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We have capital Registered Berkshires for sale at moderate prices.

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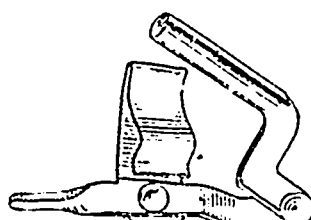
Simmons & Quirie
Shorthorns and Berkshires.

The herd is headed by the imported bull, Blue Ribbon 17095 (61706) He 13 Royal James 34444, dam, Rosentz, Vol. 38, p. 298, E. H. B., by Graves end (92450). Among the females are representatives of the Strathallans, Minas, Golden Drops, Mysie, Elviras—all pure Scotch breeding, except the Elviras, which are Scotch crosses.

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, Ont., or
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The Anti-Rattler



is a bolt and spring combined, for the attachment of thills or pole to a buggy.

Allows no rattle from the coupling

Made in two sizes. Price, 35 cents per pair. If your dealer cannot supply you, write to
Agents Wanted. **W. K. SHIELDS,**
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IMPROVED CHESTER AND TAMWORTH SWINE

Having won the grand sweepstakes at Toronto, Montreal, and Ottawa Fall Fairs for the best boar and two sows of any age more times than any other breeder in Canada, we offer for sale sows fit for service, sows ready to breed or bred, also choice lot of fall pigs ready to ship, not akin. Stock for exhibition purposes a specialty. Reduced rates by express. Drop a card for prices.

H. GEORGE & SONS, Crampton, Ont.

Ingleside Nerefords

Largest herd of choice-bred Nerefords in Canada. Winners of both the first and second herd prizes at Toronto, Montreal, and Ottawa, 1895, 1896, and 1897, also silver medals same years for best bull and best female. This herd is of the "up-to-date-beef kind," combining early maturity and quality.

Young Bulls for Sale.

Farm 3 1/4 miles from G.T.R. station.

H. D. SMITH,
Ingleside Farm,
Compton, Que.



F. C. SEARS, M.Sc.

...LEADING TOPICS FOR THE WEEK...

Australia to Make Experimental Fruit Shipments. Fruit Exchanges. Dealing in Futures Requirements of the Horse Trade. Keep More Sheep. Canadian Butter in Great Britain. Ontario Crops in 1897. Pasteurizing Cream and Milk. Permanent Stairs in Barns. Manitoba Dairy School. The Abortion Bacillus. New York Horse Show. Mr. Tillson's New Piggery. Raise the Calves and Make Baby Beef. The Farmer's Pork Supply. Questions and Answers. Correspondence. Market Review and Forecast, etc., etc.

ISALEIGH GRANGE STOCK FARM...

Ayrshire and Guernsey Cattle.
Improved Yorkshire Swine.

Shropshire Sheep. Our Ayrshire herd is headed by the noted bull, Matchless 7560, sire, Glencairn III, imp. 6935, dam, Nellie Osborne, imp. 5158.



Our Special Offering for December consists of six choice young Ayrshire bulls and a few heifers, two extra Guernsey bull calves, and a choice lot of sheep and pigs. All at very low figures for immediate sale.

T. D. McCallum, Manager,
Danville, Que.

J. N. GREENSHIELDS, Proprietor



Cargill Herd of SHORTHORNS

For Sale

Good young cows, two years old, yearlings and heifer calves, out of Imported and Home-bred cows, and the Imported bulls, Royal Member and Rantin Robin. Come and see them or write if you want something special. Station on the farm.

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CARGILL STATION AND P.O., ONT.

ALVA FARM GUERNSEYS



Awarded first prize at Montreal for BREEDERS' YOUNG HERD. Young animals of MERIT for sale. Pedigrees and particulars to parties wishing to purchase. Address,
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Guelph Xmas... Fat Stock Jubilee Show

"Smithfield of Canada."

The annual Christmas Fat Stock Show, under the auspices of the Guelph Fat Stock Club and the Guelph Poultry Association, will be held in the

City of Guelph, Victoria Rink,
Thursday and Friday, Dec. 9 and 10,

when prizes to the amount of \$1,200, including the Queen's Jubilee Prize of Twelve Sovereigns (gold), for the best animal in the Show, will be awarded. Prize lists can be had on application to the Secretary.

JOHN MCCORKINDALE,
Guelph P.O., Ont.

Leading buyers from different parts of the Dominion have signified their intention to be present. Reduced rates on all railways.

Dr. LEAVITT'S CHAMPION

...DEHORNING CLIPPER...



The most humane
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Important to Breeders and Horsemen

The... **Veterinary Eureka Caustic Balsam**

A Reliable and Speedy Remedy for Curbis, Splints, Spavin, Sweeney, Etc.

It can be used in every case of Veterinary Practice where Stimulating Liniments or Blisters are prescribed. See pamphlet which accompanies every bottle. It has no superior. Every bottle sold is guaranteed to give satisfaction. Price 75c. per bottle. Sold by all druggists. Invaluable in the treatment of Stamp-Jaw in cattle. See Pamphlet. Prepared by—

The Eureka Veterinary Medicine Co.
LONDON, Ont.

Unreserved Sale of Polled Angus Cattle

"RAPIDS FARM"

LACHINE RAPIDS,
QUEBEC



Royal Blackbird of Craigston.

FOR SALE.—At a bargain, 1 five year old bull; 7 cows; 3 bull calves, and 3 heifer calves. Will be sold without reserve, as the owner is going entirely into dairy cattle. Have also for sale Ayrshire bull, Traveller, and 3 Ayrshire bull calves three months old, bred from choice cows.

COMMUNICATIONS REGARDING STOCK TO BE ADDRESSED TO
W. W. OGILVIE, Proprietor. **ROBERT HUNTER, Manager.**

SHORTHORNS.

SHORTHORNS



SIX BULLS FOR SALE fit for service, at reasonable prices. Write for particulars.

D. Alexander, Brigidon, Ont.

W. J. BIGGINS SHORTHORN BULLS

CEINTON, ONTARIO. **HEIFERS** of Select Scotch Breeding at Low Prices

H. J. ELLIOT, - Daunville, P.Q.

Breeder of Scotch Shorthorns of Duchess of Gloster, Lovely, and Nonpareil strains. Young bulls and heifers for sale at the lowest prices.

DONNIE BURN STOCK FARM, Stouffville station and P.O. D. H. Russell, prop. Breeder thoroughbred Shorthorn Cattle and Berkshire Swine.

GALLOWAYS.

A. M. & R. SHAW, Brantford, Ont., Breeders of Galloway Cattle. Choice young animals for sale.

DAVID McCRAE, Janefield, Guelph, Canada, Importer and Breeder of Galloway Cattle, Clydesdale Horses, and Cotswold Sheep. Choice animals for sale.

HEREFORDS AND SUSSEX.

ALFRED STONE

GUELPH, CANADA

Breeder of

HEREFORD and SUSSEX CATTLE

ABERDEEN ANGUS.

WILLOW GROVE STOCK FARM.

Breeders and importers of highly bred Aberdeen Angus Cattle. Young animals for sale.



Wm. Stewart & Son, Lucasville, Ont., Lambton, Co.

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WALTER HALL, Washington, Ont., Breeder of reg. Polled Angus Cattle of choicest strains.

DEVONS.

W. J. RUDD, Eden Mills, Ont., Breeder of Devon Cattle, Cotswold and Suffolk Sheep, Berkshire Pigs, Plymouth Rock Fowls. Young stock for sale.

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FOR SALE A CHOICE LOT OF

Jersey Heifer Calves

of good colors and rich breeding, both purebred and high grade. Dams have averaged the past year 330 lbs. of butter each, all sired by Canada's Hero, whose dam has a seven days' record of 19 lbs. 5 oz. For description and prices write to **W. C. SHEARER, Bright, Ont.**

BRAMPTON JERSEY HERD.

Full stock of A.J.C.C. cows, heifers, heifer calves and bulls. Ask for what you want. A number of young Berkshires.

R. H. BULL & SON, - Brampton, Ont.

J. H. SMITH & SON, Willow Grove Farm, Highfield, Ont., Breeder St. Lambert and St. Helen's Cattle. Prize herd at the Industrial.

ROBT. REESOR, Locust Hill, Ont., Breeder Jersey Cattle and Shetland Ponies. Young stock for sale. Locust Hill is 20 miles from Toronto on the C.P.R.

W. M. ROLPH, Glen Rouge Farm, Markham, Ont., Breeder of Jersey Cattle. Herd nearly all pure St. Lambert. Young stock always for sale.

W. M. WILKINS, Pine Ridge Farm, Newmarket, Ont., Breeder of St. Lambert Jersey Cattle, Cotswold Sheep.

HOLSTEINS.

Brookbank Holstein Herd

Champions for milk and butter. 8 have won public test. No bulls for sale at present. 15 Cows and Heifers due to calve from August to Jan., mostly with calf to **Sir Paul De Kol Clothilde**

a milk and butter prince, whose 19 nearest female relatives average 22 lbs. of butter per week, and 14 average 16,233 lbs. milk in one year. Increase of herd only for sale.

A. & G. RICE, Currie's Crossing, Oxford County, Ont.

MAPLE HILL

Holstein-Friesians

A grand lot of cows and heifers of all ages now for sale; all bred to the milk and butter king, **Sir Pieterje, Josephine Mechtildie,** and the great show bull, **Count Bink Mercedes.**

No more bulls for sale at present. **G. W. CLEMENS - St. George, Ont.**

ROSE HALL STOCK FARM. HOLSTEIN-FRIESIANS

FOR SALE—Two choice young bulls, sired by Lord Everett and, a great grandson of Barrington; one of the best bulls ever imported. Dams are Cecilia Mink Mercedes, 1st and 2nd, both of good milking strains. Also heifers and heifer calves. Prices reasonable. **T. W. CHARLTON, St. George, Ont.**

...Gem Holstein Herd...

STOCK FOR SALE. We only keep and breed Registered Holstein-Friesians. Choice Young Bulls and Heifers, also some older animals, all of the very best dairy quality for sale. Correspondence solicited. **ELLIS BROS.,** Shipping Sta., Toronto. Bedford Park, Ont.

E. PANNAECKER, Fairview Farm, Hespeler, Ont., Breeder of reg. Holsteins. Stock for sale.

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J. A. RICHARDSON, South March, Ont., Breeder of Holsteins, Dorset Horned Sheep, Tamworth Swine.

W. M. ARMSTRONG, Locust Hill, Ont., Breeder of Purebred and High-Grade Holsteins.

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The Champion Herd and Sweepstakes female at the three leading Exhibitions in Ontario, viz.: Toronto, Ottawa, and London, and Sweepstakes Bull at Toronto and Ottawa in the year 1897; have for sale some grand young bulls and females.

Lincoln Sheep of all ages.

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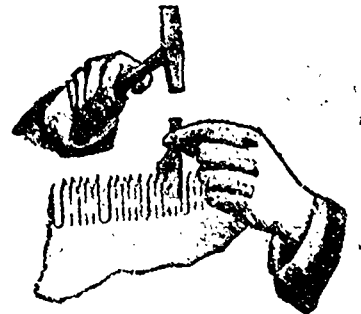
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..Maple Leaf Saw Set..



Directions.—Place the Set on the point of tooth as shown in the above cut, and strike a very light blow with a tack hammer. If you require more set, file the tooth with more bevel. If you follow directions you cannot make a mistake. Be sure and not strike too hard a blow, and it will set the hardest saw. 40 cents each.

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We also call the attention of Farmers to our very complete line of

Harvesting Machinery

COMPRISING:

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- New Light Steel Harvester and Binder, No. 2, 5-ft. and 6-ft. cut.
- New No. 8 Mower with Spring Foot Lift, 4½-ft. and 5-ft. cut.
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- Tiger Self Dump Rake.
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New American Cultivator. Corn Scufflers, Steel Walking and Riding Plows.

All Our Machines are Fitted with Roller and Ball Bearings.

Write for Complete Catalogue. Mention this Paper.

FROST & WOOD, - Smith's Falls, Ont.

FARMING

VOL. XV.

NOVEMBER 30TH, 1897.

No. 13.

FARMING

AN ILLUSTRATED WEEKLY JOURNAL DEVOTED TO FARMING AND THE FARMER'S INTERESTS.

Published every Tuesday by

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TOPICS FOR THE WEEK.

Our Clubbing List.

We are pleased indeed to be able to offer the following low clubbing rates for FARMING, with other publications:

	Regular PRICE.	With FARMING.
Canadian Magazine	\$2.50	\$2.50
Toronto Weekly Globe	1.00	1.50
Toronto Weekly Mail and Empire	1.00	1.40
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Montreal Weekly Witness	1.00	1.60
Family Herald and Weekly Star	1.00	1.75
London Weekly Free Press	1.00	1.75
London Weekly Advertiser	1.00	1.40
Ottawa Semi-Weekly Free Press	1.00	1.60

These are all particularly low offers, but we would make special mention of our offer to send FARMING and the Canadian Magazine for one year for the low price of two dollars and fifty cents. This is Canada's greatest magazine, and we should like to see it in the home of every farmer. It contains what is best in Canadian literature, and thought, and no young Canadian should be without it. Try it for one year.

We have also made special arrangements with the publishers of the Canadian Magazine to offer that splendid production for four new subscribers for FARMING, at \$1 per annum. This offer is made specially for the readers of FARMING. Four new subscribers can be got very easily if you only make the effort.

Our offer to advance subscriptions six months for one new yearly subscriber at \$1, and to advance subscriptions one year for two yearly subscribers at \$1 each is still good. As this is the usual time of the year for renewing subscriptions to FARMING, you cannot do it more easily than by sending in two new yearly subscribers.

Don't delay. Now is the time to secure new subscribers. Look up the back numbers of FARMING for our premium list. They are all good yet. We offer splendid inducements to agents to canvass for new subscribers to FARMING. Write for full particulars. Sample copies sent on application.

Australia to Make Experimental Fruit Shipments.

The Ministers of Agriculture of the colonies of Victoria, South Australia, Tasmania and New Zealand recently held a conference and resolved to make an experimental shipment this winter to the

British market of 10,000 cases of fruit under the most improved conditions. The arrangements include a complete system of ventilation for every part of the chamber in which the fruit is conveyed. A standard case has been adopted by the Australian colonies, which is their recognized fruit bushel, and contains 2,438 cubic inches. This case measures 10 by 15 by 20 inches on the outside, and its use will facilitate packing for shipment, as well as supervision of experimental ventures by the Governments. Experiments have been made, and it has been found that for the safe transportation of apples a steady temperature of from 40 to 45 degrees and good ventilation are necessary. In regard to other lines of fruit, there is much to be learned as to the requisites of a sea voyage, and a series of experiments in transportation will be instituted during the coming season.

As the Australian fruit season alternates with our own, the Canadian fruit grower will have an opportunity of watching this interesting series of experiments during the winter. The shipments will be made under Government control, and every case will bear an official brand. If they prove successful, we may look for a large export trade from Australia to Great Britain in fruits. The Australians never seem to do things by halves. They go into a thing on a large scale or not at all. The very fact that several of the colonies have united in this matter is a sufficient guarantee that the contemplated fruit shipments will be on an extensive scale. In seeking to establish a market, a large experimental shipment has this advantage, that a larger number of consumers must necessarily be reached than with a small shipment, and consequently the qualities of the goods can be made known in less time. In fruits, or any kind of goods sent in smaller quantities, the quality may be more select, but the same interest is not created, nor the same enthusiasm aroused as when a large experimental shipment is made. This is something for our Government to consider when making further experimental shipments of Canadian produce. Of course Canada is much nearer the market, and can send over smaller shipments to better advantage than the Australians can. In the past, however, the large experimental shipments of butter to Great Britain from Australia have aroused the keenest interest among those in the trade. When they are sufficiently large to effect the market, the trade is excited, and newspapers give the matter more attention, whereas, if only a comparatively small experimental shipment is made, only a small amount of interest is aroused, and it is more difficult to direct public attention to it.

Fruit Exchanges.

In British Columbia there are in active operation what are known as fruit exchanges. These exchanges are co-operative in their character, and are somewhat similar in their methods of operation to the local dairy boards of trade in Ontario, their object being to procure a market for the fruit grown by the various members of the exchanges. There are a couple of central exchanges located at Victoria and Vancouver, with a number of local exchanges in the various fruit districts, which are tributary to the central exchanges. A competent officer is in charge of each of the central exchanges, whose duty it is to look after the selling and shipping of the fruit sent in by the members or by the local exchanges.

In addition to supplying the British Columbia market, these exchanges give special attention to

developing a market outside of the province for their fruits. Their chief point just now is Manitoba. Special efforts are made to secure this market for their fruits. Thirteen carloads of fruit have been shipped to the Northwest and Manitoba during the past season. Last year the total shipments made by the exchanges amounted to \$5,000, while this year they will likely total as much as \$17,000. The principal shipments consisted of strawberries, plums, apples, and pears.

These exchanges seem to bring the producer and consumer together, and so far have given pretty fair satisfaction to all concerned. Occasionally the work of the exchanges has been hampered by members sending their best fruit to the commission men direct and forwarding the poorer stuff through the exchanges. This has prevented the exchanges from doing their very best work. Aside from this, however, the general results of the scheme have been satisfactory, and have been successful, not only in improving the home market for British Columbia fruit, but have also been instrumental in developing the outside markets. We do not know whether Ontario fruit growers have ever considered a similar scheme or not. If not, it might be a good topic for discussion at the next annual meeting of the Ontario Fruit Growers' Association. It might be possible to establish similar exchanges in the leading Canadian cities, where the grower and consumer could come together and dispose of the product to the best advantage. They might also be useful in looking up markets outside of Ontario for fruit.

Dealing in Futures.

Speculation in all kinds of commodities seems to be one of the strong characteristics of this modern age. Connected with every branch of trade there are numbers of persons who endeavor to manipulate the product, while *en transit* from the producer to the consumer, so as to turn a large share of the profit their own way. These persons are not the legitimate middlemen who seem to be necessary in many lines of trade, but are individuals who have the gambling propensities very largely developed, and who, by the manipulation of stocks, etc., find opportunity for displaying their peculiar energies to the injury of a large majority of the honest, toiling masses of humanity. They endeavor to "bull" or "bear" the market to suit their own inclinations, and never once dream of being guided in their speculative transactions by the law of supply and demand.

No other line of trade affords greater opportunities for speculation and manipulation of this kind than the products of the farm. All along the route from the producer to the consumer the manipulator finds ample scope for his energies, and hardly ever fails to get a large share of the profits, which by just right should go to the producer or the consumer. The wheat and grain market seems to be the special delight of these manipulators, and just at the present time they seem to be doing just about as they please with it. The person who has sold a large quantity of grain for future delivery, which he has not yet in his possession, puts forth every effort to "bear" the market and get the price down so that he may realize a handsome profit on his sales. On the other hand, the person who wishes to find a market for goods, whether he has them in actual possession or not, endeavors to "bull" the market in order to make a better sale. And thus the "strife" goes on. One day a report is sent broad-

cast throughout the country that the wheat in sight is increasing very rapidly, and that the crops in countries now being harvested will befar greater than at first reported. This will be followed a few days later by a report having for its object the very opposite effect. The producer from one point of view, and the consumer from another, look upon this great gulf of strife, turmoil, and excitement between them, and wonder what the outcome will be. The one is in a dilemma because he does not know when to sell, and the other because he does not know when is the best time to buy.

If this speculation were confined to transactions connected with the goods in hand, the evil effects from it would not be so great. But when these manipulators carry their gambling operations, for they are nothing else, into the future, and buy and sell goods that are not yet in sight, the effect upon the trade is most disastrous. In several European countries there is a strong agitation for laws to prevent such species of gambling. In Great Britain all the agricultural and trade societies have passed strong resolutions condemning such practices. At a recent meeting of the General Austrian Millers' Reunion, held in Vienna, the following resolutions were passed and strongly recommended for consideration by the Government:

"Considering the perniciousness of gambling in corn, which we believe to be a national-economical danger, we, therefore, petition the Government (1) that the systems be entirely prohibited on the Austrian bourses; (2) that the trade in corn be only permitted in real and existing goods, with precise indication of quality and time of delivery; (3) the institution called Usance-Corn be abolished; (4) that an inquiry by representatives of all branches interested in the question be held, based upon which new regulations are to be worked out in the spirit of the preceding three points."

The debate winds up as follows: "The General Millers' Congress hopes and prays that the Government will accede to the just wishes, not only of the whole millers' industry of Austria, but also to the most injured party, viz., agriculture, which has joined in this movement and will insist upon the Committee of the Vienna Corn Exchange definitely abolishing the gambling in fictitious grain under the Option or Terminal systems, one of the causes that have reduced the Austrian millers' industry to its present state and afflictions."

Though Canada is not much affected by speculation within her borders in regard to wheat, she is directly affected by gambling in wheat and other grains at Chicago and other centres across the line. We cannot do more than agitate in regard to these wrongs and endeavor to get our good friends to the south to think as we do. There is not the least doubt but what agriculture on this continent would be a far more profitable business if drastic measures were taken at once to prevent this wholesale dealing in fictitious grains. It is one of the greatest curses of the nineteenth century, and the sooner the legitimate trader, who makes a good living by an honest margin of profit, and the producer as well, rise up in rebellion against it, the sooner will agriculture on this continent reach the position to which it is justly entitled.

In connection with one of Canada's most important industries, however, dealing in futures is assuming somewhat alarming proportions. We refer to our cheese trade. Every season there are instances of the buying and selling of cheese that has not yet been produced. A month or two ago a number of contracts made on cheese for future delivery were reported to be repudiated because the market had become dilapidated and the purchaser refused to adhere to the contract. In our cheese trade, if buying and selling were only carried on in connection with the goods in hand, such instances of repudiation would not have happened, and our cheese trade would perhaps be in a better position as regards prices than it is to day. We will return to this phase of the subject again.

Requirements of the Horse Trade.

The disastrous results from lack of skill and knowledge of the principles governing good breeding are to be seen in the scarcity of really fine horses in the country at the present time. This scarcity is somewhat unfortunate at this juncture when there is a revival of the horse industry, resulting from an increased demand for good horses. Outside of fine carriage horses the demand seems

to be for a good, serviceable horse of large size. This style of horse is a scarce article just now.

One of the reasons for this scarcity seems to be the lack of right methods of breeding, coupled with a strong desire on the part of the farmer to sell off his good stock, and keep only the scrubs for his own use. In fact, many farmers have kept for breeding purposes what may be considered the "culls," and have considered it only necessary to procure a good sire to breed a good offspring. Such a practice is contrary to the laws of good breeding. No matter how good the sire may be, if the dam is a scrub, the offspring will partake somewhat of the nature of a scrub. The colt may be considerably larger than its dam, but it will partake of so many of her poorer qualities as to be classed only a little higher. True, there will be an improvement, and if such a practice is followed for several generations, a higher type of horse will be the result. But a large amount of time will be wasted in the process, and the opportunity for marketing many a good horse will be lost. It will be better to start right at the very beginning, and select only the very best mares for breeding purposes.

Not only should the mares for breeding purposes be of the right stamp, but farmers should see to it that the sire used is one of the very best. Unless some definite plan of this kind is adhered to, we shall never be in a position to supply the English market with the right kind of horse. In some countries, not so far advanced in many things as Canada is, the farmer is not left entirely to himself in the selection of the sire he purposes using. In our issue of November and we mentioned the fact that in Italy the government maintains seven stallion depots, in which, last year, there were 557 stallions. During the breeding season these stallions are distributed over the country for service. In addition, no outside stallion can stand for service until he has been examined by the "horse commissioner" of the district, and if in this examination he fails to come up to the standard required, his owner cannot use him for stud purposes. Such a system, if properly enforced, cannot help but result in a vast improvement in the quality of the horses produced in that country.

In some things Italy's example may well be copied by Canada, and this is one of them. If instead of the slip shod methods followed by many farmers in the breeding of horses, some system were evolved whereby they could be induced to follow more correct methods, our horse trade would soon recover from its present unsatisfactory condition. There are too many small "scrubby" horses in the country for which there is no market, and for which there is not likely to be one. There has been a good demand for a really fine horse, even during the late depression in the horse trade. And though prices have revived somewhat, there is no possibility of the demand for the ordinary small horse being much better than it has been for several years. The demand will continue to be for the large serviceable horse and the fine carriage horse, and unless the best quality of these is produced we cannot expect to expand our export trade in horses to any great extent.

Keep More Sheep.

In our issue of November 16th, Mr. John I. Hobson stated that he did not think Canadian mutton could compete with the Australian mutton in England. At the time of Mr. Hobson's visit, New Zealand mutton was selling on the London market for 6½ cents per lb., and the Australians are prepared to lay down mutton there at less than 6½ cents rather than lose the market. This is a very low price, and no doubt Mr. Hobson's contention is correct, that we cannot compete at a profit. The conditions in Australia are different from what they are in Canada, and are especially adapted for sheep-raising. But the more favorable conditions there may be counteracted in a large measure by our comparative nearness to the market. If Australia can lay down mutton at less than 6½ cents, and carry it four or five times the distance that we have to, our conditions for raising mutton must be

comparatively poor indeed if we cannot approach that limit. However, we will have to face things as they are, and if we wish to develop our mutton trade with Great Britain we must be prepared to supply as good mutton at as low a price as it can be got elsewhere.

We are not in possession of any definite information, nor do we think there is any reliable data extant as to what is the actual cost per lb. of producing in Canada a quality of mutton that would be suitable for the British markets. Will not some of our enterprising sheep men help us in this regard, and let us have the actual cost of producing a pound of mutton in Canada for the benefit of the readers of FARMING? Roughly it is estimated that it costs as much to keep a cow as for five sheep. The average cost of keeping a cow well for a year is estimated to be about \$30. On this basis it would cost about \$6 to keep a sheep for a year. We are of the opinion that this figure is somewhat high. But if it is about correct there is not much possibility of our being able to compete with the Australians for the English mutton trade.

Notwithstanding this somewhat gloomy outlook for Canadian mutton in Great Britain, our advice to the Canadian farmer "to keep more sheep" still holds good. If it were for no other object than to keep down weeds, it would pay our farmers to keep more sheep. There are many kinds of weeds that would get a good start on the farm if it were not for the sheep. In fact, in nine cases out of ten, where you find a farm that is dirty and overrun with weeds, you will find that the owner does not keep sheep. Sheep are said to be sure death to sour dock, dandelion, and many other kinds of weeds hard to get rid of. The list of weeds that may be destroyed by a good flock of sheep on a farm is indeed very large, and we are surprised that more of our farmers do not keep sheep. If kept on a farm with other animals sheep will almost live on the weeds and grass not eaten by the others.

Canadian Butter in Great Britain.

Satisfactory reports have been received from the shipments of butter to Great Britain from the creameries of the Northwest Territories, under the management of the Dominion Department of Agriculture. The shipments landed at a very inopportune time. Unusually large shipments of butter from Denmark, Russia, and the United States at this time, when very open and mild weather prevailed in England, caused the market to be depressed. The shipments from these countries for one week amounted to about one thousand tons of butter more than during the same week of 1896. Notwithstanding these unfavorable conditions, the reports from these experimental shipments are very gratifying. If there were the least foundation for Secretary Wilson's statement that the butter sent from the colonies to Great Britain contained injurious ingredients used, as perservaline, it is not probable that these shipments would have met with any demand whatever under such depressing conditions.

The following letter, in regard to them, was received by the Department of Agriculture from Messrs. George and John Nickson & Co., Liverpool, under date of November 10th: "Enclosed herewith we have pleasure in handing you account of sales for butter ex-Labrador. We regret that your shipment to us should have met with such a depressed market as ours has been for the last three months, which is chiefly owing to the very open weather we have experienced during that time. We are pleased to be able to report the quality of butter shipped by you as satisfactory, and with regular shipments we are certain we could build up a demand for your brands."

Similar letters were received from other well-known produce dealers containing satisfactory accounts of sales.

Along the Right Line.

Prof. Robertson, Dominion Commissioner of Agriculture, and Mr. A. G. Gilbert, manager of the Poultry Department of the Experimental Farm,

in addressing a meeting of farmers and others at Smith's Falls, Ont., recently, on the shipping and marketing of poultry, had on exhibition specimens of turkeys, chickens, geese, and ducks dressed in the manner suited for the British market. This exhibition attracted considerable attention, and the style of dressing was said by poultry shippers who were present, to be much superior to that now common among the farmers, and would give the poultry a more attractive appearance for the local markets as well as for export. The Minister of Agriculture has directed that several sets of similar specimens be prepared to be exhibited to poultry men at different centres during the next two weeks.

This is a move along the right line. If we desire a market for our poultry in the British markets we must have our shipments put up in a style and finish that will meet the needs of those markets. And how can our poultry men become better acquainted with the needs of the market than by practical demonstrations of this kind?

Ontario Crops in 1897.

The November crop report about to be issued by the Ontario Department of Agriculture contains some very interesting information. From the returns received it seems that a large area of fall wheat has been sown this fall, though much of it was put in later than usual, on account of the drouth. Peas have not been a good crop. The "bug" has been unusually destructive, and altogether it has been one of the worst years for fancy pea growers that we have had for some time. Reports regarding clover seed are, on the whole, unfavorable. The midge has been very active. Young clover looks promising.

The potato crop is about 5,200,000 bushels less than last year. Mangolds have been an exceedingly good crop, while turnips have given only a fair yield and are of only fair quality. Except in the extreme east and west, pastures have been from fair to good most of the season. Fruit trees are in good condition. The following table gives the area and yield of field crops in 1897:

FIELD CROPS.	ACRES.	BUSHEL.	YIELD PER ACRE.
Fall Wheat.....	950,222	23,988,051	25.2
Spring Wheat.....	323,305	4,868,101	15.1
Barley.....	451,515	12,021,779	26.6
Oats.....	2,432,491	86,318,128	35.5
Rye.....	187,785	3,382,005	18.0
Peas.....	896,735	13,867,093	15.5
Buckwheat.....	151,669	3,464,186	22.8
Beans.....	50,591	981,340	19.4
Potatoes.....	169,333	16,100,797	95.1
Mangold Wurzels.....	91,175	18,103,387	439.7
Carrots.....	12,025	4,433,628	368.7
Turnips.....	149,336	68,297,148	457.3
Corn for husking (in the ear),.....	33,080	24,663,398	73.6
Corn for silo and fodder (green).....	209,005	2,669,882	12.77
Hay and clover.....	2,341,488	3,811,518	1.63

The New Director of the Nova Scotia School of Horticulture—F. C. Sears, M.Sc.

This week we diverge somewhat from our usual practice of publishing a sketch of one of Canada's farmers, in order to introduce to the readers of FARMING Mr. F. C. Sears, M.Sc., successor to Professor Flavelle, of the Provincial School of Horticulture at Wolfville, N.S. Professor Sears, though practically unknown to Canadian fruit-growers, has had several years of special training in horticulture with special application to the needs of the fruit-grower, and we may look for splendid results from his work in the maritime provinces.

Mr. Sears was born in Lexington, Mass., but spent the greater portion of his life in Kansas and the western States, returning to Boston when fourteen years of age to study at the grammar schools there. After several years' special study he was graduated with the degree of B.S. from the Kansas Agricultural College, Manhattan, Kansas, in 1892. During his course at the Kansas college he devoted considerable time to special work in horticulture and botany, and after completing his

studies was appointed to the position of assistant horticulturist at the experimental station in connection with the college at Manhattan.

He occupied the position of assistant horticulturist till December, 1896, during which time he pursued the study of advanced horticulture and botany. In June, 1896, the degree of M.Sc. was conferred upon him by his *alma mater* for proficiency in these two subjects. In December, 1896, he was granted leave of absence for one year in order to take up a special course of study in horticulture and botany at Cornell University. He had only been there a short time when he was offered the position of professor of horticulture and botany in the Utah Agricultural College, which he accepted. This position he resigned a short time ago, when he accepted his present position as director of the School of Horticulture at Wolfville, N.S.

Professor Sears' chief work will be in connection with the School of Horticulture at Wolfville. The course of study there covers two years, and is thoroughly practical. The first year's course will be devoted chiefly to a study of the propagation of plants, and the principles and practice of pruning. The subject of spraying will also be taken up in every detail. During the second year's course the general principles of fruit-growing will be taken up, including the selection of lands for various fruits, preparing the land, planting the fruits, fertilizing the lands, and the harvesting, marketing, packing, and storing of fruit. Besides the study of horticulture, special attention is given to the study of botany.

The School of Horticulture at Wolfville is in the midst of one of the best fruit-growing sections in America, and Professor Sears will have splendid opportunities for investigation and experiment. We shall watch his work very closely, and shall endeavor to keep our readers posted as to the results obtained by him along these particular lines. There are sixty students in attendance at the school at present, and this year promises to be a very successful one.

NOTES AND IDEAS.

Nebraska farmers have discovered a supplement to the promising new sugar beet industry in the shape of the chicory crop which, it is said, requires much the same treatment as the beet and is even more profitable. Chicory root is used as a cheap coffee substitute.

Farmers' Bulletin No. 59, on bee-keeping, issued by the United States Department of Agriculture, was exhausted in a short time, and a new edition has just been issued. This may be taken as an evidence of the interest taken in bee-culture in the United States.

The School of Horticulture at Wolfville, under the auspices of the Nova Scotia Fruit Growers' Association, is progressing finely under the care of Professor F. C. Sears. There are now over sixty students in attendance, and more are expected. The prospects are very encouraging for the school.

The Rhode Island College of Agriculture proposes to make poultry culture a part of the regular course of the college. It is also the intention to have a special short four weeks' course this winter if the demand warrants it. We can see no reason why a short course in poultry culture could not be made a very successful one.

The wheat king of the world resides in Argentina. He is an Italian emigrant, named Guazone, and his broad acres are situated in the south of the province of Buenos Ayres. His crop occupies an area of 66,270 acres. He numbers his workmen, says *Tit Bits*, by the thousand, and each one receives a certain share of the profits. When the season's crop is harvested he fills 3,000 railway trucks with the grain.

It is stated that in Europe 80 per cent. of the cattle take the tuberculosis through the lungs, while in Australasia it has been proved to take place through the mouth and alimentary canal, in which case the glands about the back of the pharynx are first infected. This difference of infection is explained by the fact that in Europe the cattle are housed during a great part of the year in ill-ventilated stables, while in Australasia, cattle are continually out in the open, the malady being spread chiefly by diseased and healthy animals licking one another.

The good work done by the government a few years ago in establishing cheese factories in Prince Edward Island is bringing forth good fruit. There are now thirty-two cheese factories in operation in summer and nineteen creameries in winter. The value of the output for this year is estimated at over \$300,000. A good many of the factories made twice as much cheese as they did in 1896, and a few of them three times as much. All the factories now are joint stock companies of farmers. The government has now no responsibility in the management of them.

A movement is on foot in New Zealand to induce the government to take control of the shipments of dairy produce and subsidize the steamship companies so as to secure greater regularity of shipments. Heretofore the New Zealand government has only inspected and graded dairy products before shipments were made. It now seems necessary for them to go a step further in order to promote the industry in that country. Shipments have been so irregular in the past that there has been no inducement to shipping companies to cater to the dairy trade, and it is hoped that by the government assuming control more regularity will be obtained, and the business put upon a better footing.

The farmers of P. E. I. have made a great success of dairying since Professor Robertson started his first factory there in 1891. The raising of swine has also increased as a natural accompaniment to it. This summer, Messrs. Rattanbury, of Charlottetown, have built a large packing house, with a capacity for handling 250,000 hogs a year, in order to meet their growing trade. The people of P.E.I. seem determined to make as great a success of this line of work as they have done of dairying. A representative of the Wm. Davies Co., of Toronto, visited New Brunswick and Nova Scotia this past summer, to ascertain the prospects for purchasing 125,000 hogs there next season. The farmers are taking up the matter, and say they will treble their production of hogs if they can get four cents a pound live weight for them.

In regard to the future outlook for the horse market, and particularly the market for Clydesdales, Mr. Alex. Galbraith, Janesville, Wis., Secretary of the American Clydesdale Association, says: "During the last few months the general business of this country appears to have taken a decided turn for the better and every indication of an early return to prosperity is before us. The horse market has advanced over 25 per cent. from the lowest point, and the demand for first-class draft horses especially, is clearly ahead of the supply. The buyers and commission dealers unanimously declare that owing to the universal curtailment in breeding during the last few years, a great and very serious shortage in the supply of good draft horses is inevitable, and as showing their faith in this belief, several of these dealers have started draft horse-breeding themselves, confident that much higher prices will rule in a few years than at present. At no time in the past have Clydesdale breeders had so much real encouragement to continue and extend their breeding operations as they have now, and those who study their own interests will use only the highest class material they can procure, and give their young stock the best of care and generous feeding."

PASTEURIZING MILK AND CREAM.

Canadian butter has gained a good reputation on the English market the past season, and at times it obtained as high a price as the Danish butter was bringing. Every care should be taken, therefore, by the farmers of Canada to see that this good reputation is not injured during the coming winter.

The reputation of Canadian butter is, to a very large extent, in the hands of the Canadian farmer, for he is the producer of the milk from which the butter is made. It is, therefore, his duty to his country as well as to the factory, to send only pure wholesome milk uncontaminated in any way to the butter factory, so as to give the butter maker an opportunity to make goods that will command the highest price on the English market.

Because a few farmers will not take the trouble to do this, it becomes necessary for the buttermaker to go to extra labour in removing all objectionable odors from the milk, so that an article can be made that will be uniform in flavour and of good quality. To do this the milk or cream has to be pasteurized, that is, heated to a temperature of 160° Fahr., held a few minutes at that temperature, then cooled. By this process obnoxious gases and odors are removed from the milk or cream.

At the creamery the whole milk can be pasteurized by doing a portion of the heating in the receiving vat, then pass the milk into what is called a channel heater. The channel heater is a pan about eight or ten inches deep, divided into channels three or four inches wide and about four feet long. It is placed in a tank or vat containing water that is heated by steam. The milk passes in at one end and out at the other end of the channel heater, and on its way is heated to the desired temperature.

But in ordinary creamery work it will be found most profitable to pasteurize the cream only. This may be done in any one of the following ways.

(1) By heating the cream in an ordinary cream vat.

(2) By means of a machine built for the purpose and called a Pasteurizer.

(3) By means of a small channel heater. This will entail the least labor and expense.

(4) By using the ordinary shotgun can or deep pail set in a tank of water kept at a temperature of, 180 degrees. The cream should be kept stirred while it is heating. When the cream reaches a temperature of 160° it should be removed, allowed to stand for twenty minutes, then cooled. This is a simple plan and can be followed by any farmer who has a private dairy and who is anxious to make a first class article free of all objectionable odors. An ordinary tub will do for a tank, and an ordinary churning can soon be pasteurized.

After the cream is pasteurized it should be cooled down to ripening temperature, and when acid shows strongly, and the cream begins to thicken, it should be cooled down to 50 to 55 degrees, and remain at this temperature for at least two hours before churning to allow time for the fat to harden, and thus insure good grain and body in the butter. It is a good plan to use a starter made from Pas-

teurized skim-milk. If the cream is to be ripened in twenty-four hours add from ten to twenty per cent. of starter, if in forty-eight hours add only about five per cent. This can be added when the cream is at a temperature between 90 and 95 degrees as it is cooling. If the cream is ripened at a temperature as high as 70 degrees it should, if possible, be cooled to churning temperature for over night.

The private dairyman can make use of nearly all of these suggestions in his work just as well the creameryman can.

Where turnips are fed to the milch cows the cream should be pasteurized by heating it in shotgun cans to the desired temperature and cooling it again. Butter can thus be made that will be free from the flavor of turnips so much objected to by consumers.

PERMANENT STAIRS IN BARN.

Only those who move among the farmers and are around their buildings know how awkward the arrangements sometimes are. We have been in good basement barns, where the only means of communication between the stable and the barn floor above was by means of a short ladder placed in some out of the way corner, and being loose, half the time it was not in its place when wanted. Like conditions exist in many another place around the farm buildings.

Any farmer that is handy with tools can soon make a good stairway in a convenient place, that will make a much safer and quicker way of access than the ladder. There are other places where such stairs could be put in to advantage, to the loft above the woodshed, wagon house, and the pig pen. These stairs will save time, and thus pay for themselves. The women folks will be delighted with them. All mows and lofts should be provided with good permanent ladders. The time and labor saved in getting up into a mow several times a day without a ladder, or if one has to be moved from some other place, will more than pay for a good one. In many cases stairs could be conveniently arranged in place of ladders, only labor being required and perhaps occasionally a small outlay in cash. These things will enable the boys to do the chores much easier, more quickly and pleasantly, and thus make life on the farm more enjoyable for them.

LEAVES.

Let the leaves lie on the lawn, don't rake them up. The provisions of nature in this regard are remarkable. The grass catches the leaves and holds them there, making a covering and protection. They can be raked off in the spring if too thick, but they will add to the humus of the soil and serve also as plant food, for they are rich in potash, and potash is of especial assistance to grass. Then, did you ever notice how the wind blows the leaves around the roots of bushes, shrubs and hedges? Leave them there as a protection to the roots.

Gather the leaves from places where they accumulate and are not needed, for they make nice warm bedding and will add considerable manurial value to the manure heap. They are splendid

in the hen-houses. Scatter them over the floor, then throw the grain for the hens on the leaves, and let them scratch for it. They make a good covering for strawberries. Save all you can of them, and what cannot be stored add to the compost heap.

MANITOBA DAIRY SCHOOL.

Dairying in Manitoba is developing at a very rapid rate, and many who seem to think that the older provinces have the monopoly of dairy schools and of dairy instruction will be surprised to learn that Manitoba has a dairy school, and that there are great possibilities for dairying in the prairie province.

The dairy school which is in Winnipeg will be, as last year, under the direction of Mr. C. C. Macdonald, the Provincial Dairy Superintendent. There will be two courses for cheesemakers, a course for buttermakers and a farm dairy course. The farm dairy course is arranged to give the greatest amount of help possible to farmers' sons and daughters who have but a limited time for study. The course will begin on January 3rd, 1898, and end January 29th, 1898.

The cheese and buttermakers' course will begin on February 1st and March 1st, 1898, and will consist of practical instruction for three weeks in cheesemaking, buttermaking, and milk-testing. Lectures on subjects relating to dairying will also be given.

Any person over sixteen years of age, who has worked at least one season in a butter or cheese factory is eligible for admission to the cheese or buttermakers' course. Application should be made to the dairy branch of the Department of Agriculture, Winnipeg, Man.

THE ABORTION BACILLUS.

Professor Bang, of Denmark, has recently succeeded in separating the abortion bacillus. This discovery is of great importance, and will open the way to a more successful method of treating cases of abortion. It appears that the abortion bacillus thrives best either in the presence of too little or too much oxygen, and that in conditions between these two it will not develop. The experiments made proved that the bacillus was possessed of great vitality. A cow that has aborted once is very likely to do so again unless the uterus is carefully disinfected. Because of this tenacity of life it is very difficult to rid a stable of the disease once it has become infected. It may be communicated to sheep, cows, and mares, and hence it is important to keep all female breeding stock away from an infected building.

Powdered lime, freely used, is one of the best disinfectants, and should be used in an infected building.

Epizootic abortion belongs to a class of diseases which leave behind them a certain amount of immunity from again taking the disease. This suggests another line of treatment. By injecting a vaccine or serum, animals may be rendered proof against abortion. But should this line of treatment fail to be effectual, abortion can be successfully treated by isolation and disinfection.

THE NEW YORK HORSE SHOW.

The thirteenth annual Horse Show, held at Madison Square Garden, from the 15th to the 20th of November, was a great success. For years the New York Horse Show prided itself on the fact that it was the only horse show worthy of the name in the United States. It can now no longer do so. St. Louis and Chicago have recently shown how successful a horse show can be made in the West, and in the East, Philadelphia and Boston have shown that successful shows can be held at other points than New York.

The proceeds from the sale of boxes and the attendance on the first few days were somewhat disappointing. It seemed as though "society" was going to drop the show. For years the show of horses has been secondary to the beautiful, well-bred, well-groomed ladies on exhibition in the boxes, and the absence of these would make a material difference to the success of the show. But New York's "400" turned out in good style, and the show's success was assured.

There was no doubt, however, that the "400" took less interest in the show than in other years because, as one person curtly put it, "there is no one in the ring we care about." There has been a rapid falling off in the number of exhibits made by the wealthy class. Dealers and professionals are entering the ring with good horses, to secure which they have scoured the country and are making it almost impossible for the private individual to train, fit, and show a horse successfully against them.

A peculiar feature of the show this year was the successful way in which the American trotting stock climbed into first places in the harness, and particularly in the high stepping classes. The Hackneys were at a discount. When the Hackney style of a carriage horse became popular a few years ago, the horse dealers were asked to supply horses of this type, but they could not get them. To meet the demand, the knife was used on many trotting stallions. Size was obtained in this way, and action was obtained by education and by weighting the fore feet, but the hock action was almost entirely wanting. Carriage horses were thus obtained with good fore ends and a certain kind of action, but the drooping croup, the cat-like hips, and want of hock action made a very bad hind end. Such animals were set up as the desirable type of carriage horses, and at the recent show, horses of this description were given the preference to high-stepping Hackneys that had made a clean sweep the country over. Truly the love of the American for the trotting horse seems to prevent him from seeing good in any other breed.

The trotting horse as we have him at present is not fit for heavy harness work. He lacks the smooth rotundity desirable in a good carriage horse, the hock action and the substance to do his work with ease and grace. The trotting stock, however, will make the foundation for a grand lot of useful carriage horses, but they require a top cross of the Hackney. No matter how good an actor or carriage horse a trotting stallion may be himself, not one in a hundred of them can reproduce himself, and it is not to this source that we must look for a supply of desirable carriage horses.

The harness classes were very well filled. In the class for high-steppers there were forty-six entries, and of these no less than twenty-one were owned and trained by dealers, thus showing the extent to which dealers are taking possession of the show. There were certainly some sensational actors among them.

Carriage horses were shown in good numbers, but the majority of them were not as desirable as they might be.

The Hackney classes were well filled, but some of the awards did not go where many onlookers expected they would fall.

The saddle classes were considered by some good judges to be greatly wanting in type, and the judging very faulty in some cases. In fact the want of a definite type or standard is felt at most of the horse shows, and until some definite type is decided upon, and judges schooled to that type, there will be no uniformity in judging saddle horses.

The breeding classes were represented by two heavy draft stallions. Only one French coach stallion was present. Polo ponies were a smart and attractive class, and were highly appreciated.

Altogether the show was one of the best that the people have seen at Madison Square Garden.

MR. E. D. TILLSON'S NEW PIGGERY.

Mr. E. D. Tillson, of the Annandale Farm, Tilsonburg, Ont., has built this summer a new piggery, which, for size, completeness, and style of finish, will take the lead of anything in the Dominion. The building is 60 x 80 feet and a storey and a half high, with a ceiling ten feet high. The main part of the building is about forty feet wide. It has a passage or driveway seven feet wide extending through the centre of it, and on each side are pens 13 x 14 feet. On each side of the driveway and between it and the front of the pens, there is a gutter, similar to the gutter in a cow stable, fourteen inches wide, five inches deep at the ends, sloping to eight inches deep at the centre of the building, where it is connected with the sewer. To one side of this main part of the building is another passageway and another row of pens; thus making in all a building sixty feet wide. The pens in the centre will be used for breeding pens, etc.

The entire floor in the house is laid perfectly smooth and water-tight with Portland cement. The floors of the pens are covered with two inch pine plank, dressed and jointed and bedded into the cement. The passageways are not covered.

The floor of the pens slopes two inches towards the gutters. The feed troughs are set up four inches from the floor, so that all slop and manure can be scraped out once or twice a day from under the troughs into the gutter, and wheeled away into a covered manure house and stored there until spring, or it can be carted directly on to the land.

A two-inch iron pipe, running the whole length of the building, carries water from the water-works into the building. This is carried along the ceiling, and has valves and hose connections at a number of places, so that it is possible to flush the whole build-

ing at will. The gutters are connected by an iron pipe to a sewer of glazed sewer pipe, which carries all the flush water away to the river bank. The water arrangement is also an excellent protection against fire. To prevent the liquid manure from running into the sewer an iron stopper closes the openings from the gutters. These are only opened when the floors are being flushed.

Cut straw and oat hulls are used as absorbents for taking up the liquid manure, but it would be an easy matter to run it all into the sewer and collect it in a tank, and from there it could be carted on to the land. Mr. Tillson believes it best to keep it with the solid manure by using plenty of absorbents and land plaster.

Yards have been made on either side of the building twenty-four feet deep, and are connected by convenient doors with the pens inside. The yards are floored with two-inch pine plank and are water-tight. They have a fall to the outer end, where a gutter catches all liquid manure. These pens will be covered in time with a low flat roof of felt paper to keep the snow and rain from washing the manure, and as a protection from the sun in the summer.

Convenient feeding rooms and breeding pens are provided for, and the room overhead is used for storing feed and bedding.

RAISE THE CALVES AND MAKE BABY BEEF.

There is bound to be a shortage of cattle for beef purposes in the near future on account of the great number of stockers sent out of the country the past season. In view of this fact farmers should take steps to meet this coming shortage.

It will pay farmers to look up a number of good calves, if they haven't got them themselves. There are a great number of dairymen who never raise a calf, but whose large beefy cows have been served by sires of the beefing breeds. Look after the calves from these cows. Feed them well, force them along as fast as they can be made to go. Get them up to 900 or 1,000 lbs. weight by the time they are a year old, and there will good money in them. This, of course, means good feeding, but with a fair supply of milk and plenty of good grain it can be done.

Don't try to do this with steer calves from a dairy sire. They will probably give you an equal weight, but the butchers will not give you equal money. In connection with this read a portion of the article by Professor Curtis on page 652 of the June number of FARMING for 1897.

Many farmers did not get as many feeding cattle this fall as they wanted to, because they were too scarce. The quality of those offered and the price combined made it so that the margin for profit was very narrow. Why not feed good calves? Once the calves get a good start, can eat hay, and lick meal they do not require such a large quantity of milk as is usually fed. Hunt up the right kind of calves, feed them right, and see if there is not profit in baby beef.

Foresight on the farm pays better than anything else.

THE FARMER'S PORK SUPPLY.

Farmers will soon be putting up their supply of pork for the year. It is a matter that every farmer should attend to. Sometimes it is a hard matter for the farmer's wife to set a good table unless she is well supplied with the necessary articles. Very often, however, the pork is not as well saved as it ought to be, and consequently neither the lard or meat is as sweet and nice as it should be. There is no occasion for this; it is only neglect to do the proper thing at the proper time.

A correspondent strongly urges farmers to try brine-cured bacon in preference to dry-salted for home use. Speaking of his method, he says: "All you need is a water-tight tank and a bucket or two of water to each hog. Then make a brine by the addition of salt until it will bear an egg up. Put in the sides, as usual. It is not necessary to have the brine more than scarcely covering the meat, as the meat will settle. But it is a good idea to put a heavy weight on the top of the meat. At about the fifteenth day, if the weather is reasonably moderate, pour the brine off, take the sides out, and put back in different positions. Then pour the same brine over it again. At about ten days more your meat will be ready to smoke. Use dry hardwood for smoking—not old chips, dirty sawdust, rags, or anything to make smoke. After smoking has been sufficiently done, wrap the hams and sides in paper. Then place in small sacks made of good material; tie tightly, and put in a cool place.

"The secret of brine-salting is this: You have noticed that in dry-salting there is always an accumulation of watery blood in the vessel. This is what might be called juice from the meat, which should have remained in it, rendering it tender and pleasant instead of dry and tasteless. In brine nothing escapes, and brine penetrates every section. Its flavor is perfect. It has a juiciness and richness which are most agreeable to the taste. Try some of your bacon in the brine, and you will be sure to adopt the plan."

Mr. Theo. Louis, of Wisconsin, whose name is well known to Canadians as that of a man who has been successful as a breeder and feeder of swine, in writing to the *National Stockman and Farmer* about the farmer's pork supply, says:

"The preparation to have sweet meats commences at the time of slaughtering. Hogs to be slaughtered should not be fed twenty hours before slaughtering. They will not bleed freely. Nor should they become heated by chasing or any other cause. It likewise has a tendency to check the flow of blood. Nor should a hog be scalded until fully expired. After the hog is hung up and the intestines, lungs, heart and all are removed and washed out, split the hog right through the centre, leaving a small attachment near the tail and at the end of .nout, so as not to overbalance it; and as soon as the leaf lard is cold enough to be principally removed, take it out. This will insure the perfect cooling of the meat. This last precaution we learned from our large lumbering concerns and packers in early days, when selling dressed hogs. We have found it a safe prac-

tice. The heavier the hog the more essential its quick and perfect cooling. Never allow meat to freeze solid, or pack it in frozen condition, for it is sure to spoil.

"Before cutting up the carcass remove the spare ribs, tenderloins, and any overplus of lean meat from the side pork, unless it is converted into bacon, and evenly divide the width of side pork from four to five inches. Trim off all surplus of fat from ham and shoulders. All this will increase the surplus of sweet lard, of which the wife seldom has enough, or has to replace it with cottonseed oil at a big price.

"Now for a good new barrel, or one that never had the least bit of sour meat in it. Don't use a whiskey barrel. A kerosene barrel burned out and soaked for a time with pure water will do. But a new barrel is always safe. There are numberless ways of preserving meats, but we have reason to think that all additions of sugar and the like have a tendency to harden and dry the meats. Cover the bottom of the barrel with an inch of pure salt, pack in your meat, the rind outward, not so close but salt will get between the meats, cover again with salt over each layer, and so on until the barrel is full, up to about five inches. Lay a cover of clean, new boards on it, with a stone to weight it down. Prepare a brine, out of clean salt and water, that will bear up an egg, and cover the meat three days after packing. In about six weeks thereafter take out the meat, lay it on a board to drain, take out the brine in a wash boiler, put it on the stove, and as soon as the scum commences to rise skim it and continue until clear before it boils. Rinse the barrel, re-pack it, and when the brine is cold pour it on to cover the meat. Enough water can be added during the heating and skimming to have plenty to cover it; sometimes we add one ounce of saltpetre. This, if always covered with brine, will be sweet meat twelve months from date of packing.

Take the hams and shoulders and cheeks, rub them well with salt on both sides, lay on a declining board so as to have drainage, and cover the flesh side well with salt. Take a lot of fine saltpetre and work in at end and around the centre bone. Let them be three to four days. Have a clean barrel ready, clean off all the bloody salt from the meat, pack in the barrel, rind downward and outward, pour on and cover with a brine of pure salt and water that will bear up an egg. Hams from hogs weighing 250 to 280 pounds, dressed weight, should remain in this fourteen days only. Take them out, let drain and dry two or three days, then smoke them. Soon after smoking cover and sew up in any kind of clean cotton cloth, and have a barrel of dry, clean wood ashes ready. Cover the bottom with three or four inches of ashes, lay in one layer the best you can and cover again with ashes, so no meat comes in direct contact with other pieces, until all are packed and covered. Keep the barrel in some outhouse from the influence of moisture. Ours is kept in the smoke-house, and the other day our city cousins and the doctor ate dinner with us, and we had ham from December, 1896, and they all declared it first-class. Now this is simple. Cannot each farmer have it?"

PREPARE THE HOTBED NOW.

Most people wait until it is too late before beginning to make preparations for the flower and kitchen garden. The result is a poor display of flowers and a late supply of many vegetables.

Now is the time to get the hotbed ready for next spring. Any farmer can make one with a little trouble. A convenient size is $4\frac{1}{2} \times 7$ feet. The sides of the frame, which should be from a foot to sixteen inches in depth, can be made with cleats, into which the ends fit, and a hook and staple at each corner will hold them there so that they will not spread apart. By having them made in this way they are readily taken apart when the season is over and stored until wanted again. The frames can also be made in one piece by fastening the ends to the sides, and likely this form will suit the farmer best, as it can be set up in a convenient place and may remain there.

Those who have hotbeds should clean out all the old manure and spread it on the lawn, strawberry bed, or the garden. New soil should be made up for the hotbed and thrown into it. Then cover all with boards, so as to keep out the snow, and it will be a very simple matter to get the hotbed ready in the spring when it is wanted. If the manure is left in the frame, it may be frozen solid when the time comes to make the hotbed in the spring.

Every farmer should have a hotbed, not simply for flowers only, but for early vegetables that can be grown in it long before they can be obtained out of doors.

HOW TO GROW TULIPS.

The ladies in Germany take great pride in having their windows filled with a nice collection of plants. Their favorite plants in the winter, for decorating the windows, are the tulip, the narcissus, and the lily of the valley. They are very successful with the tulip, and one beauty about them is that they require so little work, that any farmer's daughter can have a window full of bloom at very small cost. First procure good healthy bulbs and secure a number of ordinary flower pots from four to five inches in diameter. Fill these pots to within an inch of the top with good garden loam, then set in three bulbs in each pot equal distances apart and not too close to the side. Now cover the bulbs with more earth, water sparingly unless the ground is very dry, and they are ready to go into the cellar or a dark room free from frost. They should be covered with sand and allowed to stay there for from four to eight weeks. At the end of this time they should be examined to see if they have started to grow. Any that have may be taken up to a suitable place for blooming. This they will do in from three to four weeks, and if not kept too warm the bloom will last for more than four weeks. The best temperature is from 50 to 55 degrees Fahr. In order to have them in bloom the whole winter only remove a few at a time from the cellar, and keep up a supply there.

The narcissus can be treated in a similar way, so also can the hyacinth. These plants require very little light and a moderately low temperature, hence are particularly suited to our climate.

QUESTIONS AND ANSWERS.

FREEMARTINS.

W.J.P., Kingston.—I have a pair of twin calves, one a heifer the other a bull. My neighbors tell me that the heifer will not breed. They call her a freemartin. Will you please tell me if this is true? Can you give any reason for it if it is true?

ANS.—The general experience of those who have twins, such as you mention, is that the heifer will not breed. That much we know; but *why* we don't know. Some light has been thrown upon this subject lately in a work on the "Evolution of the Sex," by Messrs. Thomson and Geddes. They quote from the observations of Spiegelberg. A distinction is drawn between "true" twins and twins which are not "true." They are produced, like true twins, two at a birth; but the distinction is this: whilst true twins are two organisms developed from one and the same ovum; the untrue, false or sham twins, are developed from different ova. Thus pairs, developed from different ova, are not true twins, although produced at one birth.

According to Spiegelberg and his co-workers in examination of ascertainable embryological facts, twins in cattle all come under one or another of the following three heads: (1) Both female, and both normal; (2) of different sexes, both normal; and (3) both male, one a freemartin. This is quite different to the common idea that a freemartin is a heifer with somewhat defective reproductive organs. According to this authority the freemartin is not an imperfectly developed heifer but an *undeveloped bull*.

We all know that twin heifers are usually as capable of breeding as single born heifers, so there is no difficulty about the first class. But that when of different sex that they should be normal seems to be strange. They must be the exceptions, and the only explanation seems to be that they are true twins developed from one ovum. Class (3), however, is the most interesting one, for most breeders must have met with cases of *twin born bulls* and both of them having proved fruitful. The only explanation of this is that they must have been developed from different ova, and therefore could not have been *true* twins. But why the "freemartin" takes on female characters, and instead of being a heifer is really a male in disguise, is not explained. We will have to wait for fuller explanations on this subject.

BLACK TEETH

C.P.—I was feeding swill to ten young pigs, about two months old, from an old butter tub, into which about a gallon of elm ashes was thrown one day. In a couple of days after this half of the pigs were sick. They worked their mouths and frothed a little. Some of them jerked, trembled, and then would lie down, others would wander around as if blind. They did not squeal, and would not even if handled. When they came to the trough they could not eat, but would root the feed and run around. Three died and two are getting better, but they had to be fed for a few days. They had plenty of room and a dry bed. They were fed on meal consisting of a mixture of barley, oats, buckwheat and some peas. They also

had some pulped turnips. Might the trouble be caused by the ashes?

Is there such a thing as black teeth in pigs?

ANS.—(1) From the symptoms given it would seem as though the trouble was caused by the feed. Such a dose of ashes would likely cause serious trouble in the stomach.

(2) There is no such disease as black teeth affecting pigs. Veterinarians call it a humbug. Black teeth will be found sometimes in a young pig's mouth. Very often, when a sow carries her pigs beyond her usual gestation period, the teeth of the little pigs make an abnormal growth, become discolored, and hence are called "black teeth." These teeth are sometimes too long, and pierce the gum of the other jaw, thus causing pain and preventing the pig eating. The remedy is to break them off; but "black teeth" is not a disease.

CORRESPONDENCE.

The replies to the questions on the care and management of swine are continued this week; also a number of letters on the management and feeding of dairy stock.

(1) What is your method of housing pigs during the winter?

(2) Do you allow pigs to run out during the winter for part of the day, or do you prefer to keep them inside all the time?

(3) What is your method of keeping the piggery and pens clean?

(4) What kind of feed has given you the best results for the winter feeding of pigs for the market?

(5) If grain is fed, do you feed it wet or dry?

(6) Do you feed turnips to pigs, and if so, in what way?

(7) Have you any special way of caring for and feeding stock boars and brood sows during the winter?

EDITOR OF FARMING.

SIR,—(1) In a frame hog pen, double boarded with tar paper between, five pigs in each pen.

(2) We let out the different pens for a little while on fine days, but rely mainly on the sunlight through a good window in the south side of each pen.

(3) We give them clean bedding every second day and clean the pens out twice a week.

(4, 5 and 6) I have tried several different mixtures of feed and ways of feeding, but am now pursuing the following with best results for *cheap* production. We pulp the turnips first, then boil them in an agricultural furnace with sufficient water, but no grain. This is then mixed as hot as can be handled with barley meal, middlings and bran, equal proportions of each kind of grain evenly mixed together. As much of the mixture is stirred into the boiled turnips as they will absorb, this is fed warm morning and evening, all the pigs will eat. At noon we give them a few mangolds. Some skim-milk is fed also morning and evening. We have been able to produce pigs under 100 lbs. weight at $1\frac{1}{2}$ cents per lb., and from that weight up to 200 lbs. the cost has increased to $2\frac{1}{2}$ cts. per lb.

(7) We keep from four to five brood sows—Tamwoiths. They are kept in a pen and yard away from the store pigs and fed a liberal allowance of grain and mangolds, and allowed plenty of exercise. I have them bred twice a year. We feed the small pigs liberally, and keep them growing right from birth to the block.

We have raised and fattened about ninety during the past year. We also mix salts ashes and sulphur together and allow the growing pigs free access to all they will eat of it. Once a week we give them some of the dirt out of the root cellar. This keeps their digestion good and their blood in a healthy condition.

W. C. SHEARER.

Sprucedale Farm, Bright, Ont.

EDITOR OF FARMING:

SIR,—(1) We keep them in a dry, warm, clean, comfortable house well lighted and ventilated and easily cleaned.

(2) We always allow them to run out into small separate yards just outside of the winter house, except in very cold stormy days.

(3) (See description of Mr. Tillson's piggery in another column.)

(4) We find that barley meal, wheat bran, shorts and pea meal (the siftings from split peas) all mixed together with warm fresh separator skim-milk has been our best food. When potatoes are very low in price and unsalable we cook and mash the potatoes and mix them with the meal. Occasionally we feed mangolds (raw) to keep the pigs in good health.

(5) During cold weather we feed grain dry, but generally it is fed wet. Sometimes it is mixed in barrels and let stand one day before feeding. We also feed corn ensilage in winter to brood sows and to growing or store pigs.

(6) We never have fed turnips; think mangolds are better.

(7) We feed our stock boars and brood sows on lighter feed with more roots, roughage, and they are allowed more exercise.

E. D. TILLSON.

The Annandale Farm,
Tilsonburg, Ont.

EDITOR OF FARMING.

SIR,—(1) Our pig house is a frame building, close boarded on outside, sheeted, tar papered, and again boarded on inside, concrete floor and troughs. It faces the south, with a window in each compartment.

(2) We confine pigs to the pen, except occasionally, on a fine day for a short while.

(3) There is a door on the south side of the pens, opening into the barnyard. The manure from the pens is thrown out and removed to the field every few days. Plenty of straw is used to retain all moisture, and the pens are kept strictly clean. We are careful to change the straw of their sleeping nest at least twice a week. This is absolutely essential to the health of young pigs.

(4) We find the best results from feeding mixed grain, such as oats, peas and barley (all ground fine), with equal bulk of bran. Each day's feed is mixed in a barrel with the milk from the separator and washings from the dairy, and fed as a slop. The last six weeks of feeding we reduce the amount of bran. We always feed a little oil cake meal to our growing pigs.

(5 and 6) In the absence of milk there is nothing better for winter feeding than turnips or other roots. We pulp the turnips and mix them and the

meal in a box, letting them stand and soak for one day, and then feed. With a ration of turnips and meal, a warm house and careful management, pigs can be fed almost as cheaply during winter as summer.

(7) After weaning and again breeding we in winter keep our breeding sows in the barnyard, and feed them liberally on turnips (pulped), mixed with a little grain (crushed), our aim being not to fatten them, but to have them in good, vigorous health by the time they farrow. Our sows bring two litters per year, preferably in March and September. We aim to turn our pigs off at between six and seven months old, and to have them weigh between 180 and 210 lbs., live weight.

ANDREW ELLIOTT.

Galt, Ont.

RAISING HEIFER CALVES.

Editor of FARMING:

SIR,—Our system of feeding and otherwise treating heifer calves intended for use in our dairy herd from the time they are dropped until they in turn become mothers is as follows: We have the cow drop her calf in a loose box if convenient and comfortable; but if the box stall is cold, or colder than her own stable, we have her calve, tied in her stall. We allow her to lick the calf and leave it with her until it is able to suck, after which we remove it from her altogether.

We usually give the calf the dam's milk for a few days at least, and only a small feed at each time, three times a day until the dam's udder is natural, then only twice a day. Care is taken not to over-feed, as we consider more calves are injured by over-feeding than by spare feeding. We feed whole milk for a month, or until we see the calf can be safely put on skim-milk.

In winter, when we have the skim-milk from the creamery, we then begin to mix skim-milk with the whole milk, gradually adding more until it gets all skim-milk. We always warm the milk to natural heat. It depends on the calf how soon it may be put on skim-milk. A strong, vigorous, and good drinker can be started sooner than a delicate one.

In summer, when the milk goes to the cheese factory and we have no skim milk, we begin to add water instead of skim-milk. We keep an older calf with the younger ones in a box stall to teach them to lick meal, and just as soon as they will eat it we feed them a mixture of bran and chopped grain, immediately after they drink up their milk. Hay is placed in a separate manger for them. As soon as it is safe to feed them ensilage without scouring we do so, with their grain ration on it.

We are careful in weaning them from milk altogether, and take great care to see that they do not lose ground in doing so. We strive to grow them as fast as we can without fattening them, and at the same time to do so as cheaply as possible. If calves come in the fall or early winter we turn them out in the spring as soon as the weather is warm and there is good grass. Late spring calves we keep in the stables till after the fall fairs. We have the heifers served to calve at two years old, and we feed them well all the time, never allowing them to stand still or go

back. Unless they are on good pasture we feed almost heavy for some time before calving. We aim to develop a heifer's udder to its utmost and have her in good flesh when she drops her first calf, but do not forget that a heifer with her first calf, though not liable to milk fever, may have it. On the development of a heifer's udder at first depends largely her capacity for future usefulness.

The most common errors in raising calves are, I think, want of feed, and especially care, for the first six months of their lives—as a consequence, the animals are so small that they have to run until they are three years old before dropping their first calf; too much feed, sometimes allowing them to suck, or feeding too much whole milk.

We raise our bull calves much the same as the heifers, only they can carry a trifle more flesh without injury. I am, yours truly,

Burnbrae, Ont. ALEX. HUME.

RAISING DAIRY STOCK.

Editor of FARMING:

SIR,—After the calf is dropped we place it with the cow in a box stall, where it remains for three days, or until all danger of milk fever is past. This includes the heifer, which the calf is never allowed to suck. The calf should have the first milk that is drawn from its mother. It is then fed sparingly on the new milk for from six to eight weeks. We then commence to withhold part of the whole milk and replace it with skim-milk, gradually increasing the skim-milk until the calf is fed wholly on it. The skim-milk is continued for five or six months.

In the meantime the calves have been taught to eat a little oat chop. This we bring about by placing them with one that has already learned to take the chop, and which is not too much older than themselves. You would be surprised how soon they will begin to nibble it. At the same time some fine hay and a few finely-cut roots are placed before them. When weaned, we keep them growing right along, giving them lots of bulky pulpy food to spring them out. Never on any consideration allow them to get fat; it is in the dairyman's own hands whether he makes or spoils his cow. If you lay the nucleus for beef you will have beef, but if you lay the nucleus for milk you will have milk, provided you have been breeding for that before. Getting fat on pasture alone won't hurt them. We keep them growing right along, and have them come in as nearly as possible after two and a half years old, not much sooner, and not much longer. We spring them out as much as possible before their first calf, as we consider that the first two years is the making or breaking of a cow, that is, you are going to make a cow of her in that time or *spoil* her.

Some of the most common errors in raising calves are: Letting the calf suck the cow for a lengthened period, giving it too much new milk, in fact you should not give it fattening food of any description; starving it to death, feeding it whey and slops; letting it run out in the fields exposed to the hot sun, to flies, and to rub its nose on a stubble field, and to drink water,

if there is any, out of a mud puddle; letting them run in the field until the snow flies, then driving them in and feeding them on straw. Then because they are small when they come in you let them go dry to give them a chance, and then you have fixed it. Fixed it, how? Fixed it so that there is nothing in them, and nothing in your pocket-book either.

We raise our bull calves almost precisely the same as the heifers, and, when for use in the herd, they serve only a limited number of cows the first season, and never any until they are one year old.

Our cows, coming in in October, are housed and fed liberally on all kinds of nutritious food for the production of milk. We feed them at all times what they will assimilate, and we feed largely of ensilage, hay, roots, grain, bran, and oil meal. We aim to keep up a continual flow of milk. They are always kindly treated, and supplied with abundance of water, which is supplied by a windmill, and received in pans in the stable. We are, yours truly,

WM. STEWART & SON.

Menie, Ont.

MUSTARD FOR SHEEP.

Editor of FARMING:

SIR,—Your editorial on mustard in the issue of November 9th, would lead one to believe it was wild mustard, when it was nothing of the kind. There is as much difference in wild mustard and table mustard as there is between a red dock and rhubarb. In England they sow table or yellow mustard as a catch crop. The seed is three times as large as wild mustard, and yellow, and there is no danger of it staying in the land. In England they sow it on stiff clay, and plough it in, when it will act the same as lime does on stiff clay. Any person sowing rape for lambs should have a piece of land in mustard. It will keep lambs from bloating as they do sometimes on rape. A few years ago, when Professor Shaw kept so many lambs on the Model Farm, I advised him to sow half an acre of it in every field that he had rape in. The first I sowed for pasture was in 1864. I sowed five acres on fall wheat stubble. I cultivated it good, sowed and harrowed it. One team did all the work in a day and a half, and I had a splendid crop. It was sown on August 21st, and was fed off as soon as in blossom. The cows and sheep had pasture as well as mustard, but my cows gave one-third more milk while on mustard, and the butter was excellent. I have seen lots of table mustard sown in England forty and fifty years ago to kill wild mustard. It grows rank and checks the wild mustard, and when coming in blossom it is fed off, and that kills the wild variety. When I was in Prince Edward County last winter, I saw something they call her-rick, but I could not see any difference in it from wild mustard. Of course it was dry, but the seed was the same I thought.

Yours truly,

ALBIN RAWLINGS.

Forest, Lambton Co., Ont.

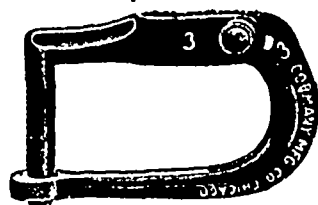
[In the editorial referred to we explained that the mustard mentioned was probably white mustard, and not the same as our wild variety.—EDITOR.]

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MARKET REVIEW AND FORECAST.

Office of FARMING.

Nov. 29th, 1897.

The cold weather has greatly improved the general conditions of trade. In the country the roads have not been good, and that has tended to offset somewhat the advantages of more reasonable weather. Holiday goods are beginning to show activity, and it is expected that the next three weeks will likely show a very good trade. The price of hogs is advancing. The supply of poultry is fair, but there is some complaint as to quality. Country remittances have been very satisfactory.

Wheat.

The wheat situation shows but little change. There has been a good export demand during the week, which rather shows a fear of shortage on the part of European buyers. Wheat has advanced steadily in price all week, but the probabilities are that prices will recede this week. Owing to the bad condition of the roads deliveries are light, and this, no doubt, affects prices a little. The prices at Toronto at the end of the week showed an advance of at least two cents, the price being \$3c. to \$5c. north and west. Some 100 cars were sold at these figures. Spring wheat sold at \$2c. and goose wheat at 78c. east. Manitoba wheat is going for 99c. at Goderich and Midland. At Montreal red winter wheat is quoted at 91c. to 92c.

Barley and Oats.

There has been no change in the barley market. There has been a quiet demand at 30c. to 32c. for No. 2, and 25c. for feed outside. At Montreal feed barley is bringing 33c. to 35c. Oats have been in good demand, but deliveries have been light owing to bad country roads. Mixed lots are quoted at 23c. and white at 24½c. west. At Montreal sales for local account have been made at 26½c. to 26¼c.

Peas and Corn.

Peas are quiet at Montreal at 50½c. to 51c. At Toronto they have been steady all week at the prices given last week, 43½c. for cars north and west was quoted at the end of the week. Corn has been very quiet. It was expected that there would have been an advance in it corresponding with the advance in wheat. Old Canada yellow is quoted at 26½c. to 27c. west at Toronto and 33c. to 34c. at Montreal.

Rye and Buckwheat.

There has been a good demand for rye all week and prices have advanced a little. Sales are reported at 45½c. east and 45c. middle freights. At Montreal the market is quiet at 52c.

Many farmers have made well out of their buckwheat this year. The demand for it is steady, and prices have advanced to 31½c. for cars east. At Montreal sales have been made at 35½c. to 36c.

Millfeed.

The demand for millfeed has been somewhat easier, and shorts are now quoted at \$10 to \$11 west and bran at \$7.50 west.

Potatoes.

There has been a good demand for potatoes. The approach of cold weather no doubt has helped this. The price has advanced to 60c. per bag for carlots and the market is firm.

Honey.

All the choice Ontario white clover honey has been sold, but a fine lot of Quebec white in comb honey slightly tinged was sold for 12c. A fine lot of extracted honey changed hands at 7c. Some fine Ontario white clover sold for 9c.

Apples.

There has been no change in the market since last week. Reports from England show that quite a lot of the fruit is arriving in bad condition, owing to poor packing. \$1.50 to \$4.50 per bin. is quoted. Dried apples, from 2½c. to 3½c., and evaporated from 5½c. to 6c. per pound.

Cheese.

The cheese market still continues to "drag along its weary way." Dealers are making special efforts now to size up the situation and find out where they are. After the close of navigation the bulk of the cheese in the country is usually in the hands of the middlemen. This is usually the case, especially with the make east of Toronto. West of Toronto the factorymen are more inclined to hold their cheese for a longer time. A week or two ago there was a large quantity of cheese in the factorymen's hands west of Toronto. During the past few days, however, a large amount of this has changed hands, and factorymen are more eager to sell. The estimated number of

boxes in the warehouses at Montreal is said to be about 250,000 boxes. Some place the number of boxes at over 400,000. An interesting factor in the situation just now is the probable output of Australia and New Zealand. Certain reports from these countries seem to indicate that the make there will not be as large as at first expected.

The market is reported quiet but steady, with not much change in prices from last week's figures. The local markets vary considerably. For Septembers and Octobers the ruling price seems to be about 8 cents, while for Novembers the top price is 7½c. Though considerable business is being done, the prospect for any material advance in prices is not very certain.

Butter.

The creamery butter market is also reported quiet but steady. Exporters have been picking up some fine creamery at from 18 to 18½ cents. The local trade affords somewhat higher prices. Holders of late made, choice creamery are holding for higher prices. The exports show an increase amounting to about 10,000 packages, and there seems to be an improved demand for the better quality of creamery butter. Earlier makes are not wanted for export, and the sale of some August creamery is reported at 16½ cents.

The market for dairy butter is firm and steady for good stuff. At Toronto there is a good demand for butter in tubs, at from 16 to 17 cents; large rolls 14 to 15 cents, and medium quality at 12 to 13 cents. At Montreal prices for good dairy butter range from 16 to 16½ cents.

Eggs.

The demand has been good and the market steady at Toronto at 15c. to 16c. for fresh gathered eggs, 18c. to 19c. for held fresh, and 13½c. for limed. On the farmers' market at Toronto they have been as high as 18c., and guaranteed fresh eggs sell as high as 30c. out of the stores. At Montreal fresh gathered eggs are being sold to retailers at 20c. to 21c.

Poultry.

The supply for Thanksgiving was good and prices did not fall away. At Montreal turkeys are bringing 8½c. to 9c., spring chickens 7c. to 7½c., ducks 8c. to 8½c., and geese 5c. to 6½c. At Toronto trade is reported a little slow after Thanksgiving. Turkeys, 7c. to 8c., 5c. to 6c. for geese, 40c. to 60c. for ducks, 25c. to 40c. for chickens.

Cattle.

Export cattle are very dull and few are offering. According to latest reports the exporters have lost heavily this season, and altogether it has been a most unprofitable one. Good animals will bring a good price and can be handled, but poor stuff is a drug, and must be sacrificed.

Light stockers are not in as good demand as they have been. Only 2½c. to 3c. was the range at the close of last week. Feeders also were quieter at from 3c. to 3½c. On account of a very large supply the market on Friday at Toronto for butchers' cattle was weak; prices fell away 25c. per cwt. Choice stuff brought 3½c., but the majority sold between 2½c. and 3½c. If the market is a light one next Tuesday prices will pick up a little. At Buffalo Canadian stockers of the best quality are bringing from \$3.55 to \$4 and feeders of good quality from \$3.75 to \$4.10 per cwt.; common feeders are quoted as low as \$3.25; calves from \$2 to \$8.

Sheep.

Export sheep were quiet at 3c. to 3½c. There has been a good demand for good lambs, and quite a number have been taken for shipment to the Old Country at from \$4 to \$4.25 each. The bulk of the lambs now going forward to the Buffalo market are too heavy for the trade and do not bring as good prices as they would if lighter. Lambs of the right quality will bring from \$5 to \$5.50. Butchers' sheep at Toronto bring from \$3 to \$3.50 each, choice \$3.75.

Hogs.

As predicted last week, the price of hogs went up, but this brought out the largest offering of hogs ever seen on the Toronto market. On Friday 6,000 were offered, and prices fell away ½c. a pound on all that were not contracted for. Choice hogs were sold at \$4.38, which is an advance of 12½ cents on last week's prices; light and thick fat hogs at \$4.13, and stores at \$4 to \$4.10 per cwt. Prices will advance again unless offerings continue extremely large. The heaviest run of hogs on record on any previous day was less than 5,000. Best hogs at Buffalo are quoted at \$3.60 to \$3.65 per cwt.

Hay.

The market is dull but steady at \$8 to \$8.50 for cars on track at Toronto. Baled straw, \$5 on track.

BOOKS AND BULLETINS.

Nearly all "Bulletins" mentioned under this heading can be obtained free on application to the Directors of the respective Stations or Colleges. In cases of doubt as to address write to FARMING.

The Annual Report of the Bureau of Mines, issued by the Director of Mines, is a valuable report. The section dealing with sphagnum moss is an interesting one, and should be read by farmers.

Publishers' Desk.

Christmas Fat Stock and Poultry Show.—The Guelph Fat Stock Club will hold their annual show on December 9th and 10th, in the Victoria Skating Rink, Guelph. The prospects are bright for a good show.

National Stock Growers' Convention.—The Denver Chamber of Commerce and the Colorado Cattle Growers' Association have called a convention of stock growers to meet in Denver, January 25th, 26th, and 27th, 1898. The object of the meeting is the formation of a National Stock Growers' Association. The stock industry of the country is entering on a new era, old methods are giving way to new ones. Cattle are now being fattened in the corn-fields on the ranges before going to market. The stockmen of the west believe that a centralized association, representing every branch of the industry, would promote and bring into closer relationship the stock growers of the continent. Mr. Arthur Williams, Denver, Col., is the provisional secretary, and from him circulars can be obtained.

Quebec Dairymen's Association.—The sixteenth annual convention of the Quebec Dairymen's Association will be held at Nicolet, on Dec. 1st and 2nd, 1897. The programme, as announced, is a good one, and a right helpful time is expected. The Hon. Sidney Fisher, the Dominion Minister of Agriculture, and the Hon. F. D. M. Déchêne, Commissioner of Agriculture for Quebec, are expected to attend. On the evening of the 1st Dec. the subject of Good Roads will be illustrated by magic lantern. The following evening Mr. J. C. Chapais, Assistant Dairy Commissioner, will give a lecture on The Choice of a Milk Cow, which will be illustrated by magic lantern views. The able secretary of the association, Mr. Emile Castel, St. Hyacinthe, has recently issued a year book containing a lot of useful information about the association, of the work it is doing, and the dairy school, and an interesting sketch of Nicolet, and how to get to the convention.

American Clydesdale Association.—The annual meeting was held on Nov. 2nd, at Chicago during the Horse Show. Canadian breeders in attendance were Messrs. Robert Beith, M.P.; Robert Graham, Richard Gilson, and David McCrae. The report of the Executive Committee was a good one, and showed that interest in horse breeding was reviving. Mr. David McCrae, of Guelph, and others addressed the meeting on the question of amalgamation with the Canadian Clydesdale Association, and the general feeling seemed to be that there existed no serious obstacle to the union of the Clydesdale Associations, and that such a union would doubtless be to the interests of the Clydesdale breed. A committee was appointed to arrange a basis of union with the Canadian Association. Mr. N. P. Clarke, St. Cloud, Minn., was elected President; Mr. Robert Davies, Toronto, Vice-President; and Mr. Alex. Galbraith, Janesville, Wisconsin, Secretary. Mr. Robert Graham, Claremont, was elected a member of the Executive Committee.

Ontario Agricultural and Experimental Union.—The annual meeting will be held at the Agricultural College, Guelph, on December 8th, 9th, and 10th. Reports of co-operative experiments carried out on 2,835 different farms throughout Ontario will be given. These include tests with leguminous crops and mixed grain for green fodder; grasses and clovers for hay; commercial fertilizers for corn and mangels; and with leading varieties of grain, potatoes, roots, and fodder crops. From the horticultural section

the results of the co-operative tests with the leading varieties of strawberries, raspberries, currants, and gooseberries will be given. The committee appointed to look after the dairy work will report on uniform tests made in several cheese factories and creameries during the past summer. The results of all these experiments in the different branches of agriculture should prove both interesting and profitable to those in attendance at the meeting. Mr. George McKerron, Superintendent of Farmers' Institutes in Wisconsin, will give an address on Economical Feeding. Addresses will be given by Dr. Mills, C. C. James, Deputy Minister of Agriculture, and others. Mr. Harold Jarvis an ex-student of the college, and one of America's most famous singers, and Miss Helena M. Lozier, graduate and gold medalist in elocution at Albert College, Belleville, have consented to give selections. Programmes of the meeting can be had from C. A. Zavitz, O.A.C., Guelph.

Stock Notes.

J. G. CLARK, Ottawa, Ont.: I have sold my entire stock of spring pigs this year for breeding purposes, and out of forty stall pigs I have only thirteen left. My stock boar, "Oak Lodge Capheat," has proved an exceedingly good sire. His youngsters are giving satisfaction wherever sent.

W. C. SHEARER, Sprucedale Farm, Bright, Ont.: Has been breeding Tamworth pigs for two years and has found them fast growers, of a quiet disposition, and quickly fattened for market. At present he has five brood sows, thirty-two pigs nearly ready for market, one litter suckling, and more to come.

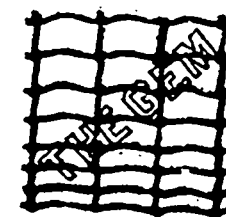
ANDREW ELLIOTT, Galt, Ont.: We have been breeding Tamworth swine for the past six years, and find them well suited to the requirements of the market. They are good growers, early in maturity and docile. The sows bring large litters and are good mothers. We have at the present time 30 head on hand, composed of six breeding sows, and the balance being young stock.

MESSRS. A. & W. MONTGOMERY recently imported five horses from America. Among them was Mr. Robert Davies' Prince of Quality so well known to Canadians. In referring to the importation, the *Scottish Farmer* says: "Prince of Quality is well named, is a short legged, thick horse, with broad, clean bones, sound joints, and extraordinary action. He is likely to have a run of steady popularity." He has been hired to the Rhins of Galloway District Society.

WM. STEWART & SON, Menie, Ont. Our stock are going into winter quarters in prime condition. We have put up another silo of about 100 tons' capacity. We have some cows calved and some more due shortly. The young bull, Glencairn, is developing into a fine young bull, and by all appearances will take some beating next year. He was placed second in a class of twenty-eight at Toronto this year. He won first at Ottawa and Stirling, first at Norwood, and sweepstakes for best bull any age. We have some young bulls for sale, one a full brother to the bull Tom Glen, winner of first in his class at Chicago, and one out of the cow that won second as a heifer at same place. These bulls are fit to head any herd.

W. W. OGILVIE, Laehine Rapids, Que., has decided to go more extensively into dairying, and hopes to import a number of Ayrshires this winter. To make room for these animals, he has decided to sell his entire herd of Aberdeen Angus cattle, and offers them this week at a bargain to any one who wants them. The herd is a good one, and consists of a bull, seven cows, three bull calves, and three heifer calves. These animals would grace any herd of Aberdeen Angus or they would make good foundation stock for a herd, as they are all well-bred animals and good individually as well. The young bulls will be sold separately or in a lot at the option of purchasers. Mr. Ogilvie also offers the noted Ayrshire bull, Traveller. He was bred by the late Thos. Brown, of Petite Cote, and has been a famous stock getter. This bull should make a grand stock bull for some one.

ALEX. HUMR, Burnbrae, Ont.: The foundation of our dairy herd was laid in 1873 by the purchase of a purebred Ayrshire bull. Six years after we bought an Ayrshire cow, and we have, with few exceptions, carried off the prize for "Dairy Herd" ever since. It is only about eight years ago that we conceived the idea of building up one of the strongest dairy herds of purebred Ayrshires, combining dairy and show-yard qualities, that could be got together, and accordingly selected females from the best herds in Canada, and also sent to Scotland for that purpose. We have taken the same care in selecting males with the best pedigrees for milk and show ring qualities on both sides of sire and dam. Our herd now numbers 46, including calves, 36 purebred Ayrshires, the balance Ayrshire grades of various crosses. We have on hand almost anything required, five bulls of different ages from nearly a year to four months old, yearling heifers, several heifers rising three years old, carrying their second calves, due to calve in March, April and May, and older cows, any of which we will sell at prices to suit the times. We have also several head of Yorkshires, a few of both sexes. May pigs are ready to mate, and a choice lot of June pigs of either sex.



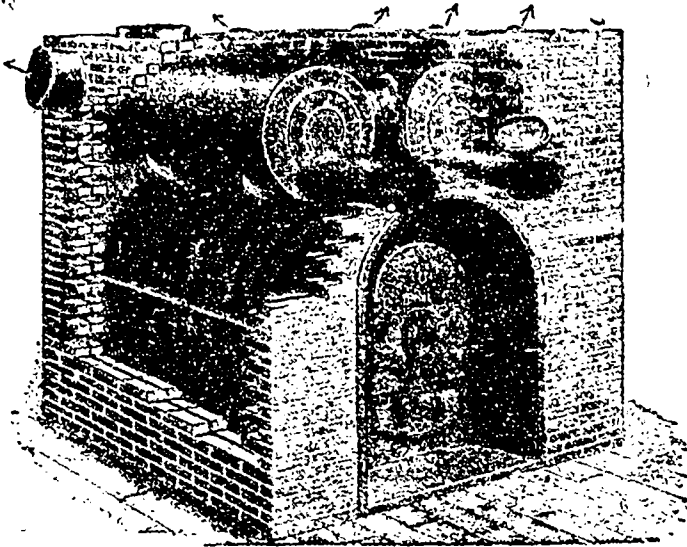
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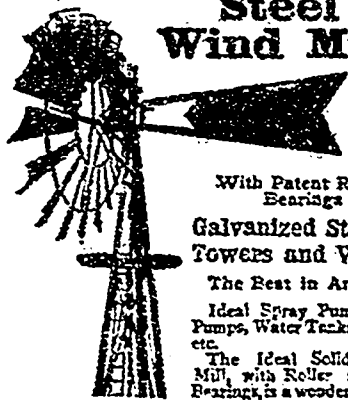
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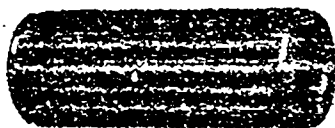
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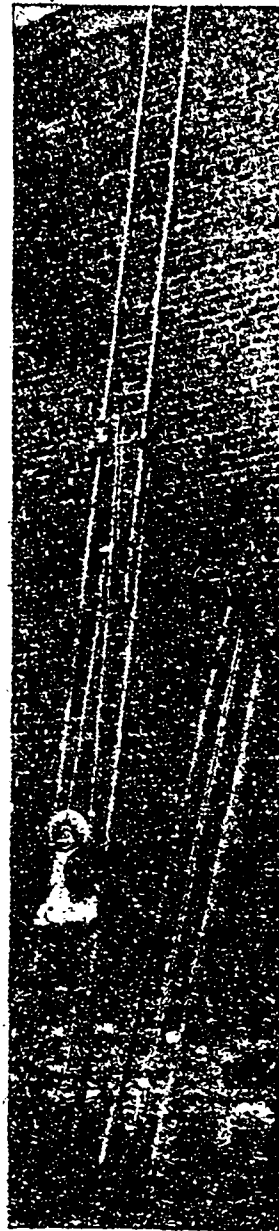


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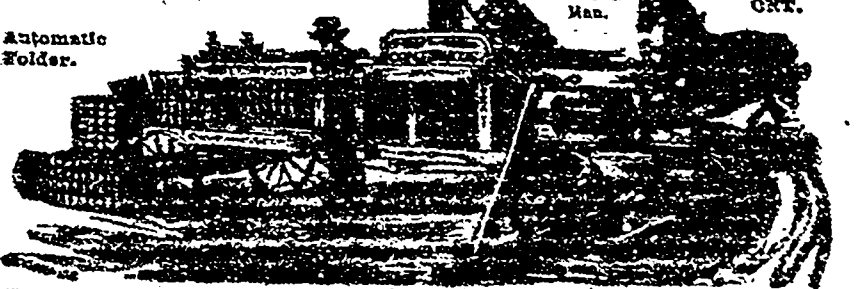
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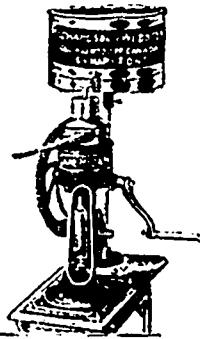
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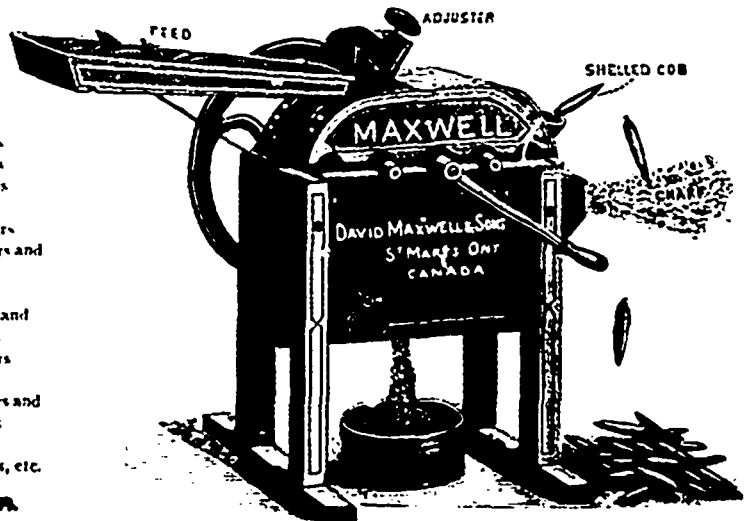
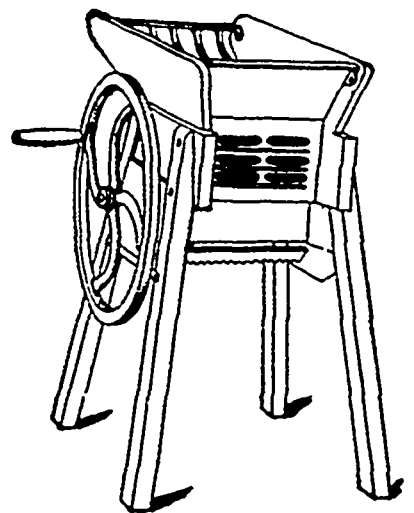
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