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Canadian Live Stock AND FARM Journal

VOL. XII. No. 2.

TORONTO, FEBRUARY, 1895.

WHOLE No. 135.

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RECORD FOR 1893

54 Prizes 54

37 FIRST II SECOND

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Greenwood Telegraph and P.O.

FOR SALE.

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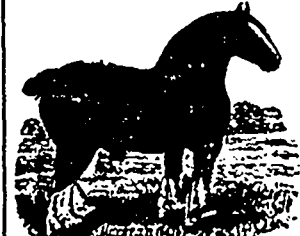


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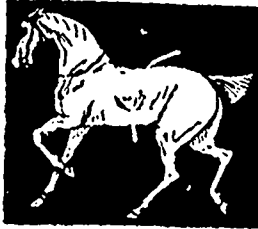
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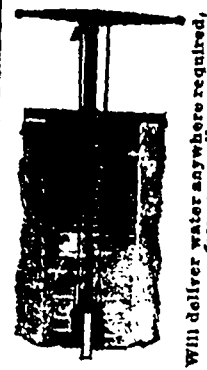
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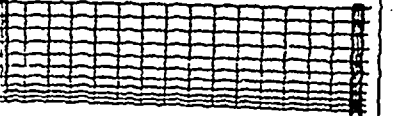
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"Yes, we can see it, but can't get at it," said the horse, "for there is the fence."



PAGE COILED FENCE

between the corn and us, and I can't reach over it."
"And I can't break through it," said the bull.
"And I can neither squeeze through it nor under it," said the pig.
"And between me and the summer's heat, we can't injure it," said Jack Frost.
"And though I swing on it all day I can't sag it," said the boy.

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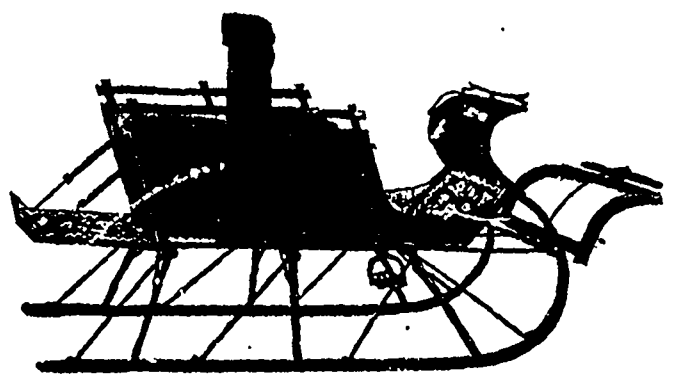
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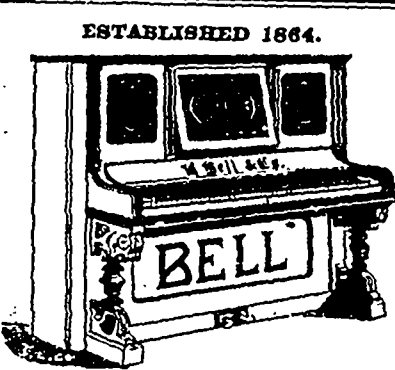
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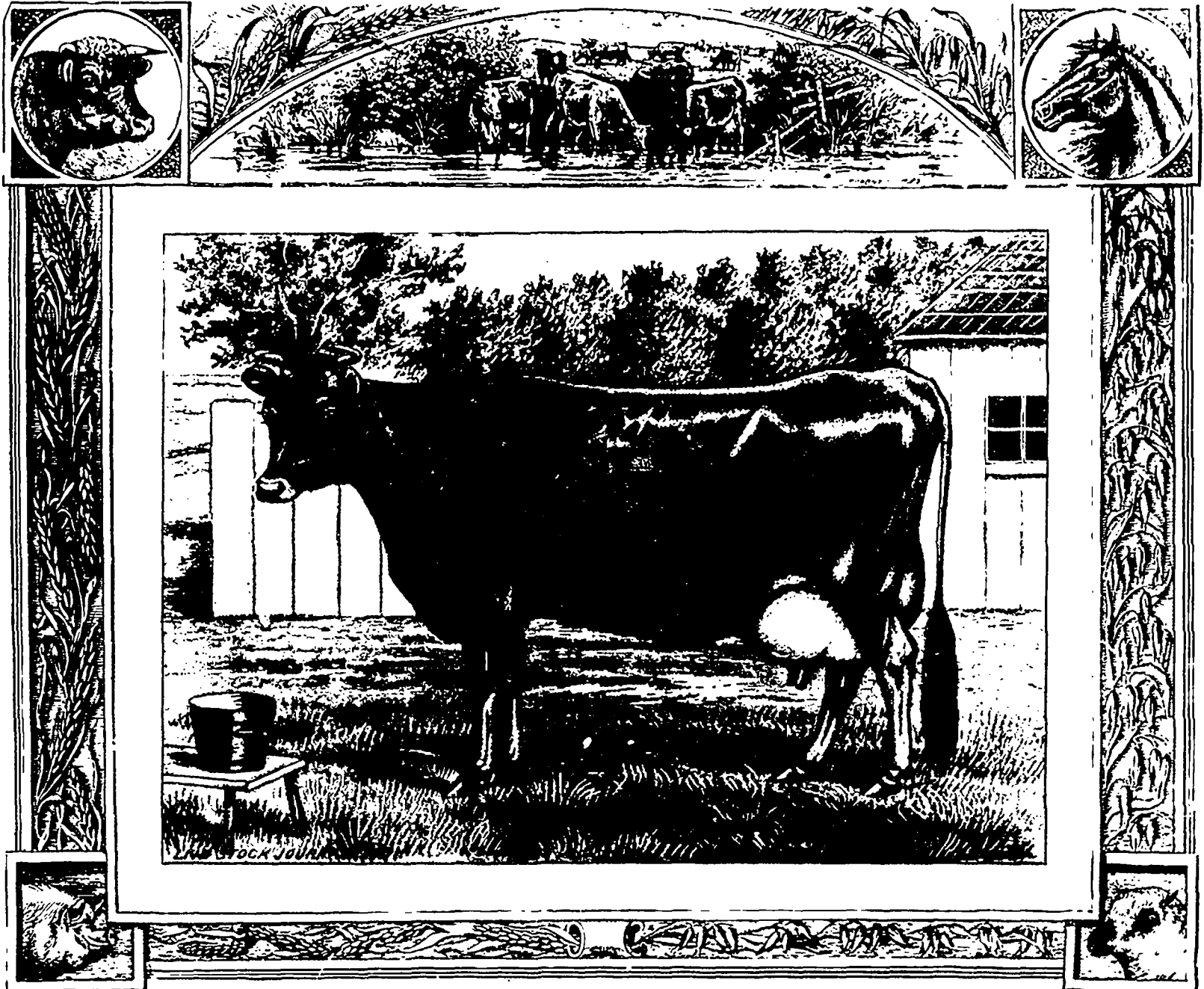
THE Canadian Live Stock and Farm Journal.

Devoted to the Interests of the Stock-Raisers and Farmers of Canada.

Vol. XII. No. 2.]

TORONTO, FEBRUARY, 1895.

[WHOLE No. 135



The Sweepstakes Jersey Cow, Signal Rosa May,

The property of Messrs. J. H. Smith & Son, Highfield, Ont.

Our Illustration.

Signal Rosa May 50092, the subject of our illustration, is a Jersey cow that has made a great reputation for herself and for her owners, Messrs. J. H. Smith & Son, Willow Grove Farm, Highfield, Ont. During the course of her showyard career she has never been beaten, and at the last Toronto Industrial and the Western shows she held the proud position of being the sweepstakes female of the breed. In color a nice fawn, she at once strikes one as being a thorough business cow, being of the

correct dairy type. Her udder is particularly well hung, running well forward, and has not the least suspicion of fleshiness. Her milk veins are well defined, and, although she has been long in milk, she is still giving over 40 lbs. a day. Her sire was Signal's Ladlie 11100, and her dam May Rosa 43893, and she was bred by Mr. Joseph W. Nebel, North Manchester, Indiana. Being from such noted butter-producing stock, one is not surprised to learn that Signal Rosa May has a record of 22 lbs. 4 ozs. of butter in seven days.

The subject of our sketch is not the only

good animal that Messrs. Smith own; in fact, there are very few to be found in the herd that are not of a very high standard. The stock bull, Hugo Alpha of Oak Lawn 23499, is another noted prize winner that has frequently headed his class. He is a grand handler, very smooth all over, stands well on his legs, is very quiet, and his prepotency is so great that his calves are turning out prize winners like himself, while those out of grade cows are very much sought after.

Among the plums to be found in this herd, which numbers thirty or more, is Elena of

Oakdale 84162. She is dark in color, and has a good back and udder. The latter when milked out shrinks to nothing, thus showing that there is no useless flesh there. Her dam was Menie's 3rd 7741, who has a record of 20 lbs. 1 oz. in seven days, while her daughter's record as a two-year-old is 15 lbs. 6 ozs. Although due to calve this month, she was giving three gallons of milk at the time of our visit in January. She was also a prize-winner at Toronto and London last fall. A good worker is Phyllis, a three year old who won

(Continued on page 25)

THE CANADIAN Live Stock and Farm Journal

PUBLISHED ON THE
FIRST OF EACH MONTH BY

THE BRYANT PRESS,
20 BAY STREET, - TORONTO, CANADA.

G. W. GREEN, • • • MANAGING EDITOR.
F. R. SHORE, • • • STOCK EDITOR.

Representative for Great Britain and Ireland:

W. W. CHAPMAN,
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The Household Companion

A monthly illustrated magazine, devoted to the ladies and young people of the household.
Furnished to subscribers to THE CANADIAN LIVE STOCK AND FARM JOURNAL as a free supplement.
Subscription price to non-subscribers 50 cents per annum.

Canadian Jersey Breeders' Association.

While every other breed in Canada has had an association formed for the protection of its interests, Jerseys have been hitherto without such. Jersey breeders, however, have now fallen into line, and at a meeting held in Toronto on December 28th it was decided to form an association under the name of "The Canadian Jersey Breeders' Association." Among those present were A. McLean Howard, Toronto; J. C. Snell, Edmonton; Captain Rolph and W. D. Reesor, Markham; J. H. Smith & Son, Highfield; George H. Smith & Son, Grimsby; and David Duncan, Don.

The election of officers resulted as follows: President, A. McLean Howard; vice-president, J. C. Snell; secretary-treasurer, Captain Rolph.

After approving of a constitution and by-laws, Messrs. Howard and Rolph were elected to represent the association on the board of the Toronto Exhibition, and Messrs. Humpidge and Gilson on the board of the Western Fair.

A letter was read from Mrs. E. M. Jones, Brockville, approving of the formation of the association. She also made several suggestions for the success of the society. After discussing the method of appointing Jersey judges the meeting adjourned.

The Fire Flood.

Since our last issue appeared, Toronto has twice been visited by the fire fiend, with most disastrous results, the total losses running up to one and a quarter million dollars. The second fire started on a course in the direction of this office, but we are glad to say that, thanks to the heavy fall of rain, and the snow on the buildings, it was arrested about a block and a half away. To the heavy rain and the snow may be ascribed the saving of a great portion of the business part of Toronto, as the fire brigade, through lack of steam engines and suitable apparatus, were quite unable to stay the progress of the flames.

Among the sufferers by the first fire was the *Globe* newspaper, whose offices were entirely consumed, together with valuable papers and records that it will be difficult to replace. The City Council have at last determined, after much procrastination, to purchase two steam fire engines and a water tower, so that, should another big fire break out, it may be expected that the fire brigade will be able to confine it to the place where it may originate.

Distressed Agriculturists.

Bad as times are here for our farmers, they are, nevertheless, much worse in some other lands. In parts of Nebraska farmers are reported as being in a starving condition, owing to the failure of crops through the drought, while in Iceland most of the population are only restrained from leaving by the fact that they cannot dispose of their property to any one. There is also an agricultural crisis in Norway, and the small farmers of that country are on the verge of ruin. They are overwhelmed with debts; not only is their land heavily mortgaged, but all their live stock, and their statesmen are being called upon to solve the difficult problem.

It was stated by M. Aarstad, in the *Storthing* last year, that "those who now in reality own the soil of Norway are the Bank of Norway, the Land Mortgage Bank, the Savings Bank, and traders in towns." The debts of the agriculturists are said to amount to between \$180,000,000 and \$195,000,000; while the value of all the land in the country, with the buildings that stand thereon and the timber in the forests, is estimated officially at \$200,000,000, and the total stock of cattle at \$35,000,000. And, whereas the land is decreasing in value, the debts are increasing steadily and rapidly. Already one-sixth of the total yield of agriculture passes straight into the hands of the money-lenders, and there are hundreds of peasant farmers who pay away as interest, for the money they have borrowed, every farthing they receive for the produce of their land. They live entirely on what they obtain from other sources.

Provincial Spring Stallion Show.

This show will be held this year somewhat later than usual. The date has not yet been definitely fixed, but it will be during the first week of April, probably on the 5th and 6th, as those days have been suggested. It is uncertain, at the time of writing, where the show will be held. The new drill shed would be a splendid building in which to hold it, but the military authorities seem reluctant to allow the use of it at that particular time. In default of it, probably either the Mutual street rink or the old drill shed will be used. The former would make the most suitable building of the two, as a bigger and longer

ring can be obtained there. The show will be held under the same auspices as usual, but possibly the Toronto Hunt Club may join in and make the evenings more attractive by having parades of stylish carriages, four-in-hands, etc. We shall look for a good turnout of stallions of every kind. As mentioned elsewhere, there is a more hopeful feeling in horse circles, and those who have good stallions should bring them out and let the public know what they have. The Prince of Wales' prize this year is to be offered for the sweepstakes Shire stallion.

Live Stock Annual Meetings.

February is the month when the majority of our live-stock associations hold their annual meetings. On Tuesday, February 5th, the Shire breeders will meet in Toronto at 3 p.m. Wednesday, the 6th, will be given up to Clydesdale breeders, while the Ayrshire men will convene on Thursday, the 7th; and the Shorthorn breeders on Friday, February 8th. The first week in February will be a week of meetings, as the Central Farmers' Institute will sit in Toronto on February 5th, 6th, and 7th, and the Good Roads' Association will take February 7th and 8th, on which days they will do their best to diffuse information on road building, and to arouse public sentiment in favor of a radical change in the present system of keeping roads in order.

Live Stock at Chicago in 1894.

The condition of the live stock market in that great centre of the business, Chicago, is always of interest to us. From the report of G. T. Williams, secretary of the Union Stock Yard and Transit Company, to hand, we learn that the total number of cattle marketed there last year was 2,974,363, or 159,043 less than in 1893. Hogs mounted up to 7,483,228, or 1,425,950 in excess of the previous year's figures. Sheep totalled 3,099,725, being an increase of 68,551, and horses also showed an increase of 14,923, the total for last year being 97,415 head.

It is interesting to know that the number of cattle received during the past year is also less than during the previous five years, the decrease being entirely in Texans. The year 1892 was the banner year for cattle, the difference in the totals between that and the past year amounting to considerably over half a million head. Hogs also fall behind 1,117,577 as regards their record year, 1891, while the number of sheep has never before been equalled, and only in 1890 were a larger number of horses forwarded for sale.

While choice cattle have sold fairly well during the year past, poorer grades have dragged terribly, and the trade in sheep has been most discouraging. Hogs have fetched very fair prices, except in the case of unfinished stock. Good horses have sold for remunerative figures, while low-bred scrubs could hardly be sold for any price.

Horse Prospects.

We are not among those who take a despondent view of the prospects of horse breeding in the future. We believe that there will always be a market for the best horses, in spite of electricity, or bicycles, or any other form of locomotion. There are, even now, some signs that the horse trade is moving out of the slough of despond in which it has been for some time. Buyers are once more beginning

to appear in country towns and villages looking for good horses, and, as is well known, a great many light vanners and medium heavy horses were shipped over to the old country during last summer and fall, where they sold for remunerative prices. Had the shipments consisted of horses of heavier build, far better prices would have been obtained, and the same thing is true had there been a good supply of high-class carriage or saddle horses available for shipment. Of neither of these classes could buyers obtain anything like the number that they wished to purchase.

We would strongly advise farmers, who have really good mares, to breed such this year, and to breed to the best horse obtainable. By the time the colt is ready for sale, the demand will probably be good for such. Breed only the best mares and to the best stallions. Do not lose your time and money by breeding unsound, crippled, and second-rate mares to a stallion merely in order to raise a colt, and do not select a cheap, second-rate thoroughbred or mongrel stallion for your mares merely because he is cheap. If owners of mares will only exercise discretion in breeding, they will be able to keep the markets from being glutted with second-rate horses, and they will find the demand for the better class more constant and more prolonged.

Breed, then, your best mates this season to the best horse of the breed that you fancy, and in three or four years' time, when the colt is fit to sell, there is every probability that you will have something that will prove very valuable property.

Care of the Colt's Feet.

During the winter time, while the colts are confined, during a considerable portion of the twenty-four hours, to loose boxes, and stand on soft bedding, their feet will require considerable attention. It is true that this is not the only time of year when these should be carefully attended to, but, at other seasons, the constant moving and running around on the hard ground keeps the hoofs worn down to a certain extent. When in boxes, on bedding, however, the feet grow long, and, when the animals are turned out into the frozen yard, portions of the hoofs are apt to chip off, and render the surface of the foot uneven. When this is unnoticed, or neglected, it frequently affects the shape of the leg, making it deformed. The consequences are seen in colts becoming bent-kneed, knock-kneed, or calf-kneed, or turning their toes in or out, according as the portion of the hoof broken away affects the position of the joints and tendons.

To prevent the possibility of such deformities occurring, it will be necessary to examine the colt's feet occasionally, and see that they are all right. It will not take long to do so, and it is worth while, if one raises a colt, to see that everything is done to make him a sound, serviceable, and saleable horse. If a horse's legs and feet are not as they should be, it means a great many dollars taken off his value, and that is something that no one wants to lose.

Development and Reproduction.

The influence of development on reproduction is much greater than is usually supposed. Arrested development is likely to hinder reproduction to some extent, and the same is true of excessive development. The same law holds good in the vegetable as in the

animal world, and in the former it is the more readily apparent, although in the latter it is none the less real. When a crop that is to bear seed, as, for instance, a cereal crop, is hindered in any stage of its growth, it will not produce as bountifully as though development had been fairly vigorous and constant from the first. And this will hold true though the hindrance to development takes place at an early, at a late, or at an intermediate stage of growth. The effects of arrested development will certainly show themselves in a diminished yield.

The same is undoubtedly true of animals, although the results may not be so readily discernible nor so easily traced. We do not mean to affirm that reproduction will not follow, any more than we would claim that reproduction will not follow at least in degree, when the cereal crop is hindered in its growth, but simply that so perfect a reproduction will not follow in either case. The reproduction obtained will not be of as complete a cast as if there had been no hindrance in growth at any period while development was progressing.

On the other hand, when development is excessive, equally injurious results follow. In the vegetable world the stimulated energies of the plant are unduly occupied in promoting growth; hence the reproductive organs suffer. A magnificent crop of straw is frequently accompanied by a very meagre yield of grain. And so it is with animals that are fed to excess. They may present a very fine exterior, but in such instances this exterior has been built up at the expense of the reproductive system. They may be able to beget or to conceive progeny, but they are not able to reproduce them possessed of that all-round excellence which characterizes animals that have not been forced on so rapidly. Thus it is that stock from prize-winners in the show rings are unable to maintain as high a position for a long succession of generations.

Good regular and steady development should be the aim of the breeder. The growth of his animals should be like the current of a river, undisturbed by waterfalls, and yet of a fair measure of descent; it should be quick and even and continuous, without any periods of stagnation or of excessive progress.

For The Canadian Live Stock and Farm Journal.
The Food of Brood Sows when Suckling Their Young.

As soon as the sow farrows in the spring, she should be kept on a light diet for several days. There should be no undue haste in feeding her immediately after she has brought forth her young, as in the fevered condition consequent on that event she is restless and excitable; hence, if disturbed at such a time, there is considerable danger that she will injure her young in getting up to take food and in lying down again. Nor should the giving of this food, or drink, as it may more properly be called, be too long deferred. The fevered condition of the sow makes her thirsty, and the relieving of this thirst should not be too long delayed. The drink thus given should consist of warm water and a handful of meal. Shorts is, perhaps, more suitable than any other kind of meal, owing to its nitrogenous character, and to its freedom from coarse hulls. Oats ground will do very well, but, as a food for pigs, they have the objection that the hull part is not easily digested by them. This drink may be given two or three times a day, and the meal mixed in it should be gradually increased. At the

end of a week the sow may be fed as freely as is required, and other kinds of meal may be added. As soon as the pigs are able to take all the milk of the sow, unless she is given all the food she can take, she will become emaciated in flesh, and this must be prevented by adapting the food to the wants of the sow.

The most suitable all-round ration for a brood sow nursing her pigs, after the first week, is a mixture of equal parts by weight of wheat bran, shorts, and cornmeal. The bran and shorts are nitrogenous, and the corn is carbonaceous, hence the former makes milk, and the latter prevents emaciation on part of the dam. A little ground oil cake will make a good addition to this meal ration. Peas will answer quite as well as corn, where they are to be had. Rye will also answer pretty well, as will also ground barley. The sow must not only have all of this that she will take when the nursing of the pigs begins to prove a drain upon her system, but the pigs should be encouraged to eat with her as soon as they will do so. The trough must be low, or they cannot feed in this way.

The meal should be scalded, and then allowed to soak for twelve hours where this is practicable, but where it is not practicable a shorter period will suffice for the soaking process. In some instances it may be necessary to feed soon after mixing the meal with water. Scalding is not nearly so necessary in the summer season; steaming will answer as well as scalding.

Roots may also be added to the ration of the brood sow, but at the suckling period they do not require a very large proportion of such a ration. Though the roots are good for milk production, they are too watery to sustain a sufficiency of flesh.

Where but one or two sows are kept, the meal may be soaked by pouring on it the slops from the house. But in such instances the swill barrel should be kept in a warm place. Two such barrels may be kept, and care should be taken that the swill is cleaned out of them once a day. At all events, one should be emptied before more food is put into it to soak. This is relatively more important in the summer, when food is more liable to sour. Sour food of any kind is not good for a sow suckling pigs, as it is apt to induce scours in the young pigs.

If an undue amount of food were given the sow soon after farrowing, it would unduly stimulate the milk-giving function, and an inflamed udder would probably be the result, or, it may be, milk fever would follow. As soon as a sow's udder becomes inflamed she will not let the young pigs suck, as her udder is sore. One of the best remedies that can be resorted to is to bathe her udder with warm water. The bathing should continue for at least half an hour. The sow should also be given, say, six ounces of Epsom salts in a little food.

In the spring she will profit by being allowed to go to pasture as soon as the days get warm. The pigs should not be allowed to go with her until they are, say, three weeks old. She will not stay long at a time out on the pasture, and in this way she becomes gradually accustomed to the grass ration. When some roots are given it is not so necessary that the sow be turned on pasture.

When the pigs are allowed to suck the sow until they are ten to twelve weeks old, they will virtually wean themselves. But when two litters are to be raised in a year, the pigs will have to be weaned at the age of six or eight weeks. The sow must be fed accordingly when the weaning is to be accomplished thus

early. The pigs must first be taught to eat by themselves, and a week before the weaning takes place the food of the sow should be reduced gradually. With the reduction of the food given to the sow, she will give less milk, and so will become more and more disinclined to nurse the pigs. There is no shock given to the system of either sow or pig when the weaning takes place as above outlined.

Canadian Clydesdale Association.

The above association held a meeting on January 16th to make provision for the annual spring show. There were present, Mr. R. Davies, Toronto, president; Messrs. Arthur Johnston, Greenwood; Peter Christie, Manchester; A. E. Major, Whitevale; John Davidson, Ashburn; Alexander Cameron, Ashburn; R. Graham, Claremont; and H. Wade, secretary, Toronto.

It was moved by Mr. J. Davidson, and carried, that the Clydesdale Association give a grant of \$500 to the Agriculture and Arts Association, and that they be asked to furnish the balance to complete the price list, the same as in 1894.

It was also carried that the horse show be held, if possible, on April 5th and 6th. A motion by Mr. A. Johnston that two judges and a referee be appointed for 1895 was passed.

Messrs. R. Beith, Bowmanville, and David Pluff, Spring Hill, were appointed judges, and Mr. John Lee, Highgate, and Thomas Good, Richmond, Que., referees. It was resolved that the same rule as applied to Canadian-bred Clydesdales in 1893 be adopted. Messrs. R. Davies, R. Graham, John Davidson, and R. Miller were appointed a committee to attend the horse show, and Messrs. A. Johnston, R. Graham, and Peter Christie to collect subscriptions. Mr. R. Davies was appointed a member of the special committee to act with the special committee of the Agriculture and Arts Association.

A joint meeting of the Agriculture and Arts Association and the Clydesdale Horse Association was held in the afternoon. The following represented the Agriculture and Arts Association: Messrs. J. C. Snell, Edmonton; William Dawson, Vittoria; A. Rawlings, Forest; R. McEwen, Byron; J. Legge, Gananoque; J. Sissons, Barric; and H. Wade, secretary, Toronto. The Clydesdale Association representatives were Messrs. R. Davies, Toronto; A. Johnston, Greenwood; Peter Christie, Manchester; John Davidson, Ashburn; R. Graham, Claremont; and A. E. Major, Whitevale.

Mr. J. C. Snell occupied the chair. It was moved by Mr. A. Rawlings, seconded by Mr. J. Legge, and carried, that the proposition of the Clydesdale Association as to a partnership in the horse show be accepted, and that the show be held in the month of April, and in the first week, if possible.

It was also decided that the Prince of Wales' prize be offered for Shires this year; and that in view of the fact that it had not yet been possible to secure the armory that the special committee be empowered to secure the most suitable place for holding the show, either in partnership with the Hunt Club or not, they to receive half the profits, and the Agriculture and Arts Association to pay half the expenses of advertising and fitting up of the building.

Also, that the prize list for stallions be provided by the Agriculture and Arts Association, and the prizes for extra events, such as driving, jumping, etc., by the Hunt Club.

In case the Hunt Club do not join the Agriculture and Arts Association, the special committee were empowered to offer special prizes for driving, jumping, etc., to the extent of \$500; and in case no attractions can be secured within reasonable terms, the show will again be held in the old drill shed.

The following judges were appointed: Thoroughbred horses—Dr. Tremaine, Buffalo, N.Y.; Dr. Sweetapple, Toronto; alternate, S. B. Fuller, Woodstock. Carriage or coach—Charles Brodie, V.S., Claremont; E. P. Lowes, Brampton; alternate, James Henderson, St. Marys. Standard-bred—Charles Eaid, Simcoe; John Scott, Galt; alternate, C. Brown, Toronto. Hackneys—R. C. Stericker, Springfield, Ill.; alternate, John Holderness, Toronto. Suffolk Punch and Shires—J. V. Ormsby, Toronto; R. Gibson, Delaware; alternate, Alexander Doherty, Ellesmere. Clydesdales—R. Beith, Bowmanville; David Pluff, Spring Hill. Referees—John Lee, Highgate; Thomas Good, Richmond.

The Pure Breeds of Cattle.

By PROF. THOS. SHAW, St. Anthony Park, Minn.
AYRSHIRES—THEIR STANDARD POINTS.

The scale of points for Ayrshires was drawn up many years ago. It is as follows:

THE BULL. Points.

- The head of the bull may be shorter than that of the cow, but the frontal bone should be broad, the muzzle a good size, throat nearly free from hanging folds, eyes full. The horns should have an upward turn, with sufficient size at the base to indicate strength of constitution 10
- Neck, of medium length, somewhat arched, and large in those muscles which indicate power and strength. 10
- Forequarters. Shoulders close to the body, without any hollow space behind; chest broad; brisket deep and well developed, but not too large. 10
- Back. Short and straight; spine sufficiently defined, but not in the same degree as the cow; ribs well sprung, and body deep in the flanks. 10
- Hamquarters. Long, broad, and straight; hip bones wide apart; pelvis long, broad, and straight; tail set on a level with the back; thighs deep and broad. 10
- Scrotum. Large, with well-developed teats in front. 10
- Legs. Short in proportion to size, joints firm. Hind legs well apart, and not to cross in walking. 5
- Skin. Soft, elastic, and of medium thickness. 10
- Color. Red of any shade, brown or white, or a mixture of these, color being distinctly defined. 3
- Average live weight at maturity; about 1,500 lbs. 10
- General appearance, including style and movement. 15
- Perfection. 100

THE COW.

- Head. Short; forehead wide; nose fine between the muzzle and eyes; muzzle large; eyes full and lively; horns wide set on, inclining upwards. 10
- Neck. Moderately long, and straight from the head to the top of the shoulder, free from loose skin on the underside, fine at its junction with the head, and enlarging symmetrically toward the shoulders. 5

For-quarters. Shoulders sloping; withers fine; chest sufficiently broad and deep to insure constitution; brisket and whole forequarters light, the cow gradually increasing in depth and width backwards. 5

Beck. Short and straight; spine well defined, especially at the shoulders; short ribs, arched; the body deep at the flanks. 10

Hindquarters. Long, broad and straight. 8

Udder. Capacious, and not fleshy, hind part broad and firmly attached to the body, the sole nearly level and extending well forward; milk veins about udder and abdomen well developed; the teats from 2½ to 3 inches in length, hanging perpendicularly; their distance apart at the two sides should be equal to one-third of the length of the vessel, and across to about one-half of the breadth. 33

Legs. Short, in proportion to size, the bones fine, the joints firm. 3

Skin. Soft and elastic, and covered with soft, close, woolly hair. 5

Color. Same as in the male. 3

Average live weight, in full milk, about 1,000 pounds. 8

General appearance, including style and movement. 10

Perfection. 100

It is thus apparent that the Ayrshires in form are less pointed at the angles than the Jerseys. They may be said to be a smoother type of cattle, and yet they are possessed of the true dairy form in a marked degree. They are well furnished with the great essentials of dairy cows, such as good depth through the hindparts, steep pitch at the crops, good and shapely udders, and a good system of milk veins.

The head of the Ayrshire is probably a little stronger than that of the Jersey. The horns are stronger, they are more spreading and more up-standing, and Ayrshires are, withal, even more nervous in disposition, hence their quick movements in walking, and adaptation to seeking food on pastures that are not over-plentiful.

The teats of the Ayrshire are a little short, hence they are not as easily milked as the cows of some breeds. The effort is being made to improve them in this respect by selection in breeding, and not without a considerable measure of success. I have breeds in mind, both in Ontario and Quebec, which I could easily name, that are possessed of teats of good average size. And yet it will probably be a long time before this weakness can be entirely removed from Ayrshire cattle.

Compared with Shorthorns as to form, the Ayrshires are possessed of much more of the wedge shape, but they bear not a little resemblance to Shorthorns in smoothness of outline. This would seem to indicate keeping qualities that would not be prodigal of food. There is also a marked difference between these breeds in the setting of the horns and in size, as indicated in the average weights given in the standard scale of points.

Canadian Holstein Friesian Association.

The annual meeting of the above association to receive the annual report will be held at the Albion Hotel, Toronto, on Tuesday, February 5th, at 2 p.m. Several papers on subjects of interest to members will be read, and every one is invited to attend.

Our Front-Page Illustration.
(Continued.)

first at London last year. She is bigger in frame than some of the others. Ellnora May, another three-year-old that won first as a yearling at Toronto, is a pretty cow, but somewhat more beefy than the rest. Maud has probably the biggest milk veins of any cow in the herd, has a splendid skin, and is a good milker, besides being a show cow. Another good worker is Cantata of Oakdale, whose dam, Dolly of Sir George, was sold by Mr. Valancey Fuller for \$4,000. Sixty-four pounds of milk a day, when in full milk, is the contribution of Miss Semple to the pail. She has a fine udder and large teats, and is a first-rate milker.

Queen of Highfield is one of the plums of the herd. She is by the stock bull, out of Fame of Oakdale. She won first prize as a calf at Toronto, and has a most promising udder and teats of good length. Magnolia of Highfield, Eunice, and Gladys of St. Lambert are some of the many other good young things, while Superba of Richview, recently purchased, should strengthen the herd still more.

Of the young bulls we must mention King of Highfield, the first-prize yearling at Toronto last fall. He is by the stock bull, out of Signal Rosa May, and is a grand handler, has lots of quality, a pretty head, a good shoulder, and good rudimentary teats. A number younger ones of much promise were also to be seen.

Notes from Great Britain.

(By Our Own Correspondent.)

The present state of agriculture at home is certainly one of very great depression. The *Mark Lane Express*, in a leading article entitled "A Black Review," gives a collection of figures in reference to bankruptcies of farmers and others who are connected with farmers, or who are dependent for their welfare upon the farmers being successful. The picture drawn is a black one, indeed, but it certainly is no blacker than it is true; and the cry goes up, What means are to be taken to stop or even stay wholesale ruin? Well, the answer is, in my opinion, altered methods, better and more careful management, fuller and more practical application of all the aids that science has given us in the shape of machinery and other things, and last, but not least, the keeping only of purebred and registered stock of all descriptions.

Without doubt, all true farmers who are breeders of purebred stock, and who own either first-class studs, herds, or flocks, are the only men who are fairly holding their own. The value of first-class stock of all kinds for breeding purposes was never more than it is to-day; the demand is healthy, and appears to be fully on the increase. New countries are constantly becoming customers for our stock, and thus it is clearly proved that every farmer should only keep stock that can be sold abroad for breeding purposes, and this means that all the stock a farmer keeps should be purebred, and either registered or eligible for registration.

Then, again, we find in reference to the meat markets that here, too, feeders of first-class stock are receiving a very good and paying price for their wares, provided that they are of the first quality. It is only when we come to half-fat and mongrel-bred things that we find that the prices are such as are unremunerative.

The various agricultural journals of this country have recently, as is annually the case,

published their annual almanacs and year books. These contain excellent articles on almost every topic of interest to live stock breeders and agriculturists. Amongst one of the most useful and interesting articles to sheep-breeders is one published in the *Farmers' and Stock Breeders' Annual and Year Book*, written and compiled by Mr. W. W. Chapman, live stock agent and shipper, and secretary of the National Sheep-Breeders' Association, and also of the Southdown Sheep Breeders' Association of England, entitled "Sheep in 1894." All breeds are fully reported herein, a full account of all the chief sales of the year, and last, but not least, a full account of the winning flocks of all breeders at all the chief shows of the country. This in itself is a very important compilation, for from it readers can at once see whose flocks are those that have throughout the year won the highest position, not at one show, but at all the shows at which the breed was shown.

It will be noticed with pleasure that at last the breeders of Kent sheep have determined to form a Kent Sheep Breeders' Association, and when I inform your readers that these breeders have secured the services of Mr. W. W. Chapman as their secretary they will fully understand that complete registration is aimed at, and that the work of the association will be pushed forward with vigor and determination. The first meeting was held at Ashford, Kent, England, on January 8th, 1895, at which were present some eighty breeders, and the resolution to start the association was carried unanimously. I am very glad that this association has been formed, for I am fully convinced that this breed of sheep will form a valuable addition to those you have already with you, particularly in the more exposed parts of the Northwest Territories, the breed being one that is an excellent one in every respect, being particularly remarkable for its extreme indifference to cold and exposure, and one that produces most excellent wool and fine mutton. These are essentially grazing sheep, and will thrive in any exposed position in low-lying marsh lands, and they do not need any artificial shelter at all.

The prize schedule for the London Shire Horse Show has now been issued. The show will be held on February 26th, 27th, 28th, and March 1st. The prize schedule for the Hackney Society's show and the Hunter Society's show are also out. They will follow the Shire show during the first two weeks of March.

The sale season of Shire horses began January 10th, 1895, when Messrs. Sexton & Co. offered for sale a number of celebrated horses, including very many winners and relatives of prize-winners. Several other important sales are announced by the same firm, including one at Sandringham on the first of February.

There appears to be a very good demand for sires for stud purposes, and many horses have already been secured for the season of 1895.

A most interesting and useful enquiry has been conducted again this year, as in past years, by a representative of the *English Live Stock Journal*, Mr. G. T. Turner, as to how the carcasses of the various bullocks and sheep exhibited at Smithfield show turned out. Many interesting facts and percentages are given. Those for sheep are not yet to hand, but of bullocks we here give a few as examples of the rest. Speaking generally, it seems to be proved pretty conclusively that these immense carcasses of meat and fat are very wasteful, and certainly not profitable either to the feeder

or the butcher, and it is with myself, as with many others, a growing question if there will not have to be a very radical change in the arrangement of the prize list not only at Smithfield, but at all our fat stock shows. For instance, it is not an uncommon thing to hear people say, "Yes, this is a grand bullock, but if it were 20, or 30, or 50 stone less weight, and not so overdone with fat, it would be worth more money." If this is so, and there is no doubt about it, surely it is time that an alteration should be made.

The champion beast at both Smithfield and Birmingham shows, which was purchased by Harrods Stores, London, made a very pretty carcass, but when cut up was wastefully fat. The carcass dressed 71.36 per cent. net, and weighed 1,328 lbs. The Devon heifer that won first prize in her class, and was reserve number for Breed Cup, aged 2 years, 10 months, and 2 weeks, and whose live weight was 13 cwt. 4 lbs., and the daily average gain 1.40 lbs., weighed, when dressed, 942 lbs, the percentage of carcass to gross live weight being 64.52; weight of hide, 70 lbs.; loose fat, 75 lbs. The Hereford steer that won first prize and the Breed Cup, and that was bred and exhibited by Her Majesty the Queen, weighed alive 19 cwt. 1 qr. 14 lbs., with an average daily gain of 1.57 lbs., and dressed 1,472 lbs., the percentage of carcass to gross live weight being 67.83 lbs.

English National Sheep-Breeders' Association.

This association, which has been formed for the protection of all breeds of sheep in Great Britain, held its annual meeting on December 11th, Mr. J. Bowen-Jones in the chair. Correspondence was read from the secretary of the Royal Agricultural Society of England, stating that it was found impossible to include classes for ewe lambs at the next Royal Show, to be held at Darlington, but that the matter would be considered when the next year's prize list was being drawn up. The annual report mentioned that the new Leicester Sheep-Breeders' Association had become affiliated with this association, and that the Kent sheep-breeders would probably also fall into line.

The following officials were then elected: President, J. Treadwell; president-elect, Wm. Newton; hon. auditor, T. Brown; hon. treasurer, J. Bowen-Jones; hon. secretary, R. H. Rew; secretary, W. W. Chapman.

Mr. Rew introduced the following suggestion: "That entries of sheep competing for prizes at breeding stock shows be restricted to those coming from flocks entered in the recognized register of the breed, where such exists." Considerable discussion followed, and the matter was held over for further consideration. A motion was adopted that judges at shows for each breed of sheep be selected by the society representing such breed, the names to be sent through this association to the principal agricultural societies of the country.

Prime Scots.

Sometimes justice is hardly done, we think, to the part played by the Shorthorn breed of cattle in the production of what is commonly called the "polled crosses" of the north of Scotland, says the *Aberdeen Free Press*. These crosses often "come" black, or blue-gray, and hornless—features which catch the eye readily, and the influence of the Shorthorn, as seen in the fine body of beef, is not

very often rated at its true value. This year at the show of the Smithfield Cattle Club in the Agricultural Hall, Islington, visitors must have observed the extraordinary number of crossbred cattle—the result of the union of the Shorthorn and the Aberdeen-Angus—which figured in the size list. These were all the produce of one Shorthorn bull, and such a conspicuous example was he of the potency of Shorthorn blood upon that of the Aberdeen-Angus that the least observant must have had this question suggested to their minds. Would the "polled crosses" ever have occupied the position they do had it not been that in the very districts in which they reach their highest standard of excellence the farmers have had for many years the advantage of easy access to some of the finest herds of Shorthorns in the world? To take the case we have referred to. The sire of five of the yearling crossbred steers, of three of the first four prize-winners in a magnificent class of two-year-old bullocks, and of three of the exhibits in the section for crossbred heifers, was Ringleader (64663), bred at Collynie, and sold at one of the annual sales to Mr. Ross, Meikle Tarrel. Last year his produce led also in the yearling crossbred steer class at London, and we believe that next year again the Ringleader steers will be to the front. He was the sire of this year's champion blue gray ox at Inverness, belonging to Mr. J. Douglas Fletcher, of Rosehaugh, which was beaten in the two year-old steer class at London by another Ringleader bullock, shown by Mr. Learner, Norfolk. Scarcely have two such beautiful steers met in one class, and it deserves also to be mentioned that the third prize bullock in this class—Mr. Robert Turner's Roan Prince, as handsome an animal as one could see in a day's journey—was by another Collynie-bred bull, Master of the Ring (61294). Ringleader, calved on March 8th, 1888, was by Stockwell (56615), dam, Rosalie, by Vulcan (42567), second dam by Socrates (39144), and is thus a Scotch-bred one on both sides. His dam, Rosalie, was bred by Mr. George Bruce, Heatherwick, and his sire by Mr. Cruickshank, Lethenty. He is, as might be expected, a bull of great substance, blocky in shape, and full of flesh and air.

Corn, as Compared with Wheat, for Fattening Pigs.

A writer in the *Yorkshire Post* having advised the readers of that paper to feed corn to their pigs, making the proportion of corn to other grain as much as two-thirds of the ration, Mr. Sanders Spencer criticizes the use of such a ration in the following terms:

The use of as great a proportion of corn to a fattening hog as two-thirds of its food would at any time result in the production of an inferior carcass of pork, but the folly of so doing would at the present be greater than usual, since corn is proportionately much dearer than any of the other ordinary kinds of pig's food. Wheat alone, if coarsely ground, would produce a stone of pork at less expense and of a far better quality than would corn alone, or the two-thirds corn and one-third wheat ration recommended; in fact, almost any mixture of pig-feeding stuffs would be far more profitable and produce more saleable pork. Barley costs considerably less per stone than does corn at the present time, whilst it is more valuable for pig fattening; but a mixture of food is always preferable to one kind of food alone, and as wheat costs nearly as little as does barley, a mixture of two-sixths wheat, three-sixths barley, and one-

sixth peas ground fairly fine, would prove an economical mixture, and one which would produce the finest quality of pork. Pigs fed on this mixture would be less likely to break down in legs and health than if fed on food of which corn formed the principal part.

Profits in Sheep—Why and How?

During recent years there have been influences in operation which have led to a sacrifice of sheep, which has been unjustifiable to a considerable degree. Taking a general view of the present condition of the industry, this action seems to mean several suggestive things.

It means that a flock of any number of choice-breeding ewes, either fine-woolled or high-graded mutton sheep, may be purchased at about one-half the price current two years ago. Purchased rams, of the mutton breeds, may be obtained now for about one-half the price which would have been paid for them two years ago. So that the farmer who wishes to establish a flock, considering the single item of first cost, has opportunities twice as good as he would have had three years ago.

It means that the profit will be increased by breaking away from the idea that sheep are only adapted for the rough lands in the east and the wild lands of the west. The early associations of this country with fine-woolled sheep is largely accountable for this. It is likely, in fact it is certain, that the marketing of mutton in its best form will pay the greatest returns, and that means mutton sheep fed for the greatest gain in the shortest time. As yet we know very little of the amount of mutton which can be made from a western acre under the best system of feeding with such crops as rape.

It means that American sheep farming has entered on a period of new development, in which the possibilities seem unlimited, and the profits are as well assured as any market combination of circumstances could make them.

To secure the most profit in the sheep farming of the present there are two main factors to be employed—mutton sheep and liberal feeding. The sheep must be of mutton descent, so that they will give the greatest gain in flesh for the food consumed. This implies that the ram, at least, must be purebred and of a mutton breed. If this requirement is

and, towards the last of the feeding, some oatmeal, may be fed at present prices with profit. The wethers should get of these all they will eat up clean. Clover, hay, and corn fodder should also make a part of such a ration. If roots or silage are available, they will aid materially in cheapening the cost of grain. But liberal feeding from birth to the block is the source of profit when the sheep are of such breeding as to enable them to utilize to advantage the food that is fed to them. It is not uncommon to find among grade flocks that the ewes do not get any grain, and hence lose many lambs, and rear those that remain indifferently; while the lambs get no grain for six months of their lives, and only get it during a month or so previous to putting them on the market. From the time of birth the lambs should be fed, so as to grow and gain with the greatest rapidity.—John A. Craig, Professor of Animal Husbandry, Wisconsin Agricultural College, in *Wool, Mutton, and Pork*.

Eunice Clay.

The accompanying illustration is one of the famous Holstein cow, Eunice Clay, which is well known to all Holstein breeders on this continent. Originally the property of Messrs. W. B. Smith & Son, Insane Asylum, Columbus, Ohio, she was purchased somewhat over a year ago, with two other females, by her present owners, Messrs. A. & G. Rice, Currie's, Ont.

Her career in the dairy has been most satisfactory, as also in the show ring and in public tests. At the Ohio State Fair, in 1893 she won first prize for solids not fat, and the milk prize, producing in twenty-four hours 88 lbs. 10 ozs. of milk, which contained 7.66 lbs. of solids not fat. She also has a butter record of 23 lbs. 9 ozs. in seven days. Her milk record of 84 lbs. 10 ozs. is the largest amount of milk produced in twenty-four hours during an official test of which there is any record. Since she came into the possession of her present owners she has also done well. She won first in her class and the sweepstakes at the Toronto Fair last September as the best female, and also came out winner of the \$100 milk test prize. At other fairs, too, she held her own.

At the head of the Brookbank herd is that fine bull, Siepkje 3rd's Mink Mercedes Baron, that won second premium at the World's Fair showing at three years old against older bulls. He has also won many first prizes at leading fairs, and is an excellent sire. Many other fine females of the Jewel, Pieterje, and other famous strains can also be found at Messrs. Rice's farm, and the visitor who goes to see them cannot fail to be impressed with what he sees there.

Stopping Runaway Horses.

A most ingenious device is used by Russian drivers to stop their horses when they run away. It is simply a strong, thin cord, with a running noose at one end, which is placed round the horse's neck, and the other end is fastened to the dashboard. When the animal attempts to run away, instead of sawing on the bit with the lines, the driver takes hold of the cord and pulls. A horse that will wear the strongest arm out on the bit yields at once, it is said, when he feels the pressure on the windpipe. When a horse bolts he usually takes the bit in his teeth, and the skill of the driver is useless. The moment the pressure comes on his windpipe the horse realizes that he has met his master. These lines are used



The Sweepstakes Holstein Cow, Eunice Clay.

Winner of the \$100 milk test prize at Toronto Fair. The property of Messrs. A. & G. Rice, Currie's, Ont.

It means that the prospects for mutton sheep are going to improve. The unparalleled sacrifice of breeding stock on the large markets is likely to react, owing to the decrease in the number of sheep being bred and the smaller number which will go on the markets in the future.

It means that the prices of mutton sheep will likely increase, because the sheep which have been sent to market are those which have been unprofitable, and they are the fine-woolled and the poorest class of mutton grades. The disposal of these sheep has depressed the sheep market for a time, but it is ultimately bound to improve, for there are fewer and better sheep remaining.

It means that without any option on the future the market for mutton sheep will remain profitable. It is a fact connected with western farming that any system in which grazing is a main factor is the most reliable; and it is equally evident that any agency which will utilize the large quantity of coarse food which is the product of the western farms and make it into a product that is easier to carry to market, without much labor in making, is likely to continue profitable.

a flock may be evolved which will rank among the best in the land for mutton production. Early-maturing sheep, which will make rapid progress and be ready for market at any time within a year, are most likely to give the best returns. A sheep that will weigh when liberally fed 140 to 150 pounds within a year from birth will always be a profit producer. To get such lambs from grade ewes weighing 150 to 175 pounds requires the use of a strong-framed, round-ribbed, long-bodied, and full-quartered ram that will weigh, on ordinary condition, about 200 pounds.

Liberal feeding must be the daily duty of the shepherd of such sheep. The ewes must get such grain as bran or oats, about one-half pound daily per head, so that the lambs may come strong and be well nourished. The lambs require such food as bran, even when getting the milk of their dams. Then after weaning they require about one-half pound of oats per head daily, together with aftermath clover, or, better still, some rape. When the wether lambs go into winter quarters, the same attention to the one feature—liberal feeding—should continue. Oats, wheat, corn, fairly met, in the course of three or four years

invariably as part of the harness of the horse.

A writer in *Our Animal Friends* says that he has seen this same plan used in the Western States repeatedly. He says: "The trouble about the scheme is that it works only too well. When a horse bolts, as described, the excited and frightened driver generally tugs at the lariat with all his strength, producing cerebral congestion and the suffocation of the poor animal almost instantly. Result, the horse drops, the driver goes with him, and one or both are often killed or injured. The old saying that 'the way to break a runaway horse is to kill him' holds good. Where a high-strung, nervous horse has been improperly broken, and made nervous, excitable, and expectant of danger at every turn, the best plan is to try a little gentle, patient treatment, with little or no use of the whip. If this does not succeed, all the appliances—and hundreds, patented and otherwise, have been placed on the market—are of little value. Runaway horses are broken of the fault every day, but never by any scheme like the one mentioned above."

Steer and Heifer Beef.

Considerable discussion has taken place lately in the *Breeder's Gazette* and other journals as to the comparative merits of steer and heifer beef. As is well known, butchers in this country will nearly always give a larger price per pound for steers for killing than for heifers. Why this is so has been a mystery to many people, as those who have ever killed heaves at home have generally found heifers to turn out fully as well as steers.

An experiment made at the Iowa Experiment Station by Prof. Curtiss has some bearing on this subject. In September, 1892, fifteen head of high-grade Shorthorn yearlings, five steers and ten heifers, were purchased for the experiment, the steers costing three and a half cents per pound, and the heifers two cents. Five of the heifers were spayed on their arrival at the farm. The test commenced on January 4th, 1893, and the cattle were fed for eleven months.

The records kept show that the steers made both the largest and the most economical gain. Some of the heifers dropped calves during the experiment, which operated against them, but even those not having calves made lighter gains than the steers, and were more restless in feeding. The profit from feeding the heifers was, in fact, little or nothing.

The heifers, however, shipped fully as well as the steers; in fact, the spayed heifers showed the lightest shrinkage, only fifty-six pounds from full feed and water weights at the barn to the selling weights at Chicago (a distance of 319 miles) on the day after their arrival. The steers' shrinkage was fifty-eight pounds each.

On the Chicago market, December 14th, the two lots of heifers were sold to Swift & Company for \$4.75 per 100 pounds each, and the steers for \$5.75. They were dressed on the following day, and the steers netted 63.2 per cent. of warm beef, the open heifers 62.4 per cent., and the spayed heifers 62.8 per cent., the heifers thus showing practically as good killing quality as the steers. The highest percentage, 65.9, was made by an open heifer.

The most interesting feature of the experiment, however, was revealed in the block test, which showed that the heifers gave a higher percentage of prime cuts (ribs and loins), and a correspondingly lower percent

age of the cheaper cuts than the steers. The difference amounts to one per cent. more loin weight and eight tenths per cent. more rib in the spayed heifers than in the steers. The open heifers are also better in these parts than the steers, although the advantage is not quite so marked. A single trial, of course, will not establish this as a general rule, but the fact that these cattle were all bred, raised, and fattened alike, and of substantially equal merit, would seem to confirm the supposition that these results are quite likely to hold good in other cases.

At the selling prices obtained the heifers showed considerably the largest balance of profit to the packer. The difference amounts to \$4.39 more profit on the spayed heifers and \$37.67 more on the open heifers than from the steers, enough to have warranted a purchase price of \$5.37 for the spayed heifers and \$5.32 for the open heifers, and still have allowed the same margin of profit made by the steers. Much of this difference in favor of the heifers can be accounted for by the excess of percentages in rib and loin cuts from the heifer carcasses, a difference that does not seem to be taken into account in the purchase price of heifers in American markets.

On the other hand, although the heifers dressed better than the steers, and gave a larger percentage of prime cuts, yet the prices furnished by Swift & Co., based on the prevailing values of dressed meat products, allowed a difference of one and one-half cents a pound on prime cuts in favor of the steers.

The conclusions to be reached, then, from this single experiment are, that steers are the most profitable for the feeder at the prices generally paid by the buyer, but that buyers make more profit from heifers, all things being equal, when they discriminate against them by paying one cent a pound less for them than for steers.

American Hackneys.

Having been asked if I would contribute a short article on the above subject, I shall endeavor, to the best of my ability, to lay before those who are interested in the horse-breeding industries of this country my ideas as to what the American demand is likely to be in the future, rather than attempt to give any description of the Hackneys which they now possess. These we all know about by having seen them at our various shows and agricultural exhibitions. Then we have read in the *Live Stock Journal* of their being sold for export to U.S.A., and of their again repeating the same showyard career on that side of the Atlantic as they have performed on this.

In starting, let us ask ourselves what an American Hackney is. I think the best way to answer the question is by saying that all animals which are entered, or are eligible for entry, in the American Hackney Studbook are American Hackneys. Whether they be good, bad, or indifferent, the fact of being entered in studbooks does not alter the individual animals. These records embrace all imported stock sent from this country, also their produce, which are being bred and reared in America, besides a large number of inspected mares. Of course, the cream of the American Hackneys are those which have been imported from the British Isles, as the following statement will show, I think, without any fear of contradiction. Out of thirty-nine Hackney stallions exhibited at the great Madison Square Garden Horse Show, New York, in November, 1893, twenty-nine were bred in England, and of the fifty-four Hack-

ney mares (which do not include those in the half bred classes) forty six also came from the old country, and they won all the awards, with the exception of four animals, which had a look in with their English rivals in the two-year old and yearling classes. The three half bred classes for mares and geldings by registered Hackney stallions out of unregistered mares had nineteen entries, and these classes were of the most interesting character, clearly demonstrating what good Hackney stallions are capable of doing by crossing them with the native trotting mares of the land. This is the cross which will be carefully studied by American breeders, and eventually will be developed into a very fine breed of harness horses. The Hackney has unquestionably taken a great hold on the people of the States (although it has its bitter enemies, too), being now distributed from the shores of the Atlantic to those of the Pacific. And I see by an American paper that the people in California are arranging to have a great show of Hackney and driving horses, together with all the other breeds, at San Francisco, similar to those of the eastern cities. So here is a new field opening up for fresh enterprise.

Although the export trade from this country has greatly fallen off, this circumstance can be satisfactorily accounted for. First, it is owing to a great financial depression, which means shortness of cash; and, secondly, it is due to the fact that several influential breeders have been sending large drafts of all sorts from their breeding establishments to sell by auction at the New York repositories, while others have cleared out entirely, so that, with bad times, the home supply, which has been pushed on the American market, has exceeded the present demand, and, consequently, rather low prices have been the rule, except for first-class horses which are quiet in harness and fit to go straight to work in gentlemen's carriages, or to appear in the show ring.

I might say here, for the information of those who have never seen an American sale, that all the harness horses are driven into the sale ring and sold while they are standing harnessed to the vehicles. Very often these sales are conducted at night, the place of sale being all ablaze with electric lights, and sometimes even a band of music is engaged to play at intervals between the lots, so that altogether they are very animated scenes.

But the great reason why the Hackney type of horse has been looked upon with such favor in New York, Philadelphia, and other cities of the States may be summed up in one little word—"Fashion." It became fashionable to drive Hackneys, or, more properly speaking, to drive horses with more style and action, suitable to draw heavier-made vehicles, and also to wear the heavier English harness, in the place of those long-tailed, narrow, leggy, light horses, which are only fit to draw the lightest of traps, although they can spin along at a tremendous pace, but which would look quite out of place if driven in English carriages in the English style. Therefore, to satisfy this fashionable want the Hackney has been found to be the best class of horse; but, now that the first great Hackney "boom" is over, the inevitable reaction has set in, as is always the case with every new undertaking after the first rush. The market, however, will soon begin to right itself again into a more steady and legitimate trade for the best of our stock, to enable the American breeders to keep improving theirs.

The three most essential points which the breeder must continually keep uppermost in

his mind are action, quality, and size; and then, when his stock have reached the age of five years (if he has not been able to dispose of them before), he should have them thoroughly well broken to single and double harness and saddle work, and have them in good-looking condition. He will then be able, even in these bad times, to sell his Hackneys at a fair remunerative price to "Uncle Sam," if he should come along his way; or, if not, they will always command a good price for town work in England, if they have the necessary style and courage, with good manners. But the worst thing in the world to breed, and, I am sure, the hardest thing to sell, is a bad Hackney. It is as ruinous, if not more so, than growing wheat at 18s. per quarter. Therefore, let us try to breed the very best, or give it up altogether. Do not dabble in second-rate animals.

If these few simple hints should prove useful to any of our younger breeders of Hackneys, and encourage them to persevere in a good cause, I shall be more than repaid for jotting down a few rambling thoughts as they came into my head. —Edward T. G. Lindsey, in *London Live Stock Journal Almanac*.

The Evolution of the British Breeds of Cattle.

Everything tending to throw light on the origin of the present breeds of cattle will be welcomed by breeders, and we therefore append the following notes by Prof. McKenny Hughes, F.R.S., Cambridge, Eng., on the origin of British breeds of cattle. The professor exhibited a series of skulls and horns cores during the meeting of the Royal Agricultural Society of England.

"In the inferences drawn as to the evolution of the British breeds of oxen, chief importance is attached to the results of excavations. If certain forms of skull and skeleton have been found associated with other fossils, with coins, or with pottery of known age, such positive evidence may be safely relied upon, provided the excavations have been watched by careful and competent observers. The negative evidence also is of increasing value as observations are repeated and extended, until it may often be safely urged that, certain forms of horn and skull have never been, they are not likely ever to be found associated with remains of a certain age in this country.

"The skull of a *Bison*, which had been found in the river gravels a few miles from Cambridge, was placed first in the collection made at the Woodwardian Museum on the occasion of the society's recent visit. This animal, like the American bison, which was commonly, but improperly, called a buffalo, was fine-boned in the limb, but ponderous in the head and in the muscular and bony arrangements for supporting it. Its skull was easily distinguished by the protuberant ridge between the horns, the large angle which the forehead makes with the occipital region, and the very forward position of the base of the horn-cores. This species lasted through the time when man used rough unpolished stone implements, but has not been found in Britain with the remains of the men of the polished stone age.

"Next in order came the *Urus*, or *Bos primigenius*, which is first found with the bison in the ancient river terraces. It lived

on, after the bison had become extinct, throughout the age of Neolithic man, who certainly hunted it. This is proved by a very interesting skull which was found in the Fen north of Cambridge, with a polished stone implement sticking in the forehead, having been poleaxed, perhaps, when mired. The skull of this species is quite different from that of the bison. The forehead and occipital region are inclined to each other at an acute angle; there is no protuberance between the horns, but the sweep of the base of the horn-cores is prolonged across the ridge between them. The forehead is flat or slightly concave, and the horn-cores bend first out, then forward and downward, and finally the points approach one another with an upward curve. This was a very large animal; the skull of one of them measured thirty-six inches in length, and the form is so well marked that it is not likely that it could have been overlooked if come across in any excavations. But there is no record of the *Urus* having been found in Britain associated with Roman objects or any remains that would show that it lived on later, at any rate, than the bronze age.

"With the *Urus*, however, there appeared a small ox, known as *Bos longifrons* or *brachycerat*. It was about the size of a Kerry cow, had small horns sharply curved forward, and a considerably elevated ridge between them. This was the ox which the Romans found in Britain. Their middens are full of its bones. Mr. Ernest Clarke was good enough to lend me for exhibition some specimens of the young of this breed, which were dug up about 1863 from a foundation in London Wall, and are now in the possession of the Royal Agricultural Society.

When, however, we come upon a station where the Romans had long resided, in a settled district where agriculture and the improvement of the cattle could be attended to, we find that this small breed had been modified—not superseded by the introduction of a different breed and the disappearance of the native cattle—but improved by crossing the native breed with the new stock, for specimens intermediate in form and size occur among them.

"Now comes the interesting question, What was the new breed with which *Bos longifrons* was crossed by the Romans? It cannot have been the great *Urus*, for that had been long exterminated in Britain, and, even if there had been any of that breed available, it would not account for the modifications we observe in the improved breed, the head of which is not relatively so long, and the horns of which turn outward and upward; whereas the *Urus* is distinguished by exactly the opposite characters. It seems natural, therefore, to inquire what was the form of the ox which the Romans themselves bred at home, and probably imported into their provinces. Turning to the contemporary sculpture and coinage of Rome we find exactly what is required; an animal of medium size with upturned horns, which we know from Roman authors was generally fulvous or black, while, sporadically, white individuals appeared, and these were then, as among some races at the present day, much prized.

"The Roman cattle now referred to have nothing to do with the great Podolian breed, but must have been in form not unlike the modern Ayrshire. The white individuals were wanted for sacrificial purposes, and, having down to the middle ages a greater market value, they were kept apart. It is probable that all important establishments, whether ecclesiastical or feudal, had their own

herd, which was kept within enclosures. Perhaps some of their descendants remain at Chillingham, and, with a stronger German cross, at Chartley. The form of the *Urus* is well known, and so is that of the Chillingham breed, but there is little resemblance between them; while, in form, the Chillingham and the Highland cattle can hardly be distinguished.

"From the Celtic Shorthorn and the cattle introduced by the Romans came all our earlier breeds. Then followed the time after the Roman legionaries had been withdrawn, when smaller or larger bands of Saxons, of Angles, Jutes, and Danes, arriving from time to time, kept the country in such an unsettled state that cattle breeding was impossible, and the country was unsafe for any but those who lived in strongholds. The herds roamed over wide tracts of country, and as there was no selection there was, of course, a reversion to the numerically predominating native type. So among the hundreds of horn-cores found associated with mediæval remains in the eleventh and thirteenth century ditches round Cambridge we notice very little deviation from the form of *Bos longifrons*. In the refuse of Roman or early mediæval age we find no remains of longhorned cattle. But in later mediæval times large cattle were introduced from the Low Countries, and soon modified the stock in all the southern and eastern counties, being crossed with the native breeds, which had retained in one place more of the type of the Celtic Shorthorn, and in another more of the character of the Roman breed. The specimens of the horn-cores of longhorn cattle which were exhibited were given to me by Mr. Francis C. A. Barclay, who procured them from a drain, which was inferred to have been made about 200 years ago on his father's property at Forest House, near Epping Forest.

"What the origin of the German Longhorns was, and whether we can find traces of *Bos frontosus* being brought in by the Scandinavian invaders, would take us beyond the scope of our present inquiry.

"The conclusions arrived at, briefly stated, differ from those usually received, in that it is considered as proved that the *Urus* is not the progenitor of any of the native breeds; that the White Park cattle are not a true breed, and not derived from any native wild breed; that the influence of the Roman introduced cattle was considerable; that the real basis of our English cattle is to be found in the Celtic Shorthorn, which was first modified by the Roman cattle with upturned horn; then, after mediæval reversion to the *longifrons* type, of different extent in different districts, was again modified by the introduction of German slouching Longhorns."

Computing Age of Cattle at Exhibitions.

Editor Canadian Live Stock and Farm Journal:
SIR,—With regard to the criticism in your paper some time ago respecting the time from which the age of calves should be counted, it is a subject which is well worth considering, as it is very important to breeders who are raising calves for the show ring. In your article the first of October was suggested as more suitable than the first of September. For my part, I would prefer the middle of August, as cows could then be put to the bull in November, while feeding on rape, or just when they are making the change from field to inside feed, which time is considered by extensive breeders with long practice the best time to catch a doubtful breeder.

This was particularly noticed at Bow Park, when they were feeding extensively for the show rings. When stock, either cattle or sheep, are feeding on rape, I am of the opinion that they are in an extra good state of health

for conception, and even the first of September almost crowds the breeder past the rape season before a cow can be put, so that she will calve by that time.

I am of the opinion that if any change be made from the present it should be to a week or two into August instead of to October. I hope that other breeders with more experience will give their views on the subject.

J. BOWMAN.

Special Stock Reviews.

Spruce Grove Tamworths and Yorkshires.

Spruce Grove, the farm on which Mr. J. F. Master conducts his breeding operations, is some six miles south of Baden, a station on the G. F. R., and about the same distance from Drumbo, a junction of the C. P. R. and G. F. R., so that it is easily reached from any point.

In this part of the county of Waterloo cattle feeding during the winter has been one of the chief industries on the farm, and the farmers have naturally looked around for any profitable means of consuming their grain at home and marketing it on foot, instead of selling it and robbing the land, as too often is practised in many parts of the country. Pig feeding for pork production is therefore becoming one of the leading departments among the most progressive men of Waterloo, and is, indeed, occupying the attention of numbers elsewhere who are seeking a better and more profitable outlet for their wheat and coarse grains. It is this that has brought such a demand for better classes of swine. With a view of supplying those who are on the lookout for breeding stock Mr. J. F. Master has for some time been breeding Improved Large Yorkshires, for which he has worked up and obtained quite an extensive demand. More recently he has added a herd of Tamworths to his business in breeding. Of two Yorkshire boars shown us, we thought quite highly of one of Mr. J. E. Brethour's breeding, which has given good satisfaction in this herd. He is large in size, possesses great heart girth, has plenty of length and deep, well-shaped hams, and is just the pattern that one would expect to find in an easy and quick feeder.

A good Yorkshire sow is Mayo 6th, also bred by Mr. J. E. Brethour. She was sired by Gladiator (imp.), dam, Nellie 3rd, a daughter of the celebrated imported sow, Marion, which has always been held in such esteem by Mr. Brethour.

Among the Tamworths were two good ones of Mr. John Bell's breeding. These are Amber Sally 2nd and 3rd, and both are sired by Norman's Pride (imp.), their dam being L. Amaraux Suse (imp.).

One of the above was suckling a fine litter of pigs at the time of our visit, while other good ones of suitable ages for mating were in the pens.

Mr. Lovi Master's Tamworths.

Our next visit took us to the farm of Mr. Levi Master, who resides a few miles westward from his brother, the last-mentioned breeder. This breeder is conveniently situated for shipping at Hamburg, on the G. F. R., his post-office being Haysville, and he is another convert who has recently joined the ranks of Tamworth breeders. The herd here has had the advantage of several good breeding boars. One of these, bred by Mr. Norman, Cliff House, Tamworth, has been recently sold, but not until he had been successfully used upon the herd. Another good one is Briery Bank's Hago, which is still retained. He was bred by Messrs. Caldwell Bros., Orchardville, and was sired by Ronald, a capital breeding boar in use at the Briery Bank Farm, while his dam was Amber Eva. Among the sows is one of Mr. Calvert's breeding, which is of quite a different strain of blood. She was sired by John Bull, dam Tomboy (imp.). Amber Lucy is a sow of Mr. John Bell's breeding. She is by Norman's Pride, and is not only a good one herself, but she is breeding well, as a sow from her won first at Toronto. Maud is a sow of Mr. A. C. Hallman's breeding, and, like the one just mentioned, is by Mr. Hallman's imported British Statesman. Mr. Master has a lot of good young pigs of different ages which should fill the bill for those looking for Tamworths.

Kingston Road Stock Farm.

As its name implies, the stock farm of Messrs. J. M. Hurley & Son is situated on the Kingston Road, about three miles east of the city of Belleville, and the farm is not only conveniently located for railway communication, but is beautifully situated as well, as the Kingston Road runs through the farm, which is bounded on the south by the Bay of Quinte, where boats of all descriptions are continually plying between intermediate points during navigation. Messrs. Hurley have paid a good deal of attention to dairying of late years, and, in order to carry on this department with better success, comfortable farm buildings were

erected last year. In these, convenience for feeding and cleaning out have been thoroughly considered. These points were also duly weighed in planning the horse stable, which has many advantages over those generally seen, as it is at once roomy, airy, and convenient. The stalls are deep, and in them it is impossible to have a horse kicked, while the passage behind the horses and the row of comfortable box stalls all contribute to convenience, and strike the observer with advantages too often neglected in the designs of stables. Mr. Hurley has for many years paid considerable attention to breeding carriage horses, and a few years ago the sale of surplus horses was looked upon by him as the most profitable department of the farm, and added materially to the income. It is the Yorkshires, however, that are the greatest source of profit at the present time, and in breeding these the firm have been especially careful to introduce the best individuals, and, at the same time, a sufficient variety of breeding strains. Three very superior boars are in use in the herd for the present season's mating. The first of these is a two-year-old boar, Madoe Bob, chiefly of Sanders Spencer blood, and a right good individual he is. Isaleigh Baron 2nd belongs to a different strain, yet his sire and dam are both from the Holywell Manor herd, his sire being Holywell Fisherman, and his dam Isaleigh's Pride by Kincoast Justice. This is a very good, useful sire that is sure to make his mark on the herd. White Joe, bred in the herd, is individually equal to either of the before mentioned, and we shall expect to see him out at the shows at some future day.

Susan is a big, lengthy, roomy, and hand-somely finished sow, which only requires a little preparation to become a strong competitor at the leading shows. She has already made her mark at several meetings, but her excellent breeding qualities make her owners loath to spare her from the breeding herd. She was sired by Patsy, a son of that remarkably successful stock boar, Pat, owned by Messrs. Ormsby & Chapman, exhibited in the earlier days of Improved Yorkshires.

Lily has been lately purchased from Mr. J. Featherston, Streetsville, and is a daughter of his imported Lancashire Maid, that won first at the Chicago World's Fair. Then there are a number of capital breeding sows, which we have not room to describe. The chief object in the breeding operations here is to have a sufficient variety of strains of blood, and yet to adhere to the most approved type, thereby guaranteeing satisfaction to customers.

Ayrshires at Mr. Anthony Terrill's.

This breeding establishment is situated about ten miles north of Trenton, and close to the village of Wooler. Mr. Terrill has, for many years, been identified with fine stockbreeding. The herd of Ayrshires here was commenced by the purchase of the cow, Jenny (1857), by Rob Roy (1884), eleven years ago. She proved a capital breeder, and, although now showing her age slightly, she continues to be profitable both as a breeder and a milker. At two years old she produced her first calf, which is now the handsome cow, Wooler Lass, by Satellite, she again producing the cow, Maggie, at less than two years. These two are, to our mind, the best individuals in the herd. The latter, Mr. Terrill told us, has always won over her dam at the shows, a decision we could hardly coincide in. Judging from these two cows, however, one would be led to think that Ayrshires stand breeding at early ages without deteriorating either in size or quality.

Lady of Park Hill, bred by Mr. James Drummond, Petite Côte—sire, Rob Roy of Park Hill—is a more recent purchase. She has produced a good heifer in Frankie, now two years old.

Altogether there is quite a large herd of purebred cows, that give every evidence of being large milk producers.

The bulls that have been in use since the herd was first established have been selected with a view of improving the form and increasing the capacity for milk production, and herein lies the success that Mr. Terrill has made in his breeding operations. Among the bulls we noticed the names of Leo of Norval—429—, and Prince of Byron, that won the silver medal '91 for Messrs. Kains, his breeders, while the present stock bull is Norman of Robertland, sire Silver King (imp.), by the noted bull, Traveller, so highly prized among herds in Scotland, Norman's dam being Brownie of Harbeckie (imp.), sold at the late Mr. Thos. Brown's sale at Petite Côte.

In sheep, Mr. Terrill has recently invested in a neat flock of Oxford's, that succeeded in winning out most of their purchase money during the fall campaign.

A few extra good Herkshires are also kept. The stock boar Knowlton, bred by Messrs. J. C. Snell & Bro., sire Enterprise (imp.), dam Hildee (imp.), traces to a sister of Devonshire Duches. Knowlton is a pig of grand type. Mohr Belle is a two-year-old sow of extra quality and finish. She was sired by imported

Perry Lad, dam Moulford 2nd (imp.), of the famous family of that name. Mohr Belle is a wonderfully good breeder. Several pigs of hers, that Mr. Terrill informed us were farrowed in June, were remarkably large and good for their age. Ella Ross is a sow got by Cecil, of entirely different breeding, yet a good one, while Sixteen Teat, a young sow from the first-mentioned dam, bids fair to beat any in the herd, in the near future.

Mr. Terrill has a neat, good lot of stock, from which purchasers may choose really useful things. Young Ayrshire bulls and Berkshire pigs could be selected by intending purchasers with advantage to themselves, as prices here, considering the quality of the stock, should insure ready sales.

Ayrshires and Yorkshires at Burnbrae

In addition to carrying on a very lucrative dairy business, Mr. Alex. Hume, of Burnbrae, is breeding purebred Ayrshire cattle and Improved Yorkshire pigs.

It only requires a brief inspection to reveal the fact that much care has been taken in selecting the foundation stock from which both herds have been bred, for in both are to be found the best types of their respective breeds.

At the head of the Ayrshire herd is the handsome young bull, Sir Colin, bred by Messrs. David Morton & Sons, Hamilton. He was sired by Monarch, a son of that grand cow, Maggie Brown, Barmoorhill, that won so many laurels for her importers. Sir Colin's dam was Sprightly 3rd, a capital cow herself, and of a family of that name which Messrs. Morton have always held in the highest esteem. Sir Colin is a very superior young bull, which has been quite successfully exhibited during the fall shows.

Among the cows is the three-year-old Eva of Barcheskie, bred by Mr. Gilmour, Balmangan, Kirkcudbrightshire, Scotland, which Mr. Hume imported in 1893. She was sired by Craigs of Kyle, whose grand dam was got by the celebrated Bull Black Prince of Lessnessock, a line of breeding that Ayrshire men are fond of boasting of. Eva herself is a capital young cow, whose royal breeding should prove of vast advantage to the herd. Nell of Parkhill, bred by Mr. James Drummond, Petite Côte, P.Q., was got by Rob Roy of Parkhill, and the five first prizes she has to her credit speak more highly for her than anything we can say by way of description. Annie Lisle, bred by Mr. R. Robertson, Howick, is sired by that noted prize winning Bull, Golden Guinea.

The first purebred Ayrshire cow was purchased by Mr. Hume, sr., some sixteen years ago, at which time also a Bull was purchased from Mr. Hagerman, of Belleville.

A long list of capital bulls selected for use on this purebred herd has not only improved the Ayrshires, but has had the effect of building up a herd of grade Ayrshires such as is seldom seen. For these have had the advantage of the same top-croppers. On account of increasing the purebreds, of necessity the grades have to be weeded out. This is evidently done with great reluctance, as they are most superior at the pail. Mr. Hume informed us that the whole herd had averaged \$85 per head during the season of 1893, which proves most emphatically that care in breeding and selecting is the only road to success in getting together a dairy herd that will make high records.

The Yorkshires are a very superior lot, and are founded on a different line of breeding from any other herds which we have met. The first we were shown were three excellent aged brood sows. These were Lady Ethel, sired by King Tom, and two daughters of hers by General Gordon, while more recently Mr. Featherston's choice sire, General 2nd, dam Holywell Royalty, has been purchased. The latter had a grand, good litter of pigs at foot at the time of our visit.

Duchess, by Emigrant, dam Diamond 2nd, by Oak Lodge, is one of Mr. Brethour's breeding, while there were some particularly handsome young sows, aged six months and upwards, of different strains of breeding, that had been mated with a view of selling to customers. The boars in use are Prince, by Oak Lodge Baron, Holmes Model, by Model Duke, dam by Sultan (imp.), and Canadian, by Bladem, three useful boars, all of them, but we consider the first named the best individual.

Mr. F. W. Taylor's Ayrshires.

Close by the post-office of Wellman's Corners, Mr. F. W. Taylor has succeeded in getting about him a very useful herd of Ayrshire cattle, from which he is obtaining the twofold revenue that is received through the sale of dairy products and that brought in by the disposal of surplus stock. Living in a district in which cheesemaking is carried on in the factory during summer, and a creamery is in operation in the winter, the milk products are worked up to the best advantage. These two channels for profit having

become satisfactorily established, all that is required is a suitable herd of dairy cows by which a constant supply of milk may be maintained.

In this particular Mr. Taylor is again fortunately situated, and is thoroughly equipped for doing good work, as he finds his herd of purebred Ayrshires are admirably suited to his purpose. With twenty years' experience in breeding Ayrshires, he has learned to breed such individuals as best suit his purpose, and, at the same time, be of a class that will attract such purchasers as may happen to come around.

During last winter Mr. Taylor purchased his present stock bull, which was dropped in 1893. He was sired by Wooler Chief, dam, Florence, by Lord Menie, and is from such a strain of milk producers as would lead one to suppose that he should prove a success in the herd.

We noticed that the cows here were large in size, and possessed plenty of substance. It was for this aim that a number of the bulls used in the herd were selected. Several of the cows are descendants of Red Rose and other good families that have had the effect of making the breed popular wherever they were introduced, and have thus led to further importations.

As a proof that the cows have given a good account of themselves when brought into competition with other breeds in this strong Ayrshire locality, we were shown a medal awarded to the best five dairy cows, which was given under the auspices of the Agriculture and Arts Association.

The young things in the herd quite bear out the reputation of the older cows, and those seeking Ayrshires will do well to bear in mind that Mr. Taylor has such for sale.

Avondale Ayrshires.

Mr. John Douglas, Warkworth who farms over three hundred acres in that part of the county of Northumberland in which Warkworth is situated, has, during the last two years, made several important additions to the long-established herd of Ayrshires that was founded by his father over thirty years ago. The stock bull is Dominion Chief, bred by Messrs. David Morton & Sons, Hamilton. He was sired by Royal Chief (imp.), that carried home so many honors to his proprietors, his dam, Jess, being certainly among the best imported cows in Messrs. Morton's herd.

Dominion Chief is a particularly handsome bull. Of capital Ayrshire type, he is full of character and finish, and has every promise of becoming a distinguished sire. He has only been shown once, and that at the Toronto Industrial Exhibition of 1893, where he won third in his class, competing with bulls nearly a year older than himself.

Among a lot of useful cows we were shown Fairy Queen of Punjop (imp.), sire, Opposition of Punjop, a very useful cow. She is deep ribbed, and possesses plenty of substance, and her capital milk vessel gives every appearance of a business cow. A bull calf of hers, by Royal Prince has breeding that should entitle him to a place at the head of some Ayrshire herd.

Amy, a five-year-old cow, bred by Messrs. Kains Bros., Byron, was sired by Earl of Fife. She is a handsome young cow, that had the distinguished honor of winning the sweepstakes over all Ayrshire cows and heifers exhibited at Toronto in 1893. Her daughter, Miss Bonnie Doon, bids fair to turn out a handsome cow, while a bull calf of hers is worth looking after when Ayrshire bulls are in request.

Daisy is a twelve-year-old cow, bred in the herd that was sold, and has recently been repurchased. She looks every inch a good one, and is of the ideal type of the breed, and full of nice quality. There are, besides these, a number of really good things, which we must leave for a future description, as we have not space to mention all we saw here.

During last summer Mr. Douglas visited Scotland, and selected a number of choice heifers and two bulls, which had not yet arrived home from quarantine. With these came a beautiful Welsh pony mare, which is as perfect a specimen of this clever little race as we have yet had the pleasure of seeing.

A Pair of Newly Imported Hackneys.

In a recent visit to Woodstock we had the pleasure of inspecting a pair of Hackney stallions that had been recently imported by Mr. A. G. Bowker, of that town. Mr. Bowker has done considerable travelling since he graduated in his profession, and, therefore, has had ample opportunity of studying horse-breeding in its many branches.

During the last summer he visited many of the most eminent breeding establishments in England, and finally decided to bring out a pair of Hackney stallions.

The pair selected are from the celebrated stud of Mr. James Coker, Beetley Hall East Dereham, Norfolk, England, and comprise the seven-year-old horse, The Shah 2678, a nicely furnished brown-black horse, with strong, clean bone, and the four-year-old, Coker's

Nelson. The Shah stands about 15.5 hands, and has a compact, nicely turned top, and handsome conformation.

He is a capital bred horse, chiefly of the old Norfolk lines of breeding, running back to such good ones as Great Gun 321, Performer 502, Prickwillow 677, Norfolk Phenomenon, etc.

Coker's Nelson is a bay, and was sired by Rattler 11. 2377, his dam being Chloe 55, by A No. 1. This horse stands 15.3 hands, has heavy, strong bone and great substance, and is a rojally bred one. He is full of the blood of a long list of the noted Shales, Prickwillow, and Fireway, in such demand among modern Hackney breeders.

It was, unfortunately, too slippery and cold for us to see these horses out, and thus to judge of their action, but we understand that they can put up their knees and shoot out their hocks after the most approved style, and hope to see what they can do when brought out in competition with the older horses at the Toronto Spring Stallion Show.

Mr. Bowker also brought over a handsome heavy weight hunter mare that a few of our horse-breeders should look over, in order that they may know what is right in this line.

Elmdale Tamworths.

About six miles south of London is the farm of Mr. John Nichol, Hubrey, who has for several years been quietly breeding Tamworth pigs, a breed which, through their adaptability for quick development, are becoming more and more popular year by year. Mr. Nichol laid the foundation of his present herd by purchasing direct from Messrs. Grant & Co., Ingersoll, several of their best imported animals, and others directly descended from the noted importations made by the above celebrated bacon-curing firm. One of these is imported Elmdale Queen, which is certainly one of the best breeding sows that were brought over. She was bred by Mr. Egbert de Hamel, Tamworth, and is true to the type that Tamworth breeders are aiming to produce. She has plenty of size, with the desired length of rib, and that thickness along the bottom of the rib which is so much required. She is also a sow of undoubted quality. To mate with her, Mr. Nichol purchased Elmdale Monarch, one of the same importation.

From this beginning the Elmdale herd started, and from the mating of the above-mentioned pair a number of capital pigs have been sold to different parts in the west. These two pigs proved to satisfactory an investment that several others have since been purchased. Among these is a nice yearling sow by Goldfinder, by Revell's Hoar (imp.), her dam being Curly (imp.) Maud and Ruth, both from one litter, are by the capital breeding boar, Buffalo Hill. It was one of these sows that was first at the Western Fair last fall, and she was decidedly one of the best that we have yet seen of the breed. It will be remembered that Tamworths and Duroc Jerseys had to show together at London, and the fact that this sow beat the Duroc Jersey that won in Toronto is pretty good evidence of her excellence. She has great length and depth, carries her width from end to end well, is free from any trace of coarseness about the shoulder, and has plenty of quality. Her sister from the same farrow is nearly as good. It will thus be seen that Mr. Nichol has not omitted the most important part, but has selected the right class of sow to start with. In addition to Elmdale Monarch (imp.), an excellent young boar, of capital length, has been freely used. This is a yearling boar by Buffalo Hill, dam Daisy, by Tamworth Hoar, and still later a young boar has been purchased, which is sired by Revell's Hoar (imp.), dam Woodland Queen (imp.). This is one of the best young pigs we have seen for some time, and if he only continues to develop in the future as he has done up to the present he will prove equal to the best in the country.

Mr. Nichol has bred five or six sows to the different boars, and will thus be able to supply pairs to his customers that are not related.

Mr. Martin Gardhouse's Shorthorns and Shires.

As is well known, Mr. James Gardhouse, Highfield, Ont., during last February held a dispersion sale of his Shorthorns and Shire horses. This was necessitated on account of the failing health of Mr. Gardhouse. At the sale several of the best animals were purchased by his son, Mr. Martin Gardhouse, and on the old homestead are now to be found quite a number of good Shorthorns, as well as two superior Shire stallions.

Of the Shorthorns, two of the best are Verbena's Blossom, a big, solid roan cow, and Sorby's Gem, a well-fleshed roan, with a grand front. Many would prefer to either the two-year-old Violet's Bud, a roan that, as a calf, would hold her own with the best. She is not quite as large as the other two, but is very nice. Two young calves, one a roan bull, from Ver-

vena's Pride, and the other a heifer, from Gipsy Maiden, are of the right kind. The stock bull in use is the imported bull, Guardsman. Although he was never a show bull, owing to an accident in early life, till he has left good stock.

The Shire stallions are Garfield 2nd (imp.) (1881) (2786), a bay with three white heels and face, that won second at the late Spring Stallion Show in Toronto, and Duke of Blagdon (imp.) (1871), the latter a first-prize winner in the two-year-old class at the same show. Except that the latter needs a little more size, he is a horse hard to pick a fault in, while his companion has much to recommend him, having good action and style. They are both sure and good workers. A number of Leicester sheep of good breeding and character complete the purebred stock kept on this farm.

Mr. John Gardhouse's Shorthorns.

About a mile from Mr. Martin Gardhouse's farm lives his brother, Mr. John Gardhouse, who also keeps Shorthorns. While his stock were only in good breeding condition, still they are of a good sort, and, moreover, they are very fair milkers. All the young stock are by Guardsman (imp.), his brother's stock bull, and among them were a number of nice calves. A roan bull calf, out of an Eclipse heifer, was a good handler, and three red bulls, of an age for service, were, we understand, for sale.

A number of Shire colts were to be seen running in the yard. Some of these were by Kerr Konk. We also saw a good four-year-old mare by King of the Castle (imp.), out of a Haddo mare. Some thirty-five head of Leicester sheep are also kept.

Mr. George Garbutt's Shires.

About a mile and a half from Weston station lives Mr. George Garbutt, Thistleton, who is well known as the owner of Darnley (imp.) (1831). During a late visit to Weston we made a hurried call on Mr. Garbutt but, as night was rapidly coming on, we were not able to see as much as we could have wished of his horses. Darnley, we found, was away, being kept for service in Western Ontario, but we looked over Mr. Garbutt's last investment—the three horses he purchased from Mr. Clement Keevil, England. These were Fyde King, Disworth Blue, and Blagdon Marquis. Of these we preferred Fyde King, a seven-year-old, who had the best body and nearest head, although some would place Disworth Blue ahead of him. The latter is a year younger, and would probably weigh nearly 2,000 lbs. if fitted up. Blagdon Marquis is the youngest and smallest of the three. He has lots of hair, and is well coupled up.

Veterinary.

Ringworm on Cattle.

Among other skin diseases of cattle that cause trouble on account of their infectious character is ringworm. This disease is generally found around the head or neck, often near the eyes, but other parts of the body are not infrequently affected.

The first signs of the presence of the disease are small round spots that appear on the skin. These gradually increase in size, and become covered with scales and crusts. Wherever these spots appear the hair breaks off and falls out, and matter forms in the skin. If the spots are not attended to, others will form in different places and on other animals, and even on human beings, should the affected ones rub against them.

The disease is caused by a vegetable parasite or fungus, which destroys the roots of the hair and irritates the skin, which then forms the crusts. The treatment of it is simple. When taken in its early stages, applications of tanner's oil rubbed in with a brush or rag, or a mixture of sulphur and lard applied, will soon remove it. In most cases, however, it would be well to wash the spots previously with soap and warm water in order to remove the scales and crusts, and then apply the oil or mixture. This should be done every day for a few days, until the skin returns to its natural state. Should the disease reappear after being apparently cured, the treatment must be repeated. Tincture of iodine will be found very efficient, should other remedies fail to cure. To prevent the disease spreading, the bedding used by the animals affected should be burned, and the sides of the stalls or walls, where they stand, whitewashed.

The Ontario Veterinary Association.

The annual meeting of this association was held in the Veterinary College, Toronto, Canada, on Friday, December 21st, 1894.

The president, Mr. William Burns, V.S., opened the meeting with a few well-chosen remarks, and the reports were then read.

Considerable discussion next ensued on the action of certain persons in issuing so-called veterinary dental diplomas. The issuing of these was very strongly condemned at the last meeting, tending, as it does, to bring legitimate veterinary science into disrepute, reputable members of the veterinary profession considering this so-called veterinary dentistry as a complete humbug. Mr. John Wende, V.S., also a member of the New York State Veterinary Association, remarked that that association also very strongly condemned the issuing of these veterinary dental diplomas. Major Lloyd, Mr. Gibb, Mr. C. Elliott, Mr. O'Neil, and others, took part in this discussion, and it was ultimately resolved: "That the same committee that were appointed last year should be continued, and that their efforts should be directed to suppress this humbug."

The following new members were then duly proposed and elected: Mr. A. W. Harris, D.V.S., of Ottawa; Mr. J. Elliott, V.S., of Uxbridge; Mr. F. Fisher, V.S., of Carleton Place; Mr. Welch, V.S., of Toronto; and Mr. J. H. Engel, V.S., of Milverton.

Mr. W. J. Wilson, V.S., London, read an excellent paper on "The dangers of using the meat and also the milk of diseased animals as human food." He called attention to the toxic properties produced by the germ of tuberculosis (the *Bacillus tuberculosis*) as being specially injurious to consumptive patients, and that these products were still existing in the meat and milk, although the vitality of the bacillus itself may have been destroyed by cooking or otherwise. He recommended the establishment of public abattoirs, and the inspection of meat by qualified men. He also recommended that dairies should be placed under suitable inspection, and that the hygienic conditions of milch cows should be looked to—cleanliness and sufficient air space being essentials.

In the discussion that followed, in which Major Lloyd, Messrs. Shaw, Cowan, and others took part, it was remarked that the "tuberculin test" was a reliable diagnostic agent, but judgment must be used in applying it; that it is well to take the body temperature of other animals in the herd not infected, as variations in the temperature may be produced by accidental causes.

Mr. Cowan, veterinary inspector, said that it was well not to make unnecessary alarm in connection with tuberculosis; that the disease existed only to a slight extent in Canada amongst cattle—less than in most countries—and that the disease was now on the decrease here. He also said that the various boards of health have great power in looking into the milk supply; that there is all the law that is required in investigating the milk and meat supply, and in condemning tubercular cases.

Mr. A. Crowforth, V.S., Lockport, N.Y., read an interesting and exhaustive paper on "Tuberculosis in relation to animal industry and public health, its prevalence and importance." He said that it prevails so extensively throughout the civilized world that no disease is so deserving of close study or of the enforcement of effective measures for its suppression. Cholera, yellow fever, and smallpox, which occasionally appear, creating universal terror

and dismay, claim but few victims in comparison with this ever-present and universally devastating malady. These other plagues are quick, severe, and fatal, and, therefore, can be promptly recognized and even stamped out, whereas tuberculosis is slow and uncertain in its progress and often escapes recognition for a long time. It may be classed with "the pestilence that walketh in darkness," while the other disease named may be likened to the "destructions that waste at noonday." He gave statistics showing the deaths in various parts of the world in the human race, and mentioned its prevalence as the same disease in the domestic animals, produced by the same micro-organism (*Bacillus tuberculosis*), and the difficulty of obtaining reliable statistics. In the middle ages tuberculosis in animals was recognized as contagious, and laws were made against the use of affected carcasses as human food, which remain in force in Spain and Italy to the present day. In the early part of the present century its contagious character was doubted by medical practitioners, but at the present time, in the light of numerous investigations and experiments, all candid scientific observers accept the doctrine of its contagious character. He described the germ, its history and mode of propagation, and also the necessary causes which tend to produce the disease. But none of these causes can produce the disease in the absence of the bacillus. He described the disease in the various organs and tissues of the body, and mentioned the difficulties experienced in diagnosis. He spoke strongly in favor of "tuberculin" as a diagnostic agent, and said that those who had used it most valued it the most highly. In conclusion, he compared the geographic distribution of cattle and the prevalence of tuberculosis in the human race, and showed the intimate relations of cattle to man as a potent agent in the extension and maintenance of consumption in the human family.

Prof. Smith exhibited from the museum of the Veterinary College specimens of "gangrenous ergotism" of the legs of cattle, from cases which he had investigated last spring.

The sum of \$25 was appropriated for a medal, to be competed for by students of the Ontario Veterinary College at the approaching spring examinations.

A vote of thanks was tendered to the retiring president.

The following are the officers for the ensuing year: President, Mr. G. L. Robson; first vice-president, H. Hopkins; second vice-president, D. Hamilton; secretary, C. H. Sweetapple; treasurer, W. Cowan; auditors, Messrs. J. D. O'Neil, C. Elliott. Directors: Messrs. J. Wende, W. Burns, J. F. Quin, W. Gibb, W. J. Wilson, T. Holder, A. Crowforth, and W. Steel.

Questions and Answers.

Constipation in Sheep.—W. A. M., Rockspring, Ont.: My sheep stretch themselves and seem to be in great pain. What is the matter with them? What disease have they when there is no passage? What medicine should I use?

Ans. Your sheep are suffering from constipation of the bowels, due to the change on to dry feed from pasture. A dose of Epsom salts, say, two or three ounces, should be given, to be repeated if necessary, and injections of soap and hot water into the rectum will greatly assist in removing the hard lumps of dung that have formed internally.

Roarers.—W. K. A., British Columbia. I have a pair of heavy team horses, eleven years old, that got short in the wind a year ago. They are sometimes so bad that they cannot work, and wheeze and roar. They had colds a year or more ago, and used to run at the nose. One is a stallion, and the other a brood mare. They eat heartily, but still their work is hard on them. Can you give me some simple home remedy? I have blistered them, and it did them some good.

Ans.—By our Veterinarian. Your team have what is known as "chronic roaring," and it is extremely doubtful whether a recovery is possible. The only thing to do is to blister the throat occasionally, but not too severely, and to try the effects of small doses of iodide of potassium. Give one-half a dram of this night and morning in the food or water.

The Farm.

A Disease-Proof Turnip.

It would seem that a turnip has been successfully brought to perfection which has shown itself to be proof against the disease known as finger-and-toe. Samples of it were exhibited at the last Smithfield Show in London, which excited great interest. This turnip has been severely tested in various parts of England and Scotland, and has proved itself to be disease-proof. Grown side by side with the green Globe it has turned out a splendid crop, while the Globe has practically been destroyed. The name Achilles has been given to it. It is a distinct variety, having a beautiful lemon-colored top with deep, yellow-colored flesh and root, and its feeding qualities are of the finest. This turnip will not be offered to the public before 1895. Its seeds are very small, so that 1 lb. of seed an acre is quite sufficient.

The Ice Harvest.

The necessity for building an ice house and harvesting a crop of ice becomes more pronounced every year as dairying extends. On many farms the ice harvest is as much a part of the regular farm work as is the grain harvest. Too many, however, defer cutting and storing their ice to too late a date. Taking one year with another, the best, clearest, and thickest ice is generally to be obtained during December or the early part of January. During January we very often get a thaw, which, not infrequently, results in floods, which carry off or otherwise spoil the good ice. Then come snow and slush, which cover the ice, and keep it from getting thicker, and it is rarely that we get as thick or as good ice after January. The thicker the clear ice is the better it lasts, but, in default of it, the poorer ice has to be utilized. Although this does not keep as well, yet it serves the purposes fairly well.

In building an ice house, the bottom of the walls should be built of brick or stone, as the continual moisture from the ice tends to rot wood, when it is in contact with the earth. The bottom of the building should be dry and well drained, if necessary. For fifty tons of ice, the excavation should be about twelve feet square. About six inches to a foot of sawdust between the ice and the sides, and on the bottom under the ice, is necessary, and where the building is frame a space filled with sawdust, and bearded up inside, will prove efficacious. In this case a lining of six inches of sawdust between this inside boarding and the ice will be sufficient. If sawdust cannot be obtained, tanbark, dry leaves, chaff, or cut straw can be used, but sawdust makes the best protector. When the last load is in, and the sides filled up with sawdust, a covering of about a foot of this should be spread on top of the ice. Should any of our readers wish to save some ice for next summer, and have no ice house, they could try stowing some in a corner of the woodshed. Even when stored roughly in this way, it will last for a good while. If sawdust is not obtainable, use straw, either long or cut short. Place a layer of it under the ice before un-

loading, and plenty round the sides and on top, and, if the location is dry enough, you will find that your ice will carry you through the hot days of summer, provided you store enough away.

Wild Lettuce.

Wild lettuce is one of the most recent of the pestiferous weeds that have arrested the attention of the general public. It belongs to a family which have peculiar powers of propagation, since the seed is provided with a pappus or down, which enables it readily to float through the air, hence the winds carry it far and near wherever it is allowed to mature its seeds. It produces an immense number of seeds. Miss Detmers, of the Experiment Station, Columbus, Ohio, has estimated that the plants on one acre will produce 3,234,453,120 seeds. From actual count, she ascertained that an average plant would produce 8,256 seeds. It is evident, therefore, that when once this weed gets a foothold it is capable of spreading very rapidly.

Wild lettuce bears no little resemblance to tame lettuce. It is, however, taller and more branched. There are several varieties, but the kind we refer to may be distinguished from the others by the prickles found on the underside of the ribs of the leaves. These, though not long, are numerous. In congenial soils this weed sometimes grows to the height of five or six feet, though ordinarily it is not more than three feet high.

It seems to be able to grow in various soils, but in those which are largely vegetable in formation it grows more readily than in clays or light sands. It is not so very difficult of eradication on soils that are under cultivation, but in meadows and pastures, where the sward is not very dense, it seems to be able to grow readily. Live stock do not like to eat it. When it grows in clover meadows it is green and coarse and sappy when the clover is in bloom, so that when the hay is cut it hinders the drying seriously, and also seriously injures the feeding quality of the hay. On roadsides and in by places the weed is much prone to grow, as also upon the borders of fences.

As already stated, where the ground can be plowed, this weed is not difficult of eradication, but in meadows and pastures along roadsides, and in by places, it will have to be mowed. But one mowing will not do the work. It will come up again and again when it is cut off, and will mature seeds until on in the late autumn. But if by any means the weeds can be cut off below the surface of the ground, the work will be completed. Of course this would be impossible where the weeds had once obtained a firm hold and were numerous.

Whether the weed has obtained an extensive footing in our country is not as yet certain. If it is in our midst, very little has been said about it. In any case, it is well to be prepared. To be forewarned is to be forearmed. It is well to know the appearance, the habits, and the character of the intruder, that it may be throttled whenever it puts in an appearance.

It has been growing in New York State for several years. In Ohio it is spreading rapidly in several counties. In Indiana it has attracted the attention of the scientific weed doctors, and it is pushing on rapidly toward the Mississippi. In prairie countries it will do more injury than in those that are of an opposite character, as in the former the winds are more constant and the soil is more congenial to the

plants. It is also a medium through which disease is transmitted to garden lettuce, as it has been much infested with a fungus called *Septoria contumita*, which occurs on the leaves, making them spotted at first, and finally killing them. But the disease does not seem capable of destroying the entire plant so as to render it incapable of producing seed.

Alsike Clover.

This excellent clover is growing in popularity over the whole of the temperate portions of this continent. This is owing largely to its excellence for winter feeding, to its hardiness, and to its durability. There are some conditions where it will always be more advantageous to grow the common red and mammoth clovers, and other conditions where it will be the proper thing to grow alsike clover. It is important that these conditions shall be well understood.

On ordinary soils the common red and mammoth clovers will grow everywhere, except where the climate is too warm or too cold. But these clovers will not thrive where the subsoils are wet. Which of the two should be grown will depend, to some extent, on the object sought. For plowing under the mammoth is usually considered the best, and on soils low in fertility it should also be preferred. But where fine hay is wanted, and where pasture is a chief object, then common red should be grown.

Alsike clover is well adapted to heavier soils, or those which have a fair amount of clay in them. It will also grow well on humus soils, underlain with clay, and capable of retaining much moisture. Alsike clover will live and flourish in soils where water lies on the surface for a few days in the spring. But it is not well adapted to light, sandy soils. It will grow, however, in sandy soils possessed of a fair amount of fertility, but only when they are underlain with clay, for sandy subsoils do not retain a sufficiency of moisture. The alsike on these, therefore, will grow short and spindling.

Alsike clover matures at the same time as timothy. Timothy is also adapted to the same kind of soils, hence the two grow admirably together. About three pounds of alsike and four to six pounds of timothy per acre will make an excellent quality of hay. The two will grow so thickly that both will be fine in character, hence they make an excellent quality of hay. It is good for horses, for milch cows, and also for sheep and lambs. Such hay is also much relished by these animals when it is properly cured. And when once a seeding is obtained on low-lying lands, both the timothy and the clover will retain their hold upon the soil for several years.

When alsike clover is raised for seed, it should not be sown with timothy, nor should it be sown on soils too low or too rich. It should not be sown with timothy, as the seeds of the timothy and those of the clover are so nearly alike in size that they cannot be separated when being cleaned. It should not be sown on soils too rich, for the reason that it would grow too rank and strong for seed production. The energies of the plant would be concerned in producing bulky growth rather than in producing seed. On the other hand, heavy crops of seed will not be obtained from soils that are too light of texture. Good crops of seed will be obtained in an average season from heavy clays, and excellent crops may be grown on clay loams.

A good crop of alsike should produce from two to three bushels of seed per acre. In some instances four bushels may be secured. The best crop of seed is, of course, the first one. It is, perhaps, questionable as to whether a second crop of seed should be sought until the land which produced it has been sown again in the natural rotation. When a forage or fodder plant produces seed, it so exhausts its powers that it does not seem again capable of repeating the act of seed production satisfactorily.

It is not a good plan to pasture alsike clover when the seed is wanted. On the best seed-producing soils it would check the growth of the plants too much, and a diminished product in the seed would be the outcome. On rich and low soils pasturing would probably be helpful, providing it were uniform. But it would be impossible to secure uniformity in pasturing, as on some parts of the field the clover would be eaten closely, and on other portions of the same it would, probably, not be eaten at all. Another way would be to run the mower over the clover when it was but a few inches high; but even this plan has its hazards, for, when dry weather follows immediately, the crop that has been thus dealt with does not get large enough to yield a maximum crop of seed. The best plan, therefore, is to raise seed from crops grown on suitable soils, and without pasturing or cutting with the mower.

Alsike clover is likely to grow more and more in favor, as it has many good qualities about it. It is very hardy. It will grow further to the north than common red clover can be grown. It will also grow on lands too moist to produce the common red clover in good form. It is a rich producer of valuable seed. It makes most excellent fodder, owing to its fine habit of growth, and also owing to its valuable nutritive qualities. And it is one of the best honey-producing plants that is grown. A section of country that is much devoted to growing alsike clover is also an excellent country for producing honey. Wherever this plant has obtained a footing it has not been discarded, and it is being more and more distributed as time goes on.

Sorghum for Syrup.

Years ago the cultivation of sorghum was introduced into Ontario. At that time a large portion of the land relatively, in several of the states of the Union, was being devoted to the growth of sorghum. Much was being written at the time with reference to the value of the crop. But, notwithstanding, its growth never took a firm hold upon the mind of the farmers. It seems strange that it should be so, for, at the present time, sorghum is being grown at a handsome profit in some sections further north than southern Ontario, and with a season that is shorter than ours. The varieties that were introduced at that time were not equal to those now grown, and this, probably, is one reason why the growth of sorghum has made so little progress in our country.

It may be to our advantage to look into this question again. We have sound reasons for stating that we have large sections of country well adapted to the growth of sorghum. It is not much more difficult to grow than corn. It does not require any more skill to grow it, and our seasons are amply long enough. The average yield of the cane per acre should not be less than twelve tons, where the crop has been given sufficient care. Each ton of the cane grown from one of the most approved

varieties should yield not less than fourteen gallons. The price of the syrup will vary, but syrup of the first quality should be worth from 40c. to 50c. per gallon. There should, therefore, be a fair profit from growing sorghum, for the seed, over and above the syrup obtained, is worth considerable.

In preparing the ground for sorghum or amber sugar cane, the same conditions apply as in growing corn. Land that is well adapted to growing corn will also be well adapted to growing sorghum. The preparation of the ground for corn will also be the preparation that is suitable for sorghum. And the proper time for planting corn is also the proper time for planting sorghum.

Sorghum raised for syrup is usually planted in hills. It is important that ample sunlight be admitted, first, to promote growth, and, second, to promote what may be termed saccharification of the plants. The more sunlight admitted, the richer the juice of the cane; and the richer the juice, the more the syrup that will be obtained from it. The hills are grown 3½ feet apart. The seeds may be planted in a hill, and when the sorghum is four inches high it may be thinned, so that not more than six or seven stalks of the cane are left in the hill.

The sorghum grows very slowly at the first; hence there is more trouble in cleaning it than in cleaning corn. It takes more hand work when it is young. But soon it will grow faster, and after it gets a foot high, or higher, it grows very fast, and reaches a great height. The cultivation should commence when the plants are very young, and it should be persevered in until the crop is too far advanced to admit of cultivating it any longer.

The crop is ripe when the seed-heads turn brown; that is to say, it is ready for being cut. The cane should not be ground for at least twenty-four to forty-eight hours after it has been cut. If stripped of the leaves, it may be piled up in layers which cross one another, and in this state it will keep for some time, until it can be ground. The cane should, if possible, be cut before it is struck by frost. If it should happen to freeze, it should then be worked up quickly, and the more rapidly the work can be done the less will be the loss. The seed also should be removed from the canes before they are cut.

There seems to be no good reason why this industry also should not be added to the industries which we now have. If our neighbors in the United States can make money by growing sorghum to be made into syrup on the forty-fourth parallel, why may not we do the same on the forty-third parallel? The question is at least of sufficient importance to merit investigation.

Nitrogenous Fertilizers.

Nitrogenous fertilizers are the most important by far in relation to plant growth, and they are by far the most costly when we buy them. It is important, therefore, that we get them, so far as we possibly can, through the cheapest sources of supply. The cheapest medium through which we can obtain them is that of leguminous plants, which have the strange power of getting their supplies of nitrogen from the air, and depositing the same in the soil.

But we cannot always get nitrogen in that way. We cannot always grow leguminous plants when we want to, nor can we grow them readily in all climates. We get much nitrogen in farmyard manures, but these are not always available. We are therefore shut

up to the necessity oftentimes of seeking them from other sources.

There are many sources from which they may be obtained in a commercial way. But of these, three are more important than the others. We refer to nitrate of soda, sulphate of ammonia, and the waste of slaughter houses. In the form mentioned last, nitrogen is seldom purchased alone. It is more commonly found in conjunction with phosphoric acid, and oftentimes with more or less potash. When purchased as nitrate of soda or sulphate of ammonia, the fertilizer is practically purely nitrogenous in character.

Nitrogenous fertilizers are chiefly concerned in making growth in the plant at the different periods of its life. When, therefore, crops are abundantly stimulated with nitrogenous fertilizers, they push up rapidly and make a strong growth. It is evident, therefore, that if there is just enough nitrogen in the soil in a normal season to make an average growth of straw, the best returns in grain may be expected from the plant. But, if there is an excess of nitrogen, there will be an undue development of straw, followed by a light yield of grain. If, on the other hand, the nitrogen in the soil is insufficient, the growth of the straw will also be deficient.

Purely nitrogenous fertilizers diffuse very readily in the soil when it is moist. Great care is therefore necessary when applying them, for if they are applied in a wet time and before the roots of the plants are sufficiently extended to take them up in the soil they will soon be carried downward into the subsoil, and will pass away into the drainage water. And, if applied in a dry time, they lie inert or dormant in the soil; hence they may be partially inaccessible to the crops that may be growing upon the land until after they have matured. If the harvesting of these is followed by any considerable rainfall, the fertilizers which lay dormant during the dry weather, and practically inert, are carried down into the subsoil before plants again grow upon the land.

It is important, therefore, that when nitrogenous fertilizers are applied, the plants on which they are strewn shall have already made a good start. We should, therefore, avoid applying them before a crop is sown. It will always be in order, however, to apply them on grass lands in moist weather, for the roots of the grass so fill the soil that the fertilizers will be taken up and utilized as they go downward, unless they are sown when vegetation is at a standstill.

It will be apparent also that these fertilizers can best be applied to cereals when they are young, because, in the first place, they will aid in securing vigorous growth at an early stage in the life of the plant, which is important; in the second, the weather is then usually moist, so that they are readily distributed in the soil; and, in the third, when sown late upon the crops, they may produce excessive growth, and therefore hinder the filling of the ear.

It will be further apparent that it will not be wise policy to sow them in the autumn. When sown in the autumn, even on a crop, it is probable that only a portion of the fertilizer will have been taken up by the crop. Then follows a period with but little growth, while the winter is coming on, and another similar period when the winter is going away, and during these periods much moisture is going downward in the soil; hence it carries the unused increment of the fertilizer along with it.

It is greatly important, therefore, that when nitrogenous fertilizers are used, they be

carefully used. They are always too costly to throw away. They are too valuable to be allowed to percolate through the earth and pass on in our rivers until they reach the sea. They should only be used when wanted, and they should always be applied with intelligence; that is to say, they should always be applied at the right time, in the right way, and on the right crops.

Mangels or Sugar Beets.

There can be no doubt but that mangels can be much more easily grown than sugar beets, but that of itself does not by any means prove that sugar beets should not be grown for live stock. Mangels are more easily grown, since they push on more quickly when young, and, therefore, give opportunity for sooner cleaning out weeds, both between the rows and also in the line of the row. They also want to be thinned to a greater distance between the plants in the line of the row, and in consequence the work can be more quickly done. When the season comes for taking up the plants, moreover, the mangels are more easily taken up than the beets, they are more quickly topped, and the roots do not require so much trimming.

And yet it may be the proper thing sometimes to grow sugar beets. When we say this, we do not refer to sugar beets of the varieties grown for making sugar, nor to growing them exactly on the same lines, but to beets that will render good service in feeding live stock. Of course, beets grown for sugar-making will render such service, but it is more trouble to grow them for sugar-making uses than as a food for live stock. But for some uses in feeding, without any doubt, sugar beets are a better food for live stock, under certain conditions, than mangels. They are undoubtedly better, pound for pound, for fattening uses than mangels. They, therefore, make a superior food in feeding for beef, for mutton, or for pork. But how much superior does not appear to have been made clear as yet. This is one of the things that we shall expect the experiment stations to tell us. And we trust we may not have very long to wait.

Sugar beets grown for feeding may be grown with much less labor than those grown for sugar-making. In the first place, they are larger. In the second place, in consequence of this, they may be grown farther apart. And in the third place, as a further consequence, they are much more easily handled when being harvested. But they require quite a little labor to harvest them, as they grow chiefly under the ground, whereas much of the mangel grows above the ground.

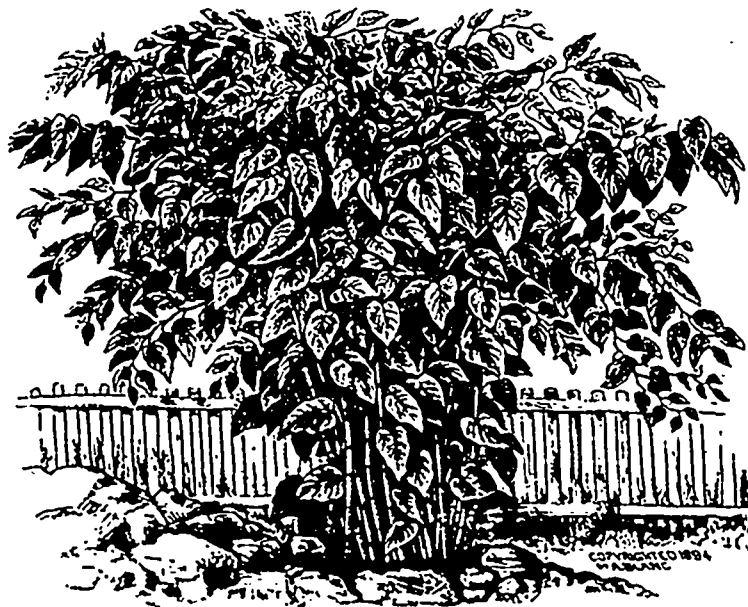
The varieties of mangels will vary with soil conditions. The Globe varieties are best adapted to soils not possessed of very much depth. In other words, they will do better on such soils than the longer varieties. The long varieties should have deep soils. A large proportion of the root grows out of the ground, and in consequence they are very easily taken out of the ground. Some of the intermediate varieties are very good and rich in quality, but they are not as large as the long kinds.

As to the time of planting, there is virtually no difference between mangels and sugar beets. Both should be put in as soon as the ground is ready in the spring in Ontario. But in Manitoba it would be possible to sow the seeds so early that the crop would be cut off by the frost after it had appeared above ground.

As to the time of taking up the plants, there is virtually no difference. Both are tender of frost, and easily injured by the same; hence they should be harvested before the frost get severe. More of the mangel being above ground, it takes injury the more readily of the two. And when the roots are raised they should not be exposed to hard frosts, or they will be so injured that they will not keep.

Mangels and sugar beets may both be fed as soon as they are raised, but they are not in the best condition for being fed then, as the process of ripening goes on with the advance of the season. The feeding value of sugar beets, therefore, is somewhat greater in the spring than in the autumn, and the same is true in regard to mangels.

Probably no better way can be adopted by the average farmer than to grow both mangels and sugar beets. The former could be used for feeding in a general way, and the latter when more specific results were wanted. Sugar beets are excellent for young pigs and lambs, and even for fowls. Owing to their fleshing properties, they do not require to be as lavishly fed as mangels, and, therefore, a given amount will go further than an equal amount of the mangels.



THE NEW FODDER PLANT, SACALINE.

The Rotation of Crops.

The rotation of crops is a broad subject. It is a deep subject. It is so broad that it has never yet been fully compassed. It is so deep that it has never yet been sounded. And yet there are principles which appertain to the question that a child can comprehend, and it is greatly important that they shall be observed. The aim in this article will be to refer to some of these principles, and more especially to some of them that may be considered of primary importance.

Whatever the rotation adopted, it is important that the soil be well supplied with vegetable matter. Several advantages will thereby be secured, and more especially in moist climates. First, the vegetable matter is rich in plant food; hence the crops sown can get plant food without difficulty. Second, the vegetable matter in the soil improves its texture. In heavy soils it keeps the particles further apart, and, in consequence, promotes the filtration of water through the soil, and yet it retains more water than could be held by the same if the vegetable matter were not present. In light, leachy soils it has the

opposite effect. It binds them together. It will be apparent, therefore, that whether the soils are light or heavy, vegetable matter in them promotes the retention of soil moisture. In almost any kind of a season this is an important matter, but in a dry season it is doubly so.

There are various ways of bringing vegetable matter to the soil, but of these two may be singled out as eminently practical. These are, first, to turn under soil of a meadow or pasture, and, second, to apply farmyard manure. The amount of vegetable matter in any sod field where the plants have grown closely is very large. It usually amounts to many tons per acre. It is well, therefore, to sow to grass and clover frequently, in order to get an ample supply of vegetable matter to turn under. When manure is applied, it should be in the fresh state where practicable, if it is to retain moisture to the greatest possible extent.

In the rotation it is important that the crops should be changed frequently. If the same kind of crop is grown for years in succession upon the same field, it not only saps the fertility of a certain kind from the same, but gives encouragement to the growth of

act as a nurse crop to the grasses. A carefully cultivated hoed crop, then, means a clean hay or a clean pasture, and measurably clean grain crops coming after the grass.

To grow two cultivated crops in succession would be a mistake. It would be an unnecessary tax upon the land. It would be growing a cleaning crop after a cleaning crop, which would be a waste of labor. It would certainly be better practice to grow two fields of corn, for instance, of ten acres each, on different fields, and in successive years, than to grow ten acres in cultivated crops for two years in succession, on the same piece of land. In the first instance, the benefits of the cleaning process could be conveyed to twenty acres of grain sown to grass, whereas in the other instance they would only be conveyed to ten acres of the same.

It is, too, excellent practice to keep the land at work, more especially in a climate where there is plenty of rainfall. When the ground is bare the rain runs down through the soil, and it carries out much plant food with it. But when the ground is filled with grass roots, or the roots of other crops, these take up the principal portion of the plant food as it works its way down through the soil. In any case much attention should be given to the rotation. Where a judicious rotation is not adopted, the soil of a country, howsoever fertile, soon gives way. On the other hand, where a judicious rotation is adopted, it may be worked down to the end of the world.

The New Fodder Plant, Sacaline.

Some of our readers have written enquiring what the new fodder plant, sacaline (a description of which we gave in our January number), is like. In response, we give an illustration of a hill of it growing. If any of our readers are thinking of trying it, they should experiment with it on a small scale first, to see if it will grow properly in this country, and also to see how far it deserves the high encomiums given to it. If it possesses only half the good qualities that have been ascribed to it, it should prove a very valuable fodder plant.

Ontario Agricultural and Experimental Union.

At the annual meeting of the above association, held at Guelph, the following were present: Hon. John Dryden, Minister of Agriculture; Messrs. T. B. Terry, Hurlon, Ohio; William Mulock, M.P., Toronto; Dr. Mills, president of the O.A.C., Allen Shantz, Waterloo, president of the union; C. A. Kyle, vice-president; R. F. Holtermann, secretary; G. F. Marsh, treasurer; John S. Pearce, London, L. Wolverton and A. M. Smith, Grimsby; John Kenny, James Anderson, and Captain McCrae, Guelph; James Hunter and F. J. Sleightholm, Humber; E. M. Ensign, Holbrook; Prof. J. Hoyes Panton, Prof. Shuttleworth, C. A. Zavitz, Prof. Dean, and very many others. The president, Mr. Allan Shantz, occupied the chair.

The report of the agricultural committee was presented by M. R. F. Holtermann. It reported favorably on the self-hiver for bee keepers, where a number of colonies were kept. The union has secured the co-operation of some of the best beekeepers in the province in testing five banded Italian bees.

The president, in his address, urged greater interest being taken in the union. There was

some particular kind of weeds, such as may be able to ripen in that particular kind of crop. It is greatly important, therefore, that cereal crops should be changed frequently. They should alternate with grasses and clovers in a succession more or less close, and the more frequent the succession the better the crops of grain and of grass that will be secured.

The more frequently cultivated crops are introduced into the rotation, the more satisfactory will the results be. Cultivated crops, as corn or field roots, are cleaning crops, and, if the work is well done, the land is in an excellent condition for the crops that follow, because it is clean, because the soil has been so stirred that the inert plant food in the same is more or less liberated to feed the crop which follows, and because the condition as to pulverization is usually good, though this may not always be so, at least in heavy soils.

In the rotation, grain should always follow cultivated crops the first season, in order that grass seeds may be sown upon the same. The order, then, after cultivated crops, is grass. The grain is only sown that it may

a great field in co-operative experiments for further extension.

Prof. Dean reported on co-operative experiments in dairying with reference to butter fat and its relation to the amount of cheese produced from it.

Mr. T. B. Terry, Hudson, Ohio, spoke on "Clover Culture." He had obtained the best results from it, and preferred it for manure to barnyard or other manures.

Prof. Panton reported on economic botany and entomology. The report contained interesting information as to injurious insects and weeds and methods of combating them.

Mr. L. Woolverton, in speaking on "Fruit Experimental Work," gave the plan of work adopted by the horticultural experiment stations in various parts of the province.

Mr. William Mulock gave a short address, and endorsed Mr. Terry's statements about the value of clover.

"The Results of the Travelling Dairy" was the theme of Mr. F. J. Sleightholm's address, and "Points Essential to Success in Hog Raising" was the title of an able paper read by Mr. J. C. Snell.

The report of the agricultural co-operative experiments was presented by Mr. C. A. Zavitz, B.S.A. In 1894 there were 14 experiments, 504 experimenters, and 2,520 plots used in experiments. Individual experimenters derived the greatest benefit from these experiments. The comparison of crops grown on different soils was most advantageous. The various experiments were fully reported on by Mr. Zavitz.

Mr. T. B. Terry then spoke on strawberry culture and the profits to be derived from growing choice berries. Mulching was most important. Mr. Terry also spoke on potato culture. A hearty vote of thanks was returned to Mr. Terry for his able addresses.

Hon. John Dryden spoke on the work of the Experimental Union, which he thought very valuable to the country, and justified the grants made to the union by the government. Co-operative work in agriculture was most important.

Prof. Hutt gave the report of the committee on horticultural experiments, and Mr. E. Lick, Oshawa, followed upon horticulture.

The treasurer's report showed receipts of \$787.53, including the government grant of \$700. The expenses included the cost of the grain, plants, etc., sent out for experimenters, and the expenses, printing, etc., of the various committees on experiments, and the annual meeting. The balance on hand was \$32.33.

It was decided that Messrs. Holtermann and Lick wait on the government for an increased grant, in view of the increase and growth of the work.

The officers for the present year who were elected are: Honorary president, Mr. James Mills, M.A., LL.D.; president, Mr. C. A. Kyle, Chatham; vice-president, Mr. D. E. Gibson, Willow Grove; secretary, Mr. R. F. Holtermann, Brantford; treasurer, Mr. H. L. Hutt, O.A.C., Guelph; editor, Mr. C. A. Zavitz, O.A.C., Guelph; auditors, Messrs. T. F. Patterson and J. F. Clark; representative Central Farmers' Institute, Mr. R. F. Holtermann; agricultural committee, Messrs. C. A. Zavitz (director), President Mills, Prof. Shuttleworth, P. C. Vanatter, and R. Harcourt, B.S.A.; horticultural committee, Messrs. H. L. Hutt (director), Elmer Lick, and N. Monteith, B.S.A.; apianian committee, Messrs. R. F. Holtermann (director), R. M. Husland, and E. G. Emigh; dairying committee, Messrs. H. H. Dean (director), H. S. Beckett, B.S.A., and S. P.

Brown; economic botany and entomology, Messrs. J. H. Panton (director), L. W. Lang, and F. C. Harrison; live stock, Prof. Day (director), Messrs. N. Monteith, W. W. Balandyne, and R. E. Cowan.

Summerfallowing.

Editor Canadian Live Stock and Farm Journal:

Sir, -I notice that your note to my letter on improving worn-out soils, suggested growing roots instead of summerfallowing. Well, you and I differ on that point. In improving worn-out soil, if you were to give it a coat of barnyard manure, and sow roots or corn, you would only have what I call half, or not more than two-thirds of a crop at the most; but when you summerfallow, and seed down next year, you will have one-third more grain, and also as much more clover to feed to your stock, and this, if properly saved, is the best of all fodder except green oats. If any of your readers know of anything better, I shall be only too glad to hear of it.

There is another food that is highly spoken of, and that is bran. I once heard a speaker at a farmers' institute meeting say that it was worth \$14 a ton, and that farmers would find it profitable to buy it at that price. Well, I have fed a good deal of bran, and all kinds of grain, and I say that the farmer cannot afford to buy them and pay for them out of the increase of milk that he will get, or he will be behind-hand. What I am sure will pay a profit is to grow roots enough to feed one's stock all the year round, and lots of clover hay, and, if we follow this course, I think that we shall soon find ourselves floating out of debt into a land that is full and plentiful.

I hope to hear from you in your February issue, and from a dozen or more of your readers in the March number.

How much fat or strength will a cow in milk lose that was turned out to drink, and left out till she shivers, and at the two next milkings gave 15 pounds of milk less than usual? How much fat or strength will one not in milk lose?

E. R. CANDIE,
Smith's Falls.

[Where the land is very foul with weeds, summerfallowing is sometimes absolutely necessary; but where it is fairly clean, worn-out land could be better restored by growing green crops, and plowing under. We suggested a hoed crop for cleaning the land in order that the land should not remain idle, as would be the case when summerfallowing is practised. As regards bran, many dairymen have purchased it and fed it profitably. With the roller mills, however, the bran is not as good feed as it used to be when stones were used in the mills. Our correspondent does not seem to have tried his hand at a silo. He would find in ensilage a cheap food for dairy cows. It would be impossible to say how much fat either a cow in milk or a dry cow would lose when exposed in the manner stated; but, if the practice were continued, the loss would be considerable. See article headed "Winter Care of Milch Cows," in the March number.—Ed.]

Questions and Answers.

Corn for Ensilage.—Subscriber, Harper, Ont.: Please inform me as to which is the best kind of corn to grow for ensilage. I want the kind that will give the heaviest stalk, a heavy cob crop, and that will mature early.

Ans.—For your district we think that one of the three following would be most suitable, viz., Leaming, Pride of the North, or Huron Dent.

Orchard and Garden.

The Orange Crop in Florida.

The cold weather that extended as far south as Florida during the early part of last month has wrought great damage to the orange crop there. Oranges were frozen solid on the trees, and it is reported that over 2,000,000 boxes of them were destroyed. This means the destruction of the greater part of the crop. Both the growers and the railway company will lose heavily, the latter on account of the loss of freight. It has been suggested that the growers turn the frozen oranges into wine and vinegar, and thus realize something out of them. The railway companies are reducing the freight rates in order to give the shippers a chance to make all they can. The loss of so many boxes has made Florida oranges dear this year.

The Dairy.

Dairying in Northern Ontario.

An important announcement was made by the Hon. John Dryden, Minister of Agriculture for Ontario, in his address before the dairymen of eastern Ontario. He proposes to ask the legislature at the coming session for a small appropriation wherewith to start a dairy station in northern Ontario, in order to show the great capabilities for dairying of that, at present, comparatively unknown district. There is to be no attempt at ornate buildings, but such only are to be erected as would be built by any private individual going into dairying. A site near the Wabigoon river will probably be selected. Mr. Dryden has personally been over the ground, and is very well satisfied with it. He reports that white and red clover grow naturally, that immense crops of timothy, oats, and roots, as well as ensilage, can be raised, and that there is plenty of timber for use near to hand. The C.P.R. will purchase the butter, milk, and other products raised on the farm, and there is every probability of the station being more than self-sustaining.

Mr. Dryden's action is much to be commended. The capabilities of those parts of Ontario for agriculture are not generally understood, and, therefore, anything that will draw attention to their possibilities in that line, and that will bring in settlers, is to be encouraged. The results of this experiment we shall await with interest.

A Bonus on Creamery Butter.

At the Ontario Creameries' Association's annual meeting at Chesley, last month, some suggestions were offered in the line of giving some assistance to our creameries, to enable them to export their butter to Great Britain on a paying basis. One made by Prof. Robertson was that perfect cold storage be provided, so that the butter could be put in within a few days after being made, and held there in perfect condition, at a temperature of 32 degrees, until such time as it was considered the highest price could be obtained.

Another, and a better one, was moved by Mr. John Croil, Aultsville, seconded by Mr. R. J. Graham, Belleville, and carried unanimously. This was to have regular weekly shipments of fresh Canadian creamery butter made to England, and such assistance given by the Provincial and Dominion Governments as may be necessary to carry on the work until the quality of our butter has been well-established in the British market.

This, we think, could be done until our butter trade with Great Britain got firmly established. Although we are not greatly in favor of the bonusing system, yet, in this case, as our farmers will reap the benefit from it, we think that it is well worth trying whether we cannot secure a greater share of the butter trade with Great Britain.

Butter Microbes.

The *Queenslander* gives particulars of some samples of the lactic acid ferment which is used in Denmark to accelerate and control the ripening of cream and improve the keeping properties of butter, a quantity having been forwarded to the manager of the Queensland Government travelling dairy. In a report to the Department of Agriculture, the manager (Mr. Mahon) says that in a test made 20 lbs. of cream, immediately after separation, were treated with the ferment

and were ready for churning ten hours and fifteen minutes subsequently; while 10 lbs. of unfermented cream, reserved for the purpose of comparison, were not in a fit condition for churning until thirty-eight hours later. The 20-lb. cream yielded 12 lbs. of butter, and the 10 lbs. of untreated cream gave 5 lbs. 12 oz., or at the rate of 11 lbs. 8 oz. for 20 lbs. In a second test, made two days later, similar quantities of cream were treated, and this time the artificially-ripened cream was found ready for churning in eight hours and twenty minutes, while the other required thirty-seven hours longer to mature. The 20 lbs. returned 12 lbs. of butter, and the 10 lbs. gave 5 lbs. 10 oz., or at the rate of 11 lbs. 4 oz. for 20 lbs.

Australian and Canadian Cheese.

The government of New South Wales is leaving nothing undone to forward the interests of the dairymen of that country, and Canadians will have to look to their laurels or we shall be beaten in the British market. The *Sydney Mail* states that the Inspector of Agriculture, Mr. Duncielliff, has forwarded to the Agricultural Department a report on a sample of cheese from the Corunna factory. The report expresses gratification at the result of the analysis made of the cheese, which shows that New South Wales cheese which was sold in the Sydney market at 1d. per pound contained 1.25 per cent. more fat and 4.78 per cent. less water than cheese sent from Ontario as a specimen of high-class Canadian make which sells freely in the English market. In point of condition and quality, the report says that the Corunna cheese was pronounced by many who tasted both to be superior to the Canadian. Continuing, the report says: "The lesson to be taken to heart by our makers is that, if they will, they can produce high-quality cheese which will hold its own against others in exportation. One cannot, however, help thinking it strange to see our farmers of the noted Bega district, after sticking so long and persistently to cheesemaking whilst unremunerative, abandoning it now that they have prospects of extended markets with better prices, and taking up butter factories in face of the rapidly increasing competition and the probability of lower prices in the immediate future of that product."

To this report Mr. Campbell, the Chief Clerk of the Agricultural Department, adds a minute that the objection that would be found in the English market to this particular cheese is its rather high color, too much annatto having been used. The English consumers will only take cheese that has been hardly colored at all, no matter how excellent the quality. A further minute is added by the Under-Secretary, Mr. Harrie Wood, suggesting that the makers of the cheese should be asked to supply a cheese of the same quality as the one tested, but of the proper color, and that the Department might send it home and ask Mr. Valentine to bring it under the notice of the trade, with a view to ascertaining what demand there would be for such cheese and what price it would fetch. The Minister, Mr. Sydney Smith, has approved of this suggestion being carried out.

Prof. Dean's Cheese Experiments.

Considerable discussion has been going on lately concerning the suggestion made by Prof. H. H. Dean, Guelph, in a bulletin on "Experiments in Cheesemaking," that, by adding 2 per cent. to the fat readings, a much nearer correct value of the milk could be ar-

rived at than by paying either by weight or by fat alone. Prof. Dean says that the experiments made by him have altogether pointed in this direction, and he has drawn the following conclusions therefrom:

"(1) An increased percentage of fat in the milk gives an increased yield of cheese, though not in the same proportion.

"(2) That a pound of butter fat in milk, averaging 3.37 per cent. of fat, will make more cheese than a pound of fat in milk averaging 3.94 per cent. of fat is shown by the results of the experiments at the dairy of the Ontario Agricultural College, and all the other Canadian experiments quoted point in the same direction.

"(3) There is little difference in the per cent. of fat lost in whey, whether the milk is rich or poor in fat, what difference there is being in favor of the whey from the poor milk.

"(4) Adding on 2 per cent. to the fat readings, and dividing the proceeds among the patrons according to this basis, appears to be more nearly correct for normal milk than paying by weight of milk or paying according to the percentage of fat alone. Though this is tentative or suggestive rather than conclusive, we expect that something more nearly correct will be discovered in the near future."

It will be seen that Prof. Dean, while urging the necessity of adding on a percentage to the fat readings, merely suggests 2 per cent. as being approximately correct. This point, and some of the other conclusions arrived at by him, notably the one that milk showing a poorer percentage of fat will make more cheese than that richer in fat, have been strongly combated by other good authorities.

The point is a most important one. Most factories had come to use the Babcock tester and to abide by its decisions in paying for milk, and, therefore, the doubt cast upon that as not being the fairest method of paying for milk for cheese is most disturbing. We hope that the question will be decided soon—the sooner the better.

Eastern Ontario Dairymen's Association.

The eighteenth annual convention of this association was this year held at Gananoque during the three days, January 2nd, 3rd, and 4th. The meetings each day were well attended, and the addresses of the practical men who spoke were listened to with great attention, and their remarks were frequently applauded.

The session was opened by an address by the president, Mr. T. B. Carlaw, Warkworth. In it he referred to the success that had attended the cheese industry during the past year, in spite of the general depression in most branches of agriculture. He would impress on those present the necessity of making the finest class of cheese every year, as such would be ever in demand. The dairy schools were doing good work, and our governments should be congratulated on giving such aids to the dairymen of the province. Thanks were specially due the Hon. John Dryden for the assistance he has ever been ready to give to them. The instructors and inspectors of the association had never done better work than during the last year. He counselled greater attention being given to more corn growing, the use of the silo, and better stabling for stock.

Mr. D. Derbyshire, Brockville, in welcoming the delegates, reminded them that Leeds county was the cradle of the Canadian cheese industry.

At the afternoon session Mr. George Taylor, M.P., spoke on legislation in regard to dairy products, referring especially to the prohibition of oleomargarine importation and manufacture in this country. Mr. Derbyshire also spoke on the importance of the dairy interests to the province.

The reports of the inspectors and instructors were then handed in, after which Mr. John Gould, the well-known Ohio dairyman, in his own inimitable way, made a capital address on the subject of "The Farmer as a Manufacturer." He claimed that the man who took a cow and got from the land the proper food for the animal, and fed that food to the cow in the way to produce the best results in the making of beef or milk, was as much a manufacturer as the man who took iron ore and by driving certain elements out of it turned it into steel.

Prof. H. H. Dean, Guelph, held forth on the advantages of the agricultural experiment stations in the province, and would like to see the association co-operating with the Ontario Experimental Union in dairy experiments.

Mr. G. V. Chown and Mr. J. A. Ruddick put forth the claims of the Kingston dairy school for general support.

At the second day's session Prof. Shutt, Ottawa, who took for his subject, "The Composition of Dairy Products," was the first speaker. Using large diagrams, he explained the constituents of milk, cheese, and butter, and the values of skim-milk and buttermilk. He urged the importance of plenty of water, and showed the need of pure water for stock. No well should be dug near stables, as, sooner or later, it would get contaminated. Farm wells should be inspected, especially those on farms from which milk is sent to factories.

Mr. John Gould told the meeting how to grow corn, how to build a silo, and how to make ensilage. Thorough cultivation was necessary in order to make a good seed bed for the corn, and early and shallow cultivation after planting in order to kill the young weeds were also strongly insisted upon. He described a cheap, light, homemade harrow, consisting of a triangular frame of 2½-inch wood, with 4-inch nails driven through, for this early cultivation. He advocated the use of the wooden silo entirely, even to the extent of discarding stone foundations. He preferred the square silo, as being cheaply and easily constructed. It should be built of a double thickness of good flooring, lined with tarred paper, and made perfectly air-tight. Fill around the sides first, and, at the last, level up in the centre. The best covering for a silo was made by pouring about ten pails of water over the ensilage, which developed a thin mould, this forming a natural covering, giving cheaper and better protection than any artificial covering could give.

Prof. Dean spoke upon recent cheese experiments, conducted at the Ontario Agricultural College, in order to find out the influence of butter fat upon cheese. He held that an increased percentage of fat in the milk gives an increased yield of cheese, though not in the same proportion; also, that a pound of butter fat in milk, averaging 3.37 per cent. of fat, will make more cheese than a pound of fat in milk averaging 3.94 per cent. of fat, as shown by the results of experiments at the dairy of the Ontario Agricultural College, and all the other Canadian experiments quoted point in the same direction. There is little difference in the per cent. of fat lost in whey, whether the milk is rich or poor; in fact, what difference there is in favor of the whey from the

poor milk. Adding on 2 per cent. to the fat readings, and dividing the proceeds among the patrons according to this basis, appears to be more nearly correct for normal milk than paying by weight of milk, or paying according to the percentage of fat alone.

Mr. D. M. McPherson, M.P., Lancaster, urged the necessity of more intensive farming. Addresses were then presented to Hon. John Dryden and Mr. N. Awrey, M.P., to which suitable replies were made.

The subject of "Good Roads in the interest of the Dairy" was well handled by Mr. A. Pattullo, Woodstock. He referred to the great difference in price in handling milk, which ranged from 3 to 17 cents per 100 lbs., and claimed that bad roads were the cause of the increased cost of handling.

Prof. Robertson spoke on "First Principles of Agriculture," which he held to be a desire for exact knowledge, the exercise of energy, skill in management, and the practise of economy.

The evening session was largely taken up with an important address by the Hon. John Dryden. After referring to the extension of dairy work in the province, he congratulated those present on the improved condition of the home market for dairy produce. He held that the decrease of our butter exports was largely due to the improved demand in our cities for high-grade creamery butter. He would like to see better facilities provided for exporting dairy produce. Cold storage buildings were necessary at shipping points. He then went on to refer to the suitability of a good portion of Algoma for dairying, and mentioned that the Ontario Government would, at its next session, ask the legislature for a small grant with which to establish a pioneer dairy farm near Wabigoon, on the line of the C.P.R. Here it is proposed to show by actual test what are the possibilities of that district in dairying.

The election of officers for next year resulted as follows: President, Edward Kidd, North Gower; first vice-president, E. J. Madden, Newburg; second vice-president, John McTavish, VanCamp. Directors: Wm. Eager, Morrisburg; R. N. Craig, North Gower; J. R. Dargavel, Elgin; James Whitton, Wellman's Corners; T. B. Carlaw, Warkworth; Henry Wade, Toronto. Auditors: Morden Bird, Stirling; and Wm. J. Bissell, Algonquin.

The auditors' statement for 1894 showed the receipts of the year to be \$5,978.56 and the expenditure \$5,599.35, leaving a balance on hand of \$379.21.

Mr. John Gould gave a masterly address on "The Dairy Cow and her Functions," deprecating too early breeding. He did not think that the dairy business would be overdone.

Prof. Robertson advocated the mixed ration of sunflower and beans for dairy cattle in winter, and exhibited some of the food to show its keeping qualities. He ridiculed the idea of over-production so far as milk, cheese, or butter was concerned. He advised a more binding form of agreement between buyers and sellers of cheese, and thought that the salesmen were sometimes in an awkward place between the patrons and the exporters.

Ontario Creameries' Association.

In view of the fact that Chesley is the centre of an important creamery section, it was this year selected for the meeting place of the tenth annual convention of the Ontario Creameries' Association. The proceedings commenced on January 8th and lasted through-

out the two following days. The meeting was a most successful one, and was well attended.

The president, Mr. D. Derbyshire, in the course of his annual address, reviewed the work done by the association during the past year, which he felt sure would have good results. Their instructor, Mr. Sprague, by his practical instruction to the creameries, especially to new ones, had done excellent service. Nineteen winter creameries and eleven regular creameries were established last winter, making seventy-four regular and thirty-one winter creameries now in operation in the province. One of the largest creameries in Canada, and probably in the world, had just been completed at Renfrew. The usefulness of the association was only beginning. While the price of creamery butter had been low, still it had been profitable. New markets must be sought for, and economical methods of production adopted. Co-operation is needed for this.

In the afternoon the subject of "Corn for the Silo" came up for discussion. Mr. John Gould, of Ohio, in taking part, said that the farmer was a manufacturer, and he must manufacture, as cheaply as possible, nutritious food for his cows. Corn was the best of all coarse fodder, and farmers must plant corn and have silos if they would be prosperous dairymen. Corn required heat and moisture to grow in best form. To obtain the former the best plan was to sow the corn on a sod soil, and the decomposition of the sod would raise the temperature of the soil eight or ten degrees, and assist development very materially during the earlier months of the year. He next spoke of the culture of the crop, and said he did not believe it was a good practice to cultivate the soil as was done at present; the fine roots which exist near the surface, whose chief purpose is to absorb moisture, were cut off by the excessive and deep cultivation now in vogue. He believed that the best plan was to thoroughly prepare the seed bed, and then, by means of a light harrow, keep the weeds down. After the corn was up, he thought it best to desist from further cultivation. He advised the sowing of the corn in drills, three and a half feet apart, the kernels to be planted at a distance of six inches in the rows. By this means the plant would have ample opportunity to absorb its nourishment both from the soil and atmosphere.

Prof. Shutt described some experiments that he had conducted some years ago with varieties of corn. One-tenth of an acre of each variety was cut at five stages in the growth of the plant, viz., tasselling, silking, early milk, late milk, and glazing; the yields per acre were calculated from the weight off this area. At the same time a chemical analysis was made of these corns in their several stages of growth, in order to ascertain their true food value. From these chemical data, together with the weight of yield, he had found that there was a very large increase in the real food value of the corn plant from the tasselling to the glazing period, so that, by merely allowing the plant to grow, over 100 per cent. of true cattle food was added to the corn crop between the tasselling and the mature condition.

Mr. Alexander E. Wark, Paisley, in his address on "How to get butter on the market in full bloom," made several suggestions. While Ontario was most adapted for dairying, our buttermakers had a bad reputation for butter. For this the patrons of the creamery, the creamery owners, and the buyers and exporters were to blame. The first named were too careless about the milk and cream sup-

plient, while the owners and the exporters held their butter too long for higher prices, although knowing that butter does not improve by keeping. He thought that refrigerator cars should be run every two weeks to Montreal in order to get the butter into cold storage buildings as early as possible.

On the second day Prof. Shutt took for his subject, "Chemical Advice in Dairying Practice." In his address he showed the close relationship between chemistry and agriculture, and how useful the former was in explaining the more intricate problems in agriculture.

"The Value of Education to the Dairymen" was touched on by Mr. John S. Pearce, London. If buttermakers are to keep up to the times, they must study. A course at the dairy school was strongly advised.

On being once more called on, Mr. John Gould spoke on silos and ensilage, giving his own experience and much advice as to the construction of a silo.

"Good Roads," as a means of lessening the cost of hauling milk to creameries and cheese factories, was the subject of Mr. A. Pattullo's address. The improvement of country roads would mean an annual saving of half a million dollars to dairymen.

Prof. Dean, in speaking on "Fat in Milk," said that fat could not be fed into milk. The quality of the milk depended on the cow herself. Feeding slop did not increase the quantity of milk. The separator method extracted more cream from the milk than other methods.

Prof. Robertson addressed the meeting on "The Creamery Outlook of Canada." Creamery butter was the only kind that could compete in the British markets with foreign and colonial butter. Dairying offers the best chance to a man of getting good returns for his skill. The co-operative method is the best way of manufacturing butter, being the most economical, and giving a better product that will sell for the highest price. He gave some advice as to feeding and the care of dairy cows, and some hints as to the best method of handling the cream.

Prof. Shutt followed with a talk on improved methods of farming, after which Mr. John Gould discussed the management of the dairy, pointing out that, after all, the man was the most important factor in the dairy, the cow coming next.

Mr. J. W. Wheaton, secretary of the Western Ontario Dairymen's Association, took for his subject "Bacteriology in Relation to Milk." He showed that there were two kinds of bacteria present in milk. Of these, one kind could be destroyed by heating up to 130° or 140°, while the others could not be killed unless a temperature of 230° to 260° were obtained. As these germs flourished in milk, he showed the necessity of absolute cleanliness both in the stable and in everything connected with milking and the dairy utensils. Pure air tended to destroy the injurious bacteria, while the more desirable forms that ripened the milk were fostered in it. Pasteurizing milk could be done in the creamery, but not in the cheese factory. Separating cream immediately after milking would ensure purer cream and butter. He thought the study of bacteria so important that a specialist should be appointed for that purpose.

Prof. Robertson, in speaking on marketing butter, referred to the difficulties in shipping to the old country, and favored giving a bonus to factories for building cold storage buildings. He would hold summer creamery

butter in cold storage, and ship it to Great Britain in the winter.

A resolution was then moved by Mr. J. H. Croil, Aultsville, and carried, that "The Dominion and Provincial Parliaments be asked to extend such financial aid as may be necessary to place weekly shipments of fresh-made Canadian creamery butter on the English market until such time as its quality be established."

Prof. Robertson, being again called upon, spoke on "The Proper Method of Feeding a Cow."

The following are the officers for the current year: President, D. Derbyshire, Brockville; first vice-president, Wm. Halliday, Chesley; second vice-president, J. Miller, Spencerville; directors, J. H. Croil, Aultsville; A. Campbell, Ormond; Charles Johnson, Athens; John Sprague, Ameliasburg; A. A. Wright, Renfrew; A. A. Allan, Toronto; John S. Pearce, London; W. G. Walton, Hamilton; John Hannah, Seaford; A. Wenger, Ayton; W. Snider, St. Jacobs; James Carmichael, Arva; John Seinkam, Wellesley; secretary and instructor, Mark Sprague, Ameliasburg.

Western Ontario Dairymen's Association.

January is the month for the dairymen of Ontario to sit in session. The hall was opened by the eastern men, then came the creamery meeting, and last of all the western men had their turn. These had selected Stratford for their place of meeting, and January 15th and the two following days as the dates. With the exception of the opening session, the meetings were very well attended. The chair was occupied by Mr. Andrew Pattullo, Woodstock, president of the association. In the course of his able annual address, he referred to the work of the association during the year past, and thought that much of the prosperity of the dairy industry was due to their efforts. There had been a steady growth of the cheesemaking industry in western Canada, and the growth of the dairy was further evidenced in the progress of winter butter-making in connection with cheese. It was possible that the expansion of dairying might cause a fall in prices. All efforts should, therefore, be directed to raising the quality and improving the position we now hold in the markets of the world. Cheesemakers should be paid a good salary. Oftentimes, the cheapest cheesemakers were the dearest in the end. The association might do a useful thing if it could bring about an arrangement by which all the factories would establish a fair and liberal rate for the manufacture of cheese according to the volume of the output in each, then advertise the price to be paid for making, and select the maker in every case purely on merit, and without any reference to the price which he is willing to take in competition with others. Mr. Pattullo strongly urged that attention be paid to the improvement of the home market. As regards branding cheese, he felt that the advantages of branding our cheese indelibly on the bandage, that is, the name of the district of the factory and the date of manufacture, would far exceed any possibility of disadvantage that can be suggested. Such a system would promote confidence in the producer and prevent deception, either on the part of the middlemen or of the makers of cheese.

The report of the secretary-treasurer, Mr. J. W. Wheaton, showed that the work of the association was progressing favorably. Ad-

resses had been given at twenty special dairy and annual meetings, as also at other meetings. Circulars, asking questions on some of the more important phases of the factory system, had been sent out to factories. To these 136 replies had been received, being about three-eighths of the total number of factories. There was an average of 72.7 patrons and 466.2 cows for each factory. This would make a total of 23,627 patrons, supplying the milk of 151,555 cows to cheese factories in western Canada. The largest amount of money received by any patron from a cheese factory in 1893 was \$65, and the lowest \$9.96. If 151,555 was taken as being the number of cows, the estimated amount of money paid to the cheese factory patrons in the territory looked after by this association would be \$3,917,696. The cost of manufacture, including drawing, varies from 1½ to 2½ cents per pound, making an average of 2 cents. The highest test of butter fat for June, 1894, was 4.9 per cent., the lowest 1.8, and the average test of the fats 3.4 per cent. The prices obtained for butter at the creameries last winter varied from 23½ to 24 cents per pound. The cost of manufacture varies from 3½ to 4 cents per pound. There is an increase in the number of factories making butter. As far as can be estimated, there are thirteen cheese factories in western Ontario making butter.

The inspector's and the directors' reports were then submitted, and Mr. J. S. Pearce, London, delivered a short address on "Dairy Goods at our Exhibitions," making several suggestions for increasing the exhibits and extending the interest in them. He was followed by Mr. D. Derbyshire, who paid the president a high compliment on his address. He would not have cheese made in early winter or spring. In winter, fancy butter should be made, and fancy cheese between May and October. We furnish one-half the cheese imported into the mother country, and could easily increase the trade to 75 per cent.

Mr. John Gould, of Ohio, gave a capital address on "Some of the Principles of Dairying," in which he counselled dairymen to learn thoroughly the A B C of the business.

Mr. C. H. Everett, president of the Wisconsin Dairymen's Association, followed him, and spoke of the high reputation Canada had for cheese.

Hon. Thos. Ballantyne gave a sketch of the progress of dairying during the past twenty-eight years. He advised breeding special purpose cows. Nothing was as profitable as dairying to-day.

Mr. F. C. Chapais, assistant dairy commissioner for Quebec, spoke briefly of the progress of dairying in that province.

Prof. Robertson devoted his address to dairying in general. He was of the opinion that the most valuable equipment of a dairymen was a clear head and a good mind. Speaking of the cheese industry, he said that we exported \$16,500,000 as the product of the dairy last year. Of this, \$15,500,000 was in cheese, and a little over \$1,000,000 in butter.

The hall, at the second day's session, was crowded. Prof. Fletcher, Ottawa, spoke on "Injurious Insects." First treating of the hornfly, he said that it had reduced the dairy output from one-quarter to one-half last year. Speaking of lice, these worried cattle and affected the production of milk. The remedy for the hornfly was two parts of coal oil to one part of soapsuds or sour milk reduced by ten times the quantity of cold water and applied by a force pump, a sponge, or a swab. It

was a cheap and effective remedy, and would clean the cattle of lice as well. It had also another advantage, as it reduced the warble attacks on cattle. It prevented the eggs of the warble fly from being laid, and also suffocated the insect inside. The attacks of the pea bug were next touched upon. By holding over for two years one had an effective remedy for the pea bug. Place the peas in tight paper or cotton bags, and the insects would come out during the first year and die of starvation, because they did not feed on the dry seed. Another insect, hatched from an egg on the green pods, was proving very injurious. The eggs were laid immediately after the seed pods were formed, and the small caterpillar ate its way into the pods. When full grown, it fell to the ground, where it lay during the winter. The remedy which obviously suggested itself was to grow the peas as far as possible on the second year from where they were grown the first year.

The clover seed midge and insects in fruit-also came in for mention. Spraying was the only sure remedy for these latter.

Mr. C. H. Everett discussed the "Breeding, Feeding, and Care of Swine." His remarks were much in a line with the experience of the best swine breeders, but his advice to look for breadth in preference to length would not be at all suitable for Canadian hog-raisers who have the English market in view.

Mr. John Gould's discourse on "The all the year-round Care of Cows" contained much solid good sense and practical advice. The dairymen who gave all the year round care to his cows got the best results. He advocated saving the best young heifers, using vigorous sires, and keeping cattle in clean, dry, and pure stables.

Prof. Dean then spoke on "Some Experiments in Cheesemaking" that had been conducted by the Ontario Agricultural Experiment Station. The conclusions drawn were that an increased percentage of fat in the milk gives an increased yield of cheese, though not in the same proportion. That a pound of butter fat in milk averaging 3.37 per cent. of fat will make more cheese than a pound of fat in milk averaging 3.94 per cent. of fat is shown by the results of the experiments at the dairy of the Ontario Agricultural College, and all the other Canadian experiments quoted point in the same direction. There is little difference in the per cent. of fat lost in whey, whether the milk is rich or poor in fat, what difference there is being in favor of the whey from the poor milk. Adding on 2 per cent. to the fat readings, and dividing the proceeds among the patrons according to this basis, appears to be more nearly correct for normal milk than paying by weight of milk, or paying according to the percentage of fat alone, though this number is tentative or suggestive rather than conclusive.

Prof. Robertson disagreed with Prof. Dean as to the correctness of these results, and a letter was read from Prof. Van Slyke, of Geneva, N.Y., who also was opposed to Prof. Dean's conclusions. Hon. Thos. Ballantyne also asserted that rich milk made better cheese than poor milk.

In answer to Prof. Robertson and the letter of Prof. Van Slyke, Prof. Dean said that the only point in which they differed was the relative excellency of the cheese made from the rich and that made from the poor milk.

Mr. A. W. Campbell, St. Thomas, spoke of his experience in road building, and showed how good roads should be built.

Prof. Robertson closed the evening's pro-

gramme with an address on "Dairying in Canada."

The speakers on the last day was Mr. C. H. Everett, who spoke on "The Cow," beginning with it as a calf at birth. He gave his method of curing clover hay, and of cultivating corn in Wisconsin, urging shallow cultivation for the latter.

A resolution was carried that laws be enacted to compel cheese factories to brand all cheese with the date of its manufacture.

Messrs. Harold Eagle, H. White, T. B. Miller, and J. Johnston were appointed a committee to arrange and prepare topics on practical cheesemaking for discussion at the next convention.

Prof. Robertson made a short address on bitter taste in cheese and cream. He attributed it, in the case of cream, to the fact that it was kept in improper temperature of from 50 to 53 degrees for three or four days. And the same conditions were true of bitterness found in cheese. This, of course, was due to microbes. They lived in that temperature, but if it was made colder than that, or warmer, they could not live. If proper care was taken of the milk and curd, there would be no bitter cream and no bitter cheese.

Officers for 1895 were elected as follows: President, Andrew Pattullo, Woodstock; first vice-president, A. F. Maclaren; second vice-president, Harold Eagle, Attercliffe Station; Division No. 7, John Prain, Harriston; Division No. 8, J. N. Paget, Canboro; Division No. 9, J. F. Williams, Ingersoll; Division No. 10, George Robertson, Lucknow; Division No. 11, Thomas Ballantyne, Stratford; Division No. 12, J. S. Pearce, London; Division No. 13, Harry White, Hawkesville; representative to Industrial, Toronto, J. W. Wheaton; Western, London, J. S. Pearce and John Gilmore; Toronto Farmers' Institute, Thomas Ballantyne; auditors, J. C. Hegler, Ingersoll; J. A. Nelles, London; Z. A. Leach, Chatham.

For The Canadian Live Stock and Farm Journal.
Rusty Milk Cans.

For the conveyance of large quantities of milk by rail or road, or for use as milk buckets or milk-pans, there are probably no better utensils than those made of tinware, so long as they are kept in good order and thoroughly cleaned. When, however, the coating of tin wears off, and the sheet iron below gets exposed, the latter rusts at once when water or milk is introduced into the can. Good dairymen discard such rusty tins, well knowing that they affect the milk injuriously. How much they affect the milk would, probably, surprise many people.

A case reported in a western paper shows to what an extent it spoils the milk. A Chicago establishment had received from a creamery some milk which had a half-rotten smell and a horrible taste. It was not sour, although it was three or four days old. The milk was carefully examined, and an agent was sent to the creamery, who examined the milk in bulk from the patron who had supplied the milk. The can was found to be scrupulously clean, and came from a patron who had a good reputation for cleanliness, but the inside of the vessel was very rusty, and the milk only about half filled it. As the agent had met with a similar taste and smell in milk received at another creamery in a rusty can, he induced the manager to buy a new can and send it to the patron, with the request that he should use it instead of the old one. The patron was offended at the

suspicion that his milk was not good, and sent back the new can unused, but bought a new one himself, and put half his milk in the new one and half in the old one, and sent it that way. That in the new can was found to be perfectly unobjectionable, while that in the rusty one had the same old taste and smell. The agent wished to borrow the rusty can to experiment with other milk, but the patron refused to lend it, and he had to give him the price of a new one for it. Further experiments with other milk in the can produced the same result, a fearful smell and a tallowy taste, and butter made from the milk also tasted of tallow. An analysis revealed the presence of a considerable quantity of iron in the milk. The taste and smell were worse when the can was half full than when it was filled.

To show conclusively that the rust was the cause of this state of affairs, and not bacteria remaining in the can, this was steamed for an unusually long time, and yet, when milk was again poured into it, the odor and taste were still apparent, thus establishing without doubt that rust was the cause. The moral is to discard rusty cans, and also to purchase only such as are made out of good tin, as these will long outlast those of a cheaper make. G.

Questions and Answers.

Butter Fat in Relation to Cheesemaking.—C. E. A., Stanstead: Does the same proportion exist between the amounts of cheese made from milk containing different amounts of butter fat per 100 lbs. as exists between the amounts of the butter fat, other things being the same? Would it make any difference in the results if one sample of milk was very low in butter fat and the other very rich?

ANS.—By Prof. Dean, Guelph: Your correspondent C. E. A. asks a question that is being discussed at the present time with considerable vigor. I presume he means, "Does the yield of cheese increase in proportion to the fat?" We have not found it to do so. A pound of fat in normal milk containing from 3 to 3.5 per cent. of fat has made more cheese with us than a pound of fat in milk testing 3.5 to 4.5 per cent. of fat. The question is an important one at the present time, as a number of factories are undecided whether to continue paying by test, or to discard the system. The plan advocated by the dairy department of the Ontario Agricultural College, of adding a per cent. to the fat reading, appears to meet with favor. The two represents the percentage of casein in milk, which we find to be fairly constant. The matter is being fully discussed at the dairy conventions, a report of which your correspondent should secure, if he could not attend.

The Apiary.

Ontario Beekeepers' Association.

The eleventh annual convention of the beekeepers of Ontario met in the city hall, Stratford, on the afternoon of January 22nd. A three days' meeting was held, and there was a good attendance of those interested in apiary matters.

Mr. A. Pickett, Nassagaweya, the president, in his address spoke of their experience during the past year. While the spring had opened earlier than usual, and bees had come out strong in numbers, and with but few losses, and the prospect had been good, yet beekeepers had met with disappointment. Bees gathered some nectar from the willow and soft maple, after which they did but little more than live on what was left of their winter stores. The rain and cold weather kept them in till the stores were exhausted, and the bees died from starvation before they could gather any nectar. Those living were so lessened that very little clover honey was taken, and the increase of colonies in many places was very small. He referred to the death of their late secretary, S. Corneil, and asked the

association to pass a resolution of sympathy with the family of deceased.

The cost of producing a pound of honey was one of the questions raised at the meeting. Mr. Holmes thought that it cost him about four cents.

Mr. Pettit, Grimsby, spoke of the work done by him in urging the passage of "The Pure Honey Bill" in the House of Commons, and of its rejection by the Senate. A motion was carried that efforts be made to have the bill reconsidered.

Mr. Darling read a paper on "Some Difficulties in Bee Raising," in which he asked several questions that he would like answered.

Mr. Gemmill, in speaking on "Marketing Comb Honey," said that he preferred selling honey in the comb to selling extracted honey, as better prices were obtained for the former.

Prof. Fletcher's report on experiments on foundation conducted at the Ottawa Experimental Farm showed the advantage of using good wax as against bad. A vote of thanks was tendered to him and also to the Dominion Government for carrying on experiments in beekeeping.

Mr. Allan Pringle's paper on "Education" went thoroughly into the matter and met with approval.

At the evening concert held Prof. C. C. James, Deputy-Minister of Agriculture, delivered an address on agriculture.

The election of officers resulted as follows: President, J. B. Hall, Woodstock; vice-president, J. K. Darling, Almonte; Board of Directors—District No. 1, W. J. Brown, Chard; No. 2, J. K. Darling, Almonte; No. 3, M. B. Holmes, Athens; No. 4, Allan Pringle, Selby; No. 5, J. W. Sparling, Bowmanville; No. 6, William Couse, Streetsville; No. 7, A. Pickett, Nassagaweya; No. 8, F. A. Rose, Balmoral; No. 9, S. B. Pettit, Almonte; No. 10, A. E. Sherrington, Walkerton; No. 11, F. A. Gemmill, Stratford; No. 12, W. A. Chrysler, Chatham; No. 13, J. Hughes, Barrie. William McEvoy, of Woodburn, was reappointed fowl brood inspector; F. A. Gemmill, Stratford, sub-inspector; auditors, John Myers, Stratford, and R. H. Smith, St. Thomas; delegate to Toronto Industrial Fair, R. F. Holtermann, Brantford; delegate to Western Fair, R. H. Smith, St. Thomas.

The Canadian Bee Journal was voted as the representative journal for the year.

Under the Swarming Impulse.

By R. F. HOLTERMANN, Brantford.

The question is asked, Are all queen cells raised under the swarming impulse equally good?

In reply, I would say to "Subscriber" that there is yet a good deal of discussion going on about the methods adopted by the bees and queen when the colony is under the swarming impulse. Some claim that the queen does not deposit the eggs in the cells, but that they are placed in the queen cells after the queen has deposited them in worker cells. I have no doubt that the queen deposits the eggs in the queen cells when the colony is under the swarming impulse, whatever may be done when the bees supersede the queen. Now, the theory is that a great many cells are started, and a number of young queens emerging at the same time, a royal combat takes place, and the strongest and most vigorous queen becomes the mother of the colony. In this way we are supposed to get a natural selection perpetuating the strongest and best of the race. Some claim that there is a great

difference in the size of the queen cells reared under similar conditions. There may be some difference, but some cells have that appearance externally, whilst upon closer inspection it will be found that a portion of the cell is buried in the comb. I have generally noticed but little difference between a batch of young queens reared under the swarming impulse, yet the plan in nature appears to favor a selection pointing towards the survival of the fittest. We generally consider one worker bee the same as another, and yet when the queen is not of a particular breed, or is not mated with a drone of her own breed, we find a good deal of difference in the markings of the bees of the same parentage, showing that the same laws hold good in these as in other animals. I should say that the more fixed the strain the more likely the queen is to breed true to type, and for that reason a purebred bee of average good blood is more desirable than a cross, which has shown itself even superior. The question probably is, Do bees tend and care for one cell more than another, all being under similar conditions? This question, I think, should be answered in the negative. Next, I would say that the best way is to let the bees rear the brood, and to select, under natural conditions, whichever queen is the best. But this is not a method which can be made practical by the queen breeder. The best method which can be made practical is to let the bees rear queens under the swarming impulse, treat all cells as equally valuable, and separate by means of a coil queen cage, and cell protector the cells before the queens emerge and destroy other cells. In this way all practical purposes will be served, and from the right mother a batch of good queens will be secured. Great care must be observed in handling queen cells, either on the comb or separated therefrom. If the bees are shaken from the comb, the cells attached, especially if this is done several days before they are ripe, may never hatch if the combs are turned upside down the same thing may result. The cells are also easily chilled, and, if they are cut from the combs and put into other hives, they should be placed in a basket and put between warm flannel. I have several times had an entire batch of queen cells destroyed through the effects of a violent thunderstorm in the vicinity. While upon the subject, I would say that there is a great deal of carelessness in connection with making small hives for the reception of queen cells. My plan is as follows: I take an eight-frame Langstroth hive and put in it two solid partitions, giving three compartments suitable for holding two ordinary Langstroth frames each.

These compartments will, of course, have their entrances in the front. They are too close together, and, therefore, I close the centre entrance and bore a small entrance at the bottom and back of the hive, which makes an entrance for the centre compartment, one of the three being in the back and two on the outer sides of the front. A piece of cotton is nailed on top of the solid partition, spreading, at one side, over one of the outer compartments, and, at the other side, over the centre. Another piece of cotton is nailed on the other partition and made to cover the remaining outer compartment. As early as queen cells can be reared and are ready for nuclei (the name under which these small hives go), I take a fair colony, previously made queenless, and remove it from the stand, putting in its place one of these three-compartment hives with the two entrances in the front. The two best combs of brood, with bees, old and young,

LINCOLN OATS

The Lincoln oats were introduced into Canada last year by The Steele-Briggs-Marcos Seed Co., and have proved so successful on Canadian soil that we feel justified in offering them to our subscribers as something out of the ordinary. Last season was the first time this grand oat was offered to the Canadian public, and though the season was not a favorable one for oats, one and all agree as to its sterling qualities. This is a white oat very early, and so far has proved to be entirely rust proof, standing up better than any other sort. Its thin hull, heavy meat, and soft nib make it a grand feeding oat, as also for grinding for oatmeal. Mr. R. N. Lewis says that it excelled Clysedale, Black Tartarian, Welcome, and Giant Side oats. Mr. D. A. Tincom reports 38 stools to the grain and 250 kernels to the stalk. These are the facts concerning them:

1. That the Lincoln Oat has produced one-third more than any other variety grown in the same locality.
2. It is white and very early.
3. It has thus far proven itself entirely rust proof.
4. It stands up better than any other sort.
5. It is best for feeding on account of its thin hull, heavy meat, and soft nib.
6. It is best for oatmeal or grinding for the same reasons.

The originator has for several years been working up a stock in order to get a sufficient quantity to offer at a price that would place them within the reach of all.

Our offer is as follows:

To any present subscribers who sends us one new subscriber to THE CANADIAN LIVE STOCK JOURNAL at \$1, we will send a half bushel of the Lincoln oats, and also one-half bushel for each additional new subscriber. The oats will be forwarded to you by Mr. John Miller, of Markham. No charge for bags will be made in any case, but in every case the cost of carriage must be paid by the receiver.

The Improved American Oats

We have again made arrangements with Mr. John Miller, of Markham, to offer the Improved American oats as a premium to our subscribers.

These oats have now been well tested by our leading seed grain specialists and experiment stations, and nearly all who have given them a trial have pronounced them as having few equals.

In many instances they have shown remarkable yields, over one hundred bushels to the acre have been reported. As these oats were introduced before the Lincoln, they have become better known, and we have been able to procure them on more reasonable terms. To any present subscriber who sends us one new subscriber to THE LIVE STOCK JOURNAL at one dollar we will send one bushel of the Improved American oats, and also one bushel for each additional new subscriber. They will be forwarded to you by Mr. Miller. No charge will be made for bags, but the cost of carriage must be paid by the receiver.

Send at once for sample copies, order forms, etc., to begin canvassing.

The
Canadian Live Stock and
Farm Journal,
TORONTO.

are placed in the centre compartment, and, perhaps, a few bees added to allow for those that are liable to return to the front, where the entrance formerly was. The remaining bees and best combs are divided between the other two compartments, seeing that all have stores and brood in all stages. I now close the entrances with a bunch of green grass crowded lightly into each entrance. This will allow sufficient air to prevent the bees from being smothered, and yet prevent them from getting out until they become somewhat reconciled to their new quarters; otherwise all the bees which have already had a fly will return to the entrance in the old location. The grass wilts in a short time, allowing the bees to have an entrance without further looking after. What must be guarded against is weak and defective nuclei, through insufficient bees, stores, and brood. The old bees are liable to return to the old stand or entrance, and in that place the least number of bees should be left. Young bees remain better in the new location, and they also remain better in the compartment containing a queen. Unless there are plenty of bees to keep warm and care for the queen cell and young queen, there is likely to be loss or injury. There is no economy in making many nuclei from one hive. This is the case, more especially, early in the season, when the weather may turn cool at any time. The queen, also, should not be placed in a corner of the hive along the top bar, but near the centre of the comb, between the two combs where most of the bees cluster. It requires a good deal of care and experience to rear good queens.

Poultry.

Ontario Poultry Show.

The Ontario poultry show, which was this year held at New Hamburg during the first week of January, was a great success, and goes to show the increased interest that has been taken in poultry-raising in Canada during late years. At the annual meeting held the following officers were elected: President, H. White, Port Hope; first vice-president, Wm. McNeill, London; second vice-president, G. S. Oldrieve, Kingston; treasurer, Geo. G. McCormick, London; secretary, Thos. A. Browne, London; delegates to Industrial Exhibition, J. Dilworth and W. Barber, Toronto; delegates to Western Fair, J. H. Saunders and G. G. McCormick, London; directors, Thos. A. Duff, Toronto; S. W. Clemons, Galt; John Crowe, Guelph; John Cole, Hamilton; W. C. Trew, Lindsay; W. T. Gibbard, Napanee; D. Rice, Whitby; A. Bogue, London; and C. Massie, Port Hope.

Addresses were delivered by Prof. C. C. James, Deputy-Minister of Agriculture for Ontario; Prof. Mills, Ontario Agricultural College, Guelph; Messrs. A. G. Gilbert, manager of the poultry department of the Experimental Farm, Ottawa, and G. G. McCormick, London; while Messrs. C. F. Wagner, J. Dilworth, and Thos. A. Duff, Toronto, and J. Meyers, Kossuth, read very interesting papers. Mr. Duff's paper on "Poultry on the Farm" was very much appreciated.

Poultry Pickings.

By JOHN J. LENTON, Oshawa.

It is well known that hens will lay when males are kept away from them, but whether it is an advantage to discard males has not been made plain. Experiments have been made at the New York Experiment Station

in order to test the matter, some hens being kept with males and others without. The result was that the largest number of eggs was procured from the hens that were not with males. Several similar experiments were also made, and in every case the hens not with males gave the best results. Eggs from such hens will also keep longer than fertile eggs, and the cost of feeding a lot of males is a matter to be considered. Of course, a few experiments are not conclusive, but, so far, the evidence is on the side of keeping no males. Our own experience has been the same as that of the station, and to those who desire to preserve eggs we advise the discarding of the males always.

Clover is the best green food for laying hens, as it is rich in nitrogen and mineral matter. By mineral matter is meant lime, soda, sulphur, iron, etc., which enter largely into the bones of chicks and the shells of eggs. Every egg that is laid contains the elements that compose a chick, and the hens must secure these substances or the egg will be incomplete food. Clover, being bulky, and composed largely of water, is, nevertheless, unexcelled as a necessary adjunct to the ration, if a large proportion of eggs are expected. Second-crop clover, cut when it is tender and the growth small, makes an excellent winter food for poultry, and can be made to serve all the purposes of green food. It may be cured in the ordinary manner, and stored in a convenient place for future use. It is only necessary to cut it fine, scald it, sprinkle bran over it, and feed it to the hens. Fowls do not require green food in the winter season as much as they do something bulky. The constant allowance of grain every day, and of the most concentrated food during the long period from fall to spring, is one of the causes of a lack of eggs at that time. The poultryman who is raising poultry as a business makes no mistake if he provides early for the winter. It is the variety of food that produces the best results and gives a profit. When the hens have bulky food they keep in better health, digest a larger proportion of the food, and are in a condition to lay; whereas, if they are fed on grain only, they become fat, and do not lay as well as desired. Clover is the cheapest food that can be allowed at any season of the year.

While lime may liberate the ammonia of the droppings, yet our advice is to use it. Scatter it over the floor, on the walls, in the yards, on and under the roosts, or wherever it can be used. Let the droppings be a secondary consideration. Lime will keep the poultry house clear of lice, prevent roup and gapes, and give the interior a clean appearance, as well as adding to the light. It is cheap and easily applied, and there is no substance so useful and which costs so little, while the time required for scattering the fine, dry, air-slaked lime is only a few moments on clear days.

Instead of taking eggs to the nearest grocery store, try the experiment of selling them to some private residence. You will have no difficulty in securing more than the regular price if you can satisfy the customer that the eggs are from your own hens. The reason is that it is difficult to secure strictly fresh eggs in winter, and there is always more or less suspicion existing as regards those offered in the regular market, buyers preferring to offer an advance in preference to buying those that may contain a stale egg among the lot.

If there is to be an addition to the revenue, it must be done with the birds that will give a return for the food used. The scrub is not suitable for "hard times." It does not pay

for itself, and is an expense. As the people are passing over the late financial flurry, and getting on a more solid foundation, the best way to recuperate, if the flocks are to assist, is to begin with something that will be serviceable. The scrub fowls will prove unremunerative, and the best "hard-times" poultry are the pure breeds, as they will give more eggs and meat than can be obtained from scrubs.

Killing Geese.

Editor Canadian Live Stock and Farm Journal:

SIR,—In reply to Mr. Baker's letter in your last issue, I beg to say a few words. His method of killing the geese may be a good one. I have always had mine killed by cutting with a sharp knife just behind the ear, taking care that the gash is not made too large.

But all poultry should be "dry plucked" for market. It is all very well to take steamed or scalded fowl to the country store, where the merchant takes them in and says nothing for fear of offending his customers; but take them to any market of any size and what will they bring? The fact is they won't have them at any price if fowl are plentiful; if scarce, about half price.

Mr. Baker says he can't manage turkeys. My method is to have the two legs tied firmly together, then hang up on a nail, cross the wings twice, and they are locked, then, with a sharp penknife, make a small incision behind the ear. They are so easily plucked that there is no excuse for any steaming or scalding, except the tips of the wings, which look better all cleaned off. I might say here that I was greatly disappointed, in looking over the report of the Poultry and Pet Stock Association, to see no paper on turkeys, the most profitable (for the farmer), as well as the most delicious of all fowls, and the most difficult to raise. I think fully 50 per cent. of the young ones die under two months, through ignorance and improper care.

Chickens I prefer to sell alive. They are so hard to pluck without tearing that I prefer to let those who are experts at the business do them. They nearly always bring more alive than dead, and the feathers are not worth a great deal.

A friend in the business in Toronto told me that he sold retail, in November last, chickens as low as fifteen cents a pair. Now, if most of them had been sold alive (they seldom go below forty cents) the market would not become so glutted, for those unsold could be taken home and kept a while longer.

Mr. Baker is about right as to the price of down, but I cannot get more than thirty to forty cents, either here or in Toronto, for goose feathers.

Fennell's.
M. A. FENNEL.

Buffalo Markets.

Writing under date of January 17th, Messrs. Kirick Bros., East Buffalo, N.Y., make the following report: The cattle market is irregular. Export cattle selling about the same as the week previous.

Prime to fancy steers brought \$5.25 to \$5.60. Good to choice, \$4.85 to \$5.20. Good, ripe, 1,100 to 1,250 lb. steers, \$4.35 to \$4.65. Good, ripe, 950 to 1,050 lb. steers, \$4.10 to \$4.25. Good fat steers, plain, 1,150 to 1,300 lbs., \$4.15 to \$4.60. Fair to good steers, plain, 1,000 to 1,100 lbs., \$3.60 to \$3.90. Common to fair, \$3.15 to \$3.40.

The market for sheep and lambs continues to show strength, and has turned out as we predicted in our circulars. Our crop report, issued January 3rd gives evidence that the supply was considerably exhausted in the country, and receipts would be lighter, which would necessarily strengthen prices.

Prime, native lambs, not bucky, 80 lbs. and upwards, sold for \$4.90 to \$5.05; good to prime, 70 to 78-lb. lambs, \$4.50 to \$4.80; culls and throw-outs, \$3.00 to \$3.50.

Prime, heavy sheep, all wethers, for export, \$4.00 to \$4.50; heavy ewes for export, \$3.65 to \$4.00; handy butcher sheep, all wethers, 90 to 100 lbs., \$3.25 to \$3.50; good, mixed sheep, \$2.75 to \$3.15; fair to good, \$2.40 to \$2.60; culls, \$1.75 to \$2.25.

There were about 60 cars of hogs on sale to-day, 45 of which were fresh receipts and the balance Yorkers and light stuff held over from yesterday. The market, generally, was \$4.40 to \$4.45 for the heavy grades; mediums, \$4.30 to \$4.35; Yorkers, \$4.15 to \$4.20, mostly \$4.15. Pigs, \$4.15 to \$4.25. Roughs, \$3.50 to \$3.75. Stags, \$3.00 to \$3.25.

Jottings.

NOTICE.—New advertisements, notice of which is desired in the Jottings or Stock Notes columns, must reach us by the 20th of the preceding month. Items for Stock Notes, to secure insertion, must also reach us on the same date.

Wanted.—Situation as farm manager or foreman wanted by energetic and experienced man. Address LIVE STOCK JOURNAL, 20 Bay street, Toronto.

Tread Powers.—Messrs. M. Moody & Sons, Terrebonne, Que., who are large manufacturers of read powers, advertise them in THE JOURNAL.

Jottings.—Continued.

Texas Rust-Proof Oats.—Mr. C. J. Brodie, Bethesda, Ont., advertises Texas rust-proof oats in this issue. There are well spoken of, and a trial of them is recommended.

New York Farmers.—We are in receipt of a couple of copies of the proceedings of the New York farmers for the season 1894. Among the subjects discussed are "Rose Culture," "Sugar Beets," and "Irrigation."

Model Excelsior Incubator.—We have received from Mr. Geo. H. Stahl, Quincy, Ill., an illustrated descriptive catalogue of his Model Excelsior Incubator and Brooder. Illustrations of the brooder and the various instruments necessary are given. Those interested should write to Mr. Stahl for a catalogue.

Buckwheat Straw for Fodder.—Not many of our breeders have much confidence in buckwheat straw as a food for prize animals. Yet many beasts would thrive well on buckwheat straw and what they can pick up on the barnyard if given *Dick's Blood Purifier*, because it gives good health, good appetite, good digestion. Try a box on your horse which is not thriving.

Dominion Swine Breeders' Record.—We have received, through the courtesy of Mr. Henry Wade the recording secretary, Vol. IV. of the above record. It is published on the same lines as the previous volumes, and a complete index of swine and their owners will be found with each part. Pedigrees of Berkshires, Yorkshires, Suffolks, Chester Whites, Poland Chins, and Tamworths appear in this volume.

Messrs. A. G. Hull & Sons' Catalogue.—Among the catalogues that have reached us is that of Messrs. A. G. Hull & Sons, St. Catharines, Ont., who advertise regularly in our columns. These gentlemen can supply fruit trees, plants, and vines of all the best kinds, as they keep no others, believing that no old

Horse Owners! Try

GOMBAULT'S
Caustic
Balsam
 A Safe Speedy and Painless Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Hemorrhoids from Horses and Cattle. **SUPERSEDES ALL CAUTERIES OR FIRING.** Impossible to produce scar or bluish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. **THE LAWRENCE-WILLIAMS CO., Toronto, Ont.**

Auction Sale of Farm
 NEAR BURLINGTON.

Balsam Lodge Farm, County of Halton, the property of the late John Fothergill, will be sold by public auction about the middle of March, 1895.

The farm has won three medals in County and Provincial prize farm competitions, and is one of the most beautiful farms ever offered for sale by public auction in Ontario.

Intending purchasers desiring to inspect can do so on application at the property to Mr. Christopher Fothergill, the executor.

The date of sale and other particulars will be announced in the next issue.

Further particulars can also be obtained from Mr. W. G. Pettit, Freeman P.O., and the undersigned.

Martin & Martin,
 47 James St. S., Hamilton.

January 28th, 1895.

DISPERSION SALE

OF PUREBRED

HEREFORD CATTLE

At the Park Farm, Weston, County of York, Ontario.

On Wednesday, February 27th, 1895.

The undersigned having rented his farm is obliged to sell all of his well-known prize-winning

HEREFORDS

about forty in number, also his horses and other stock and farm implements. Sale begins at 11 a.m., Herefords at 2 p.m.

Terms: Ten months' credit on approved notes. Six percent. per annum discount for cash.

Weston is only eight miles from Toronto market, and all trains to and from Toronto stop at Weston. The farm buildings are only half a mile from the G.T.R. and C.P.R. Stations. A conveyance will meet trains. Send for Catalogue.

HENRY RUSSELL, Auctioneer.

F. A. FLEMING, Proprietor,
 24 Front St. E., TORONTO.

Jottings.—Continued.

sorts should be grown when they are superseded by better. They keep no agents and deal directly with the purchaser, thus the latter saves paying the commission.

Live Stock Journal Almanac.—This excellent annual comes to us as a welcome visitor, and is wonderfully cheap at the price, one shilling. There are articles on all the different breeds of horses and cattle to be found in England, while sheep and swine are not neglected. Among the first-named are articles on hunter mares, American Hackneys, early Hackney sires, and the mare at foaling time, while William Housman writes on hereditary transmission under the title of "The Powers in the Rear."

Algoma Farmers Testify.—A second edition of a little work on Algoma, by Mr. Frederick Rogers, barrister-at-law, entitled "Algoma Farmers Testify," has been lately issued. In it the writer presents the claims of Algoma for settlement, pointing out that it is not at all the desolate, rocky country that it has been described by those who have merely passed through it by train, or viewed it from the deck of a steamer. There would seem to be a good opening there for the hard working settler who wants to make a home.

Breeder's Gazette Christmas Number.—This is a really fine number, well illustrated, and with much good reading matter. The frontispiece is a fine half-tone of a Scotch collie "On Guard," while there is, in the body of the paper, an excellent cut of the two-year-old Shorthorn bullock, Whiskers, the champion of the American Fat Stock Show of 1894. Other pages are devoted to illustrations of leading exhibitors of horses, cattle, and sheep. Our contemporary must be congratulated on its holiday number.

Important Farm Sale.—The executors of the late Mr. John Fothergill, Burlington, announce in this issue that they will sell by public auction about the middle of March, the date to appear in our next issue, that celebrated farm, known as the Balsam Lodge Farm, near Burlington station. This farm is one of the best farms in the province, and has won three medals in the provincial and county farms competition. For further particulars apply to Mr. W. G. Pettit, Freeman, or Martin & Martin, 47 James street south, Hamilton.

Agricultural Education in Minnesota.—Minnesota is doing all she can to promote the knowledge of agriculture among her population. In a letter received from Professor Thomas Shaw, of the Minnesota Experiment Station, he says: "We are very busy with our institutes this winter. We are running them under high pressure, in order to get more of them in, but they are succeeding wonderfully. This school of agriculture will give instruction to no fewer than 400 students of the different classes of the present year."

Rennie's Seed Catalogue.—We have just received a copy of "Rennie's Illustrated Guide," issued by Mr. Wm. Rennie, the well-known seedsmen of Toronto, and it is certainly one of the most complete publications of the kind which has reached us this season. Mr. Rennie offers a general list of vegetable, flower, and agricultural seed, seed grain, and potatoes, and, in addition to a large collection of standard varieties, has a number of sterling novelties, which are worthy of a trial from our patrons. This handsome catalogue will be mailed free to all upon application to Wm. Rennie, Toronto.

Dairy Calendar.—A much-needed help for dairy men and farmers is the Dairy Calendar for 1895, by Prof. Woll, of the Wisconsin Experiment Station. It is a most valuable work of reference, of convenient size to be carried in the pocket, and contains, besides a calendar and diary, a mass of information on all matters relating to milk, cream, butter, cheese, feeding stuffs, etc. There are also to be found in it, gestation tables, interest and general tables of weights and measures, and various statistics on dairy matters. We can highly recommend it. The work is published by John Wiley & Sons, 53 East Tenth New street, York, and the price is \$1.

Canadian Shire Horse Association.—The seventh annual meeting of this association for the presentation of the report of last year's proceedings, and the election of officers for 1895, will be held at the office of the secretary on Tuesday, the 5th of February, at 3 o'clock p.m. A meeting of the directors will be held half an hour earlier at the same place. A standard certificate receipt to attend live stock convention will be supplied free by the agent from whom the ticket for the going journey is purchased. No other form of certificate will be recognized by the railway companies. Should you travel by two lines of railway, requiring the purchase of separate tickets, secure the necessary certificate from each. HENRY WADE, Secretary, Toronto.

The Southdown Sheep Club.—At the annual general meeting of the Southdown Sheep Club, held during the Smithfield Show week, Capt. the Hon. T. S. Brand was elected president for the ensuing year. The fact is interesting to Southdown breeders, as Capt. Brand's flock is kept on the identical Sussex farm where the late John Ellman reared his sheep. A vote of thanks was passed to the retiring president, Mr. J. J. Colman, M.P., who had just won the champion prize in the show, over all short-wooled breeders of sheep, with his pen of Southdown wethers. The following have recently joined the club's list of members: Madame de Falbe, Luton Hoo, Luton, Bedfordshire; Thomas Fulcher, Elmham, Dereham, Norfolk; H. MacAlmont, Cheveley Park, Newmarket, Cambridgeshire; the Hon. R. P. Nevill, Birling Manor, Malling, Kent; F. H. Jennings, The Hall, Crookfield, Suffolk; T. W. Pickard, Home Farm, Glynde, Lewes, Sussex; R. R. Verrall, Falmer Lewes, Sussex.

The Johnston Plow.—In our advertising columns will be found the advertisement of the Johnston Plow Share Co., Toronto. This plow was on exhibition at the last Toronto show, where it attracted much attention, and at the World's Fair it carried off the highest awards against all competitors. The princi-

DISSOLUTION OF PARTNERSHIP.

PUBLIC SALE

AT

SPRINGBROOK FARM, NEW DUNDEE, ONT.

ON

WEDNESDAY, FEBRUARY 20th, 1895.

30 HEAD of choice Holstein-Friesian cattle, of different ages and sexes, at your own price. No reserve. Cattle choice, best strains, richest breeding. Now is your time if you need a good family cow, a dairy cow, or foundation stock, or new blood to strengthen your herd. We have dissolved partnership, by mutual consent, Mr. Hillgartner, the silent partner, retiring from business. Herd equally divided. Balance of herd continued with more zeal than ever. Write at once for catalogue and full particulars.

A. C. HALLMAN & CO., New Dundee, Ont.

Dispersion Sale

Thos. Ballantyne & Son, of Neidpath Farm, STRATFORD, Ont.

will sell by

AUCTION

on

Wednesday, March 13th, 1895,

their **ENTIRE** herd of choicely bred **SCOTCH SHORTHORNS,**

comprising 4 bulls, and 24 cows and heifers, eleven (11) of them having calves at foot, two (2) to calve in March and one in May. They include the imported cows (selected from the well-known Aberdeenshire herds of Duthie, Marr, and E. Cruickshank and their progeny, by the very best of Scotch-bred sires, such as Methus & Hero (imp.) = 27732, (bred by Wm. Duthie, and son of \$1,000 cow (imp.) Mademoiselle), Prince Royal (imp.) = 6118, Foyal Baron 9242, by Baron Lenton (imp.), Indian Prince = 13014, by Indian Chief (imp.), and Scotsman = 18552, by Hampton Hero. Scotsman is stock bull now, and is one of the best two-year-old bulls in Canada to-day. All but one of the calves are by him, and cows will be bred again to him. All of the cattle are in nice breeding condition, and are an exceptionally healthy lot.

Terms.—Ten months' credit on approved joint notes, 6 per cent. off for cash. Farm adjoins city, and sale will commence as soon as lunch is over after arrival of noon train. For full particulars write for catalogue, to be ready about February 20th. **Positively no bye-bidding.**

Shropshires

and Large

Yorkshire Pigs

FOR SALE BY

AUCTION

ON WEDNESDAY, FEB. 13, 1895

at my residence

The D. A. White Farm,

4 miles S.W. of Paris, 8 from Brantford.

41 Registered Shropshire Ewes, due to lamb April 1.

20 Ewe Lambs and 1 Imported Ram.

12 Choice Yorkshire Sows and Boars.

1 Extra-good Red Shorthorn Bull, bred by Wm. Douglas.

Terms.—Ten months' credit on approved notes, or 6 per cent. per annum discount for cash. N.B.—Only imported rams have been used in the flock. The ewes are large in size and well covered with wool of good quality.

This will be a rare chance to procure first-class stock at moderate prices.

As Mr. Smith is leaving the farm everything will be sold without reserve.

James Smith,

PROPRIETOR.

D. B. Wood,

AUCTIONEER.

ATTRACTIVE PUBLIC SALE OF SHORTHORN CATTLE

AT MAPLE LODGE STOCK FARM

On Thursday, February 28th, 1895.

WE will sell by Public Auction 24 head of splendidly bred Shorthorns, of choice individual merit, consisting of 3 very fine heifers and young cows, and 9 young bulls, combining the highest breeding and milking qualities. Scotch-stopped Bates, and pure Bates pedigrees, from the Maple Lodge Herd of Jas. S. Smith and 5 heifer and young cows, and 2 young bulls from the best prize-winning families in the Spryglhurst Herd of H. & W. Smith, all of the best Scotch breeding.

TERMS.—Nine months' credit on approved joint notes, or six per cent. per annum off for cash. **TRAINS.**—The morning and evening trains, both ways, on G.T. Ry. and I. H. & B. Ry. stop at **Lucan Crossing Station**, one mile east from our stables. The one o'clock mail train, from the east, on the G.T. Ry., will stop at the farm on the day of sale to let passengers off. Catalogues ready. Send for one.

JAS. S. SMITH, Maple Lodge P.O., Ont.
H. & W. SMITH, Hay P.O., Ont.

FOR SALE

Coach Stallion Londonderry

164 hands high; weight, 1450 lbs.; 7 years old. Times' price and liberal terms. Address:

ROBERT ATKINSON,
 Thistleton Ont.

FOR SALE.

Two imported Shire stallions, Garfield and Duke of Blagdon. Garfield 2nd won second place at both Spring and Fall shows at Toronto in 1894. Duke of Blagdon was sweepstakes horse at Montreal and the winner of five first prizes in 1894. He is now two years old.

J. M. GARDHOUSE,
 HIGHFIELD, Ont.

NINTH PROVINCIAL ANNUAL
STALLION HORSE SHOW

THIS Show will be held this year about the first week in April. Owners of Stallions will please take notice.

H. WADE, Sec.,
 Toronto.

H. I. ELLIOTT

BREEDER OF

Scotch Shorthorns and Southdown Sheep
 Imported King James at the head of herd.

Itherview Farm, Danville, Que.

FOR SALE Imported Shire Stallions

Blagdon Marquis, foaled 1837. Bay, 16.13 hands.
Dise worth Blue, foaled 1839. Bay, 16.1.
Fyble King, foaled 1838. Brown, 16.3.
These horses were exported in 1837 by Clement Keevil, Blagdon Stud Farm, England, and are entered in both English and Canadian studbooks, and will be sold at low prices, and on liberal terms. Address

GEORGE GARBUTT,
Thistletown, Ont.

FOR SALE. PURE SCOTCH SHORTHORNS.

Young bulls and heifers, some from imported sires and dams. Also a lot of fine young Berks-shires, pairs mated that are not akin. Prices to suit the times. Valley Home Farm is one mile from Meadowvale Station, C.P.R., six miles from Brampton, G.T.R. Visitors welcome. Address,

S. J. PEARSON & SON,
Meadowvale, Ont.

FOR SALE.

Two yearling Shorthorn bulls. Good animals. Will be sold at prices to suit the times.

JOHN DAVIDSON,
ASHBURN, Ont.

BERKSHIRES

All ages; both sexes. Pairs not akin.

BOARS FIT FOR USE . . .
. . . SOWS IN FARROW

The Best is the Cheapest

We ship to order, and guarantee satisfaction.
J. C. SNELL, Edmonton, Ont.

TO STOCKMEN AND BREEDERS

**LITTLE'S
PATENT FLUID
(NON-POISONOUS)
SHEEP DIP
AND CATTLE WASH.**

For the destruction of Ticks, Lice, Mange, and all insects upon Sheep, Horses, Cattle, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, etc.

Removes Scurf, Roughness and Irritation of the Skin, making the coat soft, glossy, and healthy.
The following letters from the Hon. John Dryden, Minister of Agriculture, and other prominent stockmen, should be read and carefully noted by all persons interested in Live Stock:

"MAPLE SHADE" HERDS AND FLOCKS.

BROOKLIN, ONT., Sept. 4th, 1890.
DEAR SIR,—I cannot afford to be without your "Little Sheep Dip and Cattle Wash." It is not merely useful for Sheep, but it is invaluable as a wash for Cattle, etc. It has proved the surest destroyer of lice, with which so many of our stables are infested, I have ever tried; it is also an effectual remedy for foul in the feet of Cattle. I can heartily recommend it to all farmers and breeders.

JOHN DRYDEN.

17 Gold, Silver, and other Prize Medals have been awarded to "Little's Patent Fluid Dip" in all parts of the world.

Sold in Large Tins at \$1.00.
Special terms to Breeders, Ranchmen, and others, requiring large quantities.
Ask your nearest druggist to obtain it for you; or write for it, with pamphlets, etc., to

ROBERT WIGHTMAN, Druggist, Owen Sound.

Sole Agent for the Dominion.

BRITISH ADVERTISEMENTS.

SUSSEX CATTLE.

Pedigree Sussex cattle descended from the oldest and best strains of blood (first prize for bull and also for cow at County Show, 1894), also registered Southdown sheep (Flock No. 25 S D F B), for sale at reasonable prices. Apply to the owner

T. BANNISTER, Limehurst.
Hayward Heath, Sussex, England

Jottings—Continued.

ples on which it is constructed are in several respects different from those of other plows. One of the most important is the patent underscore or plow guard. This is of a limited height, and serves as a guard to the point of the share and coulter against all obstructions, and clears itself from stubble. Then, again, the coulter has been taken from the beam of the plow, to which it is ordinarily attached, and fastened to the land side, and is then brought back to a line with the underscore. Being placed thus lower down, it reduces the length of leverage which has heretofore existed under the old method of attachment, and the cutting operation is more in the nature of sawing than the old straight push against the land. This low-down draft is only possible by using the "lean-away coulter." The draft is lighter, and the plow runs much steadier in consequence. Another change is in the rods from the handles of the plow, which are run to a higher point than in an ordinary plow. This also steadies the plow. The handles are not bolted, and can be quickly detached to permit of close storing away. They can also be adjusted in a minute to suit a man or boy, as occasion requires. The gauge wheel is another feature. This runs horizontally on an axle on the inside of the furrow, but not to the bottom of the same, and the plowman is thereby enabled to plow hollows as deeply as level ground, a thing that has hitherto been impossible. The amount of pieces necessary for the clevis, too, has been reduced from fourteen to three in the plow, and a space for wider or deeper plowing can now be made by stacking one bolt in the head of the plow and swinging the guide plate to the required depth or width. Agents are required to push the sale of this plow. Although new, it will be sold at popular prices.

Stock Notes.

NOTICE—New advertisements, notice of which is desired in the Jottings or Stock Notes columns must reach us by the 20th of the preceding month. Items for Jottings, to secure insertion, must also reach us on the same date.

Horses.

MR. GEORGE GARBUTT, Thistletown, Ont., has three imported Shire stallions for sale.

MR. ROBERT ATKINS, Thistletown, Ont., wishes to sell his coach stallion, Londonderry.

MR. J. C. PORTLOUS, Simcoe, Ont., has sold to Mr. Harry Giddings, who is purchasing for the Austrian Government, the well known trotting stallion, The Wasser. The Wasser is a well-bred horse, and has oftentimes figured in the prize lists at the Spring Station Show in Toronto.

MR. WM. HENDRIE, Hamilton, Ont., has purchased for his Valley Farm stud the imported Thoroughbred stallion, Derwentwater. Derwentwater is a richly-colored chestnut, 16 hands high, and is a son of the well-known Doncaster, the son of Stockwe, and grandsire of the famous Ormonde.

MR. MARTIN GARDIHOUSE, Highfield, Ont., offers for sale two well-bred imported Shire stallions, Garfield and (1881) (2786), and Duke of Blagdon (257). They are both prize-winners, perfectly sound, sure, and good workers, and will be disposed of at fair prices. This is an excellent chance for some one to secure a bargain.

MESSES. KIDD BROS., Listowel, Ont., have sold their bay trotting stallion, Oliver Jackson 2089, to Mr. J. M. Skelton, Hattlerford, N.W.T. This horse is an exceedingly handsome son of Oliver Wilkes 1067, out of the dam of Florence G., and other mares with a good record. He is a fast horse, and won the yearling stake at Ridgetown in 1891 in 1.34, which was the record of Canada till last year.

Cattle.

MESSES. E. GAUNT & SONS, St. Helens, Ont., have a few Shorthorn bulls for sale.

MR. A. KENNEDY, Mt. Ont., has young Holstein cattle for sale, also grade cows.

MR. WM. SUHRING, Sebringville, Ont., has five very good Holstein bull calves for sale.

MR. J. D. STEWART, Russeldale, Ont., will sell a purebred Jersey bull, a son of Canada's John Bull.

MR. F. W. TAYLOR, Wellmans Corners, Ont., has purebred Ayrshire calves, of both sexes, and high-bred grades to sell.

MR. EDWIN KIDNER, Manor Farm, Taunton, England, breeder of Dorset Horn and other sheep places his advertisement with us.

MESSES. S. J. PEARSON & SON, Meadowvale, Ont., wish to dispose of some young Shorthorn bulls and heifers of Scotch breeding.

MESSES. ELLIS BROS., Bedford Park, North Toronto, Ont., whose herd won several prizes at the last Industrial, can dispose of a few choice animals.

MESSES. H. & W. SMITH, Hay, Ont., as previously announced, will hold a combination sale of Shorthorn cattle with Mr. James S. Smith, Maple Lodge, Ont., at the farm of the latter, on February 28th, when a very choice selection of cattle will be sold.

MR. F. A. FLEMING, Weston, Ont., has we are sorry to hear, decided to sell off all his Herefords, having rented his farm. The sale will take place on Wednesday, February 27th, when everything, including his famous show cattle, will be disposed of. Hereford breeders and buyers should make a point of attending.

BRITISH ADVERTISEMENTS.

Secretary to the National Sheep Breeders' Association of England and the Southdown Sheep Breeders' Association; Hon. Sec. Kent Sheep Breeders' Association.

W. W. CHAPMAN,

PEDIGREE LIVE STOCK AGENT
AND EXPORTER.

All kinds of Registered Stock, Horses, Cattle, Sheep, and Pigs Supplied on Commission.

References—JOHN JACKSON & SON, Abingdon, Ont.; N. CLAYTON, Solsey, Chichester, Eng.

Offices: Fitzalan House, Arundel St., Strand, London, England.

Registered address for cables—"Sheepote, London."

F. N. HOBGEN, F.S.I. T. C. HOBGEN, F.S.I.

HOBGEN BROS.

Auctioneers and Cattle Commission Agents.

CHICHESTER, SUSSEX, ENGLAND.

Appointed Auctioneers to the Southdown Sheep Breeders' Association.

Edwin Buss, Elphicks, Mersmoude, Kent, Eng.

Breeder of Pedigree Large White Yorkshire and Berkshire Pigs. Highest awards at Royal Shows. Boars, Gilts, and in-pig Sows of either breed always for sale. Yorkshire Boar in use, "Holywell Bath (1799)," winner of 10 firsts, 4 seconds, 2 reserves. A few Pedigree Bates-bred Shorthorns kept.

SIR THOS. BARRETT LENNARD, Woodingdean, Rottingdean, Brighton, England.

Large White pigs of prize-taking blood, bred entirely from the stock of Sanders Spencer, Walker Jones, and Duckering, and Berkshire pigs from the stock of Benjafield. Boars, yelts, and sows always for sale at very moderate prices.

Improved Large Yorkshires.

Again has the Holywell Manor herd distanced all other herds in the show yards in the various parts of the globe.

This unprecedented success having continued for so many years, and his pigs having been exported to some thirty-five foreign countries and colonies, Mr. Spencer has decided not to exhibit so extensively in future. He will therefore have for disposal in the spring some grand boars and yelts fit for the highest competition. This herd is the largest, the oldest established, and has again proved itself to be the best of the breeds in the world. Middle White Yorkshires also kept. Apply,

SANDERS SPENCER,

Holywell Manor,

St. Ives, Hunts,
England.

66

LORDS A. & C. CECIL, Orchardmains, Tonbridge, Kent, England,

Breeders of Clydesdales, and successful exhibitors of the same at all the chief shows of Great Britain. Numerous prizes have been won in the closest competition. Only the best and most fashionable strains are kept. The stud, which can be seen at any time, is always kept in a natural condition and is under the direct personal management of the owners. The whole of the colts and fillies, being reared in a hardy way, can be thoroughly recommended. Mares, colts, and fillies always for sale. Foreign orders executed and stock shipped by experienced men.

REGISTERED SOUTHDOWN,

Flock No. 6, Southdown Flock Book.

Property of F. N. Hobgen, Appledram, Chichester, Sussex, England.

Sheep always for sale. Inspection invited. The best only are kept. Specialty, good wool and mutton combined.

BRITISH ADVERTISEMENTS.

JOHN A. HEMPSON

EWARTON HALL,

IPSWICH, ENGLAND.

A very old established flock of Southdown sheep bred with the greatest care from the best strains of pure blood for more than forty years. Pedigrees carefully kept during the whole time. Rams and ewes always for sale.

MUTTON SHEEP.

PUREBRED SUFFOLK SHEEP, from registered flocks, for exhibition or exportation. Full particulars may be obtained upon application to the Secretary of the Suffolk Sheep Society. Address

ERNEST PRENTICE,
Auctioneer and Commission Agent
Stowmarket, England.

GEORGE JONAS

DUSFORD, CAMBS, Eng.

Flock of 500 pure Southdown ewes—individual pedigrees of ewes and rams recorded for several generations—contains much of the Webb blood and strains from some of the purest flocks.

SIR THOS. BARRETT LENNARD, Woodingdean, Rottingdean, Brighton, England.

Registered Southdown Flocks 7 and 8 at Belhus in Essex and Woodingdean in Sussex. Winner of many prizes, including the gold medal given by the Emperor of the French at Poissy; first prize, Fat Stock Show Lewis, 1892; and commended at Chichester, 1892. Full pedigrees kept, and all ewes numbered.

W. TOOP, Aidingbourne, Chichester, Eng.

Flock No. 9, Southdown Flock Book of England. Registered Southdowns, full pedigrees kept. Every sheep individually ear-numbered. Numerous prizes have been won at all the principal shows of England, including champions at Smithfield, Norwich, and Tulsebury Wells (three in 1889-90-91); at World's Fair, Chicago, 1893, first and fourth prizes for ewe lambs, the only animals sent.

H. PENFOLD, SELSEY, CHICHESTER, ENG.

REGISTERED SOUTHDOWN, No. 4.

Established over a century. One of the best and purest of Southdown Flocks in England. Many prizes have been won for the last 30 years. Rams and Ewes always for sale; full pedigrees kept.

Pagham Harbour Co., Selsey, Chichester, Eng.

Registered Southdown Flock, No. 3.

Above flock consists of over 1000 Ewes of best strains in England, and of a very hardy constitution. Individual pedigrees of Rams and Ewes recorded to 10 generations—every sheep's ear having tattoo number. Duplicate of private pedigree record kept at Southdown Association's office, Fitzalan House, Arundel Street, Strand, W.C., London, England. Prizes won at Royal and other shows, including first prize for wool at Windsor Jubilee Royal, only time exhibited. Rams and Ewes always for sale. Address

NEWTON CLAYTON, Selsey, Chichester, Eng.

H. T. LOCKE-KING, Brooklands, Weybridge, England.

Registered Southdown Flocks, 10 and 11.

Ewes individually numbered and full individual pedigrees of every sheep recorded in private flockbook. Rams and ewes always for sale, descended from all the best and purest blood. Shire horses also kept, bred from noted prize-winners.

KIDNER EDWIN,

LICENSED VALUER AND SALESMAN.

BREEDER OF

Registered Dorset Horn Sheep, Shropshire Sheep, and Devon Cattle.

All commissions personally executed. Address:

MANOR FARM,
Cothelestone, Taunton, Somerset, England.

WANTED situation as farm manager or foreman, experienced in stock and farm management, active and energetic man, age forty. Address, LIVE STOCK JOURNAL, 20 Bay Street, Toronto.

W. C. EDWARDS & CO., Breeders and Importers.

ELMNURST STOCK AND DAIRY FARM,
Clarence, Ont.

Shorthorns of milking families with imported Grandeur at the head of our herd. Our Shropshire are all imported from the best flocks in England. Berkshire Pigs. Young stock for sale. Post office and telegraph office, Clarence, Ont. Railway station and steamboat landing Thuro, P.Q., on the C.P.R.

HENRY SMITH, Manager.



PINE GROVE STOCK FARM,
Rockland, Ont.

Special bargains on young bulls of superior merit and select Scotch breeding. Also thick young heifers at right prices.

Post Office, Telegraph Office, and Steamboat Landing, Rockland, Ont., on the C.P.R.

JOS. W. BARNETT, Manager.

LAURENTIAN STOCK AND DAIRY FARM,
North Nation Mills, P.Q.

Ayrshires, imported and homebred; herd headed by Imported Emperor of Drumore 5431 C.A.H.R. and 1868 S.A.H.B. Jerseys, all of the celebrated St. Lambert family; herd headed by Liggar Pogle of St. Anne 25704, A.J.C.C. Berkshire Pigs.

Young stock of all the above breeds for sale. Post Office, Telegraph Office, and Railway Station, North Nation Mills, P.Q., on the C.P.R.

GEORGE CARSON, Manager.

SHORTHORNS.

FOR SALE.

Seven Shorthorn Bulls and twelve Heifers, forty (registered) Southdown and Leicester Rams and Ewes and a lot of Berkshires.

All first class Stock, at hard-time prices. Come and see us or write for prices.

E. JEFFS & SONS,
HOND HEAD, D.A.

97

SCOTCH SHORTHORNS AND BERKSHIRE PIGS FOR SALE.



Choice young cattle of both sexes of the most select breeding. Also young Berkshire pigs from sows selected from the herd of Mr. J. C. Snell, Edmonton, Ont. Write for prices.

W. WAIRD,
BIRCHTON, P.Q.
Farm one-half mile from station C.P.R. 246

AMPLE SHADE STOCK FARM HAS FOR SALE

Shorthorn Bulls, 4 to 16 months old, of the best breeding, large size, thick and well fleshed, grand quality, at reasonable prices. Address:

E. GAUNT & SONS
St. Helens, Ont.

120

FOR SALE.

Three very fine young SHORTHORN BULLS, from twelve to eighteen months old, sired by the imported Scotch bull Invincible, and from good recorded cows. Also a few heifers and a number of improved large White Yorkshires and Large Berkshire pigs for sale at reasonable prices.

H. J. DAVIS,
WOODSTOCK, ONT.

195

SHORTHORN CATTLE.

By auction February 28th, at Maple Lodge Stock Farm. Further particulars in another column. Send for catalogue to Jas. S. Smith, Maple Lodge, or

H. & W. SMITH,
HAY, Ont.

"THE BRIARS"

SUTTON WEST, ONT.

84 Head of Registered Shorthorns.

Including bulls of various ages, incorporating the best blood of the Scotch and English Herds. Also HORSES AND PIGS. Inspection invited.

F. C. SIBBALD.
249

NEIDPATH STOCK FARM

STRATFORD, Ontario.

THOS. BALLANTYNE & SON, Proprietors.

For want of room, we must sell a few Shorthorn heifers by the different imported bulls used in the herd. Their dams are either imported or from imported Dutch-bred cows; these are in calf to one of the best late sons of Hampton Hero.

Write, or come and see them.

257

SIMMONS & QUIRIE, IVAN, ONTARIO.

Breeders of Shorthorns and Berkshire Pigs

The herd is headed by the Matchless bull, Royal Saxon = 10537 =, by Excelsior (imp) = 2693 = (51233), with Hampton Hero = 18240 =, sired by Hampton Hero = 224 =, as reserve. Among the females are representatives of the celebrated Mina and Strathallan families. The herd of Berkshires includes many prize-winners, and are an exceedingly choice lot. Farm 7 miles from Ilderton Station, G.T.R. Stock of all kinds for sale. Apply to

C. M. SIMMONS, Ivan P.O., Ont., or JAMES QUIRIE, Delaware, Ont.

116



GLENBURN STOCK FARM.

For Sale, two Shorthorn bulls also several choice Berkshire sows, ten months old, in farrow to our imported boar, Randolph = 2371 =.

JOHN RACEY, Jr.,
Leunoxville, Que.

248

Stock Notes.—Continued.

Messrs. THOS. BALLANTYNE & SON, Stratford, Ont., having decided to go in for breeding Ayrshires alone, will sell on Wednesday, March 13th, their entire herd of choicely-bred Scotch Shorthorns, positively without reserve. The stock are so well known that it is unnecessary for us to refer to them here. Those who buy any will get first-class stock. See our advertising columns for particulars.

Mr. JOHN MILLER, Markham, Ont., reports that he has sold out all his young bulls that were advertised in the January number of THE JOURNAL. Mr. Miller says that this is the first time that he remembers selling out so early in the season. The demand for young bulls is very good. He has a few heifers and cows for sale, also a quantity of those very desirable varieties of seed oats, the New Lincoln and Improved American, which are unsurpassed as regards their yield. Those desiring seed grain should send in their orders early.

Mr. JAS. S. SMITH, Maple Lodge, Ont., writes: The Shorthorns which we will offer on February 28th are in fine, healthy condition and doing very nicely. The cows and heifers are all safely in calf by the two grand stock bulls, British Flag, a son of the great Hampton Hero, and Abbotshurn, a son of the dam of Young Abbotshurn, and others quite as famous. The young bulls are, we believe, the most evenly good lot we ever offered at public sale, and nearly all are from very deep-milking dams.

Mr. J. W. BARNETT, manager for Messrs. W. C. Edwards & Co., Rockland, Ont., reports that the Pine Grove herd of Shorthorns is doing remarkably well since they came into the stables. The herd is in good breeding condition, and there is nothing loaded down with fat, as the present half times will not allow it. The calves are coming in good shape, and nearly all are solid red in color. Those by Knight of St. John are mostly young, but very nice. There are a few young bulls on hand fit for service, which will be sold at prices to suit the times, as well as some young cows and heifers.

Mr. W. COCKBURN, Aberfoyle, Ont., having disposed of 100 acres of his farm, will hold a sale of pure-bred Oxford Down sheep, on Wednesday, March 6th. These sheep are a very fine lot, and were all selected by Mr. Cockburn from three of the oldest English flocks. The sheep that were shown last fall are in fine condition, and the ewes are all in lamb to Doncaster Royal or Leru Gloucester, the well-known champion rams. All sheep will be sold to the highest bidder. This will be an exceptionally good opportunity for buyers to purchase something very choice, as Mr. Cockburn has to sell for lack of room.

Mr. JAS. S. SMITH, Maple Lodge Stock Farm, Maple Lodge, Ont., reports as follows: One of our best milking cows has produced for us this year a grand roan bull calf, which we expect will make his mark in maintaining the claim of Shorthorns as milkers. His dam, Ninth Princess of Thule, is at present giving us fifty-two pounds of milk per day, and by test fifteen pounds of butter per week, and for five generations in the pedigree line her dams have given us fifty pounds or over of milk per day. Then the sire of the calf, San Mario, has a similar record through his ancestors, the dams for five generations having given us fifty pounds or over of milk per day. At our sale on the 23rd February, we will offer a yearling bull from the same dam, and get by Lavender Prince. The Lavenders were Mr. Cruickshank's favorite milking family. A two-year-old heifer from the same dam and several others from our best milkers will be included in the sale.

Mr. ARTHUR JOHNSTON, Greenwood, Ont., writes to say that cattle have never wintered better than they are now doing in all that section of country. "We have had no very severe weather to chill them, and feed is fairly plentiful. Our own young things of both sexes have never gone on as rapidly or improved as much in the same time as they have done in the past two months. The young bulls have gained fully fifty pounds each, more than young bulls of the same ages gained last year, and they are as much larger as they are heavier. Among recent sales from the Greenwood herd may be mentioned one of a right good white bull calf to Mr. John Campbell, of Woodville, Ont., importer and breeder of high-class Shropshire sheep. He was sired by Indian Chief (imp.), and out of the imported Bruce cow, Sunray. It is surely a good sign of the times when a man of Mr. Campbell's known foresight and judgment is not afraid to purchase (at a good price, too) a bull of this heretofore unpopular color, but all fanciers must give way to the hard and solid basis of merit in these trying times. We still have two white ones, and we are proud of them. They were both sired by Indian Chief, one being a son of the imported Cruickshank cow, 34th Duchess of Gloster, and the other out of the imported Bruce cow, Mimosa."

Mr. H. D. SMITH, Ingleside Farm, Compton, Que., writes: After our exhibitions were over last fall, it occurred to me that we Canadian Hereford

Dick's Condition Powders Fattens Horses and Cattle

IMPORTANT AUCTION SALE

SIXTY IMPORTED OXFORD DOWN SHEEP

WEDNESDAY, MARCH 6th, 1895, at 12 o'clock sharp.

HAVING disposed of 100 acres of my land, and having a large stock of Suffolk sheep—I have decided to sell, without reserve, my entire flock of choice imported Oxford sheep, including all my last Fall winners, Doncaster Royal, the acknowledged champion ram, also Lord Gloucester, and seven show ewes of different ages, that won every first at all the leading shows, both in England and this country; also forty-two shearing ewes, imported from the best English flocks, —Brassey, Adams, and Treadwell, all in lamb to above rams, and nine ram lambs, all in fine condition and very choice quality. Come and get what you want at your own prices, as they all will be sold without reserve. Particulars on application.

TERMS.—Twelve months' credit on approved joint notes, or six per cent. per annum off for cash.

CORWHIN STATION, C.P.R. or GUELPH, G.T.R.

Teams will meet trains on day of sale. Lunch provided.

INGRAM & HEFFERMAN, Auctioneers.

W. B. COCKBURN, Prop.
Aberfoyle P.O. Ont.

Isaleigh Grange Farm

has two very fine Guernsey bull calves to offer that will be fit for service in spring, sired by the celebrated bull, Adventurer, winner of 27 first prizes in Britain previous to importation.

IN SHROPSHIRE SHEEP

we have still a few ram lambs of choice breeding. Sold out entirely of yearlings, but would spare a few choice ewes, bred to imported rams, and a beautiful lot of ewe lambs fit for any flock.

IN IMPROVED LARGE YORKSHIRES

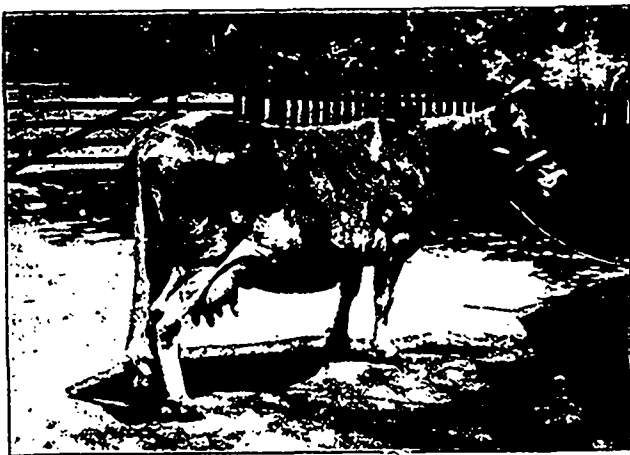
we have a fine lot of young pigs for sale, of all ages. Young boars, fit for service, and young sows served to an A1 boar, if wanted. Also our imported stock boar, Holywell Prince.

Apply to **T. D. MCCALLUM, Manager.**

185

Isaleigh Grange Farm, **DANVILLE, QUE.**

Have you read "Dairying for Profit," by Mrs. E. M. Jones, Judge of Butcher at World's Fair, Chicago? If not, you miss a treat, which would save you hundreds of dollars. Only 50c. by mail. **ROBT. BROWN, Agent, Box 324, Brockville, Ont., Can.**



JERSEY COW MASSENA. PROPERTY OF MRS. E. M. JONES, Brockville, Ont., Can

8,000 lbs. Milk, which made 654 lbs. Splendid Butter, all within her sixteenth year. My herd has won thirty medals—gold, silver, and bronze; over 400 cash prizes, besides diplomas, etc. Solid Silver Cup, value \$340, given at the Kellogg sale in New York for highest price on animals sold there; also Silver Tea Set at London, Ont., for three best Dairy Cows of any kind.

Grandsons and granddaughters of this great cow for sale; also from Canada a Sir George, whose dam made 26 1/2 lbs. butter a week, and gave 57 lbs. milk a day; also from my Signal bull, whose dam made 20 lbs 6 oz. butter a week on second calf. Chicago tests have proved the Jersey to be the farmer's best paying cow.

MRS. E. M. JONES, Brockville, Ont., Can.

AVONDALE STOCK FARM.

Dominion Chief, by (imp.) Royal Chief, dam (imp.) Jess, at the head of the herd. Among the cows are imported Fairy Queen and Amy, the 1893 silver medal cow at the Industrial. From these I now have young bulls for sale, also a number of superior young bulls and heifers of different ages. Heifers always on hand.

JOHN H. DOUGLAS,

Warkworth, Ont.

232

SHORTHORNS



LINTON LUSTRE, 18422

I have for sale two nice yearling heifers, red, and red and little white, good ones. Also two bull calves, well bred, and well grown. All are from first-class stock, and at reasonable prices.

D. ALEXANDER, Bridgen,
Lambton County, Ont.

217

HOLSTEINS.

HOLSTEIN-FRIESIAN CATTLE.

For Sale, two extra bulls from the best milking strains, at prices to suit the times. Correspondence solicited. **JOHN MCGREGOR,** Londonboro Station, Constance P.O.

FOR PRICES ON

HOLSTEINS

WRITE TO

F. A. FOLGER

RIDEAU STOCK FARM

BOX 577

KINGSTON, ONT.

2231

HOLSTEIN-FRIESIANS

H. BOLLERT, Cassel, Ont.

I now offer for sale several very choice bulls fit for service; they are of rare breeding, with great milk and butter records to back them. Also females of all ages and at breeding at prices that are right. Remember the best are the cheapest. Come and see them, or write for prices and full particulars. 86

Woodbine Stock Farm

HOLSTEIN-FRIESIANS

Dora heifer and Pieterje Netherland heads my list; his sire was the great prize-winner, Milka's Pieterje Netherland, whose dam, Pieterje 3rd, held the world's four-year-old record of 24,126 lbs. of milk in one year, and her butter record, 27 lbs. 10oz. in a week. Second dam, Pieterje 2nd, gave 30,318 lbs. of milk in one year, and 123 lbs. 7oz. in one day. Young stock for sale, also a choice lot of grade cows. Prices right.

A. KENNEDY, - Ayr, Ont.



Fairview Farm

E. PANNAECKER

Breeder of Grand Milking Registered Holstein Cattle. A specialty in females of all ages at present.

244 Hespeler, Ont.

BROCKHOLM HOLSTEINS



Netherland Romulus, a grandson of Netherland Prince and Albino and, at the head of herd.

Original stock cows all imported from Holland.

Also Improved Large Yorkshire Pigs of the best strains.

Young Stock for Sale.

R. S. STEVENSON,
ANCASTER P.O., ONT.

177

HOLSTEIN-FRIESIAN CATTLE FOR SALE.

Five extra good bull calves fit for service, and one two-year-old heifer in calf, at reasonable prices. Come and see them.

Wm. SUHRING,
SEHRINGVILLE, Ont.

HOLSTEINS

FOR SALE

BY

ELLIS BROS.

GEM HOLSTEIN HERD
BEDFORD PARK,NORTH TORONTO, ONT.
CORRESPONDENCE SOLICITED.

Stock Notes.—Continued.

breeders were entitled to some encouragement from the American Hereford Association, as well as Hereford breeders across the line. So I bought the matter up at our meeting in December last, with the result that the association has made an appropriation of \$50 for special prizes, and I have now succeeded in getting the Montreal Exposition Co. to add \$25, the whole to be competed for at their fair next September, viz.: For the best young herd of Herefords, consisting of a bull under two years, owned by exhibitor, and four heifers under two years, bred and owned by exhibitor, 1st prize, \$30; 2nd, \$15. For the best cow and two of her produce, either sex and any age, all owned by exhibitor, 1st prize, \$20; 2nd, \$10. All animals competing for these prizes must be recorded in the American Hereford Record. Ages of animals to be governed by entry rules of Montreal Exposition Co. I wish this to be made public to our Hereford breeders, and trust you will take an interest in the matter, and try to make our breeders take hold of this extra inducement to show up the good qualities of our Herefords. I am glad to be able to report that my stock is wintering extra well, and this season's calves are turning out a grand lot.

Messrs. J. H. SMITH & SON, Willow Grove Stock Farm, Highfield, Ont., write: The advent of the new year finds our Jersey cattle doing well, without exception. Our sales have been quite numerous. We sold, on November 12th, 1894, to Mr. Robert McCullough, Edmonton, Rosa May's son, dropped August 26th, 1894. He is solid color, with full, dark shading, elegant head, and extremely well-marked escutcheon, with large rudimentary teats, very squarely placed. This young bull is not only very handsome, but bred for great butter qualities; being sired by our great stock bull, Hugo Alpha of Oaklawn, who has established a reputation in the show ring for himself and progeny. His dam is Signal Rosa May, whose record is 22 lbs. 4 oz. of butter in seven days, and who has swept everything before her in the show ring. We also sold one to Mr. John Willis, Brampton; one to Mr. J. N. Blinn, Woodbank; one to Mr. David Hall, Toronto; one to Mr. John Britt, Toronto; one to Messrs. T. Eaton & Co., Toronto; one to Mr. Thomas H. Himes, Toronto; one to Mr. D. Blea, Toronto; and two to Mr. J. R. Dixon, Richview. We have now only one young bull left, dropped July 21st, 1894. He is a large, handsome calf, solid silver fawn, with full dark shading. The lover of a good Jersey will inspect with pleasure this young bull, and will note that none of the points of delicacy and excellence are wanting in him. The person that gets him gets a prize. We also have several heifers to calve shortly, which are very handsome and have grand udders.

Messrs. A. C. HALLMAN & Co., New Dundee, Ont., write: This firm, after the 20th February, will discontinue to do business under the old heading. We have dissolved partnership by mutual consent, Mr. Hillgartner, the silent partner, retiring from breeding cattle, only keeping a few cows for his own private use. The cattle, formerly, were kept on two farms, some distance apart, which made it very inconvenient; besides, Mr. Hillgartner's farm is no stock farm. The severe drought of 1893, and especially of 1894, has put things in such a shape that he is entirely unable to keep any number of cattle for a few years. His new meadows are all bare, and there are no prospects for pasture or hay, and no old meadows to fall back on. Our large herd has been equally divided, thus throwing a lot of valuable breeders and young stock of all kinds on the market. They will be sold at his farm, on the 20th day of February. This is a golden opportunity for securing choice stock at your own price. The other half of the herd will also be reduced for a year, for the same reason. It is with much reluctance that we have come to this conclusion—to sell what has been our pride and pleasure for so many years; but it is our only way out. We trust that our old friends, and many new ones, will take advantage of this. The remainder of the herd will be pushed with more zeal than ever, under the old familiar name, without the company. Cattle are doing well, and a lot of very richly-bred calves have just come. Our Tamworths are also doing well. We have a lot of sows in farrow and some nice young ones on hand.

Messrs. A. & G. Rice, Brookbank Dairy Farm, Currie, Ont., write: We have some heifers doing good work. Catharine 5th, now three years old, but with her first calf, has given 51 lbs. of milk in one day, and 200 lbs. in four consecutive days. We have a fine bull calf from her, sired by Alphen's Sir Aagie Clothilde, whose dam, Alphen, has a milk record of over 80 lbs. in one day, and over 20 lbs. of butter in seven days. This calf is very well bred on both sides, and would be a credit at the head of any herd. Jewel Mercedes Artis Queen, our prize-winning yearling, has calved at 26 months old, and has given 40½ lbs. of milk in one day, and 81 lbs. in two days. We have sold that handsome heifer, Orrice 3rd, to Mr. W. W. Brown, Lym, Ont. She is of the Clothilde strain, having for sire Clothilde Lincoln, he by Clothilde 4th Imperial, he by Prince Imperial, by Netherland Prince. Orrice 3rd's dam, Orrice, is sired by Wandas Mercedes Artis Queen, he by Mercedes Prince, by Jaap. Her other grand sire is the noted bull, Prince of Uwick. It will thus be seen that her male ancestors are all the best of the breed, while in the female ancestors she is equally well bred. Her dam, Orrice, is a model young dairy cow. With ordinary care she has given 54 lbs. of milk in one day, and made 11 lbs. of butter in seven days. Orrice 3rd's grandam, Marget Lincoln, has a record of 72 lbs. of milk in one day, and her other grandam, Sapkie 2nd, of 62 lbs. of milk in one day, while for three generations beyond the records are even better. It will thus be seen that Orrice 3rd is bred in the purple, and she has given, as a heifer, 77 lbs. of rich milk in one day. She is of beautiful form, with a rich golden skin. We have a handsomely marked bull calf from Orrice 3rd, sired by Nellie Grant 4th's Paul Dekol, whose nineteen nearest female relatives average 21 lbs. 1¼ oz. of butter in seven

Dick's Liniment cures
All Lameness and Sprains

DEVONS.

W. J. RUDD

Eden Mills, Ont.

Breeder of

Devon cattle, Cotswold sheep, Berkshire pigs, Langshan fowls, and White turkeys.

Special bargains at present on a few young bulls and heifers. Call at the farm, or write for particulars.

POLLED ANGUS.

THE HOME OF THE UODDIES.

Hardy, Healthy, Hornless, Handsome.

We have still some excellent animals of both sexes for sale, at prices to suit the times. Give us a call before purchasing elsewhere.

Farm 3½ miles from Sarma Tunnel Station. Always glad to attend to correspondence or to meet prospective purchasers and show stock.

WM. STEWART & SON,

WILLOW GROVE FARM,
LUCASVILLE P.O., Lambton Co., Ont.

AYRSHIRES.

MENIE STOCK YARD.



Breeder of Ayrshire Cattle and Berkshire Pigs. First class pedigreed stock always on hand and for sale. First-class milking stock a specialty. Hoard's Station, G.T.R.

WM. STEWART, Jr., Menie, Ont.

184

CHOICE AYRSHIRES.

Stock bull is imported SILVER KING who took 1st prize—2-year-old class—in 1893 at Montreal, Hochelaga, London, Ottawa, Toronto, as also silver medal there as best bull of any age. Dam of Silver King is Nelly Osborne (imported), who took 1st as milk cow and champion medal at World's Fair, and his sire is Traveller, the champion Ayrshire bull of Scotland. I offer for sale young stock of both sexes sired by this famous young bull, and whose dams are not only good individuals and prize winners, but heavy milkers as well, with exceptionally high tests for quality. Please Address D. McLACHLAN,
126 Petite Cote, P.Q.

JAMES COTTINGHAM,

Riverside Farm, Breeder of Ayrshire Cattle.



Herd traces direct to stock imported by Andrew Allan, Montreal, and headed by the prize-winning bull, Sir James (5057); sire, Rob Roy (3972). Stock of both sexes for sale at all times, including some choice young bulls and heifers. Correspondence solicited. Visitors welcome. Railroad station and post office, Ormstown, Que. Farm one mile from station.

WOODROFFE FARM.

We have now for sale a choice lot of young Yorkshire pigs. Write and get particulars, or come and see stock.

J. G. CLARK,

70

Ottawa, Ont.

HIGH-TESTING AYRSHIRES

Our herd has won the dairy tests at the leading eastern exhibitions for the past two seasons. The famous Stock Bull GOLDEN GUINEA was for years at the head of our herd. We breed to produce performers. Young stock to dispose of. Write for particulars.

ROBERTSON & NESS,

197

Howick, Que.

AYRSHIRE CATTLE

DAVID BENNING, Glenhurst,
Williamstown, Summerstown Station G.T.R.,

BREEDER OF Ayrshire Cattle, Leicester Sheep, and Berkshire Pigs. The bull, Tom Brown, and heifer White Frost, winners of sweepstakes at World's Fair, were bred from this herd. Young stock always for sale.

87

AYRSHIRES.

AYRSHIRE BULLS FOR SALE.

One yearling Bull, one two-year-old Bull, Heifer and Bull Calves. All from choice milking stock. Prices reasonable. Address, **WM. KIDD,** Petite Cote, Que.

CHOICE BREEDING STOCK FOR SALE.

One fine yearling Ayrshire Bull, registered, price moderate. Improved Yorkshire Pigs, 3 and 4 months old, from best strains, registered and crated, \$3 and \$5 each. M. Bronze Turkeys, pure, and of high quality. Toms, \$3 and \$3.50; hens, \$2.50, or pairs, \$5 and \$6. Send in your orders now. For further particulars, write

W. H. CREWS, Box 232, TRENTON, ONT.

Breeder of Ayrshire cattle. Stock of all ages constantly on hand. Write for prices. 218

F. W. TAYLOR,
WELLMAN'S CORNERS, - ONTARIO.

A number of purebred Ayrshire calves of both sexes, and also a few High grades, due to calve in March, April, and May.

AYRSHIRES FOR SALE.

Young stock of both sexes, sired by Silver King 5899, and Chieftain of Barcheskie 5362, for sale at reasonable prices. Write for prices or call and see my stock.

D. DRUMMOND, Jr.,

Near Montreal. 187 Petite Cote, P.Q.

A. McCALLUM & SON

Spruce Hill Dairy Farm. DANVILLE, Que.

IMPORTERS AND

DISPOSERS OF pure-

bred Ayrshire cattle.

Our stock is especially

bred from cattle of the deepest

milk strains, with high percentage of

butter fat.

Young stock always for sale at reasonable prices.

Correspondence solicited. 198

JERSEYS.

Jersey for Sale

To Breeders of Fine Dairy Stock.

A purebred A.J.C.C. Bull (son of Canada's John Bull), in prime condition for active service. Price, \$80 F.O.B. Mitchell.

J. D. STEWART,

Russeldale, Ont.

Jan 17, 1895.

Jerseys For Sale.

The bull Exciter, by Thaley of St. Lambert's and Woodflower, calved 16th December, 1892; also a bull calf by the above, dam Matrins of St. Lambert's; both prize winners.

Also a few registered Berkshire pigs.

WM. CLARK, Myersburgh, Ont.

234

A.J.C.C. Jerseys For Sale.

Heifers in calf, heifer calves and bulls, young and old, all registered stock, being of the best strains of breeding, viz., Tormentor, Pedro, Stoke Pogis 3rd, Ida's Stoke Pogis, etc. None better. Write for what you want to

H. FRALEIGH,

223

St. Marys, Ont.

SHEEP.

LEICESTERS.

In strong competition at leading fairs our flock won high honors. We will dispose of a number of choice ewe and ram lambs. Also good breeding ewes in lamb. Write us for particulars.

E. ARCHER & SONS,

212

Warwick, Ont.

SHEEP.

FOR SALE

SHROPSHIRE RAMS,

AND

YOUNG SHORTHORN BULLS

(Registered)

Also a few females. Apply to

C. H. IRVING,

Box 288, Newmarket, Ont.

MONTROSE STOCK FARM

Breeder of Shorthorns (Waterloo Booth strains), Shropshires, Berkshires, Bronze Turkeys, and Fancy Plymouth Rocks. I make specialty of raising Swede Turnip Seed, warranted fresh and 1/2 lb. sufficient per acre. The best quality of turnips grown. Write for prices.



218 HORACK CHISHOLM, Paris, Ont.

1881 SHROPSHIRE 1881



Our flock, one of the oldest in Canada, was established in 1881. Importations made from time to time, selected in person from best English flocks. Present stock of lambs are a choice lot. Also yearlings of both sexes for sale.

J. COOPER & SON, 177 Klippen, Ont.

AMPLE SHADE STOCK FARM

Extra good Shorthorn Bulls and Heifers for sale; also Leicesters of both sexes, Manroth Bronze turkeys, very fine birds. Write, stating your wants.

E. GAUNT & SONS

St. Helens, Ont.

T. W. HECTOR

The Cottage,

Springfield-on-the-Credit, Ont.

Breeder and Importer of

DORSET HORN SHEEP

And dealer in

Saddle and Carriage HORSES.

Stations: Springfield, C.P.R., and Port Credit, G.T.R.

SYLVAN AND BRANT STOCK FARMS.

We have a very choice flock of Oxford Down Sheep from which we have a very superior lot of ram lambs by imported rams.

Flock is registered. Personal inspection solicited.

Turner & Jull, 125 Burford, Ont.

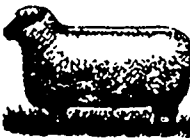


BUENA VISTA FARM, - HARRISTON, ONT.

Breeders of improved large Yorkshires, milking Shorthorns, Oxford Down sheep, and Plymouth Rock fowls. Some fine young Yorkshires now for sale. Write for prices.

JOHN COUSINS & SONS.

SMITH EVANS, GOUROCK, ONT.,



BREEDER and IMPORTER of Registered Oxford Down Sheep. Importation for 1893 arrived August 4th, selected from some of the best flocks in England. Stock for sale at reasonable prices.

"I shall always be pleased to recommend your Journal to my neighbors, as I have received through it some very valuable information."

R. L. GULLETT, Wawanesa, Man.

SHEEP.

SHROPSHIRE FOR SALE

A choice lot of shearing rams, ewe and ram lambs. A few rams two and three years old

Also young Yorkshire pigs, all ages

T. H. MEDCRAFT,

Sparta, Ont.

Eight miles from St. Thomas, Ont.

A Choice Lot to Pick From.

Consisting of Ram and Ewe Lambs, and Ewes in Lamb. The finest lot of Shropshire Lambs we ever bred, and you cannot object to the prices we ask. Let us hear from you.

Allen McPherson, 218 Forest, Ont.



LORRIDGE FARM.

Southdown Sheep. Flock established 1857. Commenced exhibiting 1867. Since then have taken over 1,200 prizes, including a large number of medals and diplomas. Imported Rams used only. Stock for sale. ROBT. MARSH, Proprietor, Richmond Hill, Ontario. 149



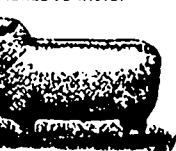
SPRINGBANK STOCK FARM

SHORTHORN OATLE, OXFORD SHEEP, BERKSHIRE PIGS, AND BRONZE TURKEYS.

14 Shearling Oxford Rams, imported and homebred, for sale; also a number of shearing ewes.

30 Ram and ewe lambs ready for the fall trade, mostly sired by Young Nobly (imported) No. 2703. First prize shearing ram at the Bath and West of England Show in 1892.

115 JAS. TOLTON, Walkerton, Ont.



The Largest Lincoln Flock in Canada!

Our breeding ewes, 150 in all, are from the best English flocks. Our last importation was made from the flock of Mr. Henry Dudding, and were all personally selected. If you want a ram or a few ewes, send along your order. If you want shearlings or lambs of either sex, we can supply you with the very best.

J. F. GIBSON, Denfield, Ont. W. WALKER, Ilberton, Ont. 148

FAIRVIEW'S SHROPSHIRE.

With this season's business finishing up so very satisfactory, I wish to thank my many customers for their kind words of appreciation of sheep sent out.

I do not care to reduce my flock any more at present, but orders for this year's surplus will be placed with pleasure. Several orders are already booked.

If you want something good to head your flock and improve its quality, your immediate order will secure the pick. A few choice ram lambs out of World's Fair winners, and by Newton Lord, the champion, on hand. Come or Write.

JOHN CAMPBELL,

Fairview Farm,

WOODVILLE, ONT.

CANADA.

Whiteside Bros.,

The Glen, Innerkip, Oxford Co., Ont.,

Shropshires—Yearlings and lambs. Berkshires—Breeding stock, both sexes. Ayrshires—Three excellent bull calves for sale.

In writing mention this journal.



SWINE.

Large English Berkshires for Sale

Three sows in pig, also young stock, both sexes. Address

R. J. DIXON, Glendon, Ontario.

YOU can get your Journal for one year free by sending us two new subscribers. Any regular subscriber sending us two new yearly subscribers will receive his own subscription for one year free.

Stock Notes.—Continued.

days, and fourteen average 16,283 lbs. 5 oz. of milk in one year. His dam, Nellie Grant 4th, has given 62 1/2 lbs. of milk in one day, and 13 lbs. 6 1/2 oz. of butter in seven days, at two years old. His grandams are the famous Pauline Paul, the champion butter cow of the world, and De Kol 2nd, with a record of 73 lbs. milk in one day and 33 lbs. 6 oz. of butter in seven days, at four years old. We propose to call this royally bred calf Sir Paul De Kol Clothilde, and it will be seen that he has the blood of many famous Holsteins with great milk and butter records. He promises to make a fine show animal.

Swine.

MR. ROBERT J. MACLEAY, Castleton, Que., has a choice lot of Chester Whites on hand from prize-winning stock. Prices moderate.

MR. R. G. MARTIN, Marysville, Ont., has just shipped a Yorkshire boar and sow to Mr. Denis Martin, Clio, Genesee county, Michigan.

MR. FRANK ROW, of Messrs. W. & F. Row, Avon, Ont., writes: Our business has increased so much that, for convenience sake, we have decided to advertise our stock separately. I have a number of Tamworth sows in pig and younger stock for sale, also Poland China boars fit for service.

MR. JAMES H. SHAW, Simcoe, Ont., writes: I am starting the new year with almost a clean bill, that is to say, nearly all my fall pigs are sold, thanks to THE JOURNAL. The following are some of my sales during December: A trio to Mr. Salem Colver, Bloomington, Ont.; a boar to Mr. Joseph Lee, Cowansville, Que.; a pair to Mr. Taylor Skeckett, Eppingham, Ont.; a pair to Mr. Joseph Foster, Varna, Ont. Fresh litters are coming in nine and ten at a time. One of my customers writes: "The pig is doing finely, and is admired by all who see him. I think he is the best Chester White I ever had." Please insert the enclosed change of advertisement.

MR. FRANCIS RUSSELL, Mount Forest, Ont., writes: "The following are some of my sales since last report: A sow, in pig, to Mr. R. Fraser, Mount Forest; a sow, in pig, to Mr. John Trup, Holstein, Ont.; a sow, in pig, to Mr. S. Waters, Petherton, Ont.; a sow, in pig, to Mr. Williamson, Mount Forest; a sow to Mr. A. Smith, Holstein, Ont.; a boar to Mr. A. Gately, Mount Forest; a boar to Mr. S. Hennes, Arthur, Ont.; a boar to Mr. C. Petty, Durham, Ont.; a boar to Messrs. Caldwell Bros., Orchardville, Ont.; a sow to Mr. P. Lowery, Cedarville, Ont.; a sow, in pig, to Mr. G. Dunkin, Mount Forest; a boar to Mr. Peter McIntyre, Mount Forest; a boar to Mr. W. H. Newsome, City Dairy, Fort William, Ont.; a sow and boar to Messrs. A. C. Hallman & Co., New Dundee, Ont.; two sows, in pig, to the Westfield Agricultural Society, New Brunswick; a boar to Mr. John Hall, Dundalk, Ont.; a boar to Mr. S. Rabb, Mount Forest; a sow, in pig, to Mr. Martin Yates, Arthur, Ont.; a sow, in pig, to Mr. George Drury, Mount Forest; a boar to Mr. James Spicer, Yeovil, Ont."

Sheep.

MR. C. T. GARRETT, Claremont, Ont., in the course of a business letter, writes: Please continue my advertisement during the coming year. I have some fine young Berkshire boars, farrowed November 1st, for sale. Their sire and dams were imported. I have also on hand some young sows in farrow.

MR. JAMES SMITH, Paris, Ont., announces in this issue that he intends to sell by auction, on Wednesday, February 13th, all his Shropshire sheep and Yorkshire pigs. Sixty-two head of Shropshires and twelve Yorkshires comprise the lot, and they are exceedingly choice stock. This will be a rare chance to procure first-class stock at moderate prices.

MR. J. P. PHIN, The Grange, Hespeler, Ont., writes: My auction sale took place on December 20th. The day was fine, and everything passed off pleasantly. The prices realized were fairly satisfactory, considering the exceedingly dull times and low price of mutton, sheep, and lambs at present. The ewes, mostly aged, and ewe lambs averaged \$10.30 each. I have still left 26 breeding ewes and 8 ewe lambs which were not offered for sale, also 15 ram lambs. The following is a list of the principal purchasers: Mr. John Simpson, Nassagaweya, 2 pairs shearing ewes; Mr. Wm. Moore, Georgetown, 1 pair shearing ewes; Mr. Robert Moody, Guelph, 1 pair shearing ewes and 2 pairs ewe lambs; Mr. M. Loree, Rockwood, 1 pair shearing ewes; Mr. Gavin Goodall, Galt, 1 pair shearing ewes and 2 ewe lambs; Mr. J. R. Suddaby, Harriston, 1 pair shearing ewes; Mr. J. C. Panabecker, Hespeler, 1 pair shearing ewes, 1 pair aged ewes, and 1 pair ewe lambs, also 1 ram lamb; Mr. John Wear, West Elmhurst, 1 pair shearing ewes, 1 pair aged ewes, and 1 pair ewe lambs; Mr. Robert Marshall, Elora, 1 pair aged ewes; Mr. Alex. Barrie, Galt, 3 pairs aged ewes; Mr. Hugh Arthur, Brantford, 1 pair aged ewes; Mr. John N. Sipes, Blair, 1 pair aged ewes; Mr. Geo. A. Tilt, Blair, 3 pairs aged ewes and 3 ewe lambs; Mr. Wm. Bowman, Mount Forest, 2 pairs ewe lambs; Mr. Richard Renneilson, Galt, 2 pairs aged ewes and 1 pair ewe lambs; Mr. James Cranc, Guelph, 2 pairs ewe lambs; Mr. James Hunter, Alma, 1 pair ewe lambs; Mr. Alex. Reid, Killalea, 1 pair aged ewes; Mr. A. G. Harvie, Kirkwall, 1 pair ewe lambs; Mr. Harry Cass, Buffalo Hart, Illinois, 1 ram lamb; Mr. John Scott, Killalea, 3 ram lambs; Mr. Jas. Cowan, Galt, 1 ram lamb.

Poultry

MR. GEORGE E. LUS, Highgate, Ont., advertises choice White Leghorns.

MR. W. J. BELL, Angus, Ont., has a few grand pairs of bronze turkeys for sale.

MR. C. J. WRIGHT, Dixville, Ont., has sittings of eggs of several breeds of poultry for sale.

MR. JOHN J. LINTON, Oshawa, Ont., advertises fowls for sale of various breeds, also bronze turkeys.

SWINE.

POLAND CHINAS.



My herd is comprised of the most popular strains of prize winning blood. I now have a number of superb young sows due to farrow in August or September, others ready to mate; also young boars. Satisfaction guaranteed, and prices to suit the times.

OLIVER DRURY, 142 FARGO, ONT.



E. D. GEORGE PUTNAM, ONT.

Importer and Breeder of OHIO IMPROVED CHESTER WHITE SWINE

The largest and oldest established registered herd in Canada. I make this breed a specialty and furnish a good pig at a fair price. Write for prices. 74

ELMDALE TAMWO



Boars fit for service. Also two and three month pigs, all from prize-winning stock. Pairs furnished not akin.

JOHN C. NICHOLL, Hubrey, Ont.

FINEST STRAINS LONG ENGLISH BERKSHIRE PIGS

'JOANETTE' OATS

BOW PARK CO. (LTD.) BRANTFORD CANADA.

THOMAS DOLLIN & SON Chatham, Ont.

Importers and breeders of Ohio Improved Chester White Swine, Todd Strain. Can supply pairs or trios not akin, of all ages. Prices right. 205



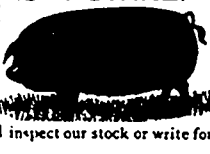
Ontario Central Herd of Improved Chester Whites.

A few choice show boars and sows from two of the best sows in Ontario, and sired by (imp.) White Lord, also a few extra good imported Duroc Jerseys and their produce from the best herds in the United States. Satisfaction guaranteed.

262 WM. TUTLER & SON, Dereham Centre.

DUROC JERSEY SWINE.

We have a fine lot of first-class young pigs of either sex, also a few young sows ready for breeding, all are bred from imported and prize-winning stock. Can supply pairs not akin. Before buying come and inspect our stock or write for prices. 169



TAPE BROS., Ridgeway, Ont.

The Pine View Herd

Orders are now solicited for spring pigs, farrowing, January, February, and March. A few sows in pig to imported boars. A few Silver Laced Wyandotte cockerels and pullets, well marked and bred. All stock guaranteed as described, or no sale. For particular write

JAMES H. SHAW, Simcoe, Ont.

Norfolk Herd of Registered Poland Chinas

Several very fine young sows bred to my imported boar due to farrow in March and April. Also pigs from six weeks to three months old. Breeding stock selected from some of the best herds in Ohio and Canada. Prices low, considering quality of stock.

R. WILLIS, Jr.,

Box 36, GLENMEYER, Ont.

SWINE.

POLAND CHINAS

Choice young stock ready for shipment at hard-time prices. Send for free catalogue of breeding stock. Also a quantity of honey for sale cheap.

CAPT. A. W. YOUNG, TUPPERVILLE, ONT.

YOUNG REGISTERED BERKSHIRES

Bred from imported stock, for sale at right prices. Now ready for shipping. All stock guaranteed as represented. Write, or come and see the stock.

H. G. CLARK, Brampton, Ont.



Maple Leaf Stock Farm

HAS FOR SALE

A grand litter of Chester white swine from their prize winning stock of 1914. First prizes at all exhibitions in Province of Quebec. Correspondence solicited. For further particulars address

ROBERT J. MACLEAY, Castlebar, Que.

The Spruce Grove Herd of Tamworths and Yorkshires.

I can furnish pigs of either variety of the most desirable type and highest strains of breeding, in pairs not akin, and at all ages. Prices moderate.

J. P. MASTER, New Dundee, P.O.; Baden, G.T.R.; Dundas, C.P.R.

The Avon Herd of Registered Tamworth, Chester White, and Imported Poland China Swine.

Our herds are selected from the best strains from England and the United States.

We have some choice young stock of the Tamworth and Poland Chinas, from five weeks to four months old. Pairs not akin. Prices moderate. Correspondence solicited. Orders looked for spring pigs, Chester White breed.

HEIGON & DAFOE, Avon, Ont.

LARGE ENGLISH BERKSHIRES.



My breeding stock have been selected from the best English herds. Two imported boars, and eight imported sows all breeding. Pigs of all ages to select from.

ISRAEL GRESSMAN, NEW DUNDEE, Ont.

TAMWORTH SOWS.

Bred to farrow in March, pigs not akin, four months old, extra good, from prize-winning stock.

POLAND CHINA BOARS.

Fit for service. Prices moderate. Come and see me, or write.

FRANK ROW, Avon, Ont.

Dairying

It is today possible, the most profitable means connected with farming, and the most valuable information to be found on the subject is contained in Mrs. E. M. Jones' book, "Dairying for Profit." Sent free for one new subscriber to the Canadian Live Stock and Farm Journal

SWINE.

J. G. MAIR, Dealer and Importer of Improved Large Yorkshire Pigs.

For the spring trade I will breed from nothing but imported stock of good quality. Write early and get prices for March and April litters, which will be found very reasonable. Pairs supplied not akin. Railroad station and P.O.

HOWICK, QUE.

A CHOICE lot of sows for sale, bred to farrow in February and March, and come to breed yet. A few boars fit for service. Young pigs of various ages. Call and see stock, or write for prices and description.

J. H. SIEFFERT, North Bruce, Ontario.

DANIEL DeCOURCEY, Bornholm, Ont. IMPORTER AND BREEDER OF OHIO IMPROVED CHESTER WHITE SWINE

Young Stock of above always for sale. Satisfaction guaranteed and prices right. Pedigrees furnished with all sales, and nothing shipped but first-class stock.

250 Correspondence solicited and visitors welcome.

YOUNG REGISTERED BERKSHIRES.

NITHSIDE FARM.

A choice lot of young registered Berkshires for sale, ten sows seven months old, in pig by an extra good boar of the modern type; also six boars from five to seven months old, at prices to suit the times. A grand lot of young ones two months old. Satisfaction guaranteed.

E. E. MARTIN, Paris Station, G.T.R., Ont.

YORKSHIRE PIGS

of the best type and breeding. Pairs not akin now ready.

Also ROAD AND CARRIAGE HORSES, bred at Kingston Road Stock Farm.

J. M. HURLEY & SON, Belleville, Ont. Box 447.

The Home of the Poland Chinas

We have the best herd of Poland China Swine in Canada. Our herd won all the sweepstakes diplomas and herd prizes, and 22 out of 26 first prizes at the three largest fairs in Canada in 1894. Our herd is headed by Darkness Quality, the winner of first prize in his class over 41 entries at the World's Fair in Chicago in 1893. Young stock for sale at all times. Prices reasonable and stock guaranteed to be as represented.

W. & H. JONES, Mount Elgin, Oxford County, Ont.

ESSEX COUNTY HERD OF POLAND CHINAS.

I have still a few boars left fit for service, and a few sows ready to mate, which I will sell cheap, in order to make room for fall pigs, of which I have a nice lot, and expect more soon.

I give a registered pedigree and guarantee every pig to be as represented. K. H. McMullen, Goldsmith P.O., Ont.

Large English Berkshires

Large English Berkshires, choice young boars from imported dam; boars and sows two weeks old, by imported boar. Choice sows in farrow, boars fit for service. Pairs not akin. Call and see stock or write for prices.

Bright Station, G.T.R. C. R. DECKER, 51 CHURCHFIELD, Ont.

KEEP YOUR EYE ON THIS SPACE



Choice young boars from three to nine months old. Young sows imported and homebred, bred to three imported hogs. A fine lot of ten just farrowed; four imported sows to farrow.

Special rates by express. All stock guaranteed as described. Visitors welcome.

C. T. GARBUTT, Claremont, Ont.

SWINE.

ASHTON GRANGE FARM.

Improved Yorkshire and Berkshire Swine. Young stock from prize winners at leading shows or pairs of either breed now ready for shipment

WM. TAIT, St. Laurent, P.O., Near Montreal

MEDAL HERD OF 1894.

Chester White Swine and Dorset Horned Sheep of all ages, for sale at prices to suit the times.

R. H. HARDING, Thorndale, Ont. Middlesex County.

CANADIAN BLACK BESS HERD.

All parties interested in Poland Chinas should have a copy of our Illustrated Manual of Poland China Swine and Swine Breeding, as in it we give all particulars about our herd, and also much general information on swine breeding.

All orders for young stock promptly and carefully attended to.

J. J. Payne, - Chatham.

JOSEPH FEATHERSTON, Pine Grove Farm, STREETSVILLE Post Office and Telegraph (late Springfield-on-the-Credit, Ont.), importer and breeder of Improved Large Yorkshire and Essex swine.

This herd obtained twenty first, nine second, five third, and four fourth prizes at the World's Fair, Chicago, 1893. I have now on hand a choice lot of Yorkshire sows, from the first prize boar, and out of some of the sweepstake sows; also a limited number of first-class young boars fit for service this fall, and fifty breeding sows, which I am breeding to Hasket (1902), Halton King (1901), and the boar Holywell (1897), bred by Sanders Spencer, England, just imported in July last, selected for me by J. G. Snell, Edmonton, as the best boar in all England.

FRANCIS RUSNELL,

Mount Forest, Ont. Breeder of Improved Large Yorkshire pigs. Young boars and sows of 2001 breeding for sale. Prices to suit the times.

BERKSHIRES FOR SALE

My Berkshires have secured a large number of the most important prizes at Toronto, Montreal, and London exhibitions in 1893; also several prizes at the Fat Stock Show in Guelph, including sweepstakes for best purebred sow of any age or breed.

A choice lot of all ages for sale. Please mention THE LIVE STOCK JOURNAL. GEO. GREEN, Fairview P.O., Stratford Station and Telegraph Office.

MAPLE LEAF FARM

IMPROVED LARGE YORKSHIRES

Markham Haron, the sweepstakes barrow over all breeds at Fat Stock Show at Guelph in 1892, was bred by us. A choice lot of young sows of old enough for mating. Also young boars. Prices furnished not akin. Only first-class stock shipped.

JOHN PIKE & SON, Locust Hill P.O., C.P.R., Markham, G.T.

BERKSHIRES

of the best strains not akin, from a number of grand sows and three different boars, 24 first prizes won this season, all ages, for sale, including sows in farrow.

W. McALLISTER, Varna, BAUCHEVILLE STATION, Huron Co.

Red Tamworths, Yorkshires, and Ayrshire Cattle.

Tamworths, all ages, of good quality and best of pedigree. Five Yorkshire sows, 5 months, registered, crated F.O.B. \$15.00 each, good individuals. Ayrshires of the very best strains. All ages, of either sex.

Caldwell Bros. Trilery Bank Farm, Orchard, Ont.

SWINE.

The HURON HERD OF REGISTERED POLAND CHINAS.

I now offer for sale a number of first-class Boars and Sows of all ages, especially from six weeks to eight months old; also young sows in farrow. My herd is composed of the most popular strains of prize-winning blood. Orders looked for spring pigs in pairs not akin. All stock guaranteed to be as described. Prices to suit the times. Write for particulars and prices. WESLEY W. FISHER, Benmillar, Ont.; Guderich Station. 221

RED TAMWORTH PIGS.

Red Tamworth Pigs of the best strains. Stock of my breeding has taken highest honors at the Industrial and other shows this season. Young boars and sows of all ages now in hand. Pairs furnished not akin.

LEVI MASTER, Haysville, P.O. New Hamburg, G.T.R.

Tamworth and Improved Chester White Swine.

Our herd of Tamworths are selected from the choicest herds of England, being true in color and of the most suitable type. Over 50 head of choice fall pigs of all ages for sale, several of them being sired by the red ribbon boar at Toronto.

Also 3 choice Tamworth boars ready for fall service, and 10 choice young sows bred to an imported boar. Pairs furnished not akin; reduced rates by express; pedigrees furnished. Send for prices before buying elsewhere.

H. GEORGE & SONS, Middlesex Co., Crampton P.O., Ont.

HORSES.

ROBERT NESS IMPORTER AND BREEDER OF GLYDESDALES

FROM THE BEST STUDS IN SCOTLAND. English and French Carriage Horses, Shetland Ponies, and Ayrshire Cattle.

WOODSIDE FARM, HOWICK P. O., Que.

POULTRY.

BRONZE TURKEYS.

I have a few grand pairs for sale at \$7.00 per pair just hatched. Will sell singly or in trio not akin. Good yearling gobbler \$7.00.

W. J. BELL, ANGUS, Ont.

FOR SALE

Eggs for Hatching from thoroughbred Light Brahmas, Black Langshans, Black Hamburgs, White Wyandottes, white Plymouth Rocks, and Pekin Ducks. Write for prices. Eggs guaranteed fertile.

C. J. WRIGHT, Dixville, P.Q.

P.O. Box 114

203

Mammoth Bronze Turkeys, . . .

. . . Silver Grey Dorkings,

Brown Leghorns, . . .

White Wyandottes. . . .

Some grand young birds of the foregoing varieties. Pairs and trios furnished not akin. All of the best prize winning strains.

T. & H. SHORE, White Oak, Ont.

WHITE LEGHORNS EXCLUSIVE

I have made a specialty of this breed for fifteen years. A choice lot of cockerels for sale. My breeding pens for '05 will be headed by two grand imported cocks of the "Royal" strain, direct from the pens of Dr. John W. King. Eggs \$1.50 per thirteen. Correspondence a pleasure.

GEORGE E. LEE, Highgate, Ont.

Place a few lines and your name under this heading in the JOURNAL, and see how your business in this direction will increase.

POULTRY.

CANADA'S BEST

Are imported, bred, and sold by
JNO. J. LENTON, Park Farm, Oshawa, Ont.

I have fowls for sale in White, Silver, and Golden Wyandottes, Barred and White Plymouth Rocks. Eggs in season, \$1 per 9 or 15 for \$1.50.

Bronze Turkeys for sale, extra fine and large. Eggs, 25c, each, or 13 for \$3.

My fowls, as well as being fine specimens for the show room, are very large and healthy.

I am Canadian Agent for WEBSTER & HANNUM BONE CUTTERS, and for the PRAIRIE STATE and the MONITOR INCUBATORS AND BROODERS, the best made.

The People's Wholesale Supply Co.

35 Colborne St. - Toronto.
Is one of the most reliable houses in Canada to send you orders to for all kinds of Farmers' Supplies.
For \$14 we will send you a set of single harness, regular price \$18 to \$20. For \$16 we will send you our Patron Singer Sewing Machine, and, if they are not the best values you ever saw, return them at our expense and we will refund your money at once.
We are the leading Wholesale House for Texas. Try our Japan, at 25c. Special Blend at 30c., and Kaona Tea, at 35c. No. 1 Granulated Sugar, \$3.65 per cwt.; Light, refined, \$3.10 per cwt.; Dark Yellow, \$3 per cwt.
For other prices send for our catalogue, and please mention this paper. Freight paid on \$10 orders within limits.

ADDRESS ALL ORDERS TO
The People's Wholesale Supply Co.,
35 Colborne Street,
R. Y. MANNING, Toronto.
Manager.
(Manager of the Grange Supply Co. from 1889 to Oct., 1904.)

Knight Patrons FARMERS' FRIENDS.

A VITAL QUESTION FOR FARMERS.

One of the most important and worthy judgments recently delivered by the World's Fair Exhibitors Appeal Court held at Washington, D.C., was that given in favor of the Johnston Patent Plow Share Co. of Toronto (Ltd.) on their famous specialty, the patent plowshare, and their renowned World's Fair champion plow, "Defence."

Official sealed documents are matters of fact. First patents issued in Canada and in the United States are second to none. Later patents issued this year (1894). Some of which royal claims are:

The Plow Guard, the Underscore, the self-cleaning, adjustable draw-out coulter; the draw rod from breast of plow; the minute adjustable clevis; the tubular beam; the readily portable and adjustable handles with ratchet wedges and turn buckle brace rods; horizontal width of furrow gauge wheel, etc., etc., which have competed practically against the world.

See World's Fair Awards, viz., *World's Fair Awards, First Prize Gold Medals and Diplomas.*

The only true awards won on plow and plowshares for Canada, or elsewhere, and the only award won on agricultural implements through the Court of Appeal, so says Mr. J. S. Larke, Executive Commissioner for Canada. See list of exhibitors from Canada and all other nations defeated. The above should be surely sufficient guarantee for live investors.

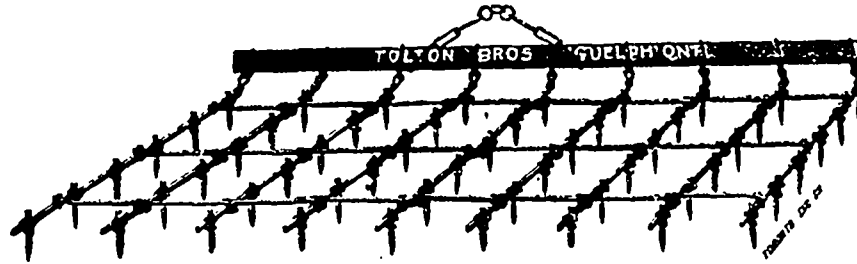
A further and extraordinary claim is that our awards and testimonials are made trebly valuable because of the aforesaid strife for justice. Yet this company is enabled to furnish the best and most popular implements the world can afford, with their many new and most useful designs, at ordinary prices.

The above plow and plowshares are just being put on the market, and the introduction and sale of same will afford many first-class positions for willing helpers. Office and road men, wholesale and retail agents, with some means, wanted. Live farmers and young men teachers make good agents. Investigate.

For particulars, address
The Johnston Patent Plow Share Co.,
Ltd., 73 George St., or Hugh Johnston,
351 Spadina Ave., Toronto, Canada.

Why Because

In these hard times is there such a great demand for this All-Steel Flexible Harrow?



Parties wishing a first-class Harrow will do well to give them a trial.

TOLTON BROS.,

GUELPH, ONTARIO.

The flexibility of the Harrow enables it to adapt itself as readily to rough and uneven ground as to smooth, and the oscillating motion produced by its flexibility pulverizes the ground, and leaves it in a loose and more porous condition than any other Harrow, and it is made of the very best material money can buy for the purpose.
The Bars are made of **HARD SPRING STEEL**, very stiff and strong, the Hinges and Teeth being of **SOLID STEEL**, all of which are of a higher grade than is possible to use in any other make of Harrows, being too hard to permit of the Bars being punched; also, the Clips are malleable and Staples Lowmore iron, highly relieved with special forged nuts, making the Harrow first-class in every respect, therefore we can guarantee more than double the strength and wear in this Harrow than there is in any other make.
We claim for this Harrow no equal in its class.

Saskatchewan

Buffalo
Robes

MANUFACTURED BY
NEWLANDS & CO.,
Galt, Ontario.



The warmest and most durable robe in the market, and an equal in every respect and supply the place of the original Buffalo skin. They are hand-somely lined with a superior quality of lining, also have an interlining of rubber, making them absolutely wind and water proof.
They have stood hard usage for 5 years by Farmers, Liverymen, Doctors, and others, to their entire satisfaction.
Patented in Canada and the United States.
210 Agents wanted everywhere.

HOLLOWAY'S PILLS AND OINTMENT.

THE PILLS
Purify the Blood, correct all disorders of the LIVER, STOMACH, KIDNEYS & BOWELS, And are invaluable in all complaints incidental to Females of all ages.

THE OINTMENT
Is the only reliable remedy for Bad Legs, SORES, ULCERS, and OLD WOUNDS.

FOR BRONCHITIS, SORE THROATS, COUGHS, COLDS, GOUT, RHEUMATISM, Glandular Swellings, and all Skin Diseases, it has no equal.

Manufactured only at 75 New Oxford Street, late 533 OXFORD STREET, LONDON.
And sold by all Medicine Vendors throughout the World.

SHORTHORNS FOR SALE.

Eight Shorthorn Bulls, including Canada, second prize yearling at Toronto; the best show bull in Canada of his age, and a sure getter. Also a lot of young cows and heifers.

J. & W. B. WATT,
Salem P.O., Elora Station.



TO ALL OWNERS OF LAME HORSES

A Cure Guaranteed or No Charge.
My cure is permanent. I guarantee every horse I operate on for two years. Do not be deceived by people telling you your horses cannot be cured. I can refer you to horses all over the city. I have cured Contracted Feet, Quarter Cracks, Corns, Thrush, and all Lameness of the Feet.
15 Years' Experience. **SALVE** Handbooks of Testimonials.
The Most Wonderful and Quickest Healing Mixture in the World. Can be used with perfect safety on the most valuable animals. If once used will never be without it. Guaranteed to cure scratches, sore shoulders, cuts, bruises, proud flesh and old sores of the worst kind in less than seven days.
Also try **R. KENNEDY'S FAMOUS HOOF OINTMENT**. Guaranteed to grow Hoof quicker than anywhere in the World. Price 35c.

R. KENNEDY, Specialist of Horses' Feet.
INFIRMARY AND FORGE: 247 Church Street, Toronto; also INFIRMARY AND RESIDENCE: 135 65 Bloor Street East N.B.—No charge for examining horses.

WHAT YOU SAVE

is what makes you prosperous. One way of saving money is to use

ROCK SALT

to salt your horses, cattle, and sheep. Not only is it better for them than loose salt, but you can salt them with Rock Salt for less than half the money you can with loose salt.

We sell 400 lbs. or over at 50c. per 100.

CASH WITH THE ORDER
TORONTO SALT WORKS,
228 Adelaide Street East, - Toronto

IT COSTS ONE CENT.

Many persons to whom Cod Liver Oil would be of the very greatest value refuse to take it under the impression that the taste is so objectionable as to counteract any benefit it might otherwise be to them. To such we desire to prove that this is a decided error, as in our preparation, "Maltine with Cod Liver Oil," not only is the objectionable taste entirely removed, but the preparation is really palatable—relished alike by old and young. It is the ideal "builder," and will restore health and color where the system is "run down." To any one desiring to make trial of the preparation we will send Sample free. Address Postal Card to The Maltine Manufacturing Company, 34 Wellington St. East, Toronto.



Seed Oats For Sale.

A quantity of Texas rust-proof oats, never before offered in this country. They are ten days earlier than other oats and ripen before attacked by rust. They have branching heads, reddish color, very thin hull, stand out enormously, have medium length of straw, stand up well, and have yielded fully seventy-five bushels to the acre by test for four years. Three fully matured oats, and one small one will be found in nearly every chaff, thus ensuring an abundant yield. Samples sent on application. One bushel, \$1; five bushels, 95 cents; ten and over, 75 cents per bushel, F.O.B. at Stouffville. Bases free.
G. J. BRODIE, Bethesda, Ont.

Our Stock of Sleighs Is Nearly Exhausted.

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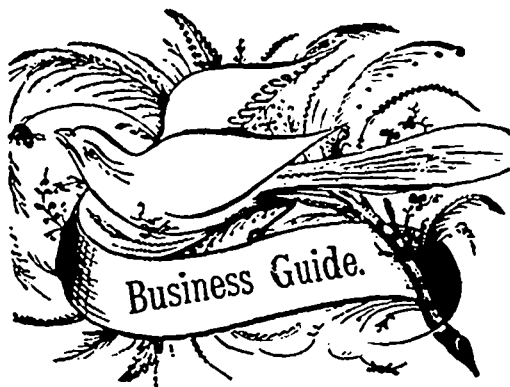


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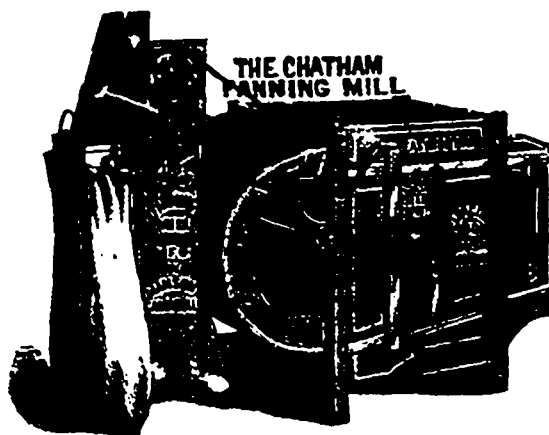
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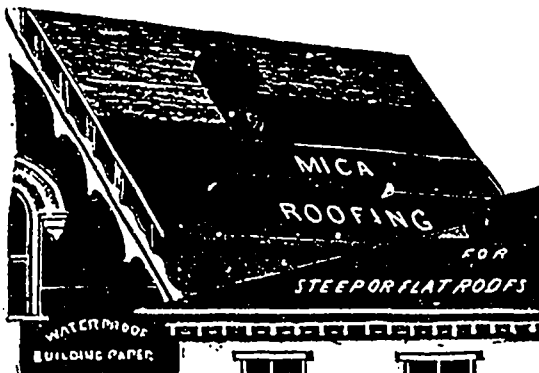
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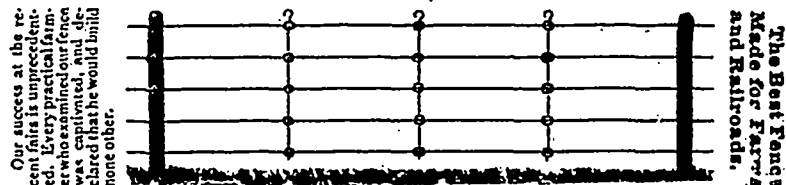
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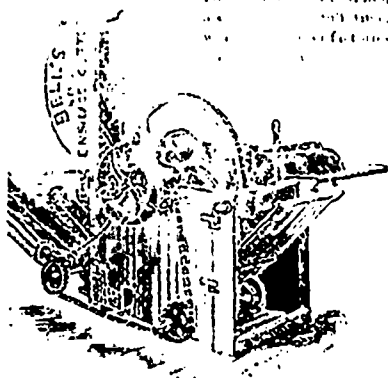
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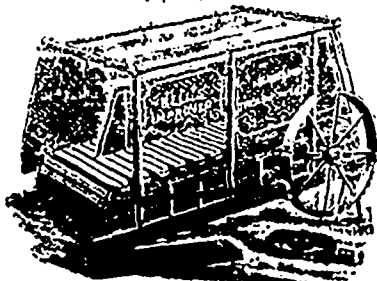
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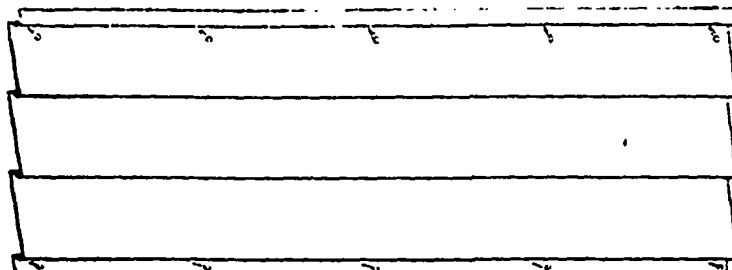


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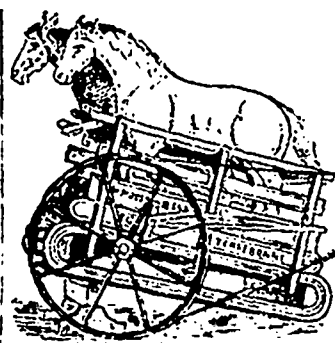


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