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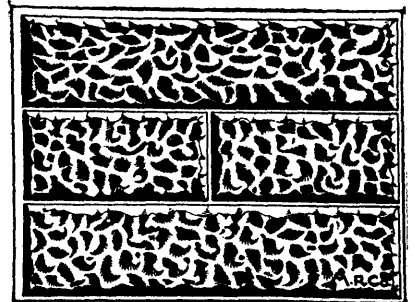
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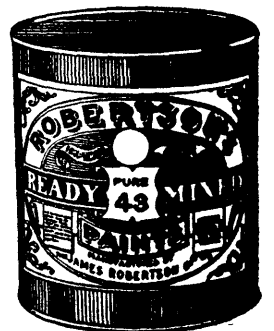
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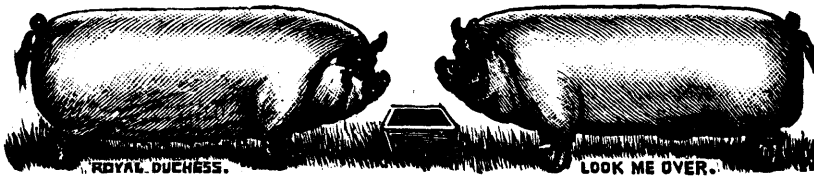
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# FARMING

VOL. XVII.

OCTOBER 17th, 1899.

No. 7

## Thanksgiving Offer.

Our readers are requested to note carefully an offer made in the advertising columns of this issue of FARMING, of a very generous proposal by which they may secure a copy of "The Life of Christ for the Young." This is a book of 400 pages with 74 full page half-tone illustrations,—a book that will be prized in every home where there are young people; in fact, children of an older growth will be benefited by it. It is really a beautiful book. Read the advertisement and then send for a copy.

## Canada's Live Stock Interests

Mr. Richard Gibson's letter in our correspondence columns this week, and written from the Pacific coast, will be read with interest by every Canadian breeder. His summary of what live stock men are expecting of Mr. Hodson, when he assumes his new duties at Ottawa, is both timely and to the point. A new line of work of the greatest importance to Canada's great live stock interests is soon to be undertaken, and we presume that both the Department of Agriculture and Mr. Hodson are desirous of knowing something of the feeling of the breeders in regard to it and what they are expecting a Dominion Live Stock Commissioner to accomplish for them. Consequently the time is very opportune just now for making their wants known, and we trust that other leading breeders will come forward in the same way.

A very important suggestion made by Mr. Gibson is that regarding the development of a trade in purebred live stock in South America. His statement that that portion of America has imported from Great Britain ten times more bulls and rams than all other portions of the world combined is no exaggeration. Anyone who has followed at all closely the records of sales of English purebred stock the last ten years cannot help but come to the conclusion that the Argentine and those portions of South America bordering upon it are the largest purchasers of purebred stock in the world. But not only are they by many times the largest purchasers in regard to numbers, but, as Mr. Gibson very aptly points out, they pay the very highest prices for the stock they buy. About all of the very highest priced animals sent out of Great Britain have their destination in South America.

A market of this description is worth looking after. Canadian purebred stock ranks high in quality and there seems to be no good reason, providing transportation facilities will admit of reasonable freight rates, why some of the fine bulls and rams which this country produces should not find a good market in South America. The Argentine is now our most formidable rival in supplying beef cattle for the British markets, and if we can arrange to supply the cattle-raisers of that country with new blood for replenishing their herds we shall not feel the other competition so keenly. This whole question, as well as the others Mr. Gibson draws attention to, are well worthy of consideration by the new Live Stock Commissioner.

## The Shortage in Beef Cattle

A great deal has been said and written during the past few weeks, especially in the United States, about the shortage in beef cattle. While some authorities are agreed that a serious shortage exists, there are others who are not quite so confident that there is anything in the situation to be excited about. The prices for dressed meats have materially advanced both in Canada and the United States, and more particularly in the latter country. This advance is thought by some to be due more to the increased demand for meats that has come with better times and better wages for the workman than to any great falling off in the number of beef cattle. But be this as it may, there is considerable evidence to show that the number of beef cattle in both countries is not as large as it was several years ago.

Secretary of Agriculture Wilson, in an interview at Washington a few weeks ago in regard to the American cattle situation, said :

"The American people are great meat eaters. Even the laboring man wants meat two or three times a day when he has the money to buy. He has the money now, because he is earning good wages. With prosperity has come an enormously increased demand for meats. Wherever our flag goes meat eaters will multiply and make business for the stock raisers of America. . . . For various reasons the number of meat animals in the country has been growing gradually less for several years. Hard times forced people to economize by using less meat. The result was a smaller demand for live stock, with a lowering of prices, which in turn led stock raisers to grow fewer animals. Large losses from disease and exposure last year also had some effect in the same direction."

Another reason advanced by the secretary for the advance in the price of beef was the great decrease in the area of the western ranges where cheap cattle are raised. This has arisen partly from the settling up of the country and the necessity of fencing the ranges and the owning or leasing of the land.

The following table gives the number of cattle other than milch cows, of sheep and of swine in the United States on January 1st for ten years past :

	Cattle.	Sheep.	Swine.
1890 .....	36,849,024	44,336,072	51,602,780
1801 .....	36,875,648	43,431,136	50,625,106
1892 .....	36,651,239	44,938,365	52,398,019
1893 .....	35,954,196	47,273,553	46,094,807
1894 .....	37,608,168	45,048,017	45,206,498
1895 .....	34,364,216	42,294,064	44,165,796
1896 .....	32,085,409	38,298,783	42,842,759
1897 .....	30,508,408	36,818,643	40,600,276
1898 .....	29,264,197	37,656,960	39,759,993
1899 .....	27,994,225	39,114,453	38,651,631

It will be observed by the table that the number of cattle has decreased nearly 10,000,000, or about 27 per cent. since 1892; at the same time the population or the number of meat consumers has been increasing.

The *Cincinnati Price Current*, a recognized authority on all trade matters, in commenting on this scarcity says :

"Much is being said of the scarcity of cattle, and of the cause. In some instances the government exhibits of estimated number of animals yearly are taken as indications of relative supply. But such data are liable to be misleading for two reasons. First, the comparison may be questioned, on the evidence that such information, based on percentage estimates and not on enumeration, has shown a tendency to fall short of reflecting a true comparison. If this understatement be say 5 per cent. annually, it requires but a few years to get greatly out of line. Therefore such information is to be received with more or less allowance for such cumulative error. In the second place, there

has been a tendency to earlier marketings of cattle than formerly, by which an equal number may be available during the year without being as large at a stated date as shown by earlier reports. To what extent this has had an influence in late years in the comparisons we are unable to suggest with a degree of definiteness."

The same journal also points out that there are other elements in the question of apparent plentifulness and scarcity of such animals. When feeding material is abundant and low in value, as compared with market prices for fat stock, there is less inclination to sell unfinished stock, and an increased demand, so that even though the actual supply be equal to what it was, say, a year previously, the changed conditions in respect to inducements for possession of such stock for finishing on the available feeding material profitably, brings about a seeming scarcity which in fact does not exist.

Another live stock authority, the *Chicago Drovers' Journal*, has this to say on the subject:

"As far as the much-advertised shortage is concerned, at Chicago, at least, it amounts to very little—about a day's supply—compared with the season to date a year ago. Prices would not be so high if the demand for the meat was not sufficient to warrant the slaughterers paying high prices for the live stock. It would be a funny thing if live stock went up a dollar per hundred, and there was no corresponding advance in the dressed meat. The plain fact is, more people are in circumstances to buy meat, and they are chiefly those who a year or two ago, by reason of the hard times, couldn't afford it."

The *Chicago Live Stock Report* seems to be somewhat of the same opinion as the *Drovers' Journal* in regard to the situation. In the issue of October 5th it says:

"After all that has been said and written about the 'cattle shortage,' it is a little surprising to find that the statistics for September—and for the first nine months of the year—show a marked increase in the aggregate number of cattle received at the principal markets of the country as compared with former years. As will be seen by referring to our monthly statement of receipts published in another column, the total number of cattle received at the four leading markets during the first nine months of the year shows an increase of more than 42,000 head compared with the corresponding period of 1898. For the month of September alone the increase is even more marked, being 70,000 over the corresponding month of 1898, and the largest September run in seven years. This certainly does not look like a cattle famine. This is a big country, and what is scarce in one section is pretty sure to be produced in comparative abundance in another. It may be said that the above increase has no real significance in view of the fact that the gain, which was mostly made by Kansas City, consisted to a large extent of light, thin stockers and feeders, but it must be borne in mind that this class usually constitutes a good share of the September run at that market, hence the comparison holds good. In view of the large falling off in receipts from the western ranges this season, the fact that supplies from other sections for the month of September not only wipe out the shortage from that source, but pile up a big increase besides, is at least interesting."

But to come nearer home, the *Montreal Exporter* has this to say in regard to the shortage, and which perhaps is more reassuring to cattle raisers than some of the other journals we have quoted:

"The long-headed farmer who has stuck to his 'few in the feed lot' is not going to be sorry for his temerity. Not only are cattle short in Canada, which every one in the trade is fully aware of, but the United States is also a sufferer from the same trouble. From latest reports from Argentina that country is also a good third, evidenced by the fact that few cattle are offering from there now."

The same journal gives the opinion of an English dealer on the subject which is worth repeating if for nothing else than to stir up our Canadian breeders a bit. He says:

"Good beef and mutton are selling very dear, the latter particularly, and if the supply from Argentina is going to be cut off—as some people say—the native mutton grower is going to have a good time. But real prime beef and choice mutton are scarce, and though there is increasing weight of chilled and frozen meat coming forward, it does not balance the shortage of live meat—native and imported. So it is generally anticipated we are going to have prices rule higher for all classes of meat, but best descriptions naturally will benefit most, which leads me to observe that the last shipments of ranch cattle were not gilt-edged, and buyers are sarcastically asking, 'Have Canadian breeders given up breeding good cattle?' A prominent Birkenhead buyer said the other day 'he hadn't seen a decent bullock from Montreal this season.' This is not complimentary, but it is true, and what is true cannot be a libel, in spite of the idiotic axiom that 'the greater the truth, the greater libel.'"

We have quoted these various authorities on this important question in order that our readers may be able to size up the situation for themselves. We know that there is a scarcity of good beef cattle in Canada, and the table

given above shows that there are fewer cattle other than milch cows in the United States than there were eight or nine years ago. The last sentence or two in the last paragraph quoted contains food for reflection on the part of Canadian cattle breeders and feeders. For an English cattle buyer to state that "He hadn't seen a decent bullock from Montreal this season" shows a very serious state of affairs indeed if the statement has any foundation on fact. If so, what is the matter with our beef cattle anyhow? Is the trouble in the breeding or in the feeding? The great revival in the importation of purebred stock of the beef breeds during the past year or two may be taken as an indication of a vast improvement in so far as the breeding is concerned, though it would not benefit the cattle that are now being marketed. But how about the feeding? It does seem as if there was room for great improvement along this line on the part of the average Canadian farmer.

## Combine the Local Fairs

Re the small or local fair the following pertinent paragraph appeared in a recent issue of the *Uxbridge Journal*:

"Some of the prizes awarded at country fairs are enough to tire anybody. As an instance, a merchant offered a prize of \$10 in goods for 40 lbs. of butter in tub or crock, 'the butter to become his property.' Forty pounds of prize butter is worth about ten dollars, in goods or cash. Another man or firm will donate some kidney pills or liniment, securing a free advertisement for their remedies in the prize list. Such men have a keen eye to business, and at the same time they probably give all they feel able to. If people don't want to compete for these prizes they don't have to. But it shows the scale on which many of our small fairs are kept up. The fact of the matter is there are too many fairs, and if it was not for the horse races and the opportunity to meet friends, the most of the country fairs would die out. As long as the people like it, however, they will be kept up. There would be better shows if there were about half as many of them. The directors then might be able to offer prizes that would bring out the best efforts of exhibitors."

The question of having fewer and better fairs has been frequently discussed in these columns and our readers are pretty familiar with our views on the matter. We have long contended that some effort should be made to combine the so-called township or local shows so as to form a good exhibition in each district that would prove of real educational value to the community. While many of the local fairs are good, considering the extent of the prize list and the accommodation provided for exhibitors, yet the larger number of them are fair in name only and serve no useful purpose except perhaps to give some enterprising merchant the opportunity of offering as a premium some article catalogued in the prize list as being worth \$10 when it is only worth \$5. Then we have the case cited above, of a merchant offering a prize of \$10 in goods for the best forty pounds of butter, the butter to become his property. What inducement would there be to a skilled butter-maker to compete? If the butter were of good quality and worthy of a prize at all it should bring nearly the ten dollars in cash, which we think could be invested to better account than for the prize offered.

If say, three or four, local fairs would unite and hold one good fair at some central point, the money devoted to prizes would be larger and there would be better inducements for exhibitors to make creditable exhibits. If need be the educational feature of the show could be made of greater value by moving the fair around to some point in the various townships represented and thus all concerned would have the advantage of having the combined fair in their own locality every three or four years as the case might be. This would, of course, mean keeping up three or four fair grounds and buildings when perhaps one would do, but it would help to give the benefits of the larger fair to a larger number.

## The Demand for Good Horses

Many people when they look upon the trolley car, the bicycle and the automobile parading the streets of the larger cities come to the conclusion that the day for the horse is past never to be brought back. But such an assumption is as wide of the mark as it can possibly be. There are evidences accumulating every day to show that the demand for the higher grade of horses is better than it has been for some time. These evidences are not to be found in agricultural journals only, which are more or less directly interested, but many of the leading dailies in the large American cities are writing in the same strain. There has been a fire recently in the horse-trading district of Chicago, which has caused the daily *Tribune* of that city to take up the horse question and to make the following deliverance on the subject:

"The fire in the horse trading district of the Stock Yards on Thursday evening suggests some facts which will cause general surprise. It has been commonly supposed that horse markets were things of the past, but it is now found not only that Chicago has a horse market but the largest one in this country and that at the time of the fire there were over 1,500 of the higher grade animals in the barns, all of which fortunately were saved, though they stampeded from terror. The fire also suggests that those persons who have been assuming that the day of the horse has passed were a little "too previous." The horse is still with us. It is true that the cable and trolley cars have displaced and thrown out of work a large number of low grade horses, which have either been thrown on the market to be sold for what they would fetch or have been turned out to live or die—it made little difference which. It is also true that the bicycle mania, which has largely ceased to rage, caused a considerable decrease in the raising of cheap horses. The demand, however, for coach and carriage, draft and fine saddle horses, and cavalry horses is greater than ever before. Agents of foreign governments are constantly in this country picking up all the heavy, stocky horses they can find for cavalry and other uses, and our stock raisers have discovered that they can export animals at a profit, so that breeders of high-grade horses are now making large profits. It is harder to get fine horses now than ever before, and the prices for them are higher."

## Rendering Pasteurized Milk Suitable for Cheese-making

The last issue of the *Dairy*, London, England, gives a very good summary of some experiments that have been carried on in Germany to ascertain whether pasteurized milk could be made suitable for cheese-making. The report is based upon the results of the experiments as published in the *Milch Zeitung* and is as follows:

"This investigation was suggested by the practice of pasteurizing milk for butter-making and the resulting difficulty of utilizing the skim-milk for cheese-making. Three series

of experiments were made, including a large number of trials in each. In the first series the separated milk was heated to 167 degs. F. for 15 minutes; to 185 degs. for 10 minutes in the second series; and to boiling point for 2 minutes in the third series. In each experiment about 5 gallons of separated milk were used, varying proportions of calcium chloride being added in some cases, and none in others. A small cheese was made in each case.

In the first series, where the milk was heated to 167 degs. F., it was found that there was little difficulty in making cheese from the milk, either with or without the addition of calcium chloride, but the investigators recommend adding to such milk about 15 grains of calcium oxide (lime) per 2½ gallons of milk to facilitate the curdling.

The cheese made from milk heated to 185 degs. F. and treated with calcium chloride resembled in many respects that made in the first series of experiments. The yield of cheese was in all cases greater where the calcium chloride was used than in the control experiments. The green cheese also contained more water, but even on the basis of dry matter the yield was greater. The greatest difficulty in making cheese from this kind of milk was found to be the



Holstein Bull, Count Mink Mercedes, 221, owned by G. W. Clemons & Sons, St. George, Ont. Winner of first prize for aged bull and sweepstakes at Toronto, London and Ottawa Fairs, 1899. (Note FARMING tent at Industrial Fair in the background.)

time required for the complete separation of the whey from the curd.

The use of calcium chloride was also found to restore the ability of milk heated to boiling point to curdle, but to accomplish this in the same time two and a half times as much calcium chloride was required as in the first series. The separation of the whey was very slow and difficult and the curd itself was unusually rich in water, and was changed to a greyish-white appearance and a finely-granulated condition, with very little tendency to adhere together. The addition of larger quantities of calcium chloride improved the adhesive qualities of the curd, although it did not entirely remove the difficulty. Experiments made subsequently, scalding to 104 degrees F. to hasten the separation of the whey, and to make the curd more adhesive, resulted favorably, and this is to be the subject of further investigation.

In a later note in the *Milch Zeitung* it is stated that all difficulties in making cheese from milk heated to 185 degrees have been overcome, and that the process is rendered as simple as ordinary cheesemaking. A description of the method will be given in a future number of the *Dairy*."

If the results obtained from these experiments prove



satisfactory the process might be tried in some Canadian factories where bad flavors are the rule during the hot dry season. The pasteurizing would tend to destroy the bulk of the germs causing these bad flavors and enable a better flavored cheese to be obtained. The use of the calcium chloride seems to have had the effect of producing more curd and at the same time caused more water to be retained in the green curd. A process that would help to increase the amount of curd is worth looking into and we will watch for further particulars as they are published.

## The British Butter Trade

Considerable alarm is being shown by the British retailer at the very high prices which have prevailed this season for butter. In this country the retailer, on the price of any of his goods going up, would simply advance the selling price, and think no more about it. But the situation in the Old Land seems to be different, and the keen competition which prevails in the retail grocer's trade makes it a necessity for the retailer to sell his goods on as small a margin of profit as possible. Though there has been a decided advance in the price of butter since the middle of May, it is only within the past month or six weeks that the selling price to the consumer has been advanced very materially, and then it was only because the retailer had to do so in order to save himself from serious loss.

The English retailer has been loth to advance his price for pure butter above 10d. to 1s. per lb., and many of them, during the summer, thinking that a change would soon come, continued to sell at these figures at some loss to themselves. But of late, as the season has advanced, and as there is no likelihood of any great increase in the supply this year, they have been compelled to put up the selling price to their regular customers for their specially-selected butters from 1s. 2d. and 1s. 4d. up to 1s. 4d. and 1s. 5d. per lb. The consuming classes may not like this further advance, and it would not be surprising if there were a material falling off in the consumption of butter before long.



Polled Angus Steer, two-year-old, winner of first place in the Fat Cattle Class at the Industrial Fair, 1899. Owned by Walter Hall, Washington, Ont.

The demand, however, in Great Britain this year for good butter has been almost unprecedented. Though prices have been high the general trade in this article seems to expand in defiance of all obstacles and drawbacks. The total importations into the United Kingdom for the first seven months of this year amounted to 1,987,426 cwts. as against 1,892,970 cwts. in the same period last year, and 1,933,934 cwts. in 1897. The declared (official) value of these imports was £9,931,419, £9,456,317, and £9,588,179 respectively—which according to the latest calculation is

£17,000,000 per annum, and which in Canadian currency would amount to nearly \$85,000,000 as the value of the butter annually imported by Great Britain. It is estimated that the quantity produced by British dairymen is equal to that imported, so that we have something like \$170,000,000 as being the total value of the butter consumed annually by the people of the United Kingdom. It is generally believed that the greatly increased demand this year and the advanced price come from the shortage in the British make. While this is to a considerable extent true, it does not account for the whole of the expansion of trade in butter. Some of this expansion must be laid to an increased and a growing demand for good butter on the part of the English consumer.

## The Farmers' National Congress

By C. C. James, M.A., Deputy-Minister of Agriculture, Toronto

I have been asked by the editor to write a short article on the meeting of the Farmers' National Congress, held at Boston, Oct. 3rd to 10th. Previous to going, I rather demurred; since "seeing" I feel constrained to comply, though my remarks must necessarily be brief and inadequate. One reason for my complying is that I believe Canadian farmers know as little about this great organization as I did myself, and it is well for them to know something of what is undoubtedly the greatest and most influential farmers' organization in America. And, yet, the Boston meeting was the nineteenth in its history. To introduce the Congress to Canadian farmers it is only necessary to say that for the past two years its president has been Hon. W. D. Hoard, of Wisconsin, with whom the farmers of Ontario are so well and so favorably acquainted. The ex-governor makes a model presiding officer and has been re-elected for a third term. It was an innovation and a "sign of the times" when Prof. Robertson was asked to address the Congress on the work of the Dominion Department of Agriculture, and the writer of this article was asked to speak on the teaching of the elements of agriculture in the public schools. The two Canadians did their best to uphold the honor of this country and met with a cordial reception. Perhaps I can give some idea of the Congress by answering two questions.

Who compose the Congress? Every state is entitled to send one delegate for every congressional district and one delegate at large. Every agricultural college and experimental station and every national and state agricultural society or organization may send a delegate. Five hundred delegates in all handed in their credentials at Boston. As there is no federal or state grant to draw upon, those who come to these conventions must be men of means and influence and must be actuated by an ardent desire to advance the interests of agriculture.

In such a gathering, of course, we would expect to find not a few colonels and generals and doctors side by side with undecorated but sturdy enterprising holders of the plow. Every phase of agriculture appeared to be represented and this great industry brought together a gathering that could not be excelled by any other trade or calling in earnestness, enthusiasm or intelligence. It was as brainy, orderly and respectable a convention as I have ever attended. It ran like clock-work. Discussion was rapid and pointed and an immense mass of material was digested. Beginning in the south with a few members, it has grown year by year, attracting to itself the best men in agriculture in the whole United States.

What is its work? Let us first glance at the subjects presented and discussed at Boston; the work of agricultural colleges and experiment stations; rise and fall of farm values; fluctuation in prices; export of the products of the farm; transportation rates; taxation; fertilizers; good roads; pure food legislation; weather forecasts;

social problems; dairying; intensive gardening; new inventions; governmental assistance; public school education. The bill of fare was varied, and while an immense amount of information was imparted, the main object seemed to be to crystalize opinion on the great agricultural problems of the day and inaugurate movements for carrying out the views of the Congress. Every resolution was closely considered and nothing was allowed to pass simply to please some person interested. The moment a speaker's voice dropped he was stopped, and every delegate given full opportunity to hear every word. Close scrutiny of proposals and careful criticism of every resolution were marked features of the Congress. Committees were appointed to carry their views to the legislators at Washington and at the various States' capitals. The temperature rose at times almost to the explosion limit, but it seemed proper to discuss nearly every question at a higher temperature and with more animation than would be found in a Canadian convention.

The proceedings are published by the Congress and sent to all interested, and the cost appears to be met entirely from the assessment upon delegates and gratuitous local contributions. This year, however, the State of Massachusetts gave \$1,000 for the expenses of the Boston meeting.

While the Congress was in session no time was given to outside enjoyment. The Board of Trade gave them a reception, but only one hour was allowed for that. The State Governor received them at the State House, but they walked over there at the noon hour. After the sessions were concluded and their work done the delegates enjoyed the hospitality of Boston for two days. The all-absorbing Dewey reception was in progress, the streets were filled with eager crowds watching the bulletins of the yacht race, the hotels were over-run with excitable politicians attending the State Republican convention. As a consequence the papers did not find much space for the deliberations of the Congress. Amid all these counter-attractions the farmers of the United States came together quietly and dispersed without much notice, but it is safe to say that the Farmers' National Congress was not the least important for the future welfare of the United States.

Space will not permit to give even a summary of the many excellent addresses. They will be printed shortly, and it is probable that persons specially interested may be able to procure copies from the secretary, John M. Stahl, 4328 Langley ave., Chicago.

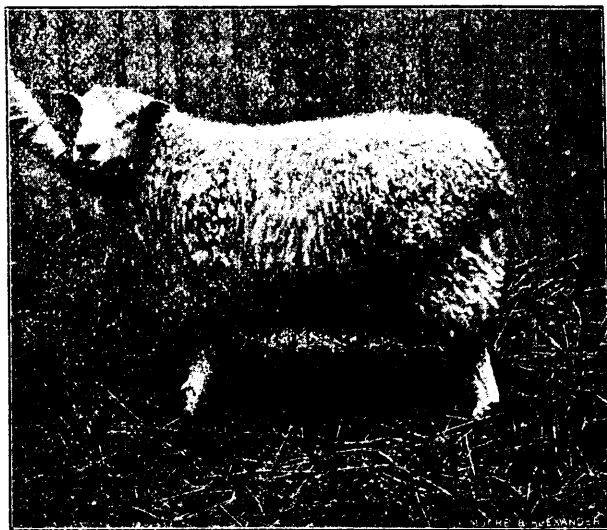
## Maritime Agriculture

Prof. Shutt, of the Central Experimental Farm, Ottawa, who last week returned from a trip through the Maritime Provinces, reports that the prospects for an excellent crop of apples in the Annapolis district are good, and that the yield this year will be far above last year, both as regards quality and quantity. A very modest estimate places the yield at 300,000 barrels of first-class fruit. During his trip Prof. Shutt attended a meeting at Kentville, N.S., for the purpose of discussing the advisability of establishing an agricultural college in Nova Scotia. Dr. Mills, president of the Ontario Agricultural College, who was present by special request, gave an account of the work being done at Guelph, and pointed out the great advantages of having such a college in the province.

Prof. Shutt, in conjunction with Prof. Robertson, visited several points in Cape Breton where poultry fattening and creamery stations will be established providing the districts are suitable. The recent developments at one or two points in the way of the establishment of immense smelting works have awakened a deeper interest on the part of the farmers of that part of Nova Scotia, who foresee the possibility of a good market at their doors. Though farming in this part of Canada is not as far advanced as in other parts, the people are anxious to learn and more progress will be made from this on.

While in Cape Breton Prof. Shutt made a special effort to learn something of the condition of farming there. There

is a very large acreage which is fast returning to brush conditions, being rapidly overspread by a thick growth of spruce. After clearing, the soil has been continually cropped, without any application of manure or fertilizer being made. This, in the course of a few years, sometimes not more than six, resulted in the soil becoming impoverished and it no longer yielded a profitable return. It was, therefore, abandoned, and virgin soil recovered from the primeval forest. This wasteful practice has been in vogue over large areas of the island. This treatment had been



Two-year Lincoln Shearling Ram, first prize winner at the Industrial Fair, 1890. Owned by J. H. & E. Patrick, Ilderton, Ont.

such as to reduce very largely the humus and nitrogen in the soil, and Prof. Shutt counselled the more extensive growing of clover.

## Some Interesting Figures

Mr. George Johnston, Dominion Statistician, has recently made public some interesting figures regarding Canadian exports since Confederation. According to Mr. Johnston, we have exported from June 30th, 1867, to June 30th, 1898—thirty-one years—of home products to the value of \$2,464,000,000. These products have been of the farm, the mine, the forest, the fisheries, the workshop and the factory. Of this amount Great Britain has taken more than one-half, or \$1,260,565,563. Our next best customer has been the United States, who have taken over \$955,000,000 worth, or \$305,500,000 less than the United Kingdom. The British West Indies have taken \$59,945,541; Newfoundland, \$48,807,362; France, \$12,190,654; Germany, \$9,080,194, and all other countries \$118,640,647 worth.

In 1868 Great Britain took \$18,000,000 of our products; in 1872, over \$25,000,000; in 1882, nearly \$40,000,000; in 1892, over \$54,000,000, and in 1898 there were over \$93,000,000 worth. In 1868 the purchases made by the United States amounted in value to over \$22,000,000; in 1872 to nearly \$30,000,000, and in 1882 to \$41,700,000, the highest figure their purchases ever reached.

This is a very interesting comparison and shows clearly who are our best customers. During the thirty-one years Great Britain's purchases have increased five times what they were at Confederation; while during the same period the United States purchases have increased only about two-thirds more than they were in 1868. Great Britain, which purchased in 1868 four and four-tenths millions of dollars less than the United States, bought in 1898 fifty-eight and three-tenths millions more than the United States. If the figures for 1899 were at hand we are sure they would show a still wider margin between the purchases made by the Mother Land and our kin to the south of us. If the figures for farm products alone were known, to a greater degree than ever Great Britain would be shown to be our best and only customer of importance.



## Raising Ducks and Chickens in Warm Weather

By W. R. Graham, B.S.A., O.A.C., Guelph, Ont.

In an experiment conducted at the Ontario Agricultural College this summer it was found that skim-milk was a valuable food in connection with raising young ducks and that it was also a cheap food.

Two lots of ducks were divided evenly and fed upon a mixture of equal parts of bran, middlings and corn meal. For lot one the mixture was moistened with skim-milk. For lot two the mixture was moistened with boiling water. Lot two received a small amount of animal food and cut green bone in their ration. At the end of six weeks they were weighed. The average weight of those in lot one was over 4 pounds each, and they were produced at a cost of 3.6 cents per pound. The average weight of lot two was 3 pounds each and they were produced at a cost of 3.8 cents per pound. The cost of producing represents the feed only, no account being taken of the cost of the eggs or attendance.

During the next four weeks lot two was fed the same as lot one, both gained nearly equal. Lot one weighing  $6\frac{1}{2}$  pounds each, and lot two nearly  $5\frac{1}{2}$  each, but during these four weeks it required more food to produce one pound of gain. It cost a trifle over five cents per pound of gain.

When the ducks were fifteen weeks old they were again weighed, averaged eight pounds each. Some chickens the same age averaged three and three-quarter pounds each. Estimating as carefully as possible, the cost of raising a chicken per pound is about five cents.

The ducks have a good appetite and should be sold when at a weight of about five pounds each in order to secure the most profit. The chickens require to be nearly five months old to reach a five pound weight.

Neither the ducks nor the chickens were fat when weighed, being only in ordinary growing condition.

## Killing and Dressing Poultry The French Method

France is just now turning her attention to the most profitable plan of killing and dressing poultry for market purposes. The way in which poultry is prepared for the stalls can make as much as 15 per cent difference in the actual selling price, that is to say, an inferior bird, if well dressed, will realize that higher percentage over an otherwise dressed fowl of superior quality. Indeed, so great is the importance being attached to the subject in question that there now exist syndicates of agriculture which engage the services of expert killers and dressers of poultry to give lessons in the art *per se*, and one or two of such practical demonstrations are worth all other systems of teaching. The killers in the central markets of Paris are so skilled that they can kill and pluck—the back, breast, and abdomen only—thirty to forty fowls per hour. Prior to killing fowls it is necessary to keep the birds eighteen hours without food, while it is well to get them to drink a little milk, as that practice secures and imparts greater whiteness to their flesh, and leaves the intestines free. Some persons even add a few drops of vinegar to the milk. The birds are then placed inside a warm room in cages, which are covered over with a cloth; that artificial heat facilitates the plucking operation.

There are two ways of killing the bird; first, by getting the latter between your legs, opening its bill, and plunging a sharp pair of scissors down its throat, thus severing the arteries and veins. In Paris this latter method is considered as being slow compared with the quicker practice of making a deep incision over the ear with a sharp knife. That plan cuts the carotid artery, and induces profuse bleeding. Once dead the fowl is hung up by the feet and "gutted," all the intestines are removed save the liver and

gizzard, while a clean gray paper is thrust inside to make up for the void. In Paris, after the killer's rough plucking, the fowls pass to other hands to be completed and finally dressed. The plucking operation ought to be effected while the bird is still warm. According to the region, the plucking has its own "trade-mark." Thus, in Normandy it is the custom to leave no feathers at all; in Houdan Chartres and in the Gâtinais a few feathers are only left on the wings; while in the South of France feathers are left on the tail and wings.

The birds are then dressed in various ways, with their feet drawn up to the back, and then pressed to look plump, flat, or oval, following fancy. In La Bresse, for instance, the farmers there press the poultry between linen cloths soaked in fresh milk. Before packing the birds to send away the fowls should be completely cold, otherwise fermentation will set in and impart a green color to the flesh. Every fowl ought by right to be wrapped up in clean white paper, not print, while each layer of birds should be separated by resting on rye straw. Being perishable commodities, poultry is carried by the fast alimentary trains at ordinary goods' rates, so as to reach the Halles Centrales, or Central Markets, in Paris at five o'clock in the morning. Railway companies expect each consignee will send no less than one to two cwt. of poultry. If coming from a foreign country the custom dues are 20 to 25 francs per 100 kilogrammes or double cwt. The octroi of Paris is 20 francs per 100 kilogrammes, the right of shelter or warehousing tariff 2 francs per same weight or quantity, and the fee of the commission agent is 3 to 5 per cent., as a rule. In the case where any consignment remains unsold, it will be put up for sale the first thing next morning, as on the second day the sanitary inspectors condemn and order such unsold goods to be at once destroyed.—*English Rural World*.

## Drainage\*

By G. A. Brodie, B.S.A., Bethesda, Ont.

Drainage is an artificial method of removing surplus water from the soil. It is by no means a new practice, as we learn that the Romans and other ancient races resorted to drainage centuries ago. In England it was practised by a few as far back as the year 1580, with but fair success, as the drains were shallow and consisted largely of loose stones covered with earth or of slab drains. The public, however, did not note the importance of the subject until about the year 1760, when experiments were carried on along this line and brought the subject prominently before the farming community. From this period until the present time the principles of drainage have been admirably brought to the front.

The soil is made up of minute particles of earth separated by spaces or cavities. Each particle contains minute pores. Wet soil contains water in both the cavities and pores and does not permit free access of air to the roots. Drained soil, on the other hand, contains water in the pores of the particles and air in the surrounding cavities between the particles so that abundant oxygen may circulate around the young rootlets, a condition necessary to healthy growth.

Some of the beneficial effects of drainage are:

1. It opens up the pores and allows the circulation of air. As the water percolates through the soil air must follow and fill the cavities. This air acts upon mineral silicates and inorganic substances in the soil and decomposes them, thereby forming available plant food. It also promotes the decay of vegetable matter and the evolution of carbon dioxide, which forms an acid and helps in dissolving certain minerals into a condition capable of being absorbed by the plants.

2. The soil is warmed by the warm winds and rains of spring.

3. Ammonia and nitric acid are brought down by the rains and fertilize the soil, which when undrained is lost

\*A synopsis of an address prepared for Farmers' Institute meetings in Ontario, condensed for publication by the superintendent.

by surface drainage. The quantity of nitrogen in the above forms has been estimated by some to average about eight lbs. per acre in Canada. At 16 cents per lb., if none were lost, this would mean \$1.28 per acre, or \$128 per hundred acres.

4. Deeper penetration of roots is admitted, which allows a larger area from which they can obtain their food.
5. Heaving of winter wheat, clovers, and of posts is somewhat prevented.
6. Drouth is better resisted. Drying by the sun is less in porous soil, so that a dry summer is resisted.
7. Manures act with greater effect.
8. A longer period of growth, an earlier and a more prolific harvest and a better quality of grain result.
9. The soil is mellow, making cultivation easier and the wear and tear of implements much less.
10. Diseases of plants, rust, smut, potato blight, etc., and the attacks of certain insects are held in check, as moisture is conducive to their development.
11. Certain weeds that inhabit damp soils are killed when the water is removed.
12. The health of live stock is promoted and the rural population is also less liable to disease.

Some indications showing drainage necessary are :

1. A lengthened period of wetness after rain.
2. A glazed look on the furrow when ploughing.
3. Yellowness or paleness of the straw.
4. A mossy appearance of the surface of the soil.
5. The presence of plants that flourish in dampness.
6. Water standing in a hole two or three feet deep.
7. Heaving of fall wheat, clover or posts.

No set rules can be given as to how to proceed with drainage. The physical condition and kind of soil alone determines the manner. In open soils the drains may be placed deeply and a considerable distance apart. In close soils, such as heavy clays, they are better shallower and closer together. The first requisite is to secure a proper outlet. Where possible open up the surface with a plow, and then by taking off the mouldboard you can go a considerable depth, which is easily shoveled out and much labor saved. Commence laying the tile at the outlet and proceed upwards. Make the bottom smooth and even. A little water is better than a level. Care must be taken to place the tile firmly and closely together, especially if at all quicksandy, when a little clay or straw in the tile is a good preventive for sand filling the drain. Boggy places can often be drained by tramping pea-straw or laying cedar slabs on the bottom to receive the tile.

The main drains should be a few inches deeper than the branches. Branches may run in almost any direction from the main drain, but before entering the latter should be turned to run in a similar direction so as to avoid any stoppage or backing up of water in the main drain. Avoid open ditches for main drains when possible, as there will be more trouble in keeping them open, and the tile at the many outlets will soon crumble when exposed to the frost. A good plan is to nail four cedar planks together and enter the tile into them. When possible the drain should occupy the lowest parts, but in case of the soil washing away by spring freshets place the drain a few feet one side of the water course so as to avoid any injury to the tile.

The size of the tile must be determined by the amount of water during the rainy seasons. It is best not to use less than 2½-inch tile for branches unless they are very short and from three inches upwards for mains according to the number of branches and amount of water.

The cost will vary with the size of the tile and the expense of digging, and will vary from about 25 to 50 cts. per rod.

As farmers we are all striving to produce the greatest quantity of the best quality with the least amount of labor and outlay. To fully accomplish this the land must be thoroughly drained. In a great many instances, especially in a wet season, the cost of draining a field will be largely recovered the first crop. At any rate two or three crops will amply repay the outlay.

## Feeding Farm Animals

The following from the pen of an English Agricultural Instructor is of practical interest to those engaged in feeding farm animals :

Let us consider for a moment what constitutes the animal body. The animal body is made up principally of four classes of substances, viz., water, mineral matter or ash, fat, and nitrogenous matters. The proportion in which these various materials occur varies according to the age and condition of the animal. Water generally constitutes from 40 to 60 per cent. of the body. Mineral matter or ash occurs to the extent of from 2 to 5 per cent., and is found mainly in the bones. The proportion of fat varies, of course, very widely with the condition of the animal—whether lean or the reverse ; the percentage may vary from 6 to 30. The term nitrogenous matter or protein includes all the materials of the animal body which contain nitrogen, this nitrogen being precisely the same as that contained in manures or in the atmosphere. Common forms of nitrogenous matter are lean meat, muscle, flesh, skin, white of egg, gelatine, and the casein or curd of milk. Albuminoids are a group of nitrogenous substances found largely in foods.

Now, if we examine the analysis of a cattle food (linseed cake, for example), we shall find that it consists of these same four groups of substances, viz., water, ash, albuminoids, fat (or oil), and, in addition, a class of substances termed carbohydrates.

It may be well at this stage to give a brief description of these constituents, so that an analysis of a feeding stuff may be the more intelligently understood. If we look up a list of feeding stuffs, we may find the analysis of a de-corticated cotton-cake to be as follows :

	Per cent.
Moisture.....	10.05
Oil.....	11.73
*Albuminous compounds.....	47.87
Starch, sugar, etc. (carbohydrates).....	20.92
Indigestible woody fibre.....	3.64
Mineral matter or ash.....	5.79
	100.00

\*Containing nitrogen..... 7.67

Now, it is almost superfluous to state that it is greatly to the farmer's advantage if he is able to intelligently interpret a statement of analysis such as the above. I shall explain each of the items in the analysis separately. Moisture (or water) is present to a greater or less extent in all foods. The proportion is greatest in the case of such succulent foods as turnips (which contain about 92 per cent.) and pasture grasses (75), and least in the case of hay and straw, which contain only from 8 to 15 per cent. From a chemical point of view, this water is of no more intrinsic value to the animal than the water which it drinks, but, owing to the state of intimate association with the solid matters of the food, in which this water exists, its value physiologically is doubtless greater than the water taken in by drinking.

The mineral matter of food is the part which remains when a piece of the food is burned. It consists mainly of phosphate of lime and phosphate of magnesia (which go to form bone), potash, carbonate of lime and silica. Its proportion is comparatively small, varying from about 4 to 8 per cent., but, nevertheless, it plays an important part in the various processes of growth.

The albuminoids of foods are sometimes spoken of as the "nitrogenous constituents," "albuminous compounds," or "proteids." As I have previously stated, they contain a large percentage of nitrogen—about 16 per cent. as a rule. An analysis of a food generally states what percentage of nitrogen the albuminoids in the food contains. The chief part played by albuminoids in the animal economy is the formation of flesh or muscle. They were therefore termed by the late German chemist Liebig the plastic constituents or flesh-formers, to distinguish them from the non-plastic or fat producers. Albuminoids also enter largely into the composition of blood, skin, hair, wool, horns and milk. It

is believed that under certain conditions they are also capable of entering into the formation of fat in the body, and also of taking part in the production of the fat of milk. Albuminoids, you will therefore readily understand, are necessary constituents of the food of all farm animals. It is well known that such foods as cotton cake, linseed cake, beans and peas produce a much better quality of farmyard manure than starchy foods, such as maize, wheat, etc. This is simply owing to the much larger percentage of albuminoids (and, therefore, nitrogen) which the first-named foods contain.

Oil or fat is a familiar substance. The various kinds of oil which are present in feeding materials, though very similar in chemical composition, vary to some extent in their feeding values. This point I shall have occasion to refer to when discussing the question of linseed cake vs. compound cakes. Serving as it does as a producer of body fat and as a heat producer and a source of energy, oil is the most valuable of all the food constituents.

The following are the approximate percentages of oil which a few common farm foods contain :

Linseed cake .....	11½
Oats .....	6
Barley .....	2½
Wheat bran .....	3½
Decorticated cotton cake .....	10½
Wheat .....	3
Maize meal .....	3

The carbohydrates are present in larger proportion than any of the other food constituents. They consist essentially of carbon and water. Familiar forms of carbohydrates are starch and sugar. Their function is to act as fuel, or, in other words, to generate respiration, thus producing the necessary animal heat in the body. Carbohydrates are present in the largest proportion in the cereal grains. Corn contains 70 per cent. on an average, wheat 65, barley 64, and oats 57 per cent.

Woody fibre or cellulose is chemically a carbohydrate, being similar in composition to starch. Part of it is indigestible, and is therefore of no value in food. The following is the order of nutritive value of the various foods constituents: 1, oil; 2, albuminoids; 3, carbohydrates; 4, mineral matter. As sufficient mineral matter is present in most foods, this constituent is not considered when computing the value of a food from the analysis shown. Of course, when an abnormally large proportion of silicious ash (sand) occurs in a food, the commercial value of the food is lowered in consequence. Linseed cake is undoubtedly the most valuable concentrated feeding stuff of which the feeder of cattle makes use. It is, as you are doubtless aware, the refuse of the seed in the process of extracting the oil from linseed.

## Fall Care of the Flock

Fall is the easiest of all times of the year to care for the flock—the pleasantest, too, being nearly devoid of the cares that attend lambing time or winter feeding. This very condition of freedom from anxiety is all too apt to lead one to neglect the flock, which must not now suffer on any account. Ewes that weaned their lambs some time ago should now be in good condition if they have had a half chance. If there are any thin ones or any with evidences of disease in ever so slight degree I suggest culling them out and giving them a short course of good feeding and placing them on the mutton market. There ought to be some sign placed upon your ewes at lambing time that will indicate to you which ones are undesirable as breeders; to clip off half of an ear is a good way. These ewes should be sent away now for mutton.

Ewes will thrive on fairly short pasture so long as it is upland and not too extremely short. At the time of coupling if the ewes are gaining in flesh it seems to result in their conceiving in the plural more frequently, and that is generally an advantage on a mutton farm if the shepherd is a generous feeder.

One very excellent fall food for ewes and lambs is pumpkins. It is astonishing how fond ewes are of these easily raised fruits and how they will improve when fed all they will eat of them. We have for years made it a practice to grow them in the cornfields in great numbers, putting the seed in after the corn has been planted and has come up, and the missing hills or one-stalk hills are replanted with pumpkin seeds. Some years we have had fifty tons of these yellow-fleshed fruits and never have had one too many.

We do not trouble to cut them or to feed in troughs or boxes. Simply to haul them out and scatter them over the pastures seems the simplest and most satisfactory way of disposing of them. The ewes do not get into them very easily and thus they will eat them up clean as they go. Sometimes I will cut open some of the hardest-shelled ones after the ewes have become discouraged in trying to do this. As to the seeds, which some fear, they have never in our experience done us any harm whatever, nor have I ever known of their doing any harm to stock of any kind on other men's farms. We feed our cows and pigs in the same way and I have seen nothing but good results from the practice. All animals giving milk thrive and give a large flow when fed liberally on pumpkins. It is an especially good food for sows suckling pigs and at present our sows and small pigs live entirely on pumpkins and alfalfa.

Another excellent stand-by for ewes in the late fall is rape. This year we have twenty acres of it sown in the cornfield, and even though the season has been dry beyond precedent the rape has made a wonderful growth. As soon as we can get the corn off the ground the rape will be pastured and the sheep will rejoice. This rape will last until near Christmas and only hard freezes (20 deg.) finally kill it. Rape should, after cold weather sets in, be supplemented with good clover or alfalfa hay. It affords the ewes much needed exercise, keeps their systems healthy, and is inestimable to the shepherd. What particularly commends it is that it is of so easy culture and costs practically nothing when grown in the cornfield.

One should watch carefully that his flock does not lose flesh at the beginning of the winter. To be strong, fat, but not fat enough for the butcher, to have plenty of exercise in the open air, to be kept dry, to be free from ticks—these things make the ideal condition in the flock.—*Joseph E. Wing, in Breeder's Gazette.*

## A Change of Seed

What I want to say now is this, that so far as I can learn, and I will give you abundant proof in a moment, the sowing of seed in a new locality, a locality new to the seed, brings out the tendency to variation, evidently by the plant trying to adjust itself to the new conditions. If it succeeds in this effort, it becomes a suitable plant and suitable variety or strain for that locality. I have heard a great deal about the advantages of a change of seed; but indiscriminate change of seed is a dangerous practice; and the theory that seeds necessarily run out and require to be changed from locality to locality is misleading.

Selections of seed from the best quality and most productive variety or strain in the locality, as seed for that locality, is the right plan and practice.

Now, I want to give some evidence.

I spoke of the effect of a change of conditions—the effect in producing variations. That is admitted everywhere—everybody knows it. Since that is so, how can the variation be controlled into a direction that will leave the most profit for the farmer? That is the point. The selection of seeds from plants which have adapted themselves to the conditions in which they are to grow, will give a crop which becomes superior, and better able to adapt itself fully to the conditions of that place, the longer the selection is continued from year to year. A selection of seeds from heavy-yielding crops year after year in the same locality, will yield larger crops than by any other method or practice known in the handling of seeds.—*Prof. Robertson.*

## CORRESPONDENCE

## The Dominion Live Stock Commissioner

### What Canadian Breeders are Expecting of Him

To the Editor of FARMING :

The live stock breeders of Canada ought to be thankful that their interests are now considered of sufficient importance as to have a commissioner appointed to watch over their efforts as beef and mutton growers, and to help them to find markets for their produce. The Department of Agriculture has long recognized that hens and apples and in fact all fruit, are industries to be boomed and encouraged. Ladoga wheat and two-rowed barley have been pressed upon an unwilling lot of farmers, whilst the Robertson mixture has not been neglected. The products of the dairy have been well and persistently advocated. With this branch of the department, however, no fault can be found. But what of our beef cattle and mutton sheep? Have they been of no importance? The graziers and breeders of Western Ontario and I presume of the great West are no small quantity. Where I write this I am within sight of the Rockies, and seeing the numerous herds of cattle rapidly putting on flesh for the European markets I am constrained to ask why have not the heads of our agricultural interests recognized the value of the stock feeders' and breeders' industry sooner?

We are to be congratulated upon the selection made, for if Mr. Hodson can't make the machine run no one can. He has energy to burn; there will be no drones in his branch, neither will he burden the people with a lot of talk of the Bryan stamp, but he will work and accomplish something. We are sure he will forgive us writing of him as we are doing and excuse if we point out some of the things breeders are expecting of him.

In the first place don't attempt to market the products of our farms and ranges, of our flocks and herds, at Avonmouth on the south-west coast of England right in an agricultural district, but go direct to the manufacturing districts. At either Liverpool or Manchester establish your central cold storage warehouse; thence we can distribute our meats right in the heart of England's great industrial enterprises. One to two hours from this centre in refrigerator cars will put goods in direct communication with Huddersfield, Leeds, Stockport, Bolton, and another the whole of the manufacturing towns of Yorkshire and Lancashire. Then to the east and south such centres as Birmingham, Walsall, and Wolverhampton are to be found representing the iron trade, while Stafford, Stoke, and Burslem are great crockery towns. We know whereof we speak when saying: "Don't land our beef and mutton at Avonmouth."

Again we feel we are voicing the wishes of intelligent men when we say do not encourage the foolish experiments of feeding tests between breeds. Stock are like human beings; some feed easier than others. If they were simply steam engines, and had weighed out to them so much coal and water, and the amount of steam produced within a certain time was the result of the test, it would be easy to say which was the most economical breed, but there is the same individuality amongst cattle and sheep as amongst the human race. Let others spend the government appropriations on these vanities. Nearly all the experiment stations in the States are trying to develop something of value along this line, but we are expecting something more from Mr. Hodson. We look to him to encourage a system of cold storage for our beef and mutton, and to place them to the best advantage in the best and most suitable markets for such. Also to seek out new markets for our improved live stock. We can grow and feed them equal to the best, and our capacity is only limited by the demand.

To prove that Canada can produce the best, it is only necessary to call to mind the fact that she has furnished two heifers that have sold for more money at public auction in England than was ever realized at either private or public sale.

The market we would particularly to call attention to is that of South America, with Buenos Ayres as the distributing point. We have for years persistently urged the importance of the South American market for our thoroughbred stock, and, while these despised South American republics have been beneath the notice of our Agricultural Department, they have been England's best customers for the cream of her studs, herds, and flocks. In horses, the Mighty Ormonde was bought at a cost of \$100,000. For bulls, three times as much has \$5,000 been paid. Rams have brought up to \$2,500, and not only were these high prices paid, but for years the best of the bull calves were bonded at \$500 each. As regards the extent of the trade, it might be regarded as romancing to state that for years they have imported from Great Britain ten times more bulls and rams than all other portions of the world combined. This is a market to be exploited, but the question is: "Are we too late?" We are fearful the opportunity has been allowed to slip by. We can give figures, if necessary, to prove our contention. These facts are, no doubt, known to Mr. Hodson, and we are looking for him to open up new markets for us, as he has done in Manitoba. The far west is responding to his touch, and, to a limited extent, the Maritime Provinces, Quebec, and Newfoundland. His work in the latter, as yet, has not had time to bring forth fruit. With the railroads co-operating, we may now expect the same results as obtained in the West.

To Mr. Hodson's tact, energy, and business talents we can bear strong testimony, and feel that if he has the opportunity, and is not hampered in his work, equal results will follow in this larger field to those he accomplished in Ontario.

RICHARD GIBSON.

Vancouver, B.C., Oct. 2, 1899.

## The Harvest of the Sea

To the Editor of FARMING :

For many years past the most successful harvest around the coast of most parts of the Maritime Provinces has been, and is yet to some extent, the mackerel fishing. A great many farmers take a hand in it, and when every mackerel you catch is worth from ten to fifteen cents, and they can be caught within a mile from the shore, it is not surprising that farmers living close to the sea lay by their crops and take a turn at the "harvest of the sea." Just now, here, one mackerel is worth a bushel of potatoes, two, a bushel of oats, and thirty will purchase a barrel of flour. Now, when you go out and catch a hundred in perhaps an hour there is \$12 to \$15 right in your hand. You do not have to wait six months before you get the value of this crop, and you do not have to return the fertility either. This crop is a side issue that does not take any nitrogen, etc., from the soil. They are fine fish to eat, but it would be better to sell them and buy beefsteak, with much less. Some farmers have paid for their farms in years past with mackerel. This season they have been quite scarce, although a few farmers have caught from three to four barrels, which means, perhaps, \$60. From this you may form some idea what many of our farmers have been making from the sea harvest.

In catching mackerel a small boat is used—one of 15-foot keel is quite large enough, and a skiff of this size will easily accommodate three men. The boat is found with sails, cable and anchor, lines and jigs, *i.e.*, hooks and bait. The bait is composed of herring ground fine in a bait-mill. Sometimes caplin and clams are used mixed with herring. When a fishing trip is contemplated the men go to the shore, launch the boat off the beach into the water, put in a few stones for ballast, up sails and off for the fishing grounds. In about fifteen or twenty minutes the captain or steersman sings out as he luffs his craft up in the wind,

"down sails." The sails are taken down and the anchor is hove out, the spring-line fastened.

One man begins to heave out a little bait; each one throws out his line, and all are waiting for the fish to come up. The bait-heaver always keeps the bait in sight. By-and-bye you feel a sharp snap on your line, and then you pull in quickly, when lo! you find a mackerel securely fastened to your hook.

When you get him over the gunwale you give a quick "slod" into the boat, at the same time sending your line out for another. After one has become practised at catching these fish one becomes very adept, and in four or five seconds from the time you feel the mackerel on your hook, you have him in the boat and the line out again. When the fish are biting pretty well, several hundred is an average catch, and I have seen this summer as many as a thousand caught at one time. The highest number I myself caught this summer at any one time was 500, three of us in the boat.

It is very exciting work, and very delightful when you are catching them fast, but it is kind of disagreeable to get out in the morning at two or three o'clock, for you must be on the fishing-grounds before the sun rises in order to raise them, for if the sun is shining bright in the early morning the very best of bait will not induce the mackerel to rise from the bottom. In the afternoon, however, as many may often be caught as in the early morning, but as a general thing when they bite well in the morning they will not bite at all in the afternoon, and *vice versa*, so that to make sure one must be over them both morning and evening.

Mackerel, probably, brings the highest price of any salted fish. For several years past the fisherman has seldom received less than fifteen dollars a barrel, and often, as this year, the price goes up to twenty dollars, and as about 160 fish fill a barrel it will be seen that each individual mackerel is worth, on an average, ten to fifteen cents, at first hand.

Hermanville, P.E.I.

J. A. MACDONALD.

## The Conscience of Nature

To the Editor of FARMING:

"Whatsoever a man sows that shall he also reap," figs are not gathered from thistles any more than weeds spring from pure grain seed. Nature seeks to maintain a true balance, and when disturbance occurs, through either natural or foreign force, the reaction which follows destroys the harmony. If the feed given a domestic animal is so balanced as to provide the various natural wants correctly, the best result, probably a profitable one, is obtained. If, however, the rations of the animal are defective in either quantity or quality, the proper proportion of the constituents necessary to produce the best results are therefore not maintained, and the balance being disturbed a partial or total failure occurs, for we but reap the result of our sowing.

These results may be termed the conscience of, or finger post to, the invariable end that must follow. It is the principle underlying the cultivation of all crops. There may be various ways of doing anything, but to succeed they must all be governed by the same underlying principle. Land may be enriched and impoverished at the same time by raising certain varieties of crops, as for instance, the clover and peas, which through their roots and stubble store nitrogen from the atmosphere for the use of future crops of other species, but at the same time sap the strength of the land in removing the phosphoric acid and potash. Whether such crops are grown to advantage or not depends on the farmer's knowledge of the natural results which will follow his husbandry. The conscience of nature will assert itself and tell us whether we have pursued a right or wrong course in our work of the land.

Weeds serve as an excellent illustration of the conscience of nature. They may be properly looked upon as the result of unbalanced soil conditions, and, like the ills and

diseases of the animal body, can be traced to the constitution of the body that produces them. They act as the conscience in pointing out the true conditions existing, and we must consider our text very broadly to fully appreciate this. If we have so cultivated our land that we have destroyed the balance and caused it to fester with noxious weeds instead of nourishing our crops, we are but reaping the result of ignorance or careless sloth. A soil that is kept in the highest all-round or balanced fertility is not one that is subject to grow weeds. The grain produced is proportionate to the straw. But in an unbalanced soil the same amount of straw may be raised, yet a great deal less grain, and of a poorer quality. In such a case the farmer might say his land was too strong, because he raises so much straw, and that he would like to make it poorer in order to do well. That is just where the knowledge of correct principles in soil fertility is of value. Such a soil is evidently very rich in potash, which goes so much to the composition of straw. If grain is composed more largely of phosphates than of potash or nitrates, and the straw grows out of proportion to the grain yield, then we must apply phosphates in some reliable form to *gain the balance required* for the proper reproduction of seed. But how shall the average farmer know what his soil needs? Some tell him that a chemical analysis of his soil is needed, but a true record of his crops for ten or twenty years is the best soil analysis. The whole question of soil cultivation and fertility is a growingly important one. There do not seem to be in Canada to-day, especially in Ontario, a dozen men who can fully discuss such a subject on correct principles and in a readily practicable way. Yet the conscience of nature speaks out from year to year more loudly, as shown in the national statistics, which record a decreasing yield of grain proportionate to the straw produced, and that of a poorer quality.

Ontario at one time could raise wheat of a quality that did not need mixing with Manitoba brands. Although the climate is a drawback at certain times to raising good wheat in Manitoba, yet the *soil* produces the quality. Science to-day can do more for agriculture by pointing out the causes which produce good and ill effects than by devising methods of working detail and concocting nostrums to destroy the ever-recurring microbe, the weed; and until they adopt the broad course for which their learning and research should fit them they cannot command the attention and respect of the farmers, who can generally be depended upon to work out methods suited to their circumstances when they know what is wanted.

Bronte, Ont., Oct. 10<sup>h</sup>, 1899.

W. J. T.

## Another Experience With a Blower Elevator

To the Editor of FARMING:

Although it is past the season for ensilage cutting my experience may be of benefit to others another season. I have filled my silo for the 13th year, but never with so much satisfaction as this year when I used a blower. Formerly I used several different makes of carrier elevating cutters but always with more or less trouble (sometimes very much of it.) This year I got one of Thom's blowers and was more than surprised at the ease with which the corn was thrown into the silos twenty-five feet high. The power used was a twelve-horse power threshing engine. On several occasions, when the fireman had gone into the silo and had forgotten to fire up, the steam ran down to twenty-five lbs. I was then feeding at the rate of about seven tons per hour and could notice no difference in the blower elevating the corn. We never ran it at a higher speed than 450 revolutions per minute, and it never choked or delayed us one minute. No more carrier elevators for me.

Cassel, Ont.

H. BOLLERT.

# The Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario.

VOL. III.

No. 2

## THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders', \$1; Swine Breeders', \$2.

### BENEFITS OF MEMBERSHIP.

Each member receives a free copy of each publication issued by the Association to which he belongs, during the year in which he is a member. In the case of the Swine Breeders' Association this includes a copy of the Swine Record.

A member of the Swine Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the Sheep Breeders Associations allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale, are published once a month. Over 10,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 9th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue.

F. W. HODSON, Secretary.  
Parliament Buildings, Toronto, Ont.

## FARM HELP EXCHANGE.

The Farm Help Exchange has been started with the object of bringing together employers of farm and domestic labor and the employees. Any person wishing to obtain a position on a farm or dairy, or any person wishing to employ help for farm or dairy, is requested to forward his or her name and full particulars to F. W. Hodson, Secretary Live Stock Association. In the case of persons wishing to employ help, the following should be given: particulars as to the kind of work to be done, probable length of engagement, wages, etc. In the case of persons wishing employment, the following should be given: experience and references, age, particular department of farm work in which a position is desired, wages expected, and where last employed.

These names when received together with particulars will be published FREE in the two following issues of the "Agricultural Gazette" and will afterwards be kept on file. Upon a request being received the particulars only will be published, the names being kept on file.

Every effort will be made to give all possible assistance, to the end that suitable workers, male or female, may be obtained. Every unemployed person wishing to engage in farm or dairy work is invited to take advantage of this opportunity.

## THE DOMINION SHEEP BREEDERS' ASSOCIATION.

### Oxfords.

Arkell, H. .... Arkell ..... 120 registered ram lambs; 50 ewes, different ages.  
Johnston, F. C. .... Moscow ..... Ram, 1 year.

### Southdowns.

Jackson, John ..... Abingdon ..... Imp. ram lamb; 2 shearing ewes; 4 ewe lambs.  
Jeffs, E. & Son ..... Bond Head ..... Aged ram; 4 shearing rams; 6 ram lambs; aged and shearing ewes; ewe lambs.

### Leicesters.

Douglas, J. .... Caledonia ..... Ram and ewe lambs; yearling ewes.  
Jeffs, E. & Sons ..... Bond Head ..... Aged ram; 2 shearing rams; 3 ram lambs; shearing ewes; ewe lambs; breeding ewes.  
Smith, A. W. .... Maple Lodge ..... 50 ram and ewe lambs; 25 breeding ewes.

### Dorsets.

Hunter, J. .... Wyoming ..... Ewes and rams, all ages.

### Shropshires.

Grandy, Robt. .... Springville ..... 7 ram lambs.  
Yuill, J. & Sons ..... Carleton Place ..... 12 ram lambs; ewe lambs.

### Cotswolds.

Bonnycastle, F. & Son ..... Campbellford ..... 11 ram lambs; 20 ewes and ewe lambs.  
Young, Samuel ..... Binkham ..... 100 ram lambs; 20 ewe lambs.

## THE DOMINION SWINE BREEDERS' ASSOCIATION.

### Berkshires.

Bonnycastle, F. & Son ..... Campbellford ..... 30 head, 3 to 7 months.  
Caldwell Bros. .... Orchard ..... 10 boars and sows, 4 months.  
Colwill Bros. .... Newcastle ..... Sow, 3 years.  
Decker, C. R. .... Chesterfield ..... 28 head, various ages; 6 sows.  
Holdsworth, R. L. .... Port Hope ..... 6 boars and sows, under six months.  
Jeffs, E. & Son ..... Bond Head ..... Aged boar; 3 young boars; 5 young sows; spring pigs.  
Reid, R. & Co. .... Hintonburg ..... Boars, 8 months and under; young sows; fall pigs.  
Rudd, W. J. .... Eden Mills ..... Pigs, both sexes, 6 weeks to 6 months.  
Russell, J. A. .... Precious Corners ..... 6 boars and 7 sows, 2 to 5 months; boar, 1 year.  
Sarvent, F. O. .... Eddystone ..... Boar, 8 months.  
Yuill, J. & Son ..... Carleton Place ..... 7 boars, 7 to 18 months; sows, all ages.

### Tamworths.

Caldwell Bros. .... Orchard ..... 20 boars and sows, 1 to 5 months.  
Colwill Bros. .... Newcastle ..... 6 boars, 5, 7 and 12 months; sows, 6 weeks; sow, 7 months.  
Golding, H. .... Thamesford ..... 6 breeding sows; 4 sows, 6 months; young pigs, both sexes.  
Hawkshaw, W. S. & Son ..... Glanworth ..... 16 boars and 19 sows, 2 to 14 months.  
Johnston, F. P. .... Moscow ..... 2 boars and 2 sows, 6 months; pigs, both sexes, 6 weeks.  
Reid, R. & Co. .... Hintonburg ..... 13 boars; 10 young sows; 40 fall pigs.  
Sargent, F. O. .... Eddystone ..... 2 sows, 6 months; young pigs, both sexes.  
Smith, H. D. .... Compton, Que. .... Boar, 6 months; 3 sows, 2 months.  
Smith, J. E. .... Wanstead ..... 3 boars and 4 sows, 6 months; pigs, 6 weeks.

### Yorkshires.

Clark, W. .... North Wiltshire, P.E.I. .... 6 sows, 4 boars, 6 months; young pigs, 2 months.  
Colwill Bros. .... Newcastle ..... Boar, 2½ years; 2 brood sows; boars and sows, 4 and 5 months.  
Hood, G. B. .... Guelph ..... 20 pigs, both sexes, 4 weeks to 4 months.  
Howe, W. .... North Bruce ..... Boar and sow, 12 months; sow, 10 months; 8 boars and 4 sows, 6 and 7 months; young stock, both sexes.  
Russell, J. A. .... Precious Corners ..... 5 boars; 9 sows, 3 to 6 months; boar, 2 years.

### Chester Whites

Holdsworth, R. L. & Son ..... Port Hope ..... Aged boar.

## THE DOMINION CATTLE BREEDERS' ASSOCIATION.

### Ayrshires.

Caldwell Bros. .... Orchard ..... 3 yearling bulls; 4 calves, 1 to 4 months; 10 yearling heifers; 15 cows; 5 heifers, 2 years.  
Harcourt, J. T. .... Eglington ..... Bull calf, 6 months.  
Reid, R. & Co. .... Hintonburg ..... 2 yearling bulls; 7 bull calves.  
Willis, W. .... Newmarket ..... 2 bulls; cow, 5 years; heifers.  
Yuill, J. & Son ..... Carleton Place ..... Cows, all ages; 2 bulls, 1 and 2 years; 7 bull calves under 15 months; 12 heifers, 2 years; 22 heifer calves.

## Help Wanted.

A young man for mixed farming. Must be married. Yearly engagement to the right person. Apply A.F., this office. I

A working foreman. Must be able, willing, skilful and honest, and experienced in the care of live stock. Can supply a good house and garden. Would prefer a married man. Apply J.H.D., this office. 2

## Situations Wanted.

A young man, 26 years of age, reared on a well conducted live stock and grain farm, thoroughly understands the care of live stock and the management of field work, is a first rate plowman, a graduate of the Ontario Agricultural College, and unmarried, is anxious to obtain a situation as farm manager or working manager of a farm in Ontario, Manitoba, or the Canadian Northwest, where the work will be done thoroughly and well. Wages to commence with \$225 clear above board and washing. Apply W., this office. 2

Mr. H. D. Binkley, Dundas, Ont., wants a first-class farm hand. A married man preferred with a family of grown up boys, who must all be good workers. He wishes to engage such a person as soon as possible. I

Man wanted about November 1st; must be a good stockman; steady and reliable. Apply with particulars to this office. I

## Institute Memberships.

The following is a list of the Institutes from which names have been received since the last list published:

Algoma East .....	3
Carleton .....	2
Grey North .....	2
Haldimand .....	1
Parry Sound East .....	1
Peterboro' West .....	1
Port Carling and Bala .....	1
Prescott .....	1
St. Joseph Island .....	6
Welland .....	1
Wellington Centre .....	2



**Devons.**

Rudd, W. J. .... Eden Mills ..... Stock, both sexes, all ages.

**Shorthorns.**

Bonnycastle, F. & Son.... Campbellford..... 6 bull calves, 2 to 11 months; 10 heifer calves; 9 cows and heifers.  
 Brodie, G. A. .... Bethesda ..... 23 young bulls, 17 heifers.  
 Caldwell Bros ..... Orchard ..... Bull, 13 months.  
 Douglas, J. .... Caledonia ..... 11 bulls, 5 to 12 months; young cows and heifers.  
 Graham, H. C. .... Ailsa Craig ..... 5 young bulls.  
 Hawkshaw, W. S. & Son... Glanworth ..... Bull, 3½ years; bull, 5 months; 4 heifers, 6 months.  
 Hine, R. J. .... Dutton, Ont ..... 2 Shorthorn bulls, 8 months.  
 Holdsworth, R. L. & Son... Port Hope ..... Bull, 16 months; bull calves, 2 and 7 months.  
 Howden, J. D. .... Whitby ..... 2 bull calves, 11 months.  
 Jeffs, E. & Sons ..... Bond Head ..... Yearling bull; 6 bull calves; young cows; heifers and heifer calves.  
 Martindale, F. .... York ..... 8 bulls; three yearling bulls; 4 bull calves; bull, 3 years.  
 Milne, D. .... Ethel ..... 10 bulls, 8 to 14 months; cows and heifers.  
 Sibbald, F. C. .... Sutton West..... 45 head, including bulls, heifers and cows.  
 Smith, A. W. .... Maple Lodge ..... 12 young bulls; 10 cows and heifers.

**Guernseys.**

Caldwell Bros..... Orchard..... Bull, 5 months.

**Polled Angus.**

Varcoe, J. .... Carlow ..... 7 bull calves; aged bull; females, all ages.

**Herefords.**

Smith, H. D. .... Compton, Que..... Bull calves.....  
 Stone, A. .... Guelph..... 5 bulls, 15 to 22 months; cows, heifers and calves.

**December Meetings.**

It was expected that a list of the Institute meetings for December would appear in this issue, but it has been found impossible to get it ready in time. The list will appear in FARMING for Oct. 24.

**Raising Sheep for Mutton.**

Abridged for Canadian Readers.

(From Farmers' Bulletin, No. 96, issued by the United States Department of Agriculture.)

Sheep raising will return a satisfactory profit one year with another, independent of the price of wool, or nearly so, as it has been clearly demonstrated that it does not cost any more, if even as much, to produce a pound of mutton from good mutton sheep under average farm conditions than to produce a pound of beef, when the wool is left entirely out of consideration; and the wool always has some value; it seldom goes so low that well-bred mutton sheep will not yield a fleece worth from 75 cents to \$1.50.

Large numbers of sheep have been fattened annually in the grain-producing states the past few years, and many important truths and fundamental facts pertaining to this industry have been established. These all tend to place sheep raising on a more permanent basis. Practical feeders and farmers have found that there is no more profitable outlet for surplus grain products than in mutton production.

Many careful and scientific investigations have been conducted at the experiment stations, which also shed new light on the problem of sheep feeding.

The feeding records presented give the gains and cost of making a pound of mutton. The number of pounds of dry matter required for a pound of gain are also shown. The records of the first and second experiments are presented separately, and the average results of both experiments are included with the record of the second in order to furnish more complete data for comparison.

The investigation of this subject was taken up at the Iowa Experiment Station by Prof. C. F. Curtiss the director and agriculturist, when the depression in the sheep business had reached its lowest point. The primary object was to determine the relative economy of production and value of mutton and wool compared with other farm products, and incidentally to derive information concerning the demands of the market for these products and the adaptation of some of the leading breeds to meet the market requirements. The experiment planned for this purpose consisted in using ten carefully selected representatives each of ten of the leading breeds of sheep to be used in a feeding experiment covering a period of about one hundred days, taking the lambs at weaning time or soon afterwards, and finishing them for market in prime condition, carefully determining the cost of producing a pound of mutton from each breed and the average weight of fleece, and the value of both mutton and wool on the market. This was followed by a thorough and exhaustive slaughter and block test giving the weight and value of various parts of the carcasses, and a photograph of the leading cuts on the block. The investigation covered a period of two years in order to secure greater accuracy, and the results were found to be substantially uniform in the two trials.

The breeds included Southdown, Shropshire, Oxford, Suffolk, Lincoln, Leicester, Cotswold, Dorset, Merino, Merino and Shropshire cross, and Shropshire ewes. The first experiment covered a feeding period of ninety days and the second one hundred and six days.

In the second experiment, the Rambouillets were used instead of the National Delaine Merinos, in order to afford a comparison of another family of Merinos; and the Shropshire-Merino crossbreds were also omitted from the second experiment and a bunch of pure-bred Shropshire ewe lambs similar to the Shropshire wethers was

included for the purpose of comparing the feeding and mutton qualities of ewes and wethers of the same breed.

In computing the cost of grain the feeds used were estimated at the following prices, based on the commercial values prevailing in the local market during this investigation:

FEED.	First experiment.	Second experiment.
Bran.....per cwt.	\$0.40	\$0.35
Oats.....per cwt.	.40	.35
Shelled corn.....per cwt.	.28½	.20
Oil meal.....per cwt.	.90	.90
Hay.....per cwt.	.28	.20
Roots.....per cwt.	.05	.05
Cabbage.....per cwt.	....	.10

A full allowance of hay may be given with safety. Bran or other comparatively bulky feeds are well suited to starting sheep on feed, and for the same reason oats are safer than corn.

During the preliminary feeding period one pound of grain is a sufficient allowance for ten lambs daily; following this the grain ration may be increased to one-quarter of a pound per head, but it should not exceed one-half a pound for native-bred lambs at the end of thirty days. Range lambs will not eat more than one-third to one-half this amount with safety. Hay feeding alone without any grain is sometimes practised for the first thirty or sixty days in regions where alfalfa is abundant and of good quality, and quite satisfactory gains are thus obtained. It is a serious mistake to attempt to put lambs or sheep on the heavy grain rations suddenly, and one that not infrequently causes serious loss and permanent injury.

During the latter part of this experiment, the oats, shelled corn, and oil meal were increased and the lambs crowded to their full capacity. Some of the larger breeds consumed as much as 2¼ pounds of grain per head daily.

**COST OF PRODUCING MUTTON.**

The summary of the first experiment; with the lambs shows that. (See Table No. 1)—

One hundred and nine head consumed 34,501 pounds of feed (total dry matter) in ninety days and made a gain of 4,678 pounds.

Seven special mutton breeds consumed 23,792 pounds of feed and gained 3,281 pounds.

This gain is at the rate of one pound increase in live weight for each 7.37 pounds of feed (dry matter) by all breeds tested, and one pound for each 7.25 by seven special mutton breeds.

The record of the second experiment, as will be seen by reference to (Table No. 2) is hardly as uniform or as good as that of the first; the difference was attributed mainly to the interference caused by the stomach worms which seriously infested nearly all of the lambs at the beginning and to some extent throughout the experi-

ment. They were unusually severe throughout nearly all the sheep-raising states that year, more so than they have been at any time since, though they are annually the source of considerable loss to sheep raisers in the farming sections.

In the first experiment the increase in live weight was made at the cost of 2.93 cents per pound for all breeds, and 2.88 cents per pound for the seven special mutton breeds. This calculation allows the prevailing market price for grains, but does not take the fleece, the labor, or the value of the manure into account. In the second experiment the cost was increased for all breeds to 3.04 cents, owing to the difficulties previously mentioned; but notwithstanding this, the increase in live weight was made at considerably less than the market price of mutton in both cases, as will be seen by the following record of sales:

WEIGHTS AND SELLING PRICE PER HUNDRED WEIGHT OF THE LAMBS.

Breed.	First experiment.		Second experiment.	
	W'ht. lbs.	Price.	W'ht. lbs.	Price.
Southdown.....	125	\$4 75	102.4	\$5 75
Shropshire.....	135	4 62½	126	5 60
Oxford.....	155	4 50	136.7	5 40
Suffolk.....	159	4 25	134.4	5 00
Lincoln.....	158	4 50	143.5	5 25
Leicester.....	167	4 50	133	5 25
Cotswold.....	161	4 50	138.4	5 25
Dorset.....	138	3 75	128.3	5 50
Merino.....	99	4 25	113.3	5 00
Shropshire-Merino cross-bred.....	111	4 50	.....	.....
Shropshire ewes.....	.....	.....	100	5 65

The price of grain feeds during this experiment was somewhat lower than is common in many of the grain-producing states, although the cost of producing mutton at average prices of grain will seldom be found above the market value, even when the value of the fleece is not taken into account. In the first experiment the lambs were shorn before they were marketed, and the following table presents a record of the average weights and values of the fleeces from each breed: (See Table No. 3.)

The lambs were considerably younger in the second experiment, and the fleeces were correspondingly lighter. The estimated value of the wool on the lambs in the second experiment was reported by a firm who are leading wool commission merchants of Chicago, as follows:

Dear Sir,—At your request we carefully inspected the ten different lots of your sheep at the Union Stock Yards, this city, with a view of ascertaining as nearly as possible to-day's market value of the wool. While it is a little out of our line to examine wool on the sheep's back, we exercised our very best judgment and give you below the result of our careful inspection.

We place the value on to-day's market of the Southdown wool, which we class in a general way as medium, at 14 cents.

The Lincoln wool would be classed as common combing, and worth 15 cents.

The Leicester wool we also classed as common combing, value 15 cents.

The Shropshire, low medium, value 14 cents.

The Oxford, low medium and quarter-blood, value 14½ cents.

NO. 1. FEEDING RECORD FOR ALL BREEDS IN FIRST EXPERIMENT.

		Total gain. Pounds.	Pds. of dry matter per pd. of gain (average).*	Total cost of feed.	Cost of feed gain (av'g.) per pd. of Cents.
10 Southdown lambs.....	{ January....	135	7.04	\$ 3.73	2.8
	{ February....	125	7.95	3.97	3.18
	{ March.....	145.5	7.21	4.14	2.48
Southdown totals and averages.....		405.5	7.38	11.84	2.93
10 Shropshire lambs.....	{ January....	123	7.78	3.78	3.7
	{ February....	136	7.57	4.14	3.4
	{ March.....	170.5	6.43	4.45	2.61
Shropshire totals and averages.....		429.5	7.18	12 37	2.88
10 Oxford lambs.....	{ January....	167	6.72	4.42	2.64
	{ February....	131	9.12	4.79	3.66
	{ March.....	174.5	7.38	5.10	2.92
Oxford totals and averages.....		472.5	7.40	14.31	3.03
10 Suffolk lambs.....	{ January....	181	6.32	4.55	2.51
	{ February....	143	8.56	4.91	3.43
	{ March.....	172.5	7.55	5.20	3.01
Suffolk totals and averages.....		496.5	7.40	14.66	2.95
10 Lincoln lambs.....	{ January....	142	7.99	4.45	3.13
	{ February....	155	7.81	4.83	3.12
	{ March.....	202.5	6.40	5.19	2.55
Lincoln totals and averages.....		499.5	7.29	14.47	2.89
9 Leicester lambs.....	{ January....	88	10.47	3.63	4.12
	{ February....	160	6.74	4.30	2.70
	{ March.....	176	6.68	4.62	2.62
Leicester totals and averages.....		424	7.49	12 55	2.93
10 Cotswold lambs.....	{ January....	155	7.32	4.45	2.87
	{ February....	183	6.62	4.84	2.64
	{ March.....	218.5	5.90	5.20	2.38
Cotswold totals and averages.....		556.5	6.53	14.49	2.60
10 Dorset lambs.....	{ January....	128	8.64	4.32	3.37
	{ February....	130	8.85	4.30	3.31
	{ March.....	178	6.55	4.69	2.64
Dorset totals and averages.....		436	7.85	13.31	3.05
10 Merino lambs.....	{ January....	102	8.83	3.58	3.51
	{ February....	104	7.72	3.30	3.17
	{ March.....	52	13.62	2.88	5.54
Merino totals and averages.....		258	9.35	9.76	3.78
10 crossbred lambs.....	{ January....	132	6.93	3.36	2.75
	{ February....	107	7.61	3.34	3.12
	{ March.....	131	6.61	3.49	2.66
Crossbred totals and averages.....		370	7.02	10.46	2.82
10 range lambs.....	{ January....	78	9.80	2.97	3.38
	{ February....	131	5.73	3.00	2.29
	{ March.....	124	6.14	3.05	2.46
Range totals and averages.....		333	6.84	9.02	2.71
Grand total, all breeds.....		4,678	7.37	\$137.24	2.93
Grand total, first seven breeds.....		3,281	7.25	\$ 94.69	2.88

\*The food consisted of corn, oats, bran, oil meal, turnips, mangels, clover hay, pea hay, and timothy hay.

The Suffolk, medium, value 14½ cents.  
 The Shropshire ewe lamb, value 14½ cents.  
 The Dorset, medium, value 14 cents.  
 The Cotswold, combing, value 15 cents.  
 The French merino, value 11 cents.

Without doubt, if the wool had been shorn and all passed over the grading board in our lofts, some individual fleeces from the different lots would be worth more or less than the prices given above. We, however, tried to make the average as near right as possible.

Trusting the same will meet with your approval, and hoping that the experiments

which have been conducted by you will prove to be a benefit to the sheep growers of the West, we beg to remain, Yours truly,

This lot of lambs was not shown before marketing, but was examined at the yards by experts, and the weight of fleece obtained by deducting from the weight of the pelts the estimated weight of the skins based on the slaughter test of the same breeds in the previous ex-

TABLE NO. 2—FEEDING RECORD FOR ALL BREEDS IN SECOND EXPERIMENT AND SUMMARY OF BOTH EXPERIMENTS.

	Total gain. Pounds.	Pounds of dry matter per pound of gain (average).	Total cost of feed.	Cost of feed per pound of gain (average). Cents.
10 Southdown lambs.....	{ Sept. 16 to 30. 55 October..... 127 November..... 89 December..... 107	{ 7.94 8.37 11.75 11.12	{ \$1 27 3 69 3 56 3 28	{ 2.30 2.98 4.00 3.07
Southdown totals and averages.....	378	9.93	11 80	3.12
10 Southdown lambs, first experiment.....	405.5	7.88	11 84	2.93
Summary for the breed, both experiments....	783.5	8.59	23 64	3.02
9 Shropshire lambs.....	{ Sept. 16 to 30. 59 October..... 123 November..... 82 December..... 80	{ 6.77 8.71 12.51 13.21	{ 1 05 3 44 3 33 3 20	{ 1.83 2.80 4.06 3.99
Shropshire totals and averages.....	344	10.26	11 05	3.21
10 Shropshire lambs, first experiment.....	429.5	7.18	12 37	2.88
Summary for the breed, both experiments....	773.5	8.54	23 42	3.02
9 Oxford lambs.....	{ Sept. 16 to 30. 55 October..... 148 November..... 80 December..... 104	{ 8.66 8.04 14.45 11.21	{ 1 46 3 89 3 71 3 51	{ 2.67 2.73 4.63 3 38
Oxford totals and averages.....	387	10.31	12 57	3.22
10 Oxford lambs, first experiment.....	472.5	7.40	14 31	3.03
Summary for the breed, both experiments....	859.5	8.83	26 88	3.13
9 Suffolk lambs.....	{ Sept. 16 to 30. 63 October..... 132 November..... 105 December..... 85	{ 8.05 9.10 10.44 13.78	{ 1 98 4 00 3 77 3 50	{ 3.15 3.03 3.59 4.12
Suffolk totals and averages.....	385	10.36	13 25	3.44
10 Suffolk lambs, first experiment.....	496.5	7.40	14 66	2.95
Summary for the breed, both experiments....	881.5	8.67	27 91	3.16
9 Lincoln lambs.....	{ Sept. 16 to 30. 73 October..... 160 November..... 104 December..... 107	{ 6.67 7.44 11.30 11.05	{ 1 39 3 98 3 77 3 57	{ 1.90 2.48 3.62 3.33
Lincoln totals and averages.....	444	9.11	12 71	2.86
10 Lincoln lambs, first experiment.....	499.5	7.29	14 47	2 89
Summary for the breed, both experiments....	943.5	8.03	27 18	2.88
9 Leicester lambs.....	{ Sept. 16 to 30. 54 October..... 163 November..... 93 December..... 105	{ 7 7.30 11.50 11.41	{ 1 45 3 88 3 52 3 63	{ 2.26 2.31 3.78 3.45
Leicester totals and averages.....	425	9.34	12 48	2.93
9 Leicester lambs, first experiment.....	424	7.49	12 55	2.93
Summary for the breed, both experiments....	849	8.42	25 03	2.93
9 Cotswold lambs.....	{ Sept. 16 to 30. 85 October..... 177 November..... 96 December..... 121	{ 5.43 6.79 12.16 10.74	{ 1 33 4 00 3 75 3 62	{ 1.56 2.21 3.90 2.99
Cotswold totals and averages.....	479	8.48	12 70	2.65
10 Cotswold lambs, first experiment.....	556.5	6.53	14 49	2.60
Summary for the breed, both experiments....	1,035.5	7.45	27 19	2.62
9 Dorset lambs.....	{ Sept. 16 to 30. 70 October..... 144 November..... 90 December..... 110	{ 7.34 8.70 12.33 11.07	{ 1 41 4 05 3 66 3 49	{ 2.00 2 81 4.05 3.17
Dorset totals and averages.....	414	9.80	12 61	3.04
10 Dorset lambs, first experiment.....	436	7.85	13 31	3.05
Summary for the breed, both experiments....	850	8.84	25 92	3.05
8 Rambouillet lambs.....	{ Sept. 19 to 30. 47 October..... 122 November..... 74 December..... 59	{ 7.16 7.69 12.60 15.75	{ 1 12 2 94 2 63 2 59	{ 1.96 2.41 3.55 4.39

periment. This doubtless was approximately accurate.

RELATIVE COST OF PRODUCING MUTTON AND BEEF.

The gains made in each experiment were, all things considered, quite satisfactory, and compare favorably with results in beef production. A carload of choice Hereford cattle coming two-years-old was fattened during the same winter that the first lamb experiment was conducted. These were finished and put on the market at the same time as the lambs. The record made by these cattle was fairly representative of the best work in cattle feeding at that age, and it was found that they required an average of 8.9 pounds of dry matter for each pound of increase in live weight.

A summary of results published by the Ohio Experiment Station,\* compiled from experiments conducted with a large number of cattle at various stations in the United States, gives the average number of pounds dry matter per pound of increase in live weight at 10.24, and a recently published report of the work of Lawes and Gilbert,† gives 11 pounds for cattle and 9 pounds for sheep. The better results obtained at the Iowa station in this experiment are doubtless largely due to the fact that younger animals were used. The conditions for comparison appear fair, however, as both the cattle and sheep were finished at a comparatively early age. This indicates that a pound of mutton can be made on lambs at less expenditure for feed than is required to produce a pound of beef on cattle at the ordinary age of finishing for market.

FEED CONSUMED PER 1000 POUNDS LIVE WEIGHT.

It is sometimes asserted that cattle and sheep require the same amount of feed per thousand pounds of live weight. This statement seems not to be well founded. In the experiments referred to, the cattle consumed 19.6 pounds of dry matter per thousand pounds of live weight, against an average of 29.07 by the sheep. Both sheep and cattle were on full feed. The sheep made a daily gain of 3.73 pounds per thousand pounds live weight, and the cattle 2.14. In summing up this comparison, we find that while the sheep ate 48 per cent. more than the cattle, they also gained nearly 75 per cent. more.

ADVANTAGES OF FINISHING AT AN EARLY AGE.

With older sheep, a larger amount of feed is required in proportion to increase in live weight. This was quite clearly demonstrated in the experiment conducted by the Iowa Stations‡

\* Bulletin No. 60, Ohio Station, by Thorne & Hickman.

† *Farmers' Gazette*, Dublin, Ireland.

‡ Bulletin No. 33, Iowa Station.

TABLE NO. 2—Continued.

Rambouillet totals and averages . . . . .	312	10.29	9.28	2.91	
10 Delaine lambs, first experiment . . . . .	258	9.35	9.76	3.78	
Summary for the Merinos, both experiments . . . . .	570	9.85	19.04	3.34	
Grand total, all breeds, second experiment . . . . .	3,568	9.67	108.45	3.04	
Grand total, first 7 breeds, second experiment . . . . .	2,842	9.58	86.56	3.04	
Grand total, first 7 breeds, first experiment . . . . .	3,281	7.25	94.69	2.88	
Grand total, first 7 breeds, both experiments . . . . .	6,123	8.33	181.25	2.96	
Grand total, all breeds, both experiments . . . . .	8,246	8.38	245.69	2.97	
10 Shropshire ewes, second experiment . . . . .	Sept. 16 to 30 . . . . .	72	5.96	1.21	1.69
	October . . . . .	102	9.94	3.42	3.34
	November . . . . .	77	12.41	3.09	4.03
	December . . . . .	82	12.57	2.89	3.52
Shropshire ewes, totals and averages . . . . .	323	10.30	10.61	3.18	

NO. 3. WEIGHTS AND VALUE OF THE FLEECES.

Breed.	Date of shearing.	Average age of fleece.	Average weight of fleece.	Value per pound in natural condition.	Per cent. shrinkage in scouring.	Value per pound in scoured condition.	Value of fleece per head.
		Days.		Cts.		Cts.	
10 Southdown lambs . . . . .	Mar. 23	366	6.75	11½	54¼	26	*8.75
10 Shropshire lambs . . . . .	Mar. 23	363	8.75	11	56¼	25	.98
10 Oxford lambs . . . . .	Mar. 21-23	365	10.95	12¾	47	24	1.44
10 Suffolk lambs . . . . .	Mar. 21	383	7.65	11	54¼	24	.76
10 Lincoln lambs . . . . .	Mar. 17-20	332	12.85	13¾	40	23	1.79
9 Leicester lambs . . . . .	Mar. 18-20	348	11.55	14¾	38½	24	1.76
10 Cotswold lambs . . . . .	Mar. 17-20	334	12.65	13	43⅓	23	1.76
10 Dorset lambs . . . . .	Mar. 18-20	355	6.825	10¾	55¼	24	.77
10 Merino lambs . . . . .	Mar. 18-20	359	9.9	9¾	67½	30	1.00
10 crossbred lambs . . . . .	Mar. 18-20	334	7.5	11¾	53	25	.90
10 range lambs . . . . .	Mar. 20-21	321	5.125	12½	48	24	.67
10 Shropshire yearlings . . . . .	Mar. 21	313	10.5	12¾	49	24	1.34

\* The values in this column are obtained by dividing the value of wool from each breed by the number of sheep. The Chicago weights varied a little from the home weights taken at date of shearing.

NO. 4. FEEDING OF LAMBS AND YEARLINGS COMPARED.

Breed.	Month	Mixed grain. Pounds.	Roots. Pounds.	Hay. Pounds.	Total gain. Pounds.	Average gain per head daily. Pounds.	Total dry matter. Pounds.	Pounds of dry matter per pound of gain. (average.)	Total cost of feed.	Cost of feed per pound of gain (average.) Cents.
10 Shropshire lambs . . . . .	Jan. . . . .	595	279	464	123	.39	957.7	7.78	\$3.78	3.7
	Feb. . . . .	648	269	495	136	.46	1,030.4	7.57	4.14	3.4
	Mar. . . . .	681	234	504	170.5	.56	1,093.6	6.43	4.45	2.61
Totals and averages . . . . .		1,924	782	1,523	429.5	.48	3,081.7	7.18	12.37	2.88
5 Shropshire yearlings . . . . .	Jan. . . . .	403	186	250	59	.34	594.3	10.07	2.38	4
	Feb. . . . .	362	174	216	38	.26	527.4	13.88	2.16	5.7
	Mar. . . . .	340	136	233	52.5	.35	516.6	9.93	2.10	4
Totals and averages . . . . .		1,105	496	699	149.5	.33	1,638.3	11	6.64	4.44

in which the cost of producing gain on pure-bred Shropshire wethers and lambs under the same conditions and on the same rations were compared. See Table No. 4.

It will be seen that it costs 56 per cent. more to produce gain on yearlings than on lambs of the same breed; perhaps this difference is somewhat greater than would ordinarily occur on account of the wethers being somewhat fatter at the beginning of the experiment than the lambs, although the comparison from month to month shows a wide difference in each case. It always costs proportionately less to make gains on young animals than on older ones.

LAMBS PREFERRED IN THE MARKET.

The market also favors the younger animals. In this case the yearlings sold for \$4.25 per hundred, live weight, and the lambs for \$4.75 on the same market, a difference of 10 per cent. in favor of the lambs. On this account it is generally more profitable to finish sheep for market under one year of age than to hold them longer unless an abundance of cheap feed is available, as is the case where lands are cheap or free range accessible.

In the slaughter test the lambs dressed the following percentages of net carcasses to live weight:

PERCENTAGES OF YIELD OF DRESSED MUTTON.

Breed.	First experiment.	Second experiment.
Southdown . . . . .	55.4	55.26
Shropshire . . . . .	56.3	52.88
Oxford . . . . .	55.2	50.08
Suffolk . . . . .	53.6	52.54
Lincoln . . . . .	55.7	51.08
Leicester . . . . .	57.8	51.87
Cotswold . . . . .	54.9	53.57
Dorset . . . . .	52.6	34.11
Merino . . . . .	51.8	49.57
Crossbred . . . . .	53.7	....

The Shropshire yearlings fed in comparison with the Shropshire lambs dressed 62.3 per cent.

The details of the slaughter test of lambs in the first experiment made by Swift & Co., of Chicago, are shown in the following tables, giving the weight and percentage of each part:

METHOD OF CUTTING MUTTON.

The method of cutting a carcass is shown in the accompanying diagram, and the prices given for the several cuts are based upon the Chicago market for prime mutton at the time of this experiment.

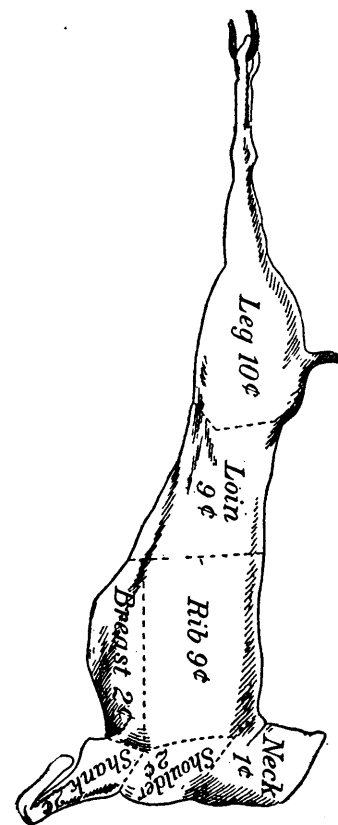


Diagram showing cuts of mutton.

The weights and values given below for the several cuts are the averages made by the seven special mutton breeds in the first experiment.

Leg, 22.2 pounds, at 10 cts. . . . .	\$2.22
Loin, 17.5 pounds, at 9 cts. . . . .	1.57
Rib, 14.5 pounds, at 9 cts. . . . .	1.30
Chuck,* 19.8 pounds, at 1½ cts. . . . .	.34

\$5.43

\* The chuck consists of the breast, shank, shoulder and neck.

# The Farm Home

## Information Wanted.

By way of opening up a discussion that we think will be very helpful to all concerned, we would like to have as many short articles as possible from the readers of these pages dealing with the following topics. Contributors can write on any one or all of the subjects as they see fit :

- (1) How can the long winter evenings in the farm home be most profitably spent ?
- (2) What are your ideas as to entertainment for young people in the country ?
- (3) What would be the best plan for arranging a reading circle in the farm home, so that every member of it who could read could take part ?

## How Can the Long Winter Evenings in the Farm Home be Most Profitably Spent ?

To the Editor of FARMING :

This question merits our closest attention, especially at this time of year, when days are short and nights are long. It is of peculiar interest, it seems to me, to the young in this age of so much competition in all the circles of life. The farmer, as well as any other being, should have a liberal education. The world demands youth abreast of the times—lofty in thought, pure in mind, active in duty, as well as strong in body. Youth whose highest ideal is not to amass the glittering stuff we call gold, but one, whose noblest aspirations is to become a strong pillar of truth, and virtue, and honesty ; one who has a wide-awake appreciation of a highly mental, moral and physical character, the foundation of a permanent great nation, and the true basis of national happiness ; not one whose highest ambition is the acquisition of the "gold that gilds the straitened forehead of the fool."

The poet is wise who sings :

"The riches of a commonwealth  
Are free strong hands and hearts of health,  
And more to her than gold and grain  
Are the cunning hand, the cultured brain."

Of course, the occupation of farming gives ample physical development at any time of the year, but the busy seasons of spring, summer, and part of fall, forbid those engaged in this pursuit from spending much time at other employments. After a toilsome day's work, the best friend is "innocent sleep." However, when the long nights of winter visit us, there is given ample opportunity for the development of youthful talents to those who fain would grasp it.

The question of how to spend profitably the precious moments of spare time, is a broad one. The girls and young ladies perhaps would prefer to be engaged in fancy work, or to spend their leisure moments in working

artistic designs, or in the mastering of the musical art. Fancy work, the work of art, and musical culture, all are laudable and profitable employments. By all means, give these pursuits their proper worth, because they are potent agencies for the development of the finer tastes of their character. Beyond this fact there lies the truth that they afford pleasure and entertainment, which is a fine sauce to the daily routine of duty. The longings of the young men and boys somewhat differ from these. You may find them spending their evenings with the checker board and gaining knowledge of some kind; a few perchance about the fire gossip, ridiculing some poor innocent, or manufacturing some kind of fabrications to circulate abroad. A few, then, you will find poring over the weekly journals and papers, and some whom the demands of society prevent from spending many evenings at home. However the evening is spent, in any of these different ways, they have their influence and leave their indelible impress upon their character, shaping their destiny for weal or for woe.

All must admit youth to be the most crucial period in life. It is the forks of the road. It is the pivot on which our fate turns. What a man is at twenty you will likely find him at forty. He moulds his own character and shapes his own end. He is the artificer of his own mind, and life, and character and manhood. He sways over his passions, his lusts and will, or is swayed by them. How necessary then to build on virtue, for "virtue alone outbuilds the Pyramids ; her monuments shall last when Egypt's fall." The poet gives a wise imperative when he says :

"Build strong the firm foundations of  
Thy character ; build on the eternal  
Rock ! all else is movable as desert  
Sands. Build high ! Beyond the clouds  
The sun : beyond  
The sun, thy temple's dome shall rise."

One means of profitable expenditure of our evenings is by systematic home reading. Home reading furnishes the only means of extending education beyond the school and of making self-culture a habit in life. It is only by the reading of books (and good biography and history especially) and the study of the wisdom of mankind, that the child or youth may acquire knowledge of real life and be made a participator in the results of the experience of our race. "The study of literature," Cicero says, "nourishes youth, entertains old age, adorns prosperity, solaces adversity, is delightful at home and unobtrusive abroad, deserts us not by day or night in journeying nor in retirement." We can form but a slight conception of the influence of books. Very few of us have

the privilege of personal contact with great writers, but all of us, through books, have the exalted privilege of their inspiration by reading their works. When we think of the effect of Mrs. Stowe's "Uncle Tom's Cabin" on the slave holding in the United States, of the revolution among schools and schoolmasters in England resulting from the circulation of Dickens' "Nicholas Nickleby," or of the adventurous spirit which prompted young men to resort to the remote borders of civilization, taught by reading Defoe's "Robinson Crusoe," we are truly convinced of the potent influence of a great book.

But the great obstacle which lies in the way of rural communities obtaining suitable reading, is a scarcity of suitable books, or perhaps an unfavorable situation to a public library. Those favorably situated to a library can easily avail themselves of the opportunity of obtaining readable literature. The lenient rules of most libraries allow one to take out enough books to last a week. But where this state of affairs does not exist, the question arises, "Where shall we get books to read?" Some one might suggest a way out of the difficulty by buying books for your own household. Notwithstanding that our literature is on the whole, cheap, yet no one household feels that it has the means of purchasing a library for itself. If you would allow me to make a suggestion in this line, I would say a solution of the problem would be found in the establishment of public school libraries. Public schools are convenient to all, and access may be had to them, at least five days in the week. Let the section, "en masse" shoulder the expense of equipping a library and, if many sections would take advantage of the scheme, exchange libraries for a time. Good, wholesome books in the hands of the youth would greatly increase the efficiency of our education. They would nourish for themselves a taste for good literature, and this would be a strong fortification against the effects of bad literature. This I think, would be a laudable scheme, and would merit the honorable appreciation of all wise rate-payers. This, would furnish a reading circle for every farm home in the section at a minimum cost.

D. H. MARSHALL.  
Snelgrove, Ont., Oct. 10th, 1899.

We are in the midst of important changes in political issues and parties, and social and industrial conditions, and it is felt that a frank and friendly interchange of opinion on the part of thoughtful and serious men may lead to united and efficient action and important directions.—*Selected.*

## The Thanksgiving Dinner.

By Megyra.

This holiday has been set so much earlier than last year that we will be compelled, as the boys say, "to get a move on" if we have our turkey fattened for the occasion.

A few years ago when money was so very scarce, an American journal offered ten dollars in prizes for a menu for ten persons, suitable for a "Hard Times Thanksgiving Dinner," in which farm-grown provisions should be used when possible. Turkey being considered too expensive was debarred from taking a place on the table. In the dinner which was awarded first prize the roast was "a sucking pig," which at that time when pigs were worth about two dollars each, would more than pay for a turkey sufficiently large for ten persons.

The second prize dinner consisted of thirty-eight dishes. Among them were oyster pie and many kinds of cakes and sauces, which were at least extravagant in the time of the housekeeper and were expensive enough to bring on hard times.

It will then be understood how impossible it is to give a menu that will be suitable for all housekeepers and to meet the requirements of all farm tables.

One can scarcely see in what manner we show our thanks when eating a better meal than usual. Yet it is a good plan to have some extras for all holidays, which should form bright spots in our busy lives. Days to be filled with pleasure to which we can look back and also to which we look forward.

It is a holiday from school for the children, and I hope on this pleasant October day the boys and girls will not have to spend all of it in picking apples or potatoes. A few hours in the morning might be spent in the woods picking nuts and in the pastures picking mushrooms, both of which add to the abundance of the dinner and to the pleasure of the holiday.

Unless there are plenty of cooks it is not well to prepare a very elaborate dinner, and very many fewer than thirty-eight dishes will be enough. Many of them should be prepared the previous day so that this will be a holiday also for the women.

The roast, be it turkey, goose, duck, chicken, or even sucking pig, which is cheap this year, may be previously stuffed, and probably each housekeeper has her favorite dressing. Mine for turkey and chicken is of bread, dry, crumbled very fine, seasoned with salt, pepper, sage or savory, and onions, with a generous lump of butter. The men prefer the addition of a cupful of raisins and currants. These, I believe, add to its digestibility. For goose or duck I use half the quantity of mashed potatoes. With the latter apple, and with the former cranberry, sauce, are the correct relishes. Where cranberries do not grow, currants, gooseberries, or even the old favorite Chili sauce, will be found quite as acceptable.

Though Mrs. Rorer objects to pie, it is much more easily digested, if the paste is made with sweet cream and a little baking powder instead of, what was at one time considered indispensable for pie crust, viz., lard, which is the hardest of all fats to digest. It would scarcely be a complete Thanksgiving dinner without pumpkin pie. Each housekeeper has a recipe of her own for its preparation, and no doubt each is equally good. Instead of rich cakes and puddings, which may cause us next day to wonder if we ever had anything to be thankful for, I would substitute as great a variety as possible of raw fruits and nuts, of which we have a wealth in Canada, a different kind for each locality. I have gathered beech, hickory, butternuts, hazel, walnuts, and chestnuts, all growing wild. There may be others.

The following will be found a sufficiently elaborate bill of fare, which may be varied to suit each housekeeper. And it contains no injurious dishes, the cabbage in salad being uncooked, all the ingredients being found on our own farms:

### THANKSGIVING MENU.

	Tomato soup.		
Roast turkey.		Currant jelly.	
Mashed potatoes.		Stewed mushrooms.	
		Celery.	
Cabbage salad.		Chili sauce.	
	Bread.	Butter.	
Canned strawberries.		Whipped cream.	
		Pumpkin pie.	
Fruits.		Nuts.	
		Milk.	

### Winter Decoration.

"Crimson and grey and gold,  
Enchantment to the eye,  
Some artist saint spilt all his paint  
Adown the western sky."

One cannot help but think when looking at the various autumn tints that another "artist saint" has upset his paint pot over our forests.

I am afraid in our hurry and worry we do not notice and appreciate to the full the varying beauties of nature.

A letter I received this week prompts me to send this communication to your paper. My friend wrote: "The beautiful maple leaves make me think of you every day. I remember how pretty your rooms looked last winter decorated with these leaves, and I have been wondering how you fixed them so that they kept their color and did not dry up. Would you please tell me?"

I must say our parlors did look pretty. Around the rooms between the picture moulding and ceiling I had an eighteen inch border of maple leaves, small branches lightly fastened to the wall with tacks. Then besides, wherever space allowed, were vertical pan-

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**GALVANIZED ROLLER BEARINGS**

20<sup>TH</sup> CENTURY

MY! WHAT A COMFORT THAT BRANTFORD MILL IS

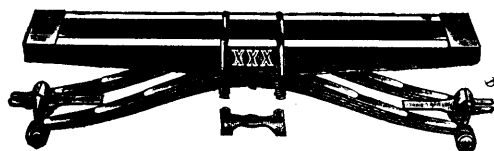
**OLD SHAPLEY & SMUIR CO. LIMITED** BRANTFORD, CAN.

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### "XXX" Bolster Springs

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els of leaves, fastened in like manner. One cannot conceive of the effect without seeing the decoration.

My method of preserving the leaves is so simple that any one may have it.

I pick small branches of the maple leaves not forgetting to gather plenty of green, and yellow as well as crimson ones.

I lift up the rugs on the floor, arrange the branches on the carpet, then carefully lay down the rugs again. Next morning I see if the leaves are all straight and let them remain until thoroughly dry. It does not matter if they are trodden on. I keep the pressed leaves in a very large pasteboard box until the festive season comes around. Their great charm is their bright beauty, their lasting qualities (ours were up from Christmas until Easter) and their freedom from litter.

LAURA ROSE.

Guelph, Oct. 11th, 1899.

### One Too Many.

A couple of tourists who were journeying on horseback in the rural district of the South had ridden many miles when they came to a small log cabin, out of which children of all sizes and ages came swarming like bees from a hive.

The tourists were tired and ravenously hungry. Hailing an old negro at the cabin gate they told him that they had come to take dinner with him.

"Yo' is welcum, gemmen!" he said. "I ain't got much ter eat, but I'll do the ve'y bes' I kin for yo', gemmen."

Then, raising his voice to a shrill yell, he said:

"Hi yo', Judas Iscariot, yo' run catch a chicken fas' ez yo' laigs kin carry yo'."

"What do you call that boy?" asked one of the tourists.

"Judas Iscariot, sah."

"What did you ever give him such a name as that for?"

"Dat's a Bible name, sah, an' it has a meanin'. All de Bible names has a meanin', sah. Ise got fo'teen, en dey's all got Bible names, caze de Bible names has a meanin' sah."

"What is the meaning of Judas Iscariot?"

The old man was very reticent about giving further information, and it required a good deal of persuasion before he finally said:

"Well, I'll tell yo', sah. Hit's like dis: Yo see I'd had fo'teen chillun befo' Judas Iscariot was bawn, an' fo'teen chillun is a mighty big fam'ly fo' a po' man to raise en keer fo', thout habin' no mo', so when Judas Iscariot came erlong I gib 'im dat name caze you know de Bible hit says it'd be bettah fo' Judas Iscariot he'd nebbah been bawn."—*Detroit Free Press.*

There is a poor class of people who can do everything for the fortune of others without being able to do anything for themselves—Aladdins who allow their lamps to be borrowed.—*Balzac.*

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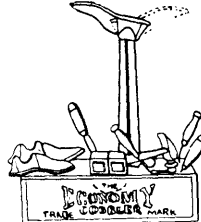
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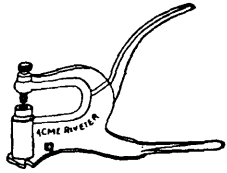
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### Farming Late This Week

**FARMING** will not reach subscribers at the usual time this week. There has been a strike on in our press-room, which has made it impossible to get the paper out in time. Everything, however, will be satisfactorily settled before next issue. This is a case where a strike directly affects the farmer.

### Trade With Britain.

The following statistics show the chief increases and decreases in the British imports from Canada for the first nine months of the present year. Increases: Sheep, £33,500; wheat, £353,500; wheat flour, £266,000; hams, £59,000; butter, £449,000; cheese, £148,000; sawn wood, £260,000. The chief decreases are: Peas, £103,000; maize, £279,000; bacon, £222,000; eggs, £41,000; fish, £208,000; hewn wood, £13,000; animals, £50,000.

### Entomological Society.

The Ontario Entomological Society held its annual meeting last week at London. There was a good attendance of members, and some very important topics of interest to the agriculturist were discussed. The principal speakers were: Prof. Webster, of Ohio; Dr. Fletcher, of Ottawa; and Prof. Lockhead, of Guelph. A committee was appointed to make suggestions to the Ontario Government as to the best method of waging war upon the San Jose Scale. The following officers were elected for the coming year: President, Rev. Dr. Fyles, Quebec; vice-president, Prof. Lockhead; secretary, W. E. Saunders, London; treasurer, J. A. Balkwill, London; district directors, (1) W. H. Harrington, Ottawa; (2) J. D. Evans, Trenton; (3) James Johnston, Bartonville; (4) R. W. Rennie, London; librarian, J. A. Moffat; and editor *Canadian Entomologist*, Rev. Dr. Bethune, London.

# "ALPHA" DE LAVAL CREAM SEPARATORS MISREPRESENTED

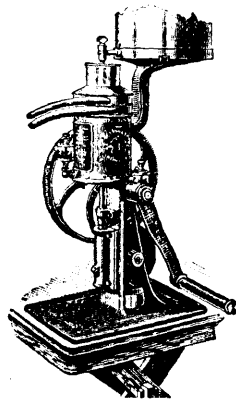
AT MARKHAM, ONT.

WE publish for the benefit of our patrons a full report of this test, which is an overwhelming refutation in every particular of the statements as published in the *Markham Economist* of July 6th, 1899.

### Cream Separator Test

As cream separators are claiming considerable attention just now, it is with pleasure we note a very interesting contest which took place at the farm of T. Weir, Esq., Scarborough,

between the "Alpha de Laval," represented by Messrs. Lindback & Carscadden of Toronto, and the National by M. Stonehouse, of this place, and T. C. Rogers, of Guelph, later Instructor at the O. A. C. Dairy School for the past eight years. Mr. Weir operated both machines and a given weight of milk run through each. The test of skimming was made by the Babcock Tester, the pounds of butter fat being practically the same in both separators. The National, however, was the easier to turn, although putting through seventy-five pounds per hour more milk, and seems in many other ways to have advantages which make it superior and more practical separators for farmers than the De Laval. One strong point in favor of the National is its home manufacture, being made in Guelph, by the old and reliable Raymond Mfg. Co., the De Laval, we understand, being partly made in Denmark and finished at New York, which besides being a foreign machine, is much dearer in price. Judging from appearances, simplicity of construction, easy cleaning, etc., seems to be much in favor of the home machine. Mr. Stonehouse, the agent of them, is not only an experienced, practical dairyman and buttermaker, well known here, but has used a separator for quite a number of years.—*The Markham Economist*, July 6th, 1899.



BABY ALPHA

MARKHAM, Sept. 22, '99.

To The Canadian Dairy Supply Co.,  
Gentlemen,— Montreal, Que.

Hearing the various reports given out by the agents of the National Separator Co., of Guelph, Ont., saying that they have beaten the "Alpha" De Laval in a test at my place which was run June 27th, 1899, in justice to the "Alpha" Baby No. 1, I will give you the following facts relative to this contest:

Prof. Rogers of Guelph, was present, representing the "National," and C. R. Lindback of Montreal, representing the "Alpha." I had on trial the "National" Separator, advertised capacity 333 pounds per hour, and "Alpha" Baby No. 1, 300 pounds per hour. It was agreed by both parties that I would turn both machines. This is the result of test:

Machine.	Amt. skim- med per hour.	Speed of ma- chine per minute.	Butter fat in sk. milk.	Density of cream.
Alpha	330	6000 to 6500	.04	38.80
National	330	9000	.07	34.20

By this can be seen that the "ALPHA" beat the National in all points, running a heavier cream, running above advertised capacity, skimming closer and running at much less speed.

We made a test of skim milk from "Alpha" Baby No. 1, which I had skimmed the evening before and we found it tested .02, showing the variance in speed caused the difference .02 in next day's test.

We run milk through "Alpha" first, and I being slightly nervous at start, I ran it at uneven speed, while the "National" was run 55 turns all through the run. I'll say further in justice to the "Alpha" that from the time it was placed on my farm I never had any trouble with it, while the "National" did not work satisfactorily different times, and Mr. Rogers also had to change his bowl before the test.

As result of the test I have bought the "Alpha" No. 1, and am running it right along, and am pleased to say it is giving entire satisfaction.

Yours truly,  
THOS. WEIR.

P.S.—Also one of the reasons I bought the "Alpha" it was much stronger built and therefore much more durable.

We honestly believe that Alpha De Laval Cream Separators are superior to any separators sold in Canada. They do their work perfectly, require less power, do not get out of order, anybody can operate them.

Please ask for particulars.

**The Canadian Dairy Supply Co.**

327 COMMISSIONERS STREET  
MONTREAL, QUE.

### The Rotation of Crops.

The productiveness of the soil depends upon the substances present in the soil, and still more on the condition of the substances as to availability. That is where and how the rotation of crops comes in and can be of very great benefit to the farmer who understands the underlying principle, or at least follows the practice. Some crops by growing on land not merely give a good return in themselves, but they make available in the soil the plant-food that the succeeding or some succeeding crop needs and can get in better form through their action.

It is admitted that the rotation of crops has been the chief means of improving the agriculture of Great Britain and some other parts of Europe during the century. The practice itself consists in growing roots (or some other cultivated green crop), and leguminous crops (such as clover, beans or peas) or grass (or hay crops), alternately with cereal crops ripened for grain. The famous four-course Norfolk rotation was roots, barley, clover or beans, and wheat. The chief point seems to be to make those crops follow each other which have different requirements, as to the time of the season when they benefit most by plenty of available plant-food in the soil and different habits of growth in other respects, particularly in the ranges of their roots. The rotation for any farm must have regard to the soil, the climate, the markets for rotation crops, and other local conditions. Not only the increase in the yield of crops has to be taken into account, but also the value and uses to which the crops can be put when grown. It is for every one to determine what crops he can raise and sell at a profit, and then to plan a rotation to give each of those crops the best possible chance to yield largely.—*Prof. Robertson before Agricultural Committee House of Commons.*

The true moment at which to call upon one's self to take any new step in virtue is at the fainting point, when it would seem so easy to drop all and give all up; when, if you do not, you make of yourself a power.—*J. F. W. Ware.*

### Publishers' Desk.

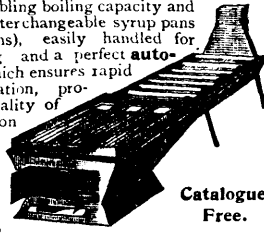
**National Cream Separator.**—About a year ago the Raymond Manufacturing Co. purchased the right and laid the first machinery in their large factories for the manufacture of the National Cream Separators. After looking around for a time for a suitable separator they finally settled upon the National as being the most profitable and most satisfactory machine in the market for farmers and dairymen. The separator best adapted for farmers and dairymen, keeping from four to twenty cows, is the No. 1 hand power, capacity 333 lbs. per hour. It is a useful machine, and is fitted with the most modern devices, which stamp it the best and most popular in the market. The other sizes made by this firm are machines of 600 lbs. and 1,500 lbs. capacity per hour. The firm has secured the services of Mr. Otto Askerburg, of Stockholm, Sweden, as an expert bowl balancer.

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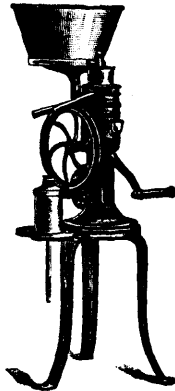
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Style No. 1.  
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Price, \$75.00

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To thousands it is known as the representative paper of the great Presbyterian Church in Canada, with its 700,000 members, reflecting their best intelligence and strength.

First published as a monthly, The Westminster quickly won favor. Rather more than two years ago The Canada Presbyterian, published for 27 years, was merged with The Westminster, and the latter became a weekly, at the same time retaining its special magazine number, bearing date of the first issue of each month. But the stronghold of The Westminster is the fact that it is an ideal home paper bringing light, cheer, hope and happiness into the home circle—a paper for every member of the family of whatever religion, read by all with delight and profit. It was through the columns of The Westminster that those wonderful serial stories of Ralph Connor's, "Black Rock," and the "Sky Pilot," first appeared, besides other notable serials.

Published every week, \$2 a year in advance. The remainder of this year FREE to new subscribers.

Address

**The Westminster Co., Limited**

CONFEDERATION LIFE BUILDING,  
Toronto.

**Stock Notes**

**IN GOOD DEMAND.**—John Jackson & Sons write: We have found the demand for high-class Southdowns unusually good this year and have scattered our surplus stock over a wide area of country as follows: Four shipments to Kentucky, two to Ohio, two to Pennsylvania, one to Maine, one to Indiana, one to Illinois, one to Kansas City, one to British Columbia, one to Newfoundland, and to various parts of Ontario, as far north as Muskoka.

**J. A. M., HERMANVILLE FARM, P.E.I.,** writes: We recently shipped a young Tamworth, eight weeks old, to Mr. Martin, of Nebraska City, Neb., and were pleased to hear of its arrival in good condition. We were not surprised, however, as we successfully shipped pigs of the same age to Iowa and Illinois; but Nebraska City has been the most distant point we ever shipped to. We recently placed a nice "Hermanville Tamworth" boar pig at the Massachusetts Agricultural College for the use of the professors and students in animal husbandry, while we shipped several pigs to New York State. Our American trade has, this season, been much better than in Canada. Our stock has been greatly appreciated by all our customers without exception.

**A PRIZE-GETTER.**—H. Bollert, Cassel, Ont., writes, that although he is not exhibiting any of his stock, on account of personal ill-health, stock bred by him and exhibited by his customers are on top in the strongest competition at the leading shows throughout the Dominion. A full brother to Sir Pietertje De Kol 2nd, which he offers for sale in this issue, won 1st prize in his class and sweepstakes for best bull any age against bulls of note in Quebec. Every animal which he sold during this year that was exhibited figured conspicuously in the prize list, which speaks volumes for his stock and for the bull, Sir Pietertje De Kol, who sired most of them.

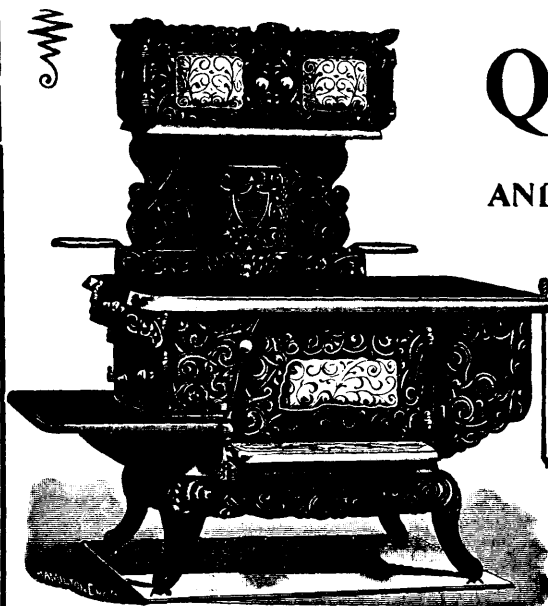
**A BIG HEREFORD SALE.**—A big sale of Hereford cattle will take place at Kansas City on Oct. 24 28 next. The sale is being held under the auspices of the Hereford Association. The sale catalogue contains 300 head of purebred Herefords, consigned by sixty breeders of the Hereford Association. There are 156 bulls and 144 females from both new and old breeders, representing a wide range of breeding of popular Hereford families.

**AT THE TOP.**—T. A. Cox's Berkshires are just at the top. His winnings at the Western Fair, London, on boars, was four prizes. He did not exhibit any in the aged class. He won 2nd on yearlings, 1st on boars under a year, and 2nd and 3rd under six months. In the sow classes he won 1st and 3rd on the aged sows, 2nd on yearlings, 1st and 3rd under one year, and 1st and 3rd under six months. The 1st prize aged sow "Fashion" is nursing a grand litter of young pigs. The under-a-year sow "Exhibition Beauty," won 1st in Toronto in the strongest class that ever turned out, numbering thirteen; she also won first at London and 1st at every place shown this season. She is a sow of the greatest length, and is very level and smooth on back.

**SHORTHORN BULLS FOR RUSSIA.**—On the 20th of September Messrs. Alfred Mansell & Co., the well-known live stock exporters of Shrewsbury, England, shipped per the SS. *Peru* from Hull ten high-class Shorthorn bulls to Libau. When the ten bulls were collected together on the quay before being transferred to the ship, where capital accommodation was provided for them, they presented a grand appearance, and should they reach their destination in good condition they will give a good account of themselves, in the various herds for which they are destined. They combine the red bull "Unanimous 2nd," bred by Mr. Arkell, of Gloucestershire, by that grand bull Airy Knight 2nd, 69854, dam Ursulina 14th by Baron Bridekirk 5th, 62120; "Maclean," 74964, bred in Aberdeenshire, by that fine sire Merry Mason, 97486, dam Beauty 36th, by Touchstone, 60073; "His Grace of Connaught," 74706, a fine red bull bred by P. L. Mills, Esq., of Ruddington Hall, sire Lordly Archer, 70839, dam Grace of Connaught, by Connaught

**The Aberdeen**  
FOR COAL AND WOOD

**The Victorian**  
FOR WOOD ONLY



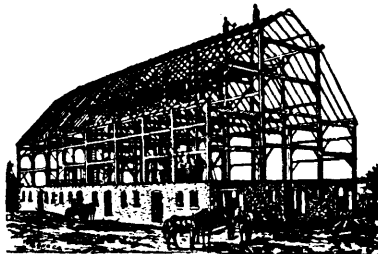
**Quick AND Even**

are essential points in an oven for satisfactory baking. You'll find these points will never fail you in these excellent ranges—perfect stoves in every way—right-down-to-the-hour in the latest improvements—bake well, cook well, draw well, economical in fuel, handso-mest in design and beautifully ornamented.

Write for Booklet telling what 159 people have to say about their good qualities.

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BRANCHES—TORONTO AND WINNIPEG

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**Barn of Beswetherick Bros., Hagersville.**  
Size of Floor, 60x120 ft. Put in with Thorold Cement in 1896.

They say:—"Our floors are as hard as stone. We clean our stables by driving a team and wagon through the stable on the concrete behind our stock, and load the manure on the wagon. We can truly say it is just perfection for stable floors."

Do you intend renewing your stable floor this fall? If, so, why not consider the question of putting in a Cement Floor? It is cool in summer, can always be kept clean with very little labor and without the soaking which is found so annoying and unhealthy for man and beast in connection with wood floors, is warm in winter, as cheap as a wood floor and will last for all time. It is smooth, but not slippery. Write for prices and full information to

**ESTATE OF JOHN BATTLE**  
**THOROLD, ONT.**

**BOYS AND GIRLS!**  
**WE ARE GIVING AWAY**

Gold Plated Watch Chains for setting two packages **INK POWDER** at 5 cents per package and 30 **PENS** (Indestructible and write any hand). Sell Pens 3 for 5 cents. **SEEK UP THE BULLS** inside of 30 days and receive Watch Chain. Send your name and address. **WRITE TO** DOMINION SUPPLY HOUSE, Hamilton, Ont. **BOYS CHAIN**

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SECRET TEMPER, CROSS-CUTSAW



WE take pleasure in offering to the public a Saw manufactured of the finest quality of steel and a temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than by any process known. A Saw, to cut fast, "must hold a keen cutting edge."

This secret process of temper is known and used only by ourselves.

These saws are elliptic ground thin back, requiring less set than any saws now made, perfect taper from tooth to back.

Now, we ask you, when you go to buy a saw, to ask for the Maple Leaf, Razor Steel, Secret Temper Saw, and if you are told that some other Saw is as good ask your merchant to let you take them both home and try them, and keep the one you like best.

Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand.

It does not pay to buy a Saw for one dollar less and lose 25 cents per day in labor. Your Saw must hold a keen edge to do a large day's work.

Thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws.

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**SHURLY & DIETRICH**  
GALT, - ONT.

Duke of Waterloo, 68391; "Sharon Duke 8th," 75620, also bred by Mr. P. L. Mills; "Silver Minstrel," 73624, bred by Mr. Wilkins, of Preston; "Baron Ruthin 2nd," 72015, bred by Mr. Blezard, of Ruthin; "Don Carlo," bred by Mr. John Clarke, of Maryport; "Eyton Jubilee Duke," 74502, a red bull bred by Mr. Frank Lloyd, of Wrexham; "Primrose Prince 2nd," from the fine herd of Mr. J. D. Owen, Ellesmere, and "Prince of Snowdown," 75312, bred by Mr. W. T. Malcolm, of Larbet, Scotland.

It will be remembered that the same firm shipped four bulls to Russia in April last, and this further order of ten bulls is the result of the satisfactory character of the bulls comprised in the first shipment.

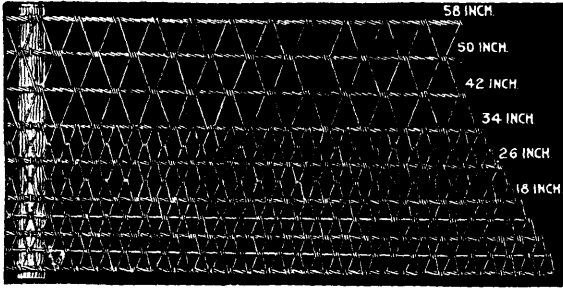
**ENGLISH RAM SALES.**—In a recent issue of the *Mark Lane Express* is given an interesting review of the ram sales in Great Britain for 1899. Generally speaking they have not proved so remarkable for high prices as those of 1898. While this is true in a general sense, there are breeds that have had a much better season than a year ago. This has been the case with the Shropshires, which, owing to the excellent foreign demand, have had a much better year than the last. The Lincolns have had a considerable drawback. Breeders in this class have been unable to boast of a 1,000 guinea ram, as in 1898, and besides the average prices received, taking the leading flocks, have been lower. The Southdown breed has had two remarkable events this summer of great interest. These were the dispersal sales of the late J. J. Coleman's flock and that of Mr. Henry Webbs. At the former sale 725 ewes averaged £4 10s. each, and 49 rams averaged over £26 each, and at the latter 22 rams averaged £22 13. 4d. each. There has been a strong demand in Scotland for Suffolk ram lambs to cross with Cheviots. Prices for Hampshires have been well supported owing to a healthy foreign demand. At Mr. J. Flower's sale ten lambs averaged £34 17s. each. The falling off in this breed has been with secondary and third-rate rams. This has been the case with the Oxford Down ram sales. The highest price at the Upper Winchendon sale was 66 guineas, and the average £13 15s. 8d., as compared with Mr. Snadwell's average in 1898, which was £17 19s. each. Mr. Alfred Mansell is authority for the statement that with one exception all the leading Shropshire flocks can boast of a better average than in 1898, and that as many as nine rams of the breed have made 100 guineas each and over. The Scotch sales have not gone off nearly so well.

### A Twentieth Century Number.

And a Twentieth Century Premium Proposition.

The publishers of that excellent agricultural weekly, *FARMING*, have anticipated somewhat the expectations of the twentieth century in their handsome fall number. This special issue is really one of the finest productions in the line of agricultural journalism that we have seen and we question whether it has ever been excelled by any other farm journal on this continent. The front cover bears a very artistic engraving in two colors representing Miss Canada in the act of drawing back the folds of the Union Jack and exposing to view a Canadian autumn farm scene. The number throughout is illustrated by upwards of fifty excellent photo-engravings showing a number of the leading farm markets in Canada, and the Smithfield and Covent Garden markets in England. Several splendid views of typical English, Irish and Danish creameries are also shown, together with those of some pure-bred cattle. The letter-press is especially valuable, containing many articles of a thoroughly practical character for the farm.

Sample copies of this issue can be had on application to this office. And mentioning *FARMING*, we take occasion to draw attention to the generous premium offer we are able to make, combining *FARMING* with the *Post*, particulars of which will be found in our advertising columns. The offer includes a copy of "The Ideal Cook Book" and also a copy of "The Life of Christ" with over seventy half-tone cuts.—*Brandon Times*.



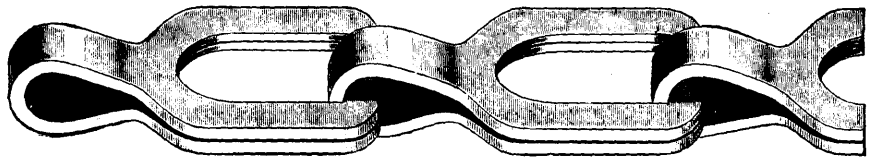
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ELWOOD  
STANDARD**

**WOVEN WIRE FENCE**

is only one of the ten styles we make. We call it our standard because it is designed to meet nearly every requirement of the fence user. Made in **six heights**, as you see it in the illustration, for cattle, horses, hogs, pigs and general farm fencing, this is by all means the Standard Fence, outselling every other fence on the market. **And it's cheap, too.** If you can't find the Ellwood at your dealer's write us for catalogue.

**AMERICAN STEEL & WIRE CO., Chicago or New York.**

## American Cow Ties Will Outlast all others



This is because the form of the link, the exact size and shape of which are shown above, is such that the wear is distributed evenly over its entire end. The tearing surface is thus very large, and the chain will wear for years without becoming worn appreciably.

With other styles of chain the bearing surface is only a very small portion of the extreme end of the link. Grooves are soon formed, and in a comparatively short time the links are worn—or, properly speaking, cut—through.

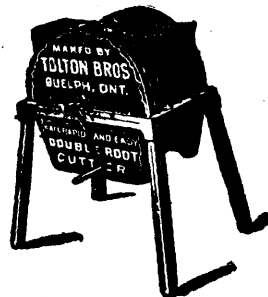
These facts are well shown on a cow tie recently brought us for repairs. It was an ordinary No. 00 three-chain tie. One chain was wire, the other two American. One of the wire links was worn entirely through. The others were nearly as bad—a strong pull would have broken almost any of them. With the American chains, on the other hand, the wear was very slight, and hardly noticeable—three times this amount would not have weakened the chains seriously.

American Cow Ties are made in all the standard patterns and sizes. If your hardware dealer does not handle them, kindly let us know, and we will see that you are supplied.

See our Special Cow Tie Catalogue—just published—sent Free on application.

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### Points of Merit :

1. To change from pulping to slicing is but the work of a moment.
2. There are two separate wheels, one for pulping and the other for slicing.
3. The united force of both wheels is always used in doing the work in either capacity.
4. The hopper is between the wheels, and does not choke.

### THE ONLY DOUBLE ROOT CUTTER MANUFACTURED.

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**TOLTON BROS., - - GUELPH.**

## ALEXANDRA AND MÉLOTTE CREAM SEPARATORS

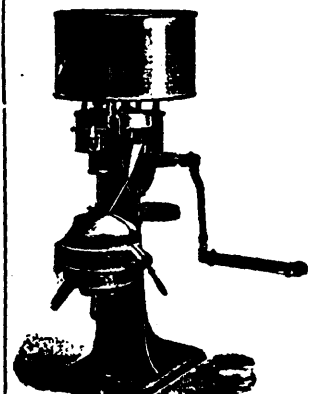
Have met with universal success at the leading Fall Exhibitions, beating all competitors. Several special awards have been given to the "MÉLOTTE" as being the most efficient and easiest running separator on the market. We only ask you to give the "Melotte" a trial.

For full particulars apply to

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SENT ON FREE TRIAL



SATISFACTION GUARANTEED



# Market Review and Forecast

Office of FARMING,  
Confederation Life Building,  
Toronto, Oct. 16th, 1899.

The fine, warm weather of the past week has caused a somewhat easier feeling in wholesale trade circles. There are no misgivings, however, as to the future, and the trade is confident as to the general business outlook. With a big wheat crop in Manitoba, and good prices for dairy products and live stock in Ontario and the Eastern provinces, country storekeepers are ordering freely. Money is inclined to be a little firmer. Call loans are quoted at Montreal at  $5\frac{1}{2}$  to 6 per cent., and mercantile paper is discounted at 6 to 7 per cent.

## Wheat.

The wheat markets have been somewhat irregular during the week. Tension seems to be very high, and it takes very little to make them go up or down. Early in the week the English market ruled strong and higher, but on notice of an increased visible supply here an easier feeling resulted, and appeared to have more effect upon the market than the war. Holders of Manitoba wheat in England are not anxious to sell. English farmers are asking 90c. per bushel for their wheat, which is 12c. more than the average prices there a week ago. There appears to be no tendency in the Western States to increase wheat marketings. Dry weather is said to be hindering the germination of the growing wheat. Wheat is reported to be accumulating at Canadian points, and it is estimated that there are about 5,500,000 bushels of wheat in sight in Canada, as compared with 4,077,000 bushels a week ago and 1,681,000 bushels at this time last year. The world's shipments are greater than a year ago, and about 1,500,000 bushels greater than a week ago.

Prices at Montreal are a shade lower. The market here is easier, owing to slow and disappointing cable and the advance in ocean freights owing to the withdrawal of a number of vessels for war purposes. Red and white is quoted at 66 to 67c. west; spring at 67 to 67½c. east; and goose at 70 to 71c. north and west. On the Toronto farmers' market red and white bring 70 to 71c.; spring fine, 68c.; and goose wheat, 74 to 74½c. per bushel.

## Oats and Barley.

There is more demand in the English market for oats. There is also an improved demand at Montreal, and prices have advanced ½c. per bush. The American crop is estimated at about seventy million bushels more than a year ago. The market here is steady at 26 to 26½c. west, and on the farmers' market oats bring 32 to 33c. per bush.

A better demand exist at Montreal for No. 2 quality of barley. The market here is steady at 43 to 44c. west and east for No. 2, and 35 to 36c. for feed barley. On the Toronto farmers' market barley brings 47 to 50c. per bush.

## Peas and Corn.

The English market for peas keeps firm. At Montreal the market is steady at 69 to 70c. wholesale. The market here is somewhat easier at 59 to 60c. On the farmers' market the quotation is 62c. per bush.

Reports regarding the yield of the American corn crop this year are somewhat disappointing. American is quoted here at 41c. on track.

## Bran and Shorts.

There is a good demand for bran at Montreal. Bran is quoted at \$14.50 to \$15, and shorts at \$16.50 per ton in car lots. City mills here sell bran at \$13 and shorts at \$16 in car lots, Toronto. Mills west are reported selling bran at \$11.50 to \$11.75 in car lots.

## Eggs and Poultry.

The English egg market is a little duller owing to a falling off in consumption. A good export demand is reported at Montreal for both pickled and fresh gathered stock. Local enquiry there seems to have fallen off a little, though really fresh stock bring good prices. Prices are a little higher here for strictly fresh

stock, at 18c.; held stock brings 16 to 17c. On the Toronto farmers' market new-laid eggs bring 20 to 23c. per dozen.

The warm weather has been somewhat against the shipment and sale of dressed poultry. Prices at Montreal are steady at 10 to 11c. for turkeys and 9 to 10c. per lb. for chickens. Some very large contracts have been made recently for dressed poultry for the British and foreign markets. A Montreal firm is reported to have secured 20,000 turkeys for future delivery. Altogether it is estimated that 80,000 to 100,000 birds have been contracted for, the prices paid ranging from 7½ to 8c. per lb. Some large sales are also reported for future delivery for British Columbia. Chickens are more plentiful here, but other fowls are scarce and in demand. Chickens bring wholesale 40 to 60c., and ducks 60 to 70c. per pair, and turkeys 10 to 12c., and geese 5 to 7c. per lb. On the Toronto farmers' market prices are from 10 to 15c. per cwt. higher than these quotations.

## Potatoes

These are quiet at Montreal with little change in prices. Receipts are more liberal here with prospects of larger shipments. Current lots bring 40 to 45c. On the Toronto farmers' market potatoes fetch 45 to 55c. per bag.

## Apples.

The English market continues strong for good fruit and it is expected that when the winter stock begins to go forward and the early fruit is off, the market prices will advance. Many shippers, as is usual, report losses on shipments of fall fruit. The total shipments of apples from all Atlantic ports this season to October 7 were 217,437 bbls. as against 224,504 bbls. for the same period last year, a decrease of 7,067 bbls. The high prices which buyers were offering a couple of weeks ago at Ontario point seems to have brought more fruit to light than was expected and consequently the excitement over securing supplies has calmed down somewhat. At Toronto fruit market apples bring \$1.75 to \$2.50 per barrel. Grapes are quoted at 15 to 25c. per basket according to variety.

## Hay and Straw.

Considerable hay is being shipped from Montreal to the Transvaal and a large trade with that point is expected in supplying the British war forces. There has also been quite a trade from Quebec with the Eastern States. The market for baled hay is quiet here at \$8.50 to \$8.75 for cars on track. Baled straw brings \$5 for cars on track. On the Toronto farmers' market hay brings \$12 to \$13, sheaf straw \$8.75, and loose straw \$4 to \$5 per ton.

## Seeds.

Red clover seed is quoted at Montreal at \$4.75 to \$5.25 per bushel as to quality. Canadian flax seed is firm there at \$1 to \$1.25 per bushel as to quality. On the To-

ronto farmers' market red clover brings \$4 to \$4.50; alsike, \$5 to \$7; white clover, \$7 to \$8; timothy, \$1 to \$1.25 and timothy flailed \$1.50 to \$1.65 per bushel.

## Cheese.

The cheese market though quiet is strong. English dealers seem inclined to wait rather than pay the prices asked on this side. It is felt, however, that our September goods will be wanted and that sooner or later holders on this side will get what they are asking. The high prices may cause a falling off in consumption, still the large shortage in the English market leaves the situation strong. A careful estimate places the stocks held at Montreal at 200,000 boxes as against 450,000 boxes at this time last year. Cable reports a firmer feeling in British markets and an inclination to order ahead, though buyers fear the price.

There has been an improved demand during the latter part of the week at Montreal, with sales reported on spot at 11½ to 11¾c. for white, and 11¾c. for colored easterns. Sales of westerns have been made at 11½ to 11¾c. for finest white, and 11⅞ to 12c. for colored; 11½ to 11¾c. have been the ruling bids at the local markets, with many factory-men, especially in the west, holding for 12c. Eastern factory-men are more inclined to sell at ruling prices.

## Butter.

The butter market on this side is dull a little, with a little falling off in export orders. The situation in England is firm for finest brands, as the *Trade Bulletin's* cable shows. It reads: "London, October 12, 1899.—The market keeps firm for the finest grades of Canadian creamery, although there has been an easier feeling on secondary qualities, owing to increased supplies. Finest Canadian creamery 112s. to 116s., with fancy well-known marks 2s. higher at least. Good to fine is quoted lower at 100s. to 110s."

The Montreal market is dull, and prices have declined about 1c. on the week. Sales are reported at 22 to 22½c. on the same class of goods as brought 23 and 23½c. a week ago. Shipments from Montreal this season to date are 393,917 packages, as against 189,644 packages for the same period last year. The total increase in shipments from Montreal and New York is now 246,860 packages. Creamery prints here bring 22 to 23c., and tubs 20 to 22c. per lb. There seems to be a good supply of dairy butter coming forward, but the demand keeps good. Choice tubs bring 17 to 18c., and prints 18 to 19c. per lb. On the Toronto farmers' market pound rolls bring 20 to 23c. each.

## Wool.

There is more enquiry for wool at Montreal from the mills which are beginning to get in their supplies without waiting for lower figures. There is more demand there for Canadian fleece, which brings 17 to 18c., and pulled wool 20c. per lb. Fleece wool is quot-

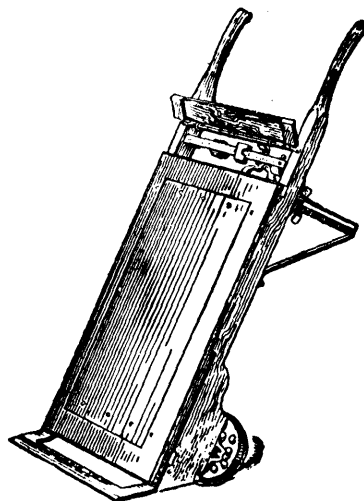
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Should own a

**Parsell Truck SCALE**  
combining a first-class warehouse truck with a fine 800 Canadian Standard Scale.

It has "caught on" splendidly, and is going like "hot cakes."

**WILL  
SAVE ITS  
COST  
IN  
NO  
TIME.**



For descriptive circular and full information,

**THE ST. MARYS  
TRUCK SCALE  
CO.**

St. Marys, Ont.



ed here at 14 to 15c., unwashed 8c. to 8½c., and pulled wool at 15 to 16½c. per lb.

#### Cattle.

The cattle situation generally shows a weaker tendency, though really choice beefs, which are scarce both in the United States and Canada, bring good prices. Other grades are decidedly easier with lower prices. On the Toronto cattle market on Friday, which was the last market day of the week, there was a large run of live stock. These with those left over from Thursday made one of the largest markets of the season. Fully two-thirds of the cattle offered were stockers and feeders. The bulk of the fat cattle offered, with a few exceptions, were of poor quality, both butchers and exporters. Trade was slow with prices for exporters 15 to 25c. per cwt. lower. The best grades of butchers' cattle were scarce with prices firm, but the lower grades were plentiful with prices from 15 to 25c. per cwt. lower. In all, 1,327 cattle, 3,220 hogs, 807 sheep and lambs, 8 calves, and 23 horses were offered.

**Export Cattle.**—Choice lots of these sold at \$4.70 to \$4.90, and light ones at \$4.12½ to \$4.40 per cwt. The bulk of exporters sold at \$4.40 to \$4.70 per cwt. Heavy export bulls sold at \$4.12½ to \$4.40 per cwt., and light ones at \$3.40 to \$3.65 per cwt.

**Butchers' Cattle.**—Choice picked lots of these equal in quality to the best exporters, weighing 1,000 to 1,100 lbs. each, sold at \$4.12½ to \$4.35; good butchers' cattle sold at \$3.65 to \$3.95; medium, \$3.40 to \$3.50; common, \$2.90 to \$3.12½; and inferior, \$2.70 to \$2.90 per cwt.

**Stockers.**—Erick Bros., East Buffalo, N.Y., weekly circular regarding stockers and feeders at Buffalo states that the supply is rather heavy; the good kinds, however, sold steady, with the common kinds lower. They say: "We are at present receiving a good many Canada stockers, and we believe that we are giving good satisfaction." On Toronto market on Friday Buffalo stockers, weighing 500 to 600 lbs. each, were steady at \$2.75 to \$3 per cwt., and inferior black and white steers with heifers sold at \$2.25 to \$2.60 per cwt.

**Feeders.**—Choice high grade steers in good condition, 1,100 to 1,200 lbs. each, for farmers' purposes, sold at \$3.80 to \$4, while rough steers of the same weight, suitable for the byres, sold at \$3.60 to \$3.70 per cwt. Light steers, weighing 800 to 900 lbs. each sold at \$3.25 to \$3.50 per cwt. Feeding bulls bring from \$2.75 to \$3 per cwt.

**Milk Cows.**—These sold at \$26 to \$47 each, with a few good milkers bringing \$50 each.

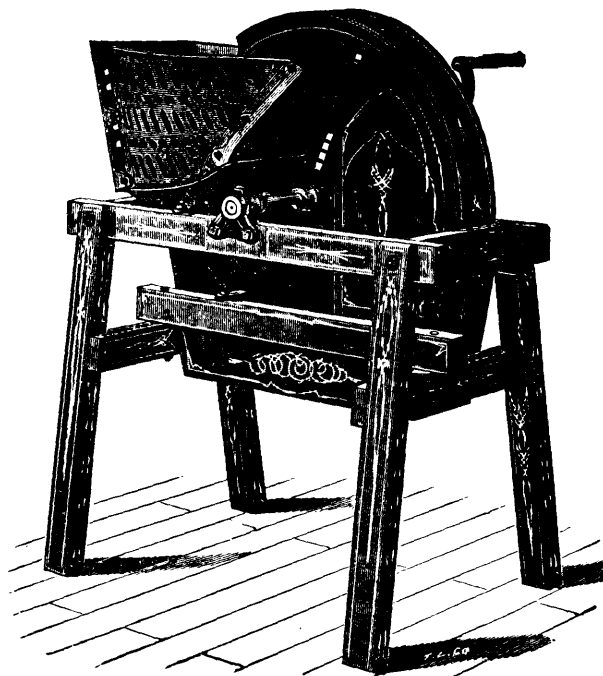
**Calves.**—Offerings of veal calves at Buffalo continue light. Eight were sold here on Friday at \$4 to \$10 each.

#### Sheep and Lambs.

Erick Bros., circular of October 12th, has this to say in regard to Canadian lambs at Buffalo: "The receipts both yesterday and to-day were very light—in fact, hardly enough to supply the demand—and prices have advanced 10 to 15 cents from Monday's quotations. Still, values are hardly high enough to let shippers out. Yesterday the strictly good to choice ewe and wether lambs sold at \$5.30 to \$5.40, and to-day the market is about steady at these prices; the offerings up to time of going to press were very light, but the feeling is firm." At Toronto market on Friday, prices for sheep were unchanged at \$3.25 to \$3.40 for ewes and \$2.50 to \$2.75 per cwt. for bucks. Butchers' sheep sold at \$3 per cwt. Prices were easier for lambs at \$3.60 to \$3.90 per cwt.

#### Hogs.

Prices for hogs have taken quite a drop during the week due to the slump in the English bacon market. On Friday the best bacon hogs of good quality were steady at \$4.37½ and thick and light fats at \$4 per cwt. Unculled car loads sold at \$4.25 per cwt. The Montreal market is easy with prices ¼c. per lb. lower. The *Trade Bulletin's* London cable, of October 12th, re Canadian bacon reads thus: "The decline quoted in my last has been followed by a heavier slump of 5s. per cwt.; receipts of Canadian are liberal, and holders are still anxious to realize."



New Root Cutter (Pulper and Slicer combined)

# THE NOXON CO. (LIMITED)

Ingersoll, Ont.

MANUFACTURERS OF

## HIGH-CLASS FARM IMPLEMENTS

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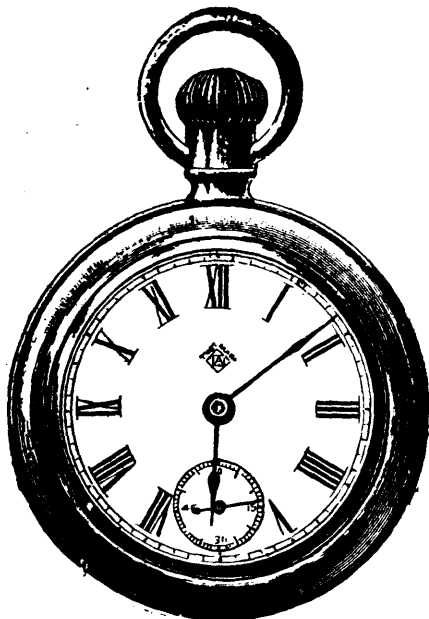
Balance of year free to new subscribers

# Farming's

## ATTRACTIVE PREMIUM OFFER

WE put the emphasis last week on the valuable premiums we are offering in watches to those who exert themselves just a little to obtain subscriptions for FARMING. The watch story is worth repeating, and particulars of it are given below. We want also to emphasize the value of our new book, "The Life of Christ for the Young," by Geo. L. Weed. Only one new subscription is needed to secure a copy of this book. The particulars are given below, as also of other premiums.

### A Watch Free for 4 New Subscriptions



nickel finished case, open face, stem wind and set. We do not say this is a full nickel watch, but it will hold its color for a year or more, whilst we can thoroughly recommend it as an accurate time-keeper. It is the watch in use among a large number of the conductors of the Toronto Street Railway, where an accurate time-keeper is a necessity.

—This watch sent postpaid to any subscriber sending four  
—new yearly subscriptions to FARMING.

It will be sent to any present subscriber (not in arrears) on receipt of \$1.50.

### ANOTHER WATCH FREE

Gentleman's Watch, in solid silver case, open face, stem wind, fitted with Waltham movement, which is a guarantee that the watch is a good time-keeper, and will give satisfactory wear.

—This watch will be given free to any subscriber sending us  
—fifteen new yearly subscriptions to FARMING, sent post-  
—paid at our expense. Regular price of the watch is \$8.50.

Any subscriber to FARMING (not in arrears) can have this watch on payment of \$5.75, sent postpaid to his address.

Whilst the weather continues good, the way is clear for readers to do good work for FARMING and do good for themselves at the same time. May we not count on you for a list, small or large, within the next week?

Address all letters, and make cheques, drafts or money orders payable to

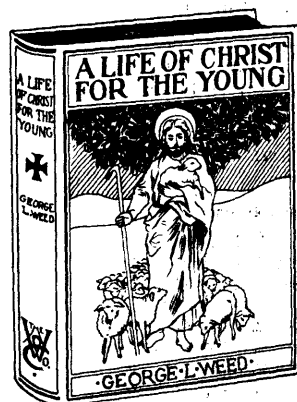
**FARMING** CONFEDERATION LIFE BUILDING **Toronto**

### READING GLASS FREE

Any subscriber renewing his own subscription and sending \$1.00 extra will receive, carefully packed for mail, a good 4-in. reading glass that is sold regularly at \$2.50. This glass is especially valuable for examining seeds, insect pests, etc. Any subscriber sending us one new subscription may receive the glass for 75c.; and by sending three new subscriptions will receive the glass free.

### BIBLE FREE

Any subscriber adding only 75c. to his subscription may have a copy of the Oxford Workers' Bible that is sold regularly at \$2.50 sent postpaid to his address. This volume is printed in very large, clear, new Minion, size 5 in. x 7½ in., and bound in Levant Morocco, linen-lined, with round corner and red undergold letters.



### DOLLAR BOOK FREE

Any present subscriber who will send us one new subscription will receive free of any further cost a copy of our new edition of "Life of Christ for the Young," by Geo. L. Weed, a book of 400 pages with 75 full-page half-tone illustrations. This book is recommended by religious leaders, and is bound in cloth, tastily embossed. Regular price \$1.00. Present subscribers to FARMING (not in arrears) may have a copy of this book, postpaid, on receipt of 50c.

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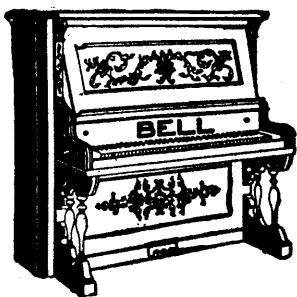
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