* has a double strip instead of a single one like that possessed by the third class. The *Demijohn* was supposed to have some likeness in shape to a wine jug, and hence its name. The carpenter's *Square* lends its name to the eighth class from the similarity in shape of that tool to the perineum of this escutcheon. The steeple-topped *Limousine* was one frequently seen in the Province of Limoges, and from that it received its name. The tenth is horizontal or level topped, and is sometimes called *Level* and sometimes *Carresine*.

1. The name escutcheon is given from the shield-like form of upward or reverse growth of hair on the thighs, udder and perineum.
2. It is also called milk mirror.
3. Its size and shape are believed to indicate the direction of the arterial circulation.
4. When the lower part (called also the "mammary part") is large and broad a large flow of milk may be expected.
5. When the upper part (called also the "perineum part") is broad and smooth it is counted favorable for a prolonged milking period.
6. A blending of the hair of the escutcheon into that of the hips is considered of more value than an abrupt division.
7. Tufts near the vulva indicate a large supply of arterial blood to the organs of generation. They are said to point to a tendency to dry up early in the period of pregnancy.
8. Crescent or angular indications or interruptions into the edges of the escutcheon indicate a proportionally smaller yield of milk.
9. It was his general conclusion that the larger the escutcheon the better milker the animal would be compared with others of her own breed.
10. It should not be considered alone in judging of the milking power and capacity, but as an additional evidence of merit.
11. It is of real value in examining calves.

That Glenboro Meeting.

BY JAS. W. ROBERTSON.

The following sentences are published in your October issue in an article written by Mr. Geo. Steele:—

"You will perhaps pardon me if I trouble you with another short letter, which will be my last on this great and only milking competition conducted by Prof. Robertson. * * * But seeing that we were to have a visit from Prof. Robertson, at Glenboro, I thought I would get him to enlighten me there. At the close of his address questions were invited. I asked him to explain how he figured it out. He rose and explained the rules. I again rose to tell him that it was not the rules I needed an explanation of, when I was politely told that the time of the meeting could not be taken up in that way. Prof. Robertson then said that he had written the *ADVOCATE* again, and given a full explanation of everything."

A simple statement of the facts as they occurred is a sufficient answer to the utterly misleading version supplied by Mr. Steele. These are the facts: At the close of my address at Glenboro the chairman invited questions. Mr. Steele (whose name I learned by inquiry afterwards) asked some question about the *FARMER'S ADVOCATE* milking competition at London. I am not aware that I had made even a passing reference to the competition in the course of my address. However, I answered the question put by Mr. Steele, when he rose to tell me that it was not the rules he needed an explanation of. At that juncture a gentleman in the meeting, a resident of Manitoba, well known and esteemed

among the farmers there, objected to the time of the meeting being taken up by any questions and answers apparently of only personal interest to Mr. Steele. Then, immediately I stated that I would be glad to figure out on paper or on a blackboard, for Mr. Steele or any other person, the full details of the calculations which show the results from the tests, at the close of the meeting either in the hall or at my room at the hotel. I also mentioned that an additional explanation of the reasons why the standards of values had been fixed as they were, would appear in the *ADVOCATE*. After the meeting I could not find Mr. Steele though I was in the hall for some five or ten minutes. Outside on the street I enquired from his brother if he knew where I could find him. But this ardent seeker for truth eluded my search.

Mr. Steele's grim effort at being loftily ironical on the amusing stories which it suits me to tell, furnishes me with one more humorous illustration. I have found them to be such excellent and almost indispensable helps in one part of my work, that I cannot promise him that I will try to desist, even though one mind may fail to perceive or rather to acknowledge their value. The blindness of one man in our garden does not abolish the beauty of its flowers.

Diseases of Pigs.

BY J. Y. ORMSBY, V. S.

Of all the domestic animals perhaps there is none that has received so little attention at the hands of the veterinary profession as the pig, and, while I am not prepared to say that the profession is to blame principally for this, for I am well aware that most farmers look upon a pig as an animal that is "not worth doctoring," and so prefer to let him take his chances of living or dying to going to the expense of calling in professional skill, still I would submit to my fellow *vets.* that we are to blame to a certain extent, for, with the exception of that porcine scourge, "hog cholera," which has of late years attracted a good deal of attention among veterinary authorities, on this continent in particular, I find that in the various works on the practice of veterinary medicine and surgery, very little if any attention is given to the diseases that pigs are subject to, and as a result, this, to my mind, very important branch of veterinary medicine is almost entirely overlooked in the course of study taken up at most veterinary colleges of the present day.

When we consider that the pig is endowed with an unusually voracious appetite, which will invariably lead him to eat more than he can properly digest, if permitted to do so, and couple this fact with the unsanitary conditions under which pigs are expected to exist on the average farm, it cannot but seem strange that a greater mortality does not take place annually among the common pigs of the country; still, from my own experience, I am well aware that very many pigs are lost annually to the farmers of this Province, not from any wide-spread pestilence, but from commoner diseases that could be cured by very simple remedies if properly applied. I shall, therefore, in succeeding papers, draw attention to the commoner diseases of pigs and the remedies that I have found most useful in combating them, but before doing so I shall draw my readers' attention to the best methods of

ADMINISTERING MEDICINE TO PIGS.

The simplest way, I need hardly say, to do this is to add it to the food; but should, as sometimes happens, the animal refuse to eat it the best plan I have found to be as follows:—

Slip a noose over the upper jaw behind the tusks, then fasten the rope to a staple driven in a post, about five feet from the ground, so that the pig is drawn up slightly from the ground; now, take an old shoe, cut the toe off, and when the pig opens his mouth, as he continually will in his struggles to get free, thrust the shoe in his mouth, and then pour the medicine from a long necked bottle into the shoe. By doing this the necessity of putting the neck of the bottle in the pig's mouth is entirely avoided, and the medicine will be found to pass down his throat without any trouble.

Parasitic Plants—The Farmer's Microscopic Foes.

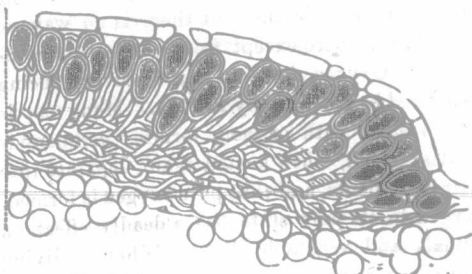
J. HOYES PANTON, M. A., F. G. S.

(Continued from September issue.)

We now come to the consideration of a parasitic plant, which belongs to another family than that to which those belong we have discussed in the last two issues of the *ADVOCATE*. I refer to the so-called rust of wheat, well known to all farmers, as it appears on the straw at certain seasons of the year, especially when the weather is close, warm, and the atmosphere damp.

Euccinia Graminis—Rust.

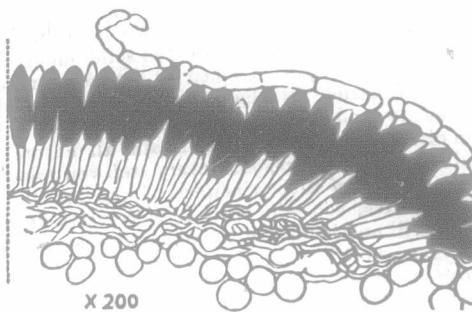
Rust is the product of a minute plant developed from a spore, that has reached favorable con-



X 200

FIG. 1.—Transverse section of straw showing Uredospores, or Summer Spores.

ditions for its growth upon the wheat plant. Here the spore germinates and soon finds its way into the affected plant, and gives rise to a mass of thread-like structures (*Mycelium*) which permeate the host plant and feed upon its juices. Not long after this vegetative condition has been attained spores are produced in myriads on the threads of which it is composed. So numerous do they become that they burst the thin covering of the leaf or stalk, and show the rust colored rupture. If the powdery-like substance thus exposed be examined under a microscope about 200 diameters it will reveal, that what appears to be dust is really a mass of regularly formed seed-like bodies consisting of one cell, oval in shape and reddish in color (Fig. 1).



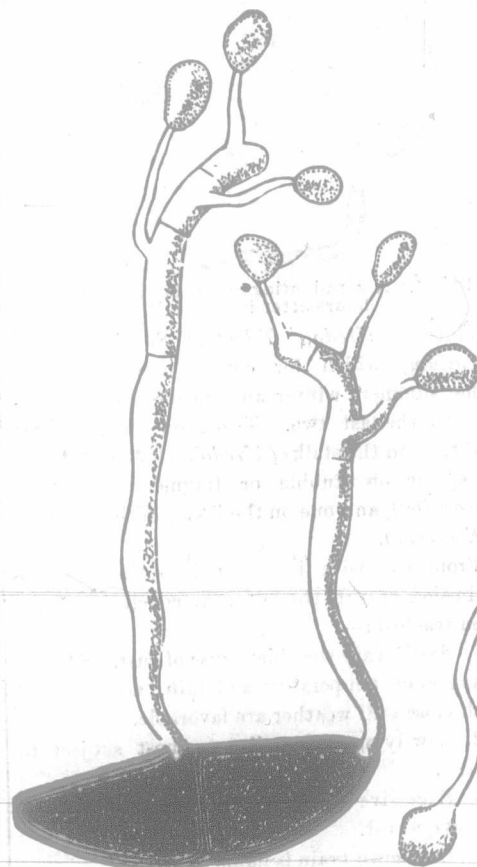
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FIG. 2.—Transverse section of straw showing Teleutospores, or Winter Spores.

These spores (*Uredo*) finding their way to wheat plants soon germinate, and again myriads of spores are produced, so that in a very short time, if conditions are favorable, viz., damp, close, sultry weather, a whole field will be

affected. The rapidity of growth in these lower forms of plant life is almost incredible, but the facts are too evident to doubt it. The rust plant does not stop here. A little later in the season on the same thread-like structure (*Mycelium*) another form of spore is produced, but these are usually more common on the lower part of the stalk, and are destined to carry the trouble into another season. The former are frequently spoken of as "summer spores," the latter as "winter spores," these last formed spores (*Teleuto*) are two-celled, pear-shaped and black. (See Fig. 2.)

Affected plants are then said to be attacked with "mildew," and suffer severely from the



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FIG. 3.—Teleutospores germinating and producing Sporidia.

effects of this parasite, just at the time when the plant has reached a stage to mature its seed. These black spores proceed no further that season, and will not again give rise to mildew on wheat until another plant has served as nurse for awhile. Here, then, we have a strange feature in nature; a plant passing through certain

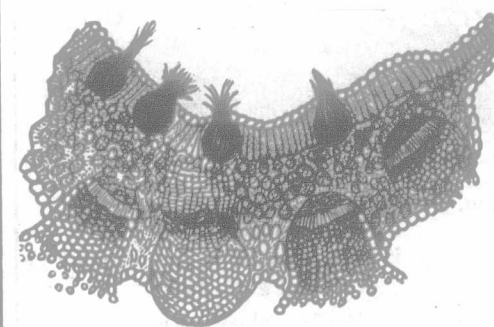


FIG. 4.—Section of a Barberry Leaf showing Ecidia below.

stages of growth upon different plants, which serve for a time as host. We see something similar in animal life in the case of a parasite tapeworm in man. This is developed to a certain extent in the ox, and finally in man when he eats the affected meat of the ox.

In spring the dark spores germinate and give rise to another form of simple spores (*Sporidia*) formed at the ends of threads growing from each cell of the black spores. (See Fig. 3.) These (*Sporidia*), when they reach the leaves of the barberry shrub, germinate, enter the leaf and soon give rise on the underside to masses of cup-like structures, in which are produced innumerable round golden-colored spores, (*Aecidium*) (see fig. 4) which will produce a vegetative growth only when they germinate on the wheat or some closely allied plant. They then give rise to the condition referred to as "rust." Thus we see in the rust plant a very complicated life history, there being no less than four kinds of spores

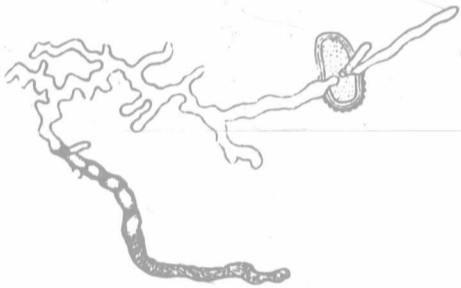


FIG. 5.—A germinating spore *Uredo* fourteen hours after it was shed.

produced, *Uredo*, *Teleuto*, *Sporidia*, and *Aecidium*, which for convenience we might name summer, winter and spring, spring referring to the last two. Two grow on the wheat plant, upon the stalks (*Uredo* and *Teleuto*), one in spring on stubble or fragments of straw (*Sporidia*), and one on the leaves of the barberry (*Aecidium*).

From extensive inquiries into the presence and cause of rust, the following conclusions have been reached:—

1. Seasons are the chief cause of rust. Sudden changes of temperature and rain, accompanied with close still weather are favorable.
2. Low-lying rich soils are most subject to attack.
3. Excessive use of manures rich in nitrogen encourage rust.
4. Late sown grain is liable to attack.
5. Thinly sown crops seem liable to injury.
6. Red wheats are less affected than white varieties.

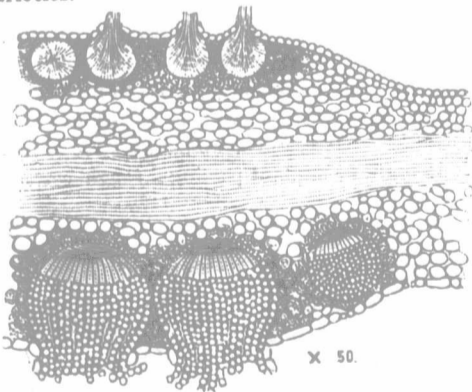


FIG. 6.—Section through Barberry Leaf showing *Aecidia* below.

7. Rust is more common in the vicinity of barberry hedges than at a distance.

To protect ourselves against this foe we should, as far as possible, avoid the conditions favorable to its growth; by doing this we are following in the line of practical and theoretical teaching, and may reasonably expect favorable results.

The question has frequently been raised, "Is the barberry shrub to be blamed for all the rust?" In answer to this several views have been set forward.

1. The *Uredo* spores may be carried over the winter months upon plants that do not perish like wheat at the close of the season, e. g., couch grass, etc.

2. *Sporidia* may germinate on wheat without the intervention of another plant. This has been done in the laboratory.

3. *Sporidia* may develop on other plants than the barberry.

However, it does seem that a sufficient case has been made out against the barberry, as a hedge plant in the neighborhood of wheat fields. We may reasonably expect that other sources than this shrub will be found, but in the meantime farmers are acting in harmony with the teachings of science in using it no longer as a hedge plant.

Application of Chemistry and Geology to Agriculture.

BY JAMES MILLER.

(Continued from September issue.)

OXYGEN—ITS PROPERTIES AND RELATIONS TO VEGETABLE LIFE.

Oxygen is the most wonderful and important of all the elementary substances. We are only acquainted with it in a gaseous or aeriform state. It is readily obtained by heating in glass retorts the red oxide of mercury of the shops, or a white salt known by the name of chlorate of potash. Without assistance we cannot perceive it from common air; it is without taste, color, or smell. It exists in the free (uncombined) state in the atmosphere we breathe, but there is no way we can obtain it pure except from some of its compounds. Oxygen is a recent discovery, being discovered by Dr. Priestly in 1774. Many metals unite readily with oxygen, forming compounds (oxides) which, when heated again, separate into their ingredients, and thus pure oxygen is formed. Oxygen in its pure state has a deadly effect on animals and vegetable life. When a living animal or plant is placed in a large vessel containing pure oxygen the rapidity of the circulation is increased, all the living functions are stimulated and excited, fever comes on, and in a short time life becomes extinct. It exists in the atmosphere to the amount of about one-fifth of the whole, and this state is necessary to the existence of animals and plants and to the support of combustion on the earth's surface. It exists largely in water, containing eight-ninths of the whole.

The quantity stored up in the solid rocks is still more remarkable. It forms one-third of the soils and rocks, as well as of all the plants and animals that exist upon the globe, known to us, as I have already said, in the form of a gas. In fact there are not many compound substances occurring in nature into which oxygen does not enter as a necessary ingredient, and it is a remarkable work of our Creator that this element should constitute the means by which all animal and plant life depends, and nothing less than wonderful, that a substance which we know only in the state of thin air should by some wonderful mechanism be bound up and imprisoned in such vast stores in the solid mountains of the earth, be destined to pervade and refresh all nature in the form of water, and to beautify and adorn the earth in the solid parts of animals and plants. Again, all nature is full of such wonders, and every step you take in the study of the principles of the art by which we live, you will not fail to perceive the united skill and bounty of the same originator.

Oxygen gas is heavier than common air in the proportion of about eleven to ten. One hundred measures of water dissolves six and one-half parts of this gas. (According to Dr. Henry, one hundred parts of water absorb only three and one-half parts of oxygen.) All kinds of water always contain a certain portion of oxygen, as they pass through the soil administering to the growth and nourishment of plants in various ways which will be explained further on.

[TO BE CONTINUED.]

Mr. McKenzie's Dispersion Sale.

This sale was held on the 8th and 9th of October, under the most unfavorable auspices imaginable. The elements seemed disposed to make the sale a failure, and to this end were ably assisted by Mr. McKenzie himself. We were somewhat surprised on reaching "The Portage," on the evening of the 7th, to learn that one of the largest herds of pure-bred Shorthorns in the Province was to be sold by auction the following day. When the day and hour of sale arrived, and through the drizzling and continuous rain the corral was reached, enquiry was made for a catalogue, but no catalogue was available, no printed matter of any kind to throw light on or give information as to the breeding of the different animals. The auctioneer had a memorandum of the names and sale numbers, not herd book numbers, and this was the only information available, which was simply none. Not a breeder was present from any district outside the immediate vicinity of "The Portage," from the very fact that they did not know that such a sale was to take place. The cattle were very thin and looked very bad in the rain, which fact, in conjunction with the utter absence of information, as to breeding, led many to doubt their eligibility for registration. This, however, was to a great extent removed by the repeated announcement of the auctioneer, that a certificate of registration would be furnished in every instance, or the animal taken back. Some animals were kept in the open corral without food or water upwards of twenty-four hours, during which time a cold rain was falling. The prices realized for the pure-bred stock averaged forty-five dollars. It cannot be said that in this instance anyone paid too much for the pedigree and name of pure-bred stock.

Agricultural Papers.

There is no better or more profitable manner in which a farmer can spend a dollar than in an agricultural paper. It is the cheapest food upon which the intellect of the youth can be developed and stretched up into perfect manhood. It quickens the ideas of the experienced farmer, by awakening new ideas, by confirming ideas partially awakened at a former time, by giving him the benefit of the experience of many men engaged in his own calling daily. What reader of an agricultural paper has not been amused to hear men talk of experiments they are trying, or purpose trying, when, had they read the agricultural literature of the day they would have known that the same experiments had been tried repeatedly by others, and the results were common property among advanced farmers? How, after men are misled by accepting the result of a single experiment as final, when some factor not taken into consideration has influenced this result in a manner to produce a result directly opposite to what would be produced were the circumstances as supposed by the person making the experiments, can any intelligent farmer say he has read a good, live agricultural paper for a year and not been benefited many times the price of it? If so, it would be interesting to know whether the fault was with the paper or the reader. It is a fact beyond dispute that a greater percentage of the farmers of Manitoba are subscribers to agricultural papers than of any state or province on the Continent. And it is a still more pleasing fact that a still greater percentage of them are accumulating wealth. It is more than probable that if the one hundred persons who have made the most money by farming operations during the past year, on the entire Continent, were selected, that Manitoba would contribute double the number of any other state or province of the same area.

FIRST PRIZE ESSAY.**The Treatment and Care of Manure During the Feeding Season, to Render it Available for Use the Following Spring or Summer.**

BY HILLIARD TAYLOR, CRYSTAL CITY, MAN.

In preparing manure for use, the object to be attained is to render it soluble, so that it may be available for the roots of plants as soon as possible after it is applied to the land. Water is the medium through which plant food is conveyed from the soil, to form the tissues that form the plant. It will be readily seen, therefore, that only that portion of manure which is soluble is available for plant food. If dry straw or hay is placed on the land and ploughed under, it is of no use, but, in this country, rather a detriment until it has decayed and become soluble. The treatment of manures, therefore, during the feeding season, to render them available for use the following spring or summer, must be such as will most thoroughly decompose them, and thus render them soluble. This end can best be attained by fermentation, which acts on manure very much as boiling acts on food. By boiling, the food is made more digestible and more easily assimilated by the stomach. So by fermentation the manure is rendered more soluble and more easily assimilated by the plants. The question yet remains, and it has been considered a difficult one in this country, How are we to ferment the manure? A certain amount of moisture is an absolute necessity to fermentation. The excessive cold of our winter militates against the same end to a very great extent, but does not prove an insurmountable barrier. Another cause of slow fermentation, and, in many cases, an absolute cause of it, is the loss of the liquid from the manure before it reaches the manure heap. Then, the question of saving this liquid demands our attention in this respect. In the first place, run the straw intended for bedding through a chaff-cutter, thus making it an excellent absorbent, from the many small tubes thus presented for holding and retaining the liquid. This is sometimes done as a matter of economy in bedding, where straw is scarce and a power chaff-cutter is available. I am aware that the ne'er-do-well farmer will say that this is too much trouble, as he did when cutting hay and straw for feed was first recommended; but the task is not very great, and, as farmers are not usually pushed with work during the winter, it will well repay the labor in the saving of manure effected. I might say, in this respect, that the liquid manure from a stable is worth quite as much as the solid. With the manure secured in this way, start the manure heap in the fall, before freezing weather sets in. Fermentation will at once set in, and thus a leaven is formed that will leaven the whole lump, even though it becomes as large as a barn before spring. On this heap, pile the manure from the horse and cow stables, not allowing it to get too wide, but keeping it as high as it is convenient in proportion to the width of it. The short straw filled with the liquids will prove advantageous, not only by supplying moisture, but the liquid will contain great numbers of germs of fermentation, and the heat produced will keep the manure heap constantly steaming, thus causing all the snow that comes in contact with

it to melt and afford additional moisture, which in most instances will be found quite sufficient; but should it not be enough, an occasional pail of water may be thrown on without entailing serious labor. By careful attention to details this fermenting process will go on constantly all winter, so that in spring the entire heap will be found ready for application to the land. It might be claimed that the straw, having been cut so short, the process of fermentation is unnecessary; but such is not the case, as the heating process, or fermentation, is, as previously mentioned, an absolute essential to rendering the manure soluble, and thus in a shape for immediate use by the plants; while if applied unfermented, although short and fine, it will lose a great proportion of its strength before it will decompose sufficiently to be taken up by the plants.

There are few questions of greater interest to farmers at the present time than the subject of this essay.

A WORD TO AGENTS.**Farmers' Sons and Daughters, Students and Teachers.**

Any honest, thrifty person, male or female, can earn good wages and obtain regular employment canvassing for new subscribers to the FARMER'S ADVOCATE. This is honorable work, benefiting the subscriber, the agent and the publisher.

The past year has been a very successful one with us. Our subscription list has grown very rapidly. Our paper is daily becoming more popular all over the Dominion. The regular agents now in our employ are doing exceedingly well, earning for themselves, above expenses, from \$30 to \$100 per month, depending on the energy and industry of the individual. One of our regular men frequently clears \$70 per week. He will clear, one month with another throughout the year, \$100 per month. With a little practice any man equally industrious and earnest could do as well. At what business, without capital invested, can you do as well? Beginning with September we will give to all new paid-up subscribers the balance of this year and 1891 for \$1.00; for \$1.25 we will give the ADVOCATE for the same period and one copy of our splendid picture, "Canada's Pride." With such inducements as these we trust our friends will send us many new names between now and Christmas. If possible start to work immediately, before the other papers are in the field.

The following cash commissions are given to all our agents: From 10 to 20 names, 25c. each; 20 to 50 names, 35c. each; 50 to 100 names and upwards, 40c. each. Special terms will be made with those who wish to canvass continually. Last season a farmer and his daughter earned \$190 in ten days taking new subscribers for us. Those who would sooner receive live stock or implements than cash commissions can be supplied advantageously. See our prize list advertised in other columns. We will guarantee the safe arrival of every animal and article, and will further guarantee that all prizes will be of good quality and satisfactory in every respect.

We had the pleasure of calling on three young Englishmen named Green Bros. and Hoke, who are located a few miles south of Alexander, and were very much pleased with their style of farming. Although they have only been in the country two years they have 100 acres of wheat safely stacked. They have done all their work with oxen, which they keep in good condition and care for better than many farmers do for their horses. They have a very comfortable stable, which is neatly built of sod and is so kept as to contrast in a marked manner with the withered up "shacks" to be seen on too many Manitoba farms. On the farm we noticed a fine lot of roots which were being carefully harvested. Many of our young Englishmen would benefit by a visit to "Britannia Farm."

Fattening Poultry.

BY JAMES ANDERSON.

Fowls should be kept in such condition that they are always ready to kill, but about Christmas time we generally look for something extra, and as I have had some experience in fattening fowls, "having exhibited at our Guelph Fat Stock Show for the last twenty years," I will now give it. Three weeks ought to be quite sufficient to fatten fowls if in anything like good condition when shut up. I generally shut mine up in a room of an old unoccupied house, keep it as dark as possible, give them plenty of scalded corn meal, chopped barley and oats, mixed, for a change. They want to be fed three times a day all they can eat up clean. I often give them a few boiled potatoes mashed up with a little oatmeal in it, which they relish very much. For drink give them all the milk they want, either sweet or sour. In fact, I think they prefer buttermilk, and it makes the flesh fine and white and firm. A little salt mixed with the boiled food is beneficial and highly relished by the fowls. They also relish a little bran mixed with the milk and it keeps them healthy. You must not forget plenty of gravel, crushed oyster shells, or any gritty substance to help digestion. To prevent indigestion a little pulverized charcoal is an excellent thing mixed with the food. To prevent lice on the fowls fill a large box with dry earth, in which thoroughly incorporate one pound of sulphur, as it is impossible for fowls to fatten if covered with vermin. Keep your box or boxes in a perfectly dry place, for if it gets wet or damp it will be entirely worthless. The fowls will enjoy this dust bath very much, and they will fatten in a great deal less time. Fowls for show purposes should never be scalded. Scalding spoils the appearance of poultry intended for the market, and if the best prices are to be obtained they must be plucked instead of scalded. Poultry packed for shipment should not be drawn. I generally cull out all my worst fowls in the fall, also geese, ducks and turkeys, fatten them up, kill them off in freezing weather, pack them in snow in a large hoghead, a layer of fowls and a layer of snow alternately. Keep them in an outhouse constantly frozen, or nearly so; have a lid on the barrel to prevent mice, rats or cats from entering, and you have fine fresh poultry all winter. Put on fresh snow if the first packing should melt and thaw. I have done this for years and never lost a fowl. You must not kill them too early—not until the really cold weather sets in.

Now is the time to look after your chicken house and see that it is made warm and comfortable for winter, for without warm quarters you will not have many winter eggs, the time they bring twenty cents a dozen. When the fowls are moulting, which is generally about this season, they require an extra feed and to be kept warm. One night of exposure when in moult may cause disease which may extend to the whole flock. Lay in a stock of gravel, dry earth for dust baths, etc., for winter use, and sprinkle the hen house floor plentifully with plaster. There is no use of a farmer or anyone else trying to raise poultry profitably unless they have a house set apart expressly for their use. A good tonic in the moulting season is a few nails or a piece of iron in a gallon or two of cider; this after standing awhile can be used in mixing with their food; more cider may be added, and during the moulting season it will be found very beneficial.

Family Circle.

A God After All.

We laid in a cell, Mr. Judge, all night long,
Jimmie and me, waitin' and wishin' for the mornin'
to dawn.
'Cause we couldn't sleep, Mr. Judge, in that cold,
damp place,
And Jimmie was scared to death at the wild, mad
race,
That the rats kept runnin' all through the dark
night;
That's why we were glad, Mr. Judge, to see the
daylight.

Please, Mr. Judge, we are not very bad little boys,
And the policeman that took us said we're some
mother's joys.
He was wrong, Mr. Judge, and should only have said
That we are two little outcasts, and our mother is
dead;
And there's no one to care for us, at least here
below,
And no roof that shelters us from the rain and the
snow.

A preacher once told us that way up in the blue
There was a God that was watchin' all that little
boys do;
And that He loved little children, and His love it
was free;
But I guess, Mr. Judge, he don't love Jimmie or
me.
For I prayed and I prayed till I was most out of
breath,
For somethin' to eat to keep Jimmie from death.

And that's why we're here, Mr. Judge, for you know
There was no help from above, I must find it below.
'Twas no use beggin' and be told in God I must
trust,
For I'd begged all the day and got never a crust;
And there was poor Jimmie, holdin' his cold little
feet,
And cryin' and moanin' for somethin' to eat.

So I went to a house that was not very far,
And saw, Mr. Judge, that the back door was ajar;
And a table was settin' right close to the door,
Just loaded with pies, about twenty or more.
So I quickly slipped in and grabbed one to my
breast—
The policeman then caught us, and you know the
rest.

Discharged, did you say, Mr. Judge? both Jimmie
and I?
And—and we ain't got to be jailed 'cause I took a
pie?
And we can eat all we want?—how funny 'twill
seem—
Say, Jimmie, pinch me, for I—I think it's a dream,
And you'll give us work, all summer, winter and
fall—
Say, Jimmie, I think there's a God after all!

THE FIVE-DOLLAR BILL.

BY GENEVA MARCH.

"Tommy! are my boots blacked?"
"Tommy! what did you do with that paper
parcel?"
"Tommy! run around to the corner and get me
two ten-cent cigars!"
"Tommy! sweep down the front steps and the
pavement, and look sharp about it, d'ye hear?"
"Tommy, aren't those knives ready yet? I
never saw such a lotterer in my life!"
And little Tommy Sorrel, errand boy, table waiter,
and general factotum at Mrs. Green's boarding-
house, stood in bewilderment, scarcely knowing
which way to turn.

"Yes, sir, your boots are blacked, sir. I put the
paper parcel under the hall hat-rack, Mr. Millet.
The knives were cleaned ten minutes ago, madam,
and I'll do the steps and pavement just as soon as
I've run to the corner for Mr. Gusto's cigars."
"Humph! pretty well managed," said old Mr.
Murdock, as he sat in the sunny bay-window of the
boarding-house parlor, and saw little Tommy dart
down the street like an animated arrow. "Smart
lad that. Where did you get him, Mrs. Green?" to
the landlady who was dusting off the china mantel
ornaments with an old silk pocket handkerchief.
"I've had him some time," said Mrs. Green.
"He came to the house one winter day, and asked
leave to carry in a load of coal and kindlings that
had just been dumped at the door. He was very ill
clad and hungry, and told me such a pitiful tale
about his ailing mother and sick sister, that I told
him if he was a mind to come in, and work for his
board, and such odd scraps as come off the table to
carry home to his folks, he could; and he has been
here ever since."

"Don't you pay him any wages?"
"Dear me, no, sir. A lad like that ought to be
thankful for enough to eat and drink, these hard
times."

"And yet he seems very useful."
"O, yes, useful enough."
"He has a nice face," said Mr. Murdock. And
that was all that was said about it; but that even-
ing, when Tommy came up to Mr. Murdock's room
to put on fresh coal for the evening, the old gentle-
man spoke to him.
"My lad," said he, "do you always expect to be
errand boy?"

Tommy looked at him, with an odd smudge of
black across his eyebrows, and earnest, glittering
eyes.

"I hope not, sir," said he.
"How old are you?"
"Twelve, sir, last November."
"Twelve, eh?" said Mr. Murdock. "Quite old
enough to earn a little something for yourself, I
should say."

Tommy dropped his coal shovel and came a little
nearer, in his eagerness.
"Please, sir," said he, "do you know of any place
where I should suit? Because I ain't earning any-
thing here only my board, and the cold victuals
Mrs. Green is kind enough to give me. Mother's
rheumatism is bad, and little Katy ain't old enough
to help, and I'm all they've got to depend upon,
sir. If I could earn a little, sir, even though it was
but a trifle—"

"There, there my lad, you're going too fast,"
said Mr. Murdock, abruptly, though not unkindly.
"No, I don't know of any place in particular, just
now. If I do, I'll let you know."
"Thank you, sir," said Tommy, evidently a little
disappointed. "I tried several times to get some-
thing to do. There's Honer Clark that keeps the
news-stand on the corner, he would take me in
partner if I could raise five dollars, and it is a very
good stand, sir, and I could carry papers around to
the customers if once I could get in. But five
dollars! sir, why, I never had one dollar in my
life?"

"Well, well, Tommy, have patience. Rome
wasn't built in a day. Perhaps some day you may
get a chance to earn five dollars."
"Perhaps so, sir," said Tommy, rather dejected-
ly. He took up his heavy coal scuttle of ashes
and cinders, and went out of the door, bowed down,
and stooping under its weight.

The next morning old Mr. Murdock went early
down town, and so it happened that the grate and
hearth in his room were about the first that Tommy
cleaned. As the little fellow was down on his
knees, whistling softly, as he brushed up the loose
ashes, his foot struck Mr. Murdock's big easy chair.
"I guess I'd better move it back," said he to him-
self. But as he wheeled the heavy piece of
furniture back, he saw something lying on the floor
close to the old-fashioned carved leg of the chair,
something like a crumpled bit of paper. "It's
money! said Tommy. It's a bill, I do believe!"
So it was, a five-dollar bill.

Tommy Sorrel smoothed it out with trembling
fingers, and eyes that glittered strangely. He had
so longed for five dollars of his own: he had
thought of so many easy roads to fortune, if only
the first step could be on a five-dollar bill. And now
fortune seemed to have listened to his prayers, and
sent him the longed for sum. Here it was, so to
speak, rained down at his very feet. It was a
terrible temptation. Tommy had always believed
himself an honest boy; but then, he had never had
any incentive to be otherwise. Miss Tilton had
once dropped a ten cent stamp, and he had found
it and restored it to her.

Tommy! Tommy! take care! Satan is very
near thee now. The kingdom of darkness is envel-
oping thee around with its net of gloom.

"No! no!" cried Tommy, out loud, as he dashed
the bill to the floor. "It isn't mine, it's the kind
old gentleman's. If I were to take it, I would be a
mean thief. Mother would rather starve, than have
me grow rich by stolen money."

Nevertheless it was a great disappointment, and
we hope our readers won't think Tommy Sorrel
unmanly when we confess that he wept a few
tears over the ashes and coals. He was waiting at
the door with a beaming face, when Mr. Murdock
came home in the evening.

"Please, Mr. Murdock," cried he eagerly, "have
you missed anything?"
"Missed anything, Tommy?"
"Because I found a five-dollar bill by your chair,
sir, when I was tidying up the hearth, and here it
is."

Slowly Mr. Murdock fitted his spectacles across
the bridge of his nose, slowly he unfolded the bill
and scrutinized it closely by the hall gas-light.

"Yes," said he nodding his head. "Yes, exactly,
it's the bill I lost. Do you see that little red cross
across the point of the letter V?"
"I do see it now, sir," said Tommy, as Mr. Mur-
dock held it toward him. "I didn't before."

"If it had been dishonestly taken, stolen, in
short," said Mr. Murdock, "it could have been
easily identified by that mark; Tommy, I believe
you are an honest boy."

"Thank you, sir," said Tommy much gratified.
"But did you really know you had left the money on
the floor?"

"I really did know it," answered the old gentle-
man with a twinkle in his eyes. "I wanted to know
if I could depend on you, Tommy, in fact, I set a
trap for you." And the old gentleman laughed so
heartily he shook all over like a mould of jelly.

"That's the first chapter," said he, "and now
here comes the second. Would you like a nice
place in my office as errand boy, at a dollar and a
half a week?" Tommy uttered an exclamation of
delight. "Because," continued Mr. Murdock, "I
think after this affair of the five-dollar bill you may
be trusted down there. We want a boy, we'll give
you the refusal of the situation."

And that was the way Tommy got a place in the
down-town office. He proved so willing and use-
ful, that in the spring they raised his wages to two
dollars a week, and Mr. Murdock sent a barrel of
flour and a warm, black shawl, to his mother. "I
like the boy," said he.

And Tommy feels as if he were makin' his way
in the world now.

Minnie May's Dep't.

One Afternoon.

Papa and mamma went out to row,
And left us alone at home, you know,
Roderick, James, and me,
"Now, dears," they said, "just play with your toys,
Like dear little, good little, sweet little boys,
And we will come home to tea."

We played with our toys the longest while!
We built up our blocks for nearly a mile,
Roderick, James, and I,
But when they came tumbling down, alas!
They fell right against the looking-glass.
Oh, how the pieces did fly!

Then we found a pillow that had a rip,
And all the feathers we out did slip,
Roderick, James, and I,
And we made a snow-storm, a glorious one,
All over the room. Oh, wasn't it fun,
As the feathery flakes did fly?

But just as the storm was raging around,
Papa and mamma came in and found
Roderick, James, and me,
Oh! terrible, terrible things they said,
And they put us all three right straight to bed,
With the empty pillow-case under my head,
And none of us had any tea.
— St. Nicholas.

MY DEAR NIECES:—

I was for a short time a guest in a house of
a wealthy family. Everything about the place
betokened means. The grounds tastefully kept,
the house, a veritable mansion, beautifully fur-
nished. But there was something lacking. On
looking about on tables and shelves I could not
find a single book or scrap of reading matter.
What a desert that house seemed to me. Better
dispense with carpets and upholstered furniture,
and have food for the mind. How could child-
ren grow up in such a home, with minds other
than warped, narrow and prejudiced. Those not
having formed reading habits little know what
a world of undiscovered pleasure and delight lies
within their reach, for reading is a habit, and
a very strong one, and may be acquired by most
people if they resolve to begin and honestly per-
severe. A lady informed me that she com-
menced reading to oblige an elder sister, and so
acquired a taste for that which before was a
drudgery. I trust that many of my nieces are
readers; if not, pray begin at once. Ask some
educated friend to select books for you; avoid
as a plague the trashy works of fiction that
poison the mind by giving false views of life
and sympathy to wrongdoing, or the silly stories
that yield no sustenance. Read good novels or
none. How varied the feast spread before us.
We may accompany the traveller across burning
deserts, and become acquainted with the inhabi-
tants of distant regions and their mode of life;
or with the Arctic explorer, sail past cities and
mountains of ice into unknown seas, and learn
what human nature can dare and endure. Let
us learn something of what life is really made of.
Why lead a mole-like existence with the means
of information and culture at hand? Why not
know something of the lives of

"Bards, patriots, martyrs, sages,
The noble of all ages,
Whose deeds crown history's pages
And times great volume make,"

and gather inspiration from these deeds, suffer-
ing and attainments? "But when have farmers'
daughters time for all this reading!" say you.
I will tell you, in the pauses of work. "Where
there's a will there's a way." The old adage holds
good here. An eminent man prepared himself
for a great life work by having a book at hand
on the breast beam of his loom, and seizing
every spare moment to study its contents.
With a thirst for reading you will pick up some
scrap of reading matter just as naturally as you

would seek a draught of water, and what a solace and pleasure to beguile time of its tedium is an interesting book—a friend always at hand from whose pages we may catch a spark from the minds of the great thinkers of all time. How pitiful to see old people unable to occupy their time in any way, and without a taste for reading, sit hopelessly brooding with no fresh food for thought. What wonder that they become more querulous and despondent, until the intellect drifts mercifully into the cloudland of a second childhood. Cultivate your minds as you have opportunity; lay up stores of knowledge, food for thought, and above all read God's Holy Word, study its precepts and gracious promises. Without this firm basis mere culture is superficial and fruitless.

MINNIE MAY.

Fashion Notes.

October's changes in the styles of feminine attire are always welcome, for they harmonize with the season in tints and texture. With the chilly days of autumn we think first of our top garment, be it jacket or cape. The military cape will be a favorite for autumn, walking, driving or travelling, the pretty lining tempting its wearer to throw the right front backwards over her shoulder whenever its warmth is not required. On pleasant days, when the mildness of the air renders it unnecessary, the tasteful young woman will fold its lining outward and carry it over her arm in true military style. For travelling this cape can be made of the costume material, with a lining of gay-colored flannel. Women with finely proportioned figures will look particularly well in a lately designed, closely curved long cloak, called the "Grand Duchesse." It has a deep shoulder cape, so arranged with hooks and loops beneath the stylish turn-over collar that it may be omitted at pleasure.

The latest costume patterns are particularly appropriate for the making up of bordered dress fabrics, which are handsomer than ever, although they are cheaper than last year. The majority of the new costumes have dress-coat or habit-backs, and this style is certainly improving to the many skirts that have full unlooped breadths, and no tournure to relieve the severity.

Styles for misses and children follow those for women much more closely than they have done of late, and they are wonderfully pretty and appropriate to the little figures.

Pepper-pod red is the name of a new shade that is much used to illuminate hats, bonnets and gowns.

A much admired method of arranging the hair is in low coils or braids. Few persons now wear the high coil with under-frizzes upon the nape of the neck. The most distinguished women now brush their tresses smoothly back and fasten low upon the neck.

Woman sashes are again popular with all sorts of house textures and also with many street fabrics, and they have a very good effect on the most sombre attire. These sashes are not the expensive luxuries they once were, for they are within the reach of most young women.

Hussar-blue will be a favorite color for heavy walking jackets, top coats and reefers, and numerous gilt buttons will be used on them with fine effect. Women with white throats wear strings of large plain beads of Etruscan gold with fashionable collarless gowns. Silver beads are worn by young women in complimentary mourning.

Recipes.

OATMEAL GEMS.

Two cups of the finest oatmeal, two cups milk, two eggs, one tablespoonful butter, one tablespoonful sugar, one saltspoonful salt.

JELLY TOAST.

Cut stale bread into neat rounds or squares; fry each slice in boiling deep fat; spread it thickly with some fruit jelly and serve very hot.

TURKEY HASH.

Remove the meat from the bones of a turkey and cut it into neat bits; stir two cups of this into two cups of white sauce; season to taste. Make the stuffing of the turkey into neat cakes, fry them, and arrange them on the dish around the hash.

NURSERY MUFFINS.

Two cups milk, two cups fine bread-crumbs, one cup flour, saltspoonful salt, one egg, one tablespoonful butter, three teaspoonfuls baking powder. Beat the egg light, stir in the butter, the bread soaked in the milk, and the flour and baking powder. Bake in a steady oven, greasing the muffin tins well, so that the batter may not stick to them.

STUFFED EGGS.

These will be found very good for picnic or travelling lunch. Remove the shells from eggs that have been boiled hard, cut them lengthwise, take out the yolks, rub them fine with a little dry mustard, pepper and salt, and add a few drops of melted butter for each egg. Then put the stuffing back in the white of the eggs and put the halves together. The yolks should be removed very carefully, so that the traces will not be left on the white part.

CHOCOLATE-COCOANUT CAKE.

For the cake, one cup of sugar, one tablespoonful of butter, one-half cup of milk, two eggs, 1½ cups flour, one teaspoonful of baking powder. Bake in jelly tins. This will make two thick layers. For the filling, melt one-third of a cake of chocolate, add half a cup of sugar, three tablespoonfuls of milk and a half-teaspoonful of vanilla. Mix these ingredients until smooth, then add one-half a grated coconut to the chocolate and spread between the layers and on top.

TAPIOCA PUDDING.

Soak one-half cupful of tapioca for three or four hours in just enough water to cover it, then stir the tapioca in a pint of boiling milk. Beat the yolks of three eggs with two-thirds of a cupful of sugar and a bit of salt, then add this to the milk and tapioca. Take from the fire, and beat in gradually—a spoonful at a time—the whites of the eggs beaten very light, and set to cool; or the whites may be spread on top, and the pudding set in the oven till of a light, delicate brown.

LITTLE SPONGE CAKES.

Break into separate bowls the whites and yolks of six eggs. Add six ounces of sugar to the yolks of the eggs and the juice of one lemon. Beat the yolks, sugar and lemon juice together till the mass breaks into bubbles; then add the whites of the eggs, which have been beaten to a stiff froth. The whites of the eggs must be stirred in carefully, so as not to break the mass down, and six ounces of flour must be added. The mement the sponge cake is mixed it must be poured into the small forms intended for it, which should be well greased, and just before they are set in the oven dredged with powdered sugar. Bake sponge cake in a steady but moderately heated oven.

Uncle Tom's Department.

MY DEAR NIECES AND NEPHEWS:—

I intend giving you an interesting letter from Australia this month instead of a letter from me. We have not space for both, and I'm sure you will be pleased with the following:

UNCLE TOM.

AUSTRALIAN BIRDS.

(Written for the FARMER'S ADVOCATE.)

Some of the Canadian girls and boys who read Minnie May's Department and Uncle Tom's Puzzles in the ADVOCATE may like to hear about a few of the feathered tribes of this sunny land. I cannot promise to tell you anything very funny, but rather what may seem curious and interesting, and better than that, what is true.

It is easy enough to find and to read wonderful stories or yarns told by travellers and novel writers, but I am sure, from the good advices and sound wisdom set before you in your own department of the ADVOCATE, that you all try to cultivate what is pure and beautiful, loving and true, in study, in play, and in every-day life.

The birds of Australia have a very different home and surroundings to what the birds of England or Canada have. Generally speaking, there is no winter over the greater portion of this island continent. The cold, frosty winds of winter never blow, the flowers never fade, the leaves never fall. The forests are mostly ever-green, and from month to month there is a succession of blooming flowers and shrubs. So, then, the birds do not need to pack up their nests and migrate to warmer lands. Of course they move from place to place as men do, seeking a better home or a finer climate, by the coast or up on the mountains, on the cold, green shores of Tasmania, or by the man grove-lined Gulf of Carpentaria. As the seasons here are directly opposite to those of the northern world; the birds brought from England or Europe have to learn the lessons of colonial ways and experience.

But I must notice a few native birds. Australia's big bird is the emu or cassowary—long legs and neck, as large and of the same nature as the ostrich of Africa. It is quite common on the plains to see a flock of emus interspersed with a hobbling herd of kangaroos and wallabies. The brush turkey resembles the Canadian wild turkey. But there is one peculiarity about some of the large birds here, they build mounds of brush and sand for nests, or scoop out a nest on the level plain, cover the eggs with sand, and leave them to be hatched by the heat of the sand, decaying vegetation composing the nest.

But here is a funny, good-natured fellow, jacko, or the laughing jackass of Australia. The name is an apt one, admirably descriptive. Merry jacko begins with a regular ha! ha! ha! and goes on varying the tones, so intensely human, as if it had to hold its sides from bursting with the merriest laughter. It is about the size of a crow, dressed in white and brown, a burly, bright-eyed kingfisher. From singing at sunrise and sunset it, in the bush, gets the name of settler's clock, and from its crested head and witty ways it is called the laughing philosopher. In walking by the bush-grown river bank, or in the Botanical Gardens, at all hours of the day, jacko is heard filling the air with a melody which would have delighted the soul of Handel,

Grains of Gold.

Give not advice without being asked, and when asked do it briefly.
 - Keep your business and your conscience well, and they will be sure to keep you well.
 One may as well expect to be at ease without money, as happy without.
 Half of the failures of life are from the want of faith, patience and persistence.
 A slip of the foot may be recovered, but that of the tongue—never.
 Dost thou love life? Then do not squander time, for that is the stuff life is made of.

NEW ADVERTISEMENTS.

SPECIAL NOTICE.

THE FARMER'S ADVOCATE refuses hundreds of dollars offered for advertisements suspected of being of a swindling character. Nevertheless, we cannot undertake to relieve our readers from the need of exercising common prudence on their own behalf. They must judge for themselves whether the goods advertised can, in the nature of things, be furnished for the price asked. They will find it a good rule to be careful about extraordinary bargains, and they can always find safety in doubtful cases by paying for goods only upon their delivery.
 Advertisements unaccompanied by specific instructions inserted until ordered out, and charged at regular rates.
 The FARMER'S ADVOCATE is the unrivalled advertising medium to reach the farmers of Canada, exceeding in circulation the combined issues of all the other agricultural publications in the Dominion. Send for an advertising circular and an estimate.
 All Advertisements, to insure insertion, must be in this office by the twentieth of each month.

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 Auction in December,
TO CLOSE PARTNERSHIP.

A superbly bred lot of Shorthorns, comprising specimens of the following Bates families:—Duchess, Waterloo, Constance and Darlington. For catalogue stating date, &c.,

ADDRESS:—
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IMPORTANT AUCTION SALE OF Imported Pure-bred Durham Cattle.

Owing to my advanced years, and wishing to retire from stock-raising and farming generally, I have decided to sell by Public Auction on my Stock Farm, "Elm Grove," Otton, Ont., four miles from Peterborough, on Thursday, November 20th, my entire Herd of imported pure-bred Shorthorns and their offspring, including animals bred by such breeders as S. Campbell, J. Bruce, and A. Cruikshank, Aberdeen, Scotland; such strains as Imp. Minnies, Imp. Wimples, Imp. Columbines, Imp. Princesses, Imp. Pansies, and Imp. Maybirds and their daughters. Also imported and home-bred bulls and heifers. A grand lot from Silver Medal Bull, owned by me; and also some from Imp. Goldfinder, bred by J. Bruce. The bull I have been lately using is a well-bred Cruikshank. Also one five-year-old Clyde mare, and a fall colt rising two years old, from the first prize Provincial Exhibition show mare that took three first prizes at Toronto Industrial Exhibition; and other first-class Clyde mares and young horses.
 TERMS OF SALE—Twelve months credit on approved notes. A rebate of one-half the freight will be allowed on sales of live stock to the extent of 250 miles. Farmers and Stock Breeders of the Dominion should not miss the sale, as no better bred or finer lot of imported cattle and offspring were ever offered for sale in this Province. At the same time and place I will offer my 600 acres of first-class land and out-buildings, situated from one to four miles of the town of Peterborough. The lands will be so divided as to meet the wishes of intending purchasers. Catalogues and other information supplied on application to
 JOSEPH REDMOND, Peterborough.
 Carriages will meet parties wishing to attend sale at the station on day of sale.
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PLAYS Dialogues, Tableaux, Speakers, for School, Club & Parlor. Best out. Catalogue free. T. S. DENISON, Chicago, Ill. 297-1

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—OR—
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Berkshire Pigs and Southdown Sheep,
 On Lot 3, Con. 3, Markham Township, County York, situated within four miles of Unionville Station, on Midland Division G. T. R., on

WEDNESDAY, Nov. 19, 1890.

Registered Clydesdale Horses—1 registered mare, bred to Lord Fitzerskine; 1 registered filly, bred to Macnallage; 1 registered stallion, two years old, by Campsie Lad; 1 registered stallion, one year old, by Lord Fitzerskine; 1 registered stallion, one year old by Self Esteem; 1 registered spring stallion, by Lord Fitzerskine.
 Registered Berkshire Swine—3 brood sows; 6 sows, four months old, eligible for registration.
 Southdown Sheep—2 imported ewes, 7 ewes bred from imported stock, 6 ewe lambs bred from imported stock, 3 rams bred from imported stock.
SALEM ECKARDT, JAMES CHERRY,
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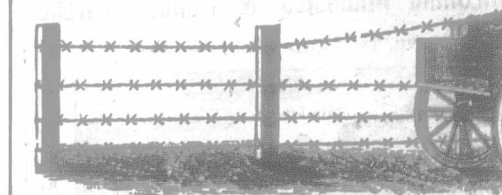
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 Norway Spruce at unrivalled rates. A general line of nursery stock, guaranteed true to name by the undersigned who is responsible; has a reputation at stake and is a practical commercial fruit and plant grower. Buy direct, fellow farmers, if you would save money, risk and annoyance. Send a list of your wants for next season at once and get my prices.
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STEPHEN NAIRN,
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Farmers' Produce Sale and Supply Agency, 45 Market Square, Winnipeg. We handle Farm Produce of all kinds on Commission, either in car lots or otherwise, and can get highest prices going. Terms for selling—five per cent. car lot, 7½ small lot. We also make a specialty of supplying big farmers, ranches, lumbermen, contractors, boarding houses, hotels and all large consumers with Groceries and Provisions of all kinds at closest wholesale prices. Write us for quotations. Address 281-y-M **E. CALBRAITH & CO.**

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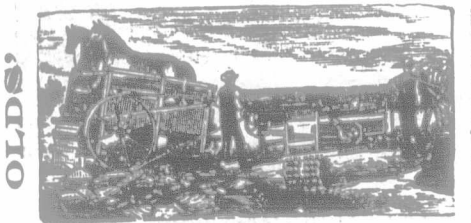
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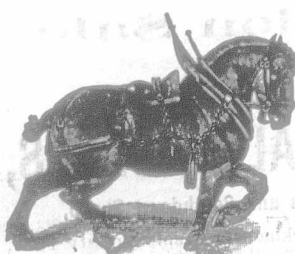
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 in Minnesota to take charge of a herd of Short-horns. Must understand his business and be willing to work. Good wages and steady employment to a suitable man. Single man preferred. Address.
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Bred from pure imported stock. Young stock for sale at farmers' prices. 298-y-OM

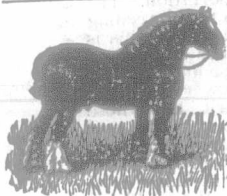
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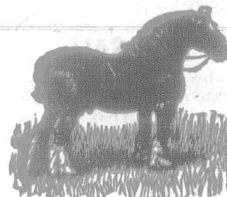
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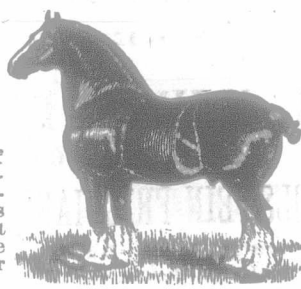
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Importers & Breeders of Shire and Clyde Horses and Shorthorn Cattle. First-class stock at rock-bottom prices. Write or call. 298-y-OM

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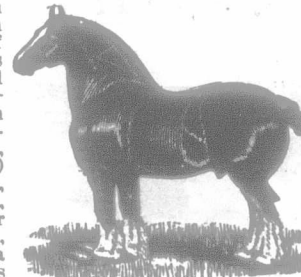
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Visitors always welcome. 294-y-OM



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We challenge competition for quality and smoothness in our horses. Imported Stallions and Mares of the most desirable strains. We have been most successful in the show rings with mares, colts and fillies of our breeding. Stock for sale at reasonable prices.

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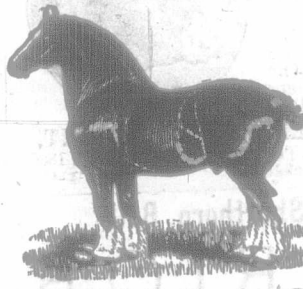
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300 PERCHERONS, 100 FRENCH COACHERS

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This collection embraces all the FIRST and SECOND PREMIUM STALLIONS (with one exception); the First Premium for best Collection of Stallions; a majority of First and Second Premium Mares; shown at the greatest of all Percheron Shows, held at La Verte Bernard, from May 23, to June 2, 1889.

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A Jet Black, High Grade

PERCHERON STALLION

Rising three years old. Also Two Young Holstein Bulls. Apply to, 290-c-OM

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We have a choice selection of imported Stallions and Mares always on hand. Having a partner resident in England our expenses are very light, and we are able to sell at figures 25 per cent. lower than any other importers.

Improved Yorkshire Pigs.

We were the first importers of pedigree Yorkshire in Canada. All our stock is registered, and our motto is, "A good pig with a straight pedigree at a fair price." Our terms are, "Satisfaction guaranteed or money refunded."

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My Shorthorn herd now consists chiefly of Imp. Lady Violet Lustre and seven of her daughters, and two daughters of Imp. Beauty 15th, almost all sired by one bull, and of one character, thick, and fine quality. Can furnish a splendid young herd at reasonable prices. Trains twice daily. Station one mile. 284-y

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HOME-BRED AND IMPORTED

Shropshire Sheep.

The imported 2-year-old

Aberdeen Hero

And a choice lot of young bulls of our own breeding.

Some No. 1 Imported Ewes & Lambs FOR SALE.

SHORN BEES,
296 WHITE OAK, ONT.



ARTHUR JOHNSTON,
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I have for sale by far the best lot of young animals of both sex that I have ever offered. My yearlings are especially good; they are all by imported sires, and mostly out of imported dams. I have a number of excellent imported and home-bred Clydesdales of both sex for sale.

New Catalogues for 1890, will be ready by January, 20, 1890. Send for one.

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Hulls and heifers, sired by Laird of Kinellar, of the Campbell-Buchan Lassie family, from which we have some fine show animals, several prize takers at the Provincial Show, 1889.

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My Shorthorns are well bred, good colors, and have been fine milkers for generations. I have over 100 females and a large number of bulls, from which buyers may select. Prices to suit the times. Satisfaction guaranteed. Correspondence promptly answered. Visitors welcome.

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-SOME EXCELLENT-
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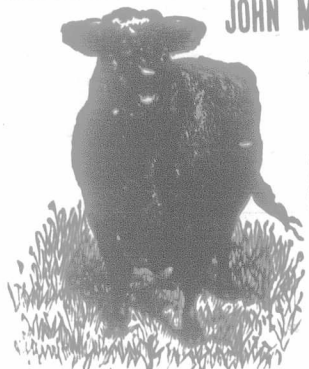
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ENGLISH PEDIGREE LIVE STOCK.

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Choice registered stock of the best strains and highest merit for sale at moderate prices. Foreign buyers assisted in purchase and shipment at one per cent. Stock purchased and shipped under experienced herdsman for two-and-a-half per cent. Special low freights. Highest references from foreign breeders. All importers should apply to—

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Extensive breeders and importers of Clydesdales, Shorthorns and Shropshires. Business established in 1848. We always have on hand and for sale a large number of imported, and home-bred animals. A visit, or correspondence solicited 282-y

HOLSTEIN-FRIESIANS

Special inducements for the next thirty days.

Before we put our stock into winter quarters. Remember we have a choice lot to select from. We are somewhat crowded for room, and rather than enlarge our stables we will drop in price. This is a rare chance to secure such noted strains as the Aaggie, Netherland, Johanna, Billy Bulyn, Artis, and other noted strains, at reduced prices. Remember, only thirty days. After that we will stick to our old prices. Don't wait for correspondence. Come at once and save time and money. Notify us when coming.

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Shorthorns, Berkshires.



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Imported Shorthorn Bull

WARRIOR

FOR SALE

Very reasonable, as we have no further use for him.

R. & S. NICHOLSON,
Sylvan, P. O. 298-a-OM

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PURE-BRED SHORTHORNS.

We have on hand Eighteen Young Bulls, fit for service, that we offer at reasonable prices and easy terms. They are good individuals, and well bred. ADDRESS—

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-BREEDER OF-
Choice Devon Cattle.

During the past five years, at the leading Exhibitions in Canada, my herd has stood first whenever shown, winning five Diplomas, one Gold, thirteen Silver and one Bronze Medal.

Stock for Sale, including Berkshire Pigs, Cotswold Sheep, & Plymouth Rock Fowls 288-y-OM

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I have one of the oldest herds of Holsteins in Canada, founded on the best blood in America; also registered Clydesdales and Carriage horses. 297-y-OM WM. SHUNK, Sherwood, Ont.

PURE-BRED REGISTERED HOLSTEIN-FRIESIANS
All imported or bred from imported stock. "Sir Mac," of the famous Aaggie tribe, heads the herd.
HUGH McCAUGHERTY & SON,
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I have a few very nice pure-bred registered Holsteins, bulls and heifers, for sale at very reasonable figures. Write or come and see me. Also one or two high grades.—JNO. A. LINE, Sherwood, Ont., Richmond Hill Station. 291-y-OM

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The sweepstakes herd at the Toronto Industrial Fair, where my stock bull Woodbine Prince (6712) also took the first prize and sweepstakes silver medal. I keep no cattle that are not of the highest standard.

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H. & W. F. BOLLERT,
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HOLSTEIN-FRIESIANS,

Comprising Aaggie Barrington, Bonnie Queen, Jennie B. Trijntje, Glenburine and Geldertje families. Stock for sale at reasonable rates. Railroad station, Tavistock, on G. T. R. 294-y-OM



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SMITH BROS.,
CHURCHVILLE, PEEL COUNTY, ONT.



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Holstein-Friesian Cattle.

ADVANCED REGISTRY STOCK.
Netherland Romulus, a grandson of Netherland Prince and Albino the second, heads the herd. Young stock for sale.

R. S. STEVENSON, Proprietor,
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Riverside Farm.

PURE-BRED A. J. C. G. JERSEYS

—AND—
ESSEX PIGS.

Prince of Oaklawn (Imp.) 12851, heads the herd. Young stock for sale. Also a few choice unregistered and high grade cows.
Farm one mile from Streetsville Junction. J. H. SCARLETT, Streetsville, Ont. 297-y-OM

Clair House Vineyards, Cooksville, Ont.

B. W. MURRAY,

—BREEDER OF—
THOROUGHBRED JERSEY CATTLE

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Pure Native Wine.
Write for prices. 298-y-OM

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Jerseys for Sale.

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This herd took all the first prizes in Quebec in 1887 and 1888, and in Ontario in 1889, in competition with all the leading herds. Young stock for sale, all of which is from the celebrated bull ROY ROY (3971), which is at the head of the herd.

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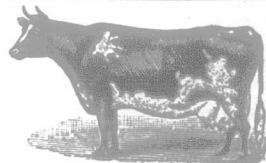
PRIZE-WINNING
-AYRSHIRES-
FOR SALE.

I have at present one of the largest and best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size.

Bulls, Cows and Heifers for Sale,

always on hand.

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Imported and Canadian-Bred
AYRSHIRES AND GLYDESDALES
FOR SALE.

I have on hand a large herd of finely-bred Ayrshires of splendid quality.
My Clydesdales are also first-class. Stock for sale. Prices and terms liberal.

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Ayrshire Cattle & Poland China Hogs,
MERINO SHEEP AND FANCY FOWLS.

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Prize Winning Ayrshires for Sale.



Mine is one of the largest and most successful show herds in Canada. They are finely bred and of great individual merit. Bulls, heifers and cows always on hand for sale; also a few good Leicester sheep. Correspondence solicited. Visitors well come. Address

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ABERDEEN, ANGUS, HEREFORD,

—AND—

A. J. C. G. JERSEY CATTLE.

Choice Young Bulls and Heifers of the above breeds for sale at moderate prices at all times. A few fine, young Hereford Bulls, by Cassio, at low prices if taken at once.

M. H. COCHRANE,
298-y HILLHURST P. O., Compton Co., O.

Green Grove Stock Farm

Jersey Cattle of the very best butter strains. Choice South-down Sheep, Berkshire Pigs and Fancy Poultry. Young Stock for sale.

J. W. BUSSELL & SON, LISGAR P. O., ONT.
Stations - Streetsville and Lisgar, on C. P. R. 297-f-OM

PURE-BRED SOUTHDOWN SHEEP.

My flock was founded in 1870, and has been bred with the greatest care since, none but rams of the choicest strains of imported blood having been used. "Halton Hero," winner of 8 1st prizes, now heads the flock. I have some grand ram lambs that I will sell at farmers' prices.

JOHN. W. ALTON,
297-f-OM Cedar Grove Farm, OAKVILLE, ONT.

SOUTHDOWNS.

To make room for my fresh importation, lately landed, I will sell the whole of my flock, consisting of Sixty Southdown Ewes and Lambs of my own breeding. These sheep are large and first-class quality. Prices very reasonable.

DAVID H. DALE,
Glendale, Ont.
296-y-O.M

SHROPSHIRE -- SHEEP.

This flock has won numerous prizes in England for the last twenty years, besides America, France and Africa. Has been established over seventy years. Several of the best flocks in England started from this flock thirty years back. Sheep always for sale.

F. BACH & SON,
289-y Onibury, Shropshire, ENGLAND.



PRIZE-WINNING
SHORTHORNS

—AND—
Shropshire Sheep

Now ready for shipment. Imported and Canadian bred Rams, Ram and Ewe Lambs, the get of the choicest imported sires. Good heads, good carcass

and good fleece. None better in the Dominion. Write for prices. Address—
289-tf **JOHN DRYDEN, Brooklin, Ont.**

SHROPSHIRE

MY SPECIALTY.



I beg to lay before intending purchasers that my recent importation have proved themselves to be very prolific, fully realizing my expectations, as I have had a very heavy crop of lambs, all of which are by the most noted sires of recent years. Purchasers should inspect this stock before buying elsewhere.

W. S. HAWKSHAW,
GLANWORTH, ONTARIO.
Seven miles south of London. 291-tf-OM

SHROPSHIRE

—AND—

Improved Yorkshire Pigs.

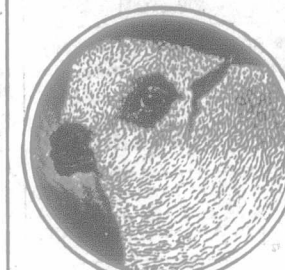


A choice lot, imported by ourselves. Sheep from the flocks of H. J. Sheldon, F. Bach, R. Mansell, J. Thonger.

Yorkshire pigs from last years prize winners.

W. MEDCRAFT & SON,
SPARTA, P. O.
and Telegraph Station
297-y-OM

IMPORTED
Shropshire Ewes and Rams



I have again secured the pick of the Bulwell Flock and offer the same at prices that cannot be duplicated. Amongst the importation are a very select lot of rams good enough to put at the head of any flock, and there are also ten very choice show shearing ewes.

Come and see them.

RICHARD GIBSON,
296-a-OM DELAWARE, ONT.

SHROPSHIRE SHEEP



DAVID BUTTAR,

Corston, Couper-Angus, N.B., Scotland

Has taken all the principal prizes in Scotland for several years. His sheep are of the purest blood, and carefully bred; every sheep eligible for registration. Pedigrees and prices on application.
294-y-OM

PURE-BRED LEICESTERS FOR SALE.

16 Pure-Bred Ram and Ewe Lambs, \$10 each;
1 3-year-old Ram, \$20.

Lambs bred from prize ram at Hamilton show last year.
Address.
298-b-OM **J. M. VANKEURAN, Byng, Ont.**

SHROPSHIRE



I have on hand a splendid lot of **IMPORTED EWES** from the best English flocks, and are now being bred to a first prize imported ram.

S. C. MILLSON,
GLANWORTH, ONT.
295-y-OM

DORSET HORN SHEEP



MY SPECIALTY.
These sheep drop their lambs at all seasons of the year; are good mothers and most prolific. Devon Dairy Cattle, good milkers and grazers. Flock and Herd established nearly one hundred years. Also Shire Horses and Berkshire Pigs. Sheep, Horses and Pigs exported to America have given every satisfaction.

THOMAS CHICK,
Stratton, Dorchester, Dorset, England.
296-y-OM



TAZEWELL & HECTOR,
Importers and breeders of Dorset Horned Sheep and improved Yorkshire Pigs. **JOHN TAZEWELL,** Indian Village farm, Port Credit, Ont. **THOS. HECTOR,** The Cottage, Springfield-on-the-Credit, Ont. Stations—Pt. Credit, on G. W. R., Streetsville, on C. P. R.
298-y-OM

COTSWOLD RAMS

Thirty Ram Lambs, bred straight from Imported Stock. Ten Yearling Ewes, bred to Imported Rams. Fifteen Ewe Lambs.

PRICES MODERATE. Come and see, or write. **299-a-OM**
J. C. SNELL, - EDMONTON, ONT.



J. T. HARCOURT & SONS,
Maplewood Farm,
ST. ANNS P.O., ONT.
Breeders and Importers of **OXFORD DOWN SHEEP**
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Improved Yorkshire Hogs and Shropshire Sheep, All bred from imported stock and registered. **298-y-OM** **JAS. HALL, Edmonton, Ont.**

IMPROVED -- LARGE -- YORKSHIRES !

All bred from imported stock and registered. Imported boar "Holywell Wonder II." heads the herd. **JAMES FIELDS,** Castle Hill Farm, ANCASTER, ONT.
293-y-OM

Improved Large Yorkshire Pigs



From the strains of Sanders Spencer and F. Walker Jones, England. Registered young pigs for sale. Apply to **WILLIAM GOODGER,** Woodstock, Ont.
293-y-OM

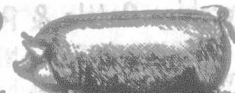
THE - GLEN - STOCK - FARM

SCOTCH SHORTHORNS,
SHIRE HORSES,
Improved Large (White) Yorkshire Pigs.



Our pigs are specially selected from the prize-winning herds of Sanders Spencer, Ashforth, Charneck and F. Walker-Jones, who won upwards of \$10,000 in prizes in three years. Orders now booked for young registered pigs. Shorthorns and Shire horses for sale.
GREEN BROS., INNERKIP, Oxford Co., Ont.
292-y-OM

Improved Large (White) Yorkshire Pigs and Scotch Shorthorns.



Entire breeding stock of Yorkshires are imported: specially selected from stock of F. Walker-Jones and Sanders Spencer, Eng. Registered sows and boars supplied not akin. Shipped to order and guaranteed to be as described. **J. E. BRETHOUR,** Burford, Brant Co., Ont.
293-10M

Write At Once!

If you want something extra good in the line of **LARGE IMPROVED YORKSHIRE PIGS.**

H. M. JARVIS,
ONTARIO LODGE,
CLARKSONS, or OAKVILLE.
291-y-OM

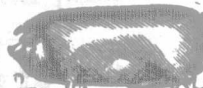
E. D. GEORGE
PUTNAM, - - ONT.

Importer and Breeder of **Ohio Improved Chester White Swine**
I have a choice lot of **YOUNG PIGS** varying in age from five weeks to five months; bred by imported stock; pairs not akin; N. C. record. Prices right. Special rates by express. **298-y**



H. GEORGE & SONS, CRAMPTON, ONT.,

Importers and Breeders of **Ohio Improved Chester White SWINE.**

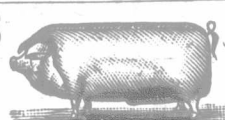


ALSO REGISTERED POLAND CHINA SWINE
Our herd of Chesters won the sweepstake herd prize at the Toronto fair this fall.

Young Stock for Sale.
Single rate by express. **298-y**

CHESTER WHITE PIGS

FROM PRIZE IMPORTED STOCK FOR SALE.
Special Rates by Express.



296-1f-OM **R. & J. GURNETT, Ancaster, Ont.**

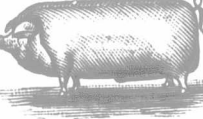
DANIEL DeCOURCEY

BORNHOLM, ONT.,
Importer and Breeder of **OHIO IMPROVED CHESTER (WHITE) SWINE.**
I have twenty choice sows to farrow this spring; have used six imported boars, so I am now ready to book orders for pairs or trios not akin. Pedigrees furnished; prices moderate; single rates by express. Mitchell Station and Telegraph Office. **298-y-OM**



R. H. HARDING,

Mapleview Farm,
THORNDALE, ONT.,
Importer and Breeder of Ohio Improved Chester White Swine. First-class stock, eligible for registry, always on hand. Prices Right. Correspondence Solicited. **297-c-OM**



POLAND CHINAS

All pure-bred and registered. From the very best strains in America. First come first served. Write for prices. I mean business. **298-y OM** **W. S. HARRIS, Homer, Michigan, U.S.**

The Great AMERICAN HOG
Two thirds more raised than all breeds in the United States. Rapid growth. Most Pork for food consumed by actual test. Pedigreed. **200** FOR SALE. **299-j**

Pure **Bred**

G. M. ANDERSON, - - Tyneside, Ont.

BERKSHIRE BOARS

PRICES REASONABLE. Write now. **299-a-OM**
J. C. SNELL, - EDMONTON, ONT.

SUFFOLK AND BERKSHIRE PIGS
From imported stock, \$6 each, \$10 pair. Address **F. J. Ramsey, Dunnville, Ont.**
293-y-OM

BERKSHIRES

-AND- **COTSWOLDS.**

J. G. SNELL & BRO.

EDMONTON P. O.,
Brampton and Edmonton Railroad Stations.

For forty years we have led all others in these lines, both in the show yards and breeding pens. We now have a choice lot of young pigs, varying in age from six weeks to six months; all are descended from fashionable bred, prize winning English stock. We also have a grand lot of Cotswolds, a large number of which are yearlings. Good stock always for sale. Visitors welcome. Write for particulars. **298-y-OM**

CHESHIRE - SWINE.

This favorite breed is pushing to the front every day. Canadian farmers, give them a trial; it will pay you. All our stock is registered. Circulars free. **FREEMAN & BUTTON, Cottons, Madison Co., N.Y.**
298-c-OM

A. FRANK & SONS, The Grange P. O.,

Ont., Cheltenham Station, C. P. and G. T. Railways. The Centennial - Sweepstakes herd of

SUFFOLK PIGS, being the oldest, largest, and most successful prize winners in America. The boar 1-st-First, at the head of this herd, is 17 months old and weighs 440 lbs.

Thoroughbred Horses.

of the Cruickshank blood. Young bulls for sale, got by Baron Camperdown - 1218 - Imp., (47389) and Baron of the Grange - 10954 - . Also

Southdown Sheep

from Webb's and Coleman's stock. Young stock of all the above for sale. All orders promptly attended to. **294-y-OM**



PIONEER HERD OF SHORTHORNS.

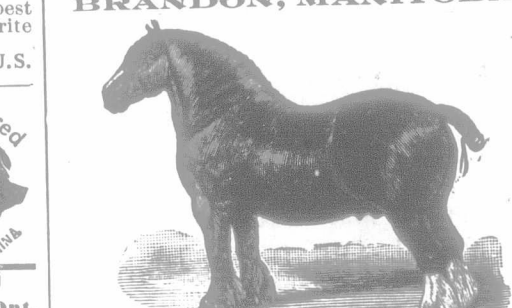
Walter Lynch, Proprietor, Westbourne, Man.
Fifteen first and one second herd prizes in sixteen years. A choice lot of young bulls for sale. **290-y-M**

J. D. MCGREGOR & CO.,

- Importers of -

ENGLISH SHIRES

Cleveland Bays and Blood Horses,
BRANDON, MANITOBA.



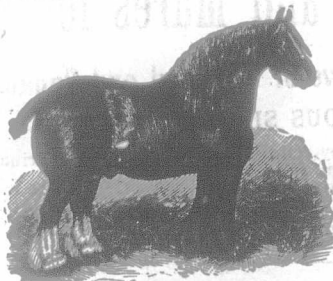
Our second importation of Shires, Cleveland Bays and Thoroughbreds arrived direct from England, on Friday, 7th March, and will be offered for sale at reasonable terms. Every horse guaranteed a foal getter. **292-y-M**

My Southdown Sheep

Are descended from the well-known flocks of Lord Walsingham, Jonas Webb and Sir William T. Mockmorton, and are thoroughly acclimatized. Prices to suit customers.

J. L. VINING,
POPLAR POINT, - MANITOBA. 289-y-M

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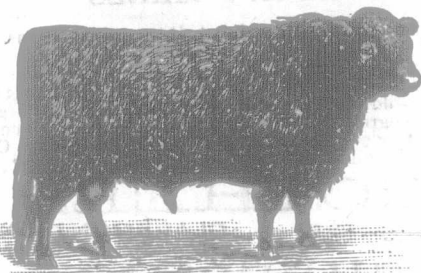
STOCK FARM.

Imported Clydesdale Horses, Stallions and Mares, Shorthorn Cattle, young Bulls and Heifers, all Registered and of the most fashionable breeding, for sale at reasonable prices. Inspection solicited.

JOHN E. SMITH, Box 274, Brandon, Man.

P.S.—Always on hand high grade Brood Mares, suitable for Agricultural purposes. 289-y-M

GALLOWAY CATTLE!



Herd contains prize winners at Ottawa, Toronto, Guelph, Brandon and other shows.

YOUNG STOCK FOR SALE

Address,—
J. G. BROWN, Manager,
Hope Farm, St. Jean Baptiste,
St. Jean, N. P. & M. Ry. 4 1/4 miles. Morris, C.P.
By. 10 miles. 289-y-M

MARCHMONT -- HERD

OF IMPORTED AND CANADIAN BRED

SCOTCH SHORTHORNS.



The Marchmont herd took five first and three second prizes at Portage la Prairie Fall Fair in 1889.

At Brandon Summer Show, 1890, this herd took eight prizes, including three firsts and diploma for best herd.

Inspection invited. Parties wishing to see the stock met at Winnipeg station. Distance from Winnipeg, seven miles north.

YOUNG BULLS AND HEIFERS FOR SALE.

W. S. LISTER,
MIDDLECHURCH, MAN. 293-y-M

WANTED!

A Trusty Horse Dealer in Winnipeg

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PERCHERON -- STALLIONS

For particulars apply to—
THE COMPANY OF THE HARAS NATIONAL,
298-b-M 30 St. James St., Montreal.

STEVENS & BURNS,

—MANUFACTURERS OF—

Portable & Traction Engines and J. I. C. Separators,

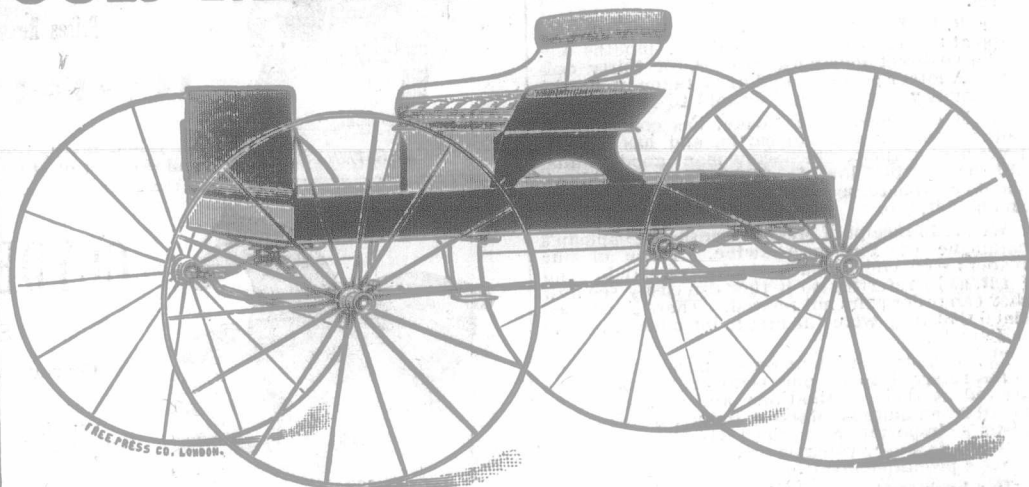
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THE ERTEL VICTOR HAY PRESS.

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OUR NEW HANDY WAGON.



All Buggies, Spring Wagons, Farm Wagons and Carts

—BEARING OUR NAME PLATE—

Are Reliable and Made to Wear.

WRITE US FOR PRICES AND TERMS.

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WINNIPEG, MAN. 297-c-M

ESTABLISHED 1881.

ALEX. FLEMING, M.D.

DRUGGIST.

PERFUME AND TOILET ARTICLES,

B. Lorraine's Spectacles.

BRANDON, MAN.

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

James Muir, of McGregor, is laying the foundation for a herd of Shorthorns.

A meeting of the American Southdown Association will be held on Tuesday, Nov. 18th, 1890, at 7.30 p. m., in the Sherman House, Chicago, Ill.

Mr. Joseph Beckbaine, Pigeon Lake, Man., recently added to his flock of Leicester sheep an imported two shearing ram and an excellent ram lamb.

James Glennie, of the "Portage Plains," bought some half dozen of the pure-bred Shorthorns sacrificed at the late sale of Kenneth McKenzie, M. P. P., at Portage la Prairie.

Mr. Walter Lynch, of Westbourne, had the misfortune to cut his foot badly just as the fairs were coming on, and consequently was not in a position either to visit the fairs or exhibit his stock.

Messrs. Arthurs & McArthur, of this city, have recently imported from the farm of R. H. Pope, of Cookshire, Que., a number of pure-bred Hereford cattle for breeding purposes on their Rockwood Farm.

Mr. R. L. Lang, of Oak Lake, sold to Thomas Tapp at the Virden fair a bull calf six months old, with two direct Shorthorn crosses, for thirty dollars. Another person would have taken it at the same money if it had not been sold to Mr. Tapp.

Mr. MacFarlane, of Oak Lake, has considerable faith in the Polled-Angus cattle, and has quite a large herd of them, which show many good points, although rather low in flesh. The "doddies" should be able to secure a place in this country, and hold it, too.

We are in receipt of Messrs. Ormsby & Chapman's catalogue of Yorkshire swine. Those of our readers who contemplate purchasing should send for it, as by referring to it they can easily see how they can order pairs not related. These gentlemen claim that they were the first to introduce this sort in Canada.

The various consignments of pure-bred Shorthorns referred to in our October number have arrived at their destinations, and are, so far as heard from, quite satisfactory to their owners. Mr. Lister's importation, noticed elsewhere in our columns, is a very valuable one, and will no doubt prove a profitable investment.

In a business letter from Mr. Thos. Chick, Dorset, England, who is an enthusiastic breeder of Devon cattle and Dorset sheep, he writes that he has been working to start a Flock Book for "Dorset Horns," and further says that many of their largest flock-masters are in accord in the matter, and hope to make a start at an early date.

Mr. W. H. Beattie, Wilton Grove, called at our office and informed us that his last importation, which arrived on Saturday, 27th September, consisting of thirty shearing Shropshire ewes from the Earl of Strathmore's flock, were all sold within two weeks of their arrival, the majority of them being sold to Mr. John Lamiman, Glanworth, Ont.

Mr. Angus Mackay, of the Indian Head Experimental Farm, went to Ottawa recently, and will bring up a number of animals of different breeds of cattle, to test their utility in the Northwest. Just what breeds Prof. Saunders will place on the farm Mr. Mackay was not at the time in a position to say, but expects Jerseys and Hoistens among the number.

Mr. Edward Anderson, of Springfield, Man. (Dunald P. O.), bought two of the best young animals at the dispersion sale of Kenneth McKenzie, M. P. P., at Portage la Prairie, and purposes adding to the number as circumstances will admit. Mr. Anderson is of the kind that make their money with their coats off, and will doubtless prove an acquisition to the fraternity of Shorthorn breeders.

Mr. R. Ensinger, of the Beaver Hill Stock Farm, twenty miles west of Yorkton, Assa., made the ADVOCATE a pleasant call one day recently. Mr. Ensinger makes a specialty of horse breeding, having now on the farm over forty brood mares, having pure-bred Shire stallion General Roberts, and fifty-three young animals. Among the latter are a few trotting-bred, got by Phillip W., formerly owned at Regina by Hon. Mr. Dewdney; in these, however, Mr. Ensinger does not take as much pride as in the heavier animals.

Mr. W. Lister, of Marchmont Farm, North Winnipeg, writes the ADVOCATE as follows:—"I have recently imported seventeen young Berkshires and a number of Shorthorn cattle. The bull Gravesend Heir 2nd will be at the head of the Marchmont herd in place of his half-brother Lancer, recently sold Mr. W. J. Helliwell, of Ralpbton. Gravesend Heir 2nd is now two years old, and weighs 2,300 lbs., being probably one of the best two-year-olds on the continent. I also imported two aged cows, Rosabel (imp.) and Crimson Blossom. These cows won at Portage and Carberry; and the heifer Fame 5th, who was two days too old to show in the yearling class, won first as a two-year-old. Having sold all the young bulls of my own breeding, I imported three young bulls sired by the Cruickshank bull Indian Chief (imp.), and expect shortly to import some more to supply the large demand now that feed is plentiful again."

J. F. QUIN, V. S., BRAMPTON, ONT.

Ridgling horses successfully operated upon; write for particulars. 275-y

DR. CARVER 7369, Rideau Stock Farm PALM LEAF 7634,
two-year-old record 2.40. KINGSTON, ONT. Foaled 1887,
BY PANCOAST 1430.
By New York Dictator, (trial) Standard-bred Trotting Horses, Sire of Patron, 2.14 1/4,
2.25 1/4. Registered Holstein (H.F.H.B.) Dam—Augusta,
Dam—Kitty Morgan, and Jersey Cattle (A.J.C.C.) Dam of Chanter, 2.20 1/4,
2.23. Dam of Shallcross, (trial) 2.23.
2nd dam—Dolly Mills,
Dam of Orange Girl, 2.20,
Walkill Chief, etc.
Dam of Nannie Talbot, 2.29 1/4. F. A. Folger, Box 579. Send for catalogue.
208-v-OM

Imported Clydesdale Stallions and Mares for Sale.

Highest Prize Winners in the Leading Shows of Scotland and Canada,

AND THE GET OF FAMOUS SIRES

Such as Lord Erskine, Darnley, Old Times, McCammon, Prince Lawrence, Lord Hopton, Bold Magee, Sir Wyndham, Good Hope and Fireaway.

Prices Reasonable. Catalogues Furnished on Application.



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ROBT. BEITH & CO.

BOWMANVILLE, ONT.

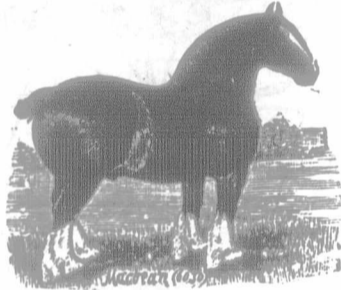
Bowmanville is on the line of the G. T. R., 40 miles east of Toronto and 294 west of Montreal. 289-y

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CLYDESDALE AND HACKNEY

STALLIONS AND MARES

Constantly on hand, and For Sale at Reasonable Terms.



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Our last importations comprise a large number of one, two, three and four-year-old registered stallions and mares, the gets of such sires as Macgregor (1487), Darnley (222), and Prince of Wales (873). Also a few choice SHETLAND PONIES. Correspondence solicited, and visitors always welcome.

GRAHAM BROTHERS

Twenty-five miles east of Toronto, on the C. P. R.

286-y

CLAREMONT, ONT.

SHROPSHIRE SHEEP

—AND—
COLLIE DOGS.

A choice lot of Ewes bred by Mr. David Buttar, Couper, Angus, Scotland; two Shear Ewes, imported last season, and their produce. Also Collie Dogs just imported. 286-y-O-M



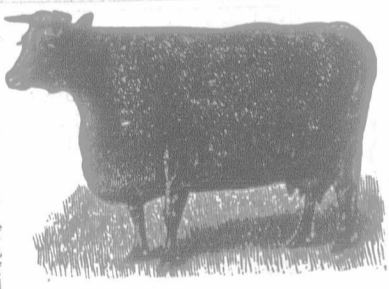
H. CARGILL & SON,

CARGILL, ONT.,

BREEDERS OF SCOTCH-BRED

Shorthorn Cattle!

With Campbell, of Kinellar, bull, imp. Albert Victor, at the head of the herd; also several imp. Urys, also bred at Kinellar, and a daughter, and grand daughters of the sweepstakes cow Rose of Strathallan 2nd, and other useful sorts. A nice lot now on hand for sale. 283-y-OM



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Dollar Bonanza
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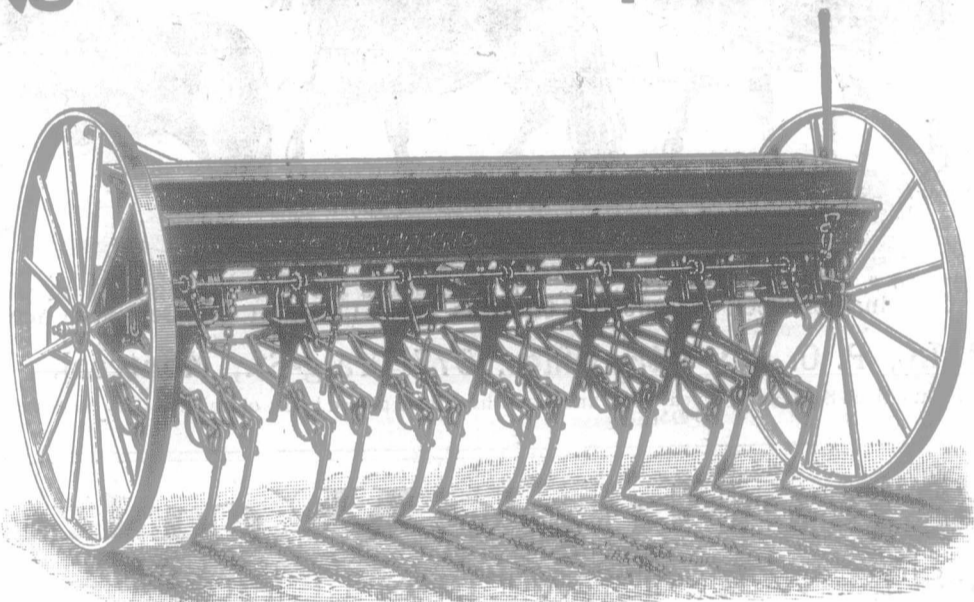
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SETTLERS' COMPLETE OUTFITS A SPECIALTY.
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H. S. WESBROOK, Manager, Winnipeg, Manitoba.
289-y-M



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FOREST CITY MACHINE WORKS, LONDON, ONT.
SOLE MANUFACTURERS OF THE
Genuine White Threshing Engine,
For wood or straw. Our Straw-burning Engine has given thorough satisfaction. It is the only straw-burner with back water space in boiler. Light and Heavy Traction Engines, Special 16, 20 and 25 H. P. Semi-Portable Engines, strong and compact for saw mill purposes, same style as our Threshing Engines. We can supply at any time Engines and Boilers, from 5 to 30 H. P., suitable for brick and tile yards, cheese factories, cider mills, saw mills, planing mills, etc.
SEE OUR NEW IRON SEPARATOR
287-tf

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SMALLEY GOODS—Including ENSILAGE AND FODDER CUTTERS, SWEEP AND TREAD HORSE POWERS, DRAG AND CIRCULAR SAW MACHINES AND FARM ENGINES are positively ahead of all others in the country, AND SO WARRANTED. Shipped to any responsible farmer in Canada, subject to 30 DAYS' TRIAL, and to return AT OUR EXPENSE if not proving just as warranted. We are prepared to build Carriers any length, guaranteed to run at any desired angle to suit silos, and claim Smalley Carriers positively superior to all others. Our 1889 "Why it Pays Pamphlet" should be read by every intelligent farmer interested in dairying or stock raising. It contains the very latest information relative to economical stock feeding. Will be mailed free to responsible farmers only, upon application, providing MENTION IS MADE OF PAPER in which this advertisement was noticed.

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MANITOWOC, WIS.



THE SMALLEY CUTTER,
WITH
IMPROVED BUCKET CARRIER.

N.B.—We control original patent for Bucket Carriers. All others are frauds and infringements.

Ask for Special introduction prices and terms.

SMALLEY TREAD POWER
WITH GOVERNOR.
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—DEALERS IN—
GROCERIES, PROVISIONS, CANNED GOODS, &c., &c.
FARMERS' TRADE A SPECIALTY.
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SOLICITORS, ETC.,
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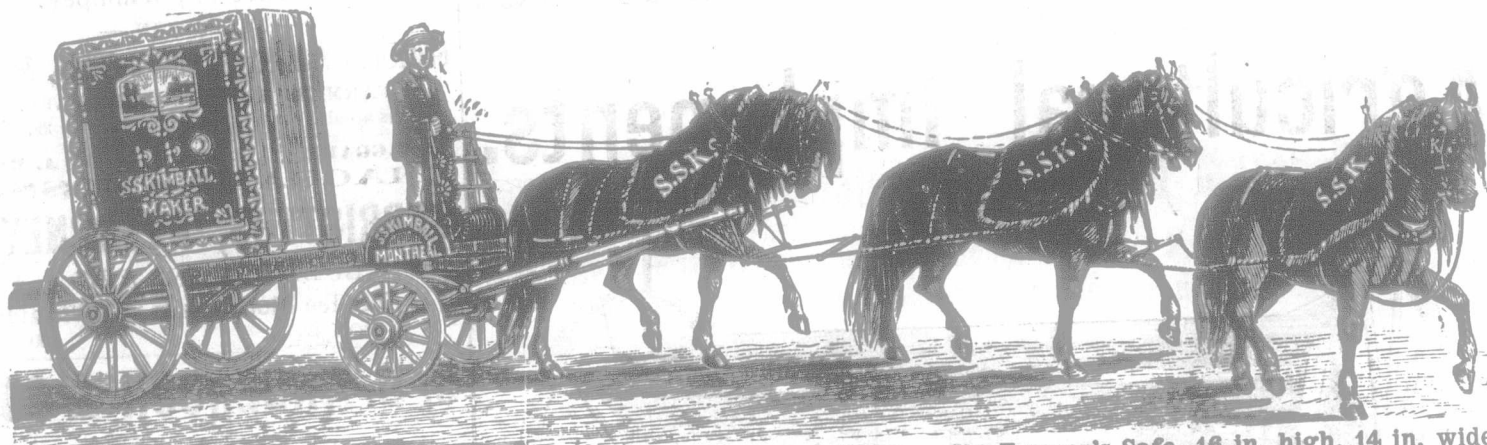
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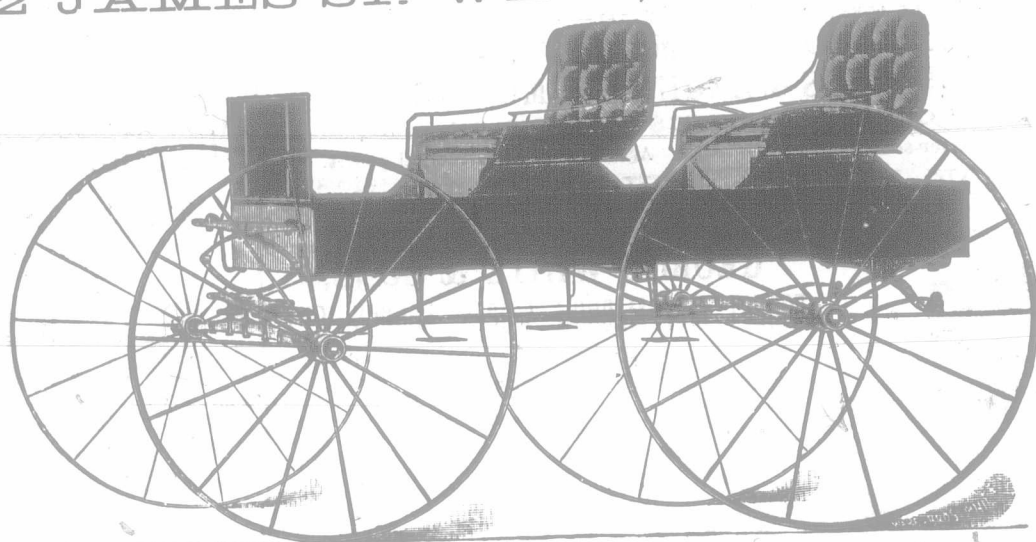
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P.S.—The Editor of this paper bought one of my medium-sized Safes several years ago, and now I have just placed in his office one of my largest ones.

206-OM

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