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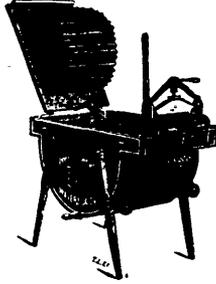
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### ...LEADING TOPICS FOR THE WEEK...

Our British Letter. The Poultry Industry of Canada. Practical Dairy Farming. The To nship Fair. Agriculture in the Yukon. The Growing of Sugar Beets. Get Ready for Spring Work. Dominion Butter and Cheesemakers' Association. Kee More Sheep. Broad Wagon Tires. Maintaining Fertility in the Orchard. Lambing Time. Marketing a Horse. The Most Profitable Hog. Science in Poultry Feeding. Practical Hints on Poultry. Don'ts. A Good Cow.

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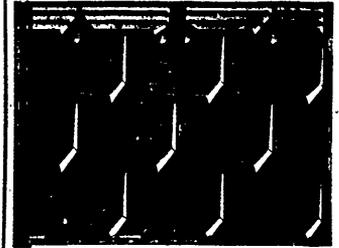
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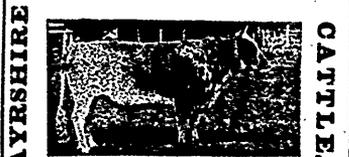
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H. & J. McKEE, Brookside Farm, Norwich, Ont., Breeders Ayrshire Cattle, Silver Grey Dorkings.

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Jersey Cattle, Duroc-Jersey and Chester Swine; Collie Dogs and Mammoth Bronze Turkeys; Choice Cows and Heifers fresh calved or soon due. Also young heifers and bulls. D. J. Sows due in March and April. Handsome Colliers of both sexes and M. B. Turkey Eggs in season. Prices low.

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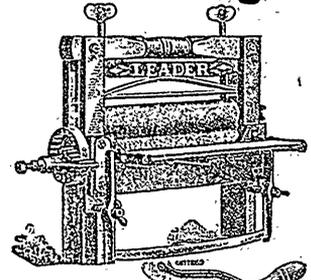
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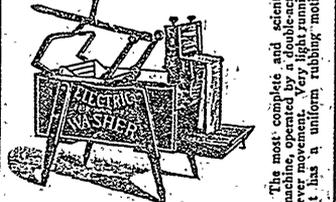


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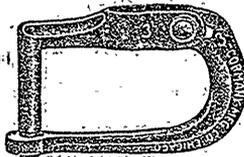
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# FARMING

44-46 Richmond Street West, Toronto, Can.

# FARMING

Vol. XV.

MARCH 1ST, 1898.

No. 26.

## FARMING

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

Published every Tuesday by

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## TOPICS FOR THE WEEK

### Increased Reading Matter.

FARMING this week contains four extra pages of good, practical reading matter. These extra pages will appear at least once a month and as often as our gradually increasing advertising patronage will make it necessary. We are pleased to be able to make this announcement and trust that our many friends and patrons will show their appreciation by getting their neighbors interested and helping us to double our circulation. The present size of FARMING, though excellent in many ways, is not our ideal and not what we hope to make it before long. We can only make it an ideal weekly agricultural paper by having the active co-operation of those engaged in practical farm work. By helping us you will be helping yourselves.

### Take Notice.

During the past few weeks several letters containing money for renewals of subscriptions have come to this office and the sender has neglected to give his post office address. As the only way we have of tracing a name is by looking up the post office on our subscription list, we are unable to give the subscriber credit unless the address is given. Will our friends kindly remember this when remitting, and will those who have remitted and have not found their address label changed please notify us, giving their post office address? We also wish to announce that Mr. A. C. Campbell, Cannington, Ont., is no longer an agent for FARMING, and that parties paying their subscriptions to him will do so at their own risk.

When paying subscriptions it is better to remit direct to the office, when the amount you send will be duly credited. A good way to pay your subscription is to send in two new subscribers, when we will be pleased to advance your subscription for one year. We will advance your subscription six months for one new yearly subscriber at \$1.

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## Keep up the Quality—A Pointer for the Government.

(From our Special Correspondent.)

LONDON, England, Feb. 16th, 1898.

Talking to a friend to-day who had just come from the markets, he told me, in reply to my question as to how Canadian goods were being disposed of, that so far as cheese was concerned it seemed rather more difficult to buy it now than formerly. He meant, he said, by this, to infer that the demand for Canadian cheese was such, apparently, as to cause sellers of it to stiffen their backs a bit. I refer to the wholesale markets, of course, and I mention the incident, as it goes rather to confirm the notion I ventured to give expression to in my last letter. The whole point seems to me to be "keep up your quality, and push your wares for all they are worth." Now is a golden time for Canadian agriculture so far as the exports to Great Britain are concerned, and if I were the Canadian Government—or its responsible Minister of Agriculture—I should send a copy of this issue of FARMING (with the above information *blued*) broadcast amongst agriculturists in Canada, as showing the opinion of one (*i.e.*, myself) who is on the spot in Great Britain, and who is able, I think, to give some impartial and trustworthy advice to those who want to know the truth as to how their goods are being viewed by the British public.

I have received a letter from the High Commissioner for Canada in Great Britain, Lord Strathcona. In it he refers to the advantages which Canada offers to British emigrants, and he particularly emphasizes the room there is there for "farmers, farm laborers, young people desiring to learn farming, and domestic servants." I have given this a certain amount of publicity in the British press, but I have no idea as to whether Canadian agriculturists will thank me or not for thus seeking to add to the competition upon themselves which they already have to contend against! However, Canada is a big country, and it will hold a few more yet from this side the "briny."

We have had a few excellent sales of pedigree stock thus far this year—principally shire horses. One of the most noticeable and noted sales was that of the renowned P. A. Muntz, to whose luncheon preliminary to the sale (a luncheon always lubricates business, does it not?) some eight hundred to nine hundred "big wigs" and agents sat down. The prices of the stock were very good, indeed, of the total realized, viz., £7,669 4s., or an average of £166 14s. 5d. per head; the sum per head was £25 better than any sale Mr. Muntz has ever had. The sale consisted of brood mares and fillies. The highest price fetched was 750 guineas, whilst a large number of the animals realized sums varying from 250 to 400 guineas apiece. In addition to horses, there have been numerous other sales lately, but there have been more in the sheep line and have taken the form of exports in twos and threes—chiefly to different breeders in Argentine.

The British farmer is not crying out so much as during the previous five or ten years against the importation of dead meat for the consuming public. The reason is that he is—where he is a stock-breeder—now realizing much better figures for his steers and bullocks. So long as this continues there will be no complaint, in spite of the fact that our imports of beef, in the shape of dead meat, are constantly increasing, and in spite of the fact that it was our great imports of beef (live and dead) which caused him hitherto to grumble.

## Practical Dairy Farming.

An address delivered at the Western Butter and Cheese Convention, London, Ont., last January, by H. B. GURLEPR, Illinois.

(Continued from last issue.)

For many years my practice has been to have my cows drop their calves from September to December. I think the advantages of winter dairying over summer work are not as great as they were several years ago, and still I think it advisable to have the cows fresh in the autumn months in place of the spring months. The cows will produce more milk during the year. They will give milk for a longer period when they are dried off on pasture than they will when dried on winter feed. Winter dairying helps to equalize the farm work. We can keep the herd all the year, and secure a better class of help by giving employment the whole year. This is a matter of no small importance. When my cows are dried off on pasture without any grain food I have very seldom had any milk fever, but when I feed grain during the dry period I frequently have trouble from this source. The cows should have all they wish of a proper food at all times, but keep the grain from them when they are dry previous to parturition.

The cow stable should be kept at a temperature above freezing at all times. On this point I quote from the *London Dairy*, in which Mr. Alexander Pottie gives the results of some experimenting with the temperatures of stables. He says a temperature of 63° gives the best results. He says that in one case with 30 cows the value of the milk was \$15 more per week when the stable was kept at 63° than when it was kept at 52°. I have used the neck ties and stanchions, but have discarded them, and am now using the Bidwell stall. In my new stable I have cement floors, gutters, and also cement mangers. I have individual stalls which have some of the Bidwell ideas, some from the Drown stall, and some from my own ideas. The stall partition is entirely of iron, a number 7, doubled crimped wire woven onto channel iron frames.

Very few dairymen appear to realize the importance of the work of milking—the necessity for kindness, neatness, system, and regularity. I have found a difference in milkers in the matter of keeping up the flow of milk that was alarming; sufficient to pay a man's salary when he milked 15 cows for a year. Some milkers can and will keep up the flow of milk of their cows. Others can but don't, and still others cannot when they do their best. Two seasons I offered prizes for my milkers to compete for, and secured the best work I ever had.

There is one point that I have given much thought during the past three years. When I started the enterprise at my farm of producing certified milk, I adopted the plan of having each milker cleanse the udders of the cows he milked before milking. The cows had been tested with tuberculin previous to this. When we commenced the certified milk work we noticed that there followed a shrinkage in the flow of milk that was a surprise to me, and I could not account for it. My first thought was that it might be the result of the tuberculin test, and I was worried about it, but after giving the matter thought and getting information from several sources, I reached the conclusion that I must look elsewhere for the cause. We noticed after a time that this shrinkage commenced immediately after the cows were put in the stable in which the cows were kept from which the certified milk was produced. The business commenced small, and the cows were not at first all put into this stable, but were transferred from another stable at times when needed.

This set me on another line of thought, and convinced me that the cause was in the treatment of the cows in some way, and the only difference in the work between the two stables was in the milking, and I soon had the trouble corralled. About this time there was a discussion in *Hoard's Dairyman* about the bad effect of manipulating the cow's udder except immediately in advance of milking, for the reason that it stimulated the secretion of milk by the cow, and nature's effort was not assisted by relieving the cow of the milk as secreted, and the effect was a damper on nature's effort that resulted in a decrease of the flow of milk. After due deliberation I changed my plan of work in cleansing the udders, so that now I have a man who does nothing but cleanse the udders, and does it just in advance of the milkers. The results are now satisfactory. Here is a wonderful field for thought and intelligent action. To help nature or, if we cannot help, prevent getting in the way while she is doing her work. When we study our own systems we can see how easy it is to work against nature, and do mischief that is beyond calculation, as it has to do with human life.

### The Poultry Industry of Canada.

By THOMAS A. DUFF, TORONTO, ONT.

(Continued from last week.)

#### BUILDING A POULTRY HOUSE.

The first consideration towards a successful career as a poultry breeder, is to have a suitable house. It is absurd to suppose that fowl will lay well during the cold winter months unless they are warmly and comfortably housed. Select as a site a high and dry location, and the building should face the south. I have seen and built a considerable number of poultry houses, but none have pleased me better than the last two which I have erected. I will endeavor to detail the manner in which a building capable of accommodating from seventy-five to ninety fowl should be constructed, so that any person could build a similar one. The building should be forty feet long, and sixteen feet wide (which includes a passage way five feet six inches wide), five feet high at the lowest side, and running to a height of eight feet, and then dropping to seven feet.

Posts were put into the ground three feet apart, upon these 2 x 4 scantlings were placed, which answer well enough for sills. Uprights three feet apart were placed upon these sills, and the crown was made of two 2 x 4 scantlings; rafters, three feet apart, were then run from front to rear. Tarrd paper was then put upon the outside horizontally along the uprights on both front, rear and ends; lapped over about two inches, and then tacked to the uprights. The outside boards (rough) were then nailed on over this paper, and the cracks battened with half inch strips. The roof, composed of ordinary decking, was then put on. On top of this decking was placed a single thickness of tarrd paper put on horizontally. The whole roof was then shingled with second class shingles, allowing five inches to the weather. Three ventilators were placed in the roof, and these were run to within eighteen inches of the floor. After this was completed the inside of the building was looked to, and tarrd paper was again run horizontally upon the inside of the uprights, and the whole of the inside of the building lined with tongued and grooved sheeting, running in the opposite direction to the outside boards. This left the building boarded and battened on the outside, and lined on the inside with tongued and grooved lumber, with two thicknesses of tarrd paper between. You will also observe that this left an air space of four inches between the outer and the inner walls, which, in my opinion, is as serviceable to keep out cold as if an extra thickness of boards was put on and all nailed solidly together. The floor is of boards upon which is scattered about three inches of chaff. This is cleaned out as often as it becomes fouled.

Three windows were placed in the south side of the building, about eighteen inches from the ground. These should be placed in the centre of

each pen and to be large enough to admit of plenty of sunlight. Be sure that the windows are doubled, and construct them so that they may be opened at any time or taken out altogether. The outer doors are doubled—one opening inside and the other outside. Holes are cut in each pen to allow of the fowls coming into the yards. These are closed by means of slides, which work by pulleys from the inside of the building.

I would divide this building off into three pens, each pen being divided by a solid partition, two feet six inches high, to prevent any chance of fighting, and the balance of the space is wired to the roof. A door, on spring hinges, opens into each compartment.

I would arrange the roosts and nests so as to have them combined. The top of the nests could be used as a drop board, the roosts being placed about nine inches or a foot above the board. This is a combination which is very extensively used, and, to my mind, is about as complete as it is possible to make it. The roosts tip up, to allow of easy access in cleaning the drop board. The bottom of the nests is cleated and hinged to the wall, and when it is desired to clean the nests all you have to do is to let down the bottom by unhooking it. The bottom extends about a foot to enable the fowls to fly upon it, and then enter their nests. In each of these three divisions into which I would divide the house I would keep from twenty-five to thirty fowl. I do not think more could profitably be kept, as I am of the opinion that this number would keep in better health and lay more eggs than a greater number kept in the same space. Outside runs should, of course, be provided.

A poultry house should be kept scrupulously clean. The oftener it is cleaned the better, but it never should be left for more than a week at a time without being thoroughly cleaned out and coal oil put on the roosts.

### The Township Fair.

At the annual meeting of the Provincial Fairs Association held recently in Toronto it was almost the unanimous opinion of the delegates present that the local Township Fair should be done away with. No definite scheme was evolved in regard to this matter with the exception that a number of the local fairs unite to form one good show in each district. This is along the right line, and as we have pointed out several times before in these pages every interest would be better served if the moneys now expended on township fairs were put into one good show in each county. There would then be greater inducements for farmers to make exhibits, a better class of exhibits for visitors to see, and the educational value of one good district show would be one hundred per cent. greater than that of a dozen small township fairs.

The township fair no doubt served a good purpose when first organized, as it helped to stimulate the breeding of better stock among the local farmers. But in the meantime facilities for travel have improved, the larger fairs have developed and are visited by nearly every farmer in the country. At a large fair the farmer not only sees stock and products from his own locality on exhibition, but he sees exhibits from other sections far removed from his own and to this extent he is a broader man and has a wider knowledge of his business. The only good reason advanced for not amalgamating the township fairs into county or district fairs seems to be that they afford an opportunity to the farmer to make exhibits, who might be timid about exhibiting at the larger fairs because of greater competition. This in itself does not appear to be a sufficient reason for the continuation of the local township fair, which means the expenditure of a large amount of money for the benefit of comparatively few people. The educational value of a township fair is not as great as many would make out, and comparatively speaking it is not nearly so great as a good county or district show.

In many instances stock breeders who take prizes at the larger shows exhibit their stock at

the local shows in their own locality and carry off the honors, which, according to some people's reasoning, should go to the farmer who does not exhibit at the larger fairs. Thus it is that if the township fairs were amalgamated into county or district fairs the farmer who does not make a business of exhibiting at the larger fairs would stand about as good a chance of winning prizes as he does now at the local show.

### Agriculture in the Yukon.

The Department of Agriculture at Ottawa has just issued a bulletin on the possibilities of agriculture in the Yukon district. According to information gathered from several sources, chiefly from the reports of Mr. Wm. Ogilvie and Dr. G. M. Dawson, of the Geological Survey, the possibilities for agriculture in the Klondike are not very bright. The bulletin points out that in the district of which Dawson City is the centre the summer climate is too cold to admit of much being done in the way of growing grain, fodder, plants or vegetables. The temperature during May ranges from 32° to 50° F.; during June from 40° to 60°; during July from 40° to 70°; during August the average is about the same as in July, and during September from 40° to 60°. In 1896 the hottest days were July 1st and 2nd, when a temperature of 81° was recorded. Coupled with these low temperatures is the liability to frost during the summer. There is usually frost during the early part of June and again before the end of August, which makes the growing season very short. Along the margin of the rivers the conditions are a little more favorable, and admit of agriculture being carried on in a small way. Here the soil is warmer and sandy.

If it were possible to grow fodder crops for horses and cattle the interests of the country would be greatly assisted. The native grasses are scarce and make very coarse fodder. The bulletin states that a variety of millet known as Hungarian grass might probably be raised as a green fodder crop. Some other varieties of grasses are also mentioned and some detailed information is given regarding the kinds of vegetables and grains which might possibly be grown to advantage in the district which should prove of value to those contemplating trying their fortunes in the Klondike. We would recommend such to write to the Department for a copy of the bulletin.

However possible it may be to practise agriculture in the Yukon there is no likelihood of any one going there for that purpose. The quest will be for gold and for gold only. Though large quantities of the products of the farm will be required to sustain life, these will have to come from the vast prairies of the west and the older provinces. The prospects of a large trade with the Yukon will stimulate agriculture in some sections of the west that have not been interested before, and in this way the agricultural interests of the country will be greatly benefited.

### The Growing of Sugar Beets.

In the manufacturing of beet sugar, beets having a sugar content of 12 per cent., with a purity coefficient of 80, can be worked with profit. A purity coefficient of 80 means that of the total solids found in the juice, 80 per cent. is sugar. Experiments made by the Ohio Agricultural Experiment Station last year show that the sugar beet thrives best in those regions where the average summer temperature is about 70 degrees, provided the conditions of soil and rainfall are suitable. A number of samples of beets were tested from the southern part of the state, which showed an average sugar content of 12.8 per cent. and a purity of 75.3. This was too low for profitable working. The samples tested from the centre of the state showed an average sugar percentage of 13.9, with a purity of 78. Samples from the northern section showed an average percentage of 14.3, with a purity of 79.4. From these experiments it will be seen that a warm climate is not a necessity for the growth of sugar beets. In fact, the best results were obtained from the beets grown in the most

northerly part of the state. There is, therefore, nothing to prevent the beet from being grown satisfactorily in Ontario if the conditions of soil and rainfall are suitable. The sugar beet factory should be located where there is plenty of limestone and abundance of water. Ohio consumes over 200,000,000 pounds of sugar annually. To produce this amount of sugar from beets would require about 200,000 acres of land. So in Canada, if the total amount of sugar consumed were produced in the country, many thousands of acres of land would be required to grow the beets.

### Get Ready for Spring Work.

This is the time of the year when every farmer should lay plans for spring work. He should have a definite plan of his farm prepared, and be able to estimate exactly as to how much of each kind of grain he will sow, and upon which fields. When this is known definitely he will then be able to estimate carefully how much wheat, oats, etc., he will require for each field. This will enable him to get the seed ready before the busy season opens in the spring, and so have everything in readiness to begin work as soon as the ground is ready.

The question of seeds is an important one. Too many farmers neglect it and continue to sow old seeds over and over again, and then wonder why they do not have larger crops. It will pay every farmer to change his seed every three or four years at least. When he does change he should aim to get the very best quality of seed possible. This is the time of the year for securing good seed. Do not leave it off till the last moment when you will be too busy to make a proper selection. Write to the Experimental Farms at Guelph and Ottawa and get reports of the kinds of the various seeds which have given the best results, and make your selections accordingly.

### Dominion Butter and Cheesemakers' Association.

The first regular meeting of this organization was held at Woodstock, Feb. 23rd and 24th last. A full report of the proceedings will be given in next issue.

There are many things to be said in favor of such an organization. It should stimulate makers to do better work, and to protect their own interests. By co-operating in this way the makers can accomplish a great deal, not only in advancing their own interests, but in advancing the interests of the cheese and butter industry. The main object of such an organization should be to improve and keep up the quality of our dairy products. Of course any organization that tends to make the conditions surrounding the maker such that he will have more control over the milk he receives and will be able to pay wages sufficient to secure good help and first-class supplies must tend towards improvement in quality. In this way the new organization should do good and should receive the endorsement of everyone connected with the business, whether he is a practical maker or not. At the meeting last week, however, there seemed to be a disposition on the part of many of the makers to advance too fast and to adopt too radical measures at the beginning. Everything proposed was along the right line, but we question the advisability of pushing forward too many radical schemes at once. Such a course may serve to antagonize the milk producers and other factors in our co-operative dairy system before they thoroughly understand the aims and objects of the association. The better policy would be to complete the details of the association and get it into working order, and then secure the sympathy of these other factors. When this is obtained it will be an easy matter to have any reasonable measure adopted that will help the position of the maker. Our advice, therefore, to the new organization is to go slow. Farmers who supply milk to cheese and butter factories, and others connected with the trade, are amenable to reason, and when a measure is advocated that has for its ultimate object the advancement of the industry in which they are in-

terested, though it may be more directly in the interests of the maker, are not loth to adopt it.

### How to Cure Sheepskins.

A writer in an English exchange gives the following method for curing sheepskins:

"If dry, soak them in water till quite soft. Scrape off any flesh or fat which may be present. Now, well wash them in warm soap and water; wring out, but do not rinse. Then leave them for about two days in a mixture made as follows: To 5 gal. of soft water add 3½ lbs. of common salt, and stir well to dissolve. Then add 1¼ lbs. of commercial sulphuric acid, and stir again. It should now taste keen like vinegar, but should not burn the tongue. This mixture may cause the hands to smart a little, but will do no harm. Then rinse in cold water and wring out as dry as possible. Hang in the shade to dry. During the drying the skin should be rubbed between the knuckles, as when washing clothes, pulled, stretched in every way, and scraped. Any hard parts may be reduced with pumice-stone, though the knife acting as a scraper is quicker. As a finish, dust a little whiting over the skin, and rub this all over with pumice-stone. During the scraping and stretching, the wool should have been combed out, and not left till the skin had dried."

### Broad Tyres on Wagons.

Some interesting experiments have been made recently at the Agricultural Experimental Station, Ohio, comparing the draught of broad and narrow-tyred wagons. In nearly all cases it was established that the draught was materially lighter when tyres six inches wide were used than with tyres of standard width. On a macadam road, the same draught required to haul a ton load with narrow tyres hauled more than a ton and a quarter with broad tyres. On gravel roads the draught required to haul 2,000 lbs. with narrow tyres, hauled 2,610 lbs. on the broad tyres. On dirty roads, dry and hard and free from ruts, the broad tyres pulled more than one-third lighter. On mud roads, spongy on the surface and underneath, the broad tyres drew one-half lighter than the narrow tyres. On mud roads, soft and sticky on top and firm underneath and where they were wet to a great depth and the mud became stiff and sticky, the narrow tyres pulled lighter than the wide ones. With these exceptions the wide tyre pulled lighter in every case.

On meadows and pastures the results also were strikingly in favor of the broad tyres. When meadows are soft, from 3000 to 4000 lbs. may be hauled on the broad tyres with the same draught as that required to haul a load of 2,000 lbs. on the narrow tyres. The beneficial effects of the wide tyre on dirt was also strikingly shown in the tests. The results of these carefully conducted experiments prove almost conclusively that the broad tyre is the better one for those having heavy teaming to adopt. It should be of special advantage to the farmer for use in the fields and on the road. Aside from this, if all those who do heavy teaming would use broad tyres we would have better roads, or at least the roads would not be cut up so badly during wet weather as they are now.

### Keep More Sheep.

There can be no question about the fact that it would pay every farmer well to keep a few sheep. They are easily kept and consume food that is easily grown. We have pointed out frequently the fact that sheep are sure death to a great many weeds hard to eradicate. A Western writer draws attention to the fact that sheep are the most profitable animals on the farm, because they are double-headers and are not liable to cholera or other disease. However this may be, there is no doubt that sheep are not so much subject to disease as many other animals kept on the farm. Sheep will very often live on the weeds and grasses left by other animals. Then there is the question of care and attention. Though requiring

some attention they do not require half as much as the cow, nor as much even as the hog. Besides the profit from the wool each year, there is the extra profit from the lambs. Our climate is well suited for sheep rearing, and with some shelter during the winter, and with a good supply of suitable food, they will pass the trying season with comparative ease. Our motto to "keep more sheep" is one that every farmer should consider.

### NOTES AND IDEAS.

It is gratifying to know that satisfactory arrangements have been made between the military authorities and the Horse Breeders' Association in reference to the annual horse show. The show will take place early in May and will combine a military tournament and horse exhibit in one. This will make it doubly attractive and on a sufficiently large scale to ensure a larger attendance than ever of visitors from a distance. The prize list is now being prepared, and will be ready for distribution shortly.

A farmer in Nova Scotia recommends going back to the use of oxen for farm work instead of horses. He considers horses an expensive luxury. If a farmer only has one team of horses he has no driving horse, and if he uses his team for driving they are no use for heavy work, and when they get old are no use for anything, while oxen can be fattened for beef when they get a little old for work. This may be very good reasoning, but in these days of hustle in farm work, as well as in any other work, the farmer who contemplates going back to older methods will soon be behind in the race.

### CANADA'S FARMERS.

#### Mr. C. M. Simmons, Ivan, Ont.

We present this week the photo of a man whose smiling face, kindly ways and hearty welcome have become well known on the leading fair grounds of the province during the last twenty-five years or more.

Mr. Simmons was born in the township of Murray, East Northumberland, some sixty-five years ago. Schools were scarce in those days, and so were his chances for attending them. If his education was limited, nature made up for it by endowing him with untiring energy, keen perceptive faculties, and an unusual amount of good, sound common sense.

His life has been a very active one, and he has always worked with a definite end in view. Beginning with a very small financial start, in fact almost nothing, he has added to it until he now has over 500 acres of land in Middlesex county. He has always been a lover of good cattle, and early began fattening cattle for the British market. In fact, this is a hobby of his, and he fattens annually about one hundred head. For many years he bought and shipped cattle to the British and other markets, but of late years he has not done so.

As a feeder and dealer in live stock it is not surprising to learn that Mr. Simmons early invested in good representatives of the breed which he believed best adapted to produce the right kind of animals for the British market. He has been breeding Shorthorn cattle and Berkshire swine for nearly thirty years, and in this as well as in other things he has been very successful. During all this time, with the exception of a year or so, he has been a continual exhibitor at all the leading exhibitions. His stock have always won leading positions. This has been very gratifying, as Mr. Simmons has only shown one female not of his own breeding in all his show ring career. Last year a heifer of his breeding won the sweepstakes award at the leading exhibitions in Ontario. He has made a specialty of showing young stock.

Stock of Mr. Simmons' breeding have found their way into many of the leading herds of the province, and the foundations of some of the present successful herds were laid with his stock. Owing to advancing years, Mr. Simmons has decided to dispose of his fine herd of some fifty head March 18th. His attention in the future will be given to fattening stock.

Mr. Simmons has always taken an active part in everything that has had to do with the betterment of his neighborhood. He is no stranger to the various municipal offices. He was instrumental in starting the Lobo Fire Insurance Co., and was for a time its president. He has also been identified with the North Middlesex Agricultural Society, and has filled the offices of director and president. For some time he was a member of the board of directors of the old Agricultural and Arts Association, and is at present a director of the Dominion Shorthorn Breeder's Association.

**METHODS OF MAINTAINING THE FERTILITY OF LAND IN ORCHARDS.**

Synopsis of an address given by Dr. SAUNDERS, Director of the Experimental Farm, Ottawa, before the Ontario Fruit Growers' Association, at Waterloo.

The chief aim of all cultivation of the soil for all kinds of crops is to so treat the land that its fertility will be so maintained that crops can be grown indefinitely. To understand the proper manuring of the orchard it is necessary to know the composition of the soil and the amount of fertility removed each year by the growth of fruit trees.

The soil is a storehouse of fertility in which is laid up a treasure more valuable to the national life of the country than gold. There are many mineral constituents found in the soil, but only some of them are used by plants as food. The most important and most valuable of the plant foods found in the soil are nitrogen, phosphoric acid and potash. The following table gives an estimate of the amount of these plant foods in an acre of soil one foot deep. The samples of Canadian soils were analyzed by Professor Shutt, the chemist at the Experimental Farm, Ottawa.

In one acre of soil one foot deep.			
Soils from	Nitrogen	Phosphoric Acid	Potash
	LBS.	LBS.	LBS.
Eastern Canada, average	6,200	3,600	6,500
Northwest plains, average	10,000	5,000	10,000
European, average	7,500	3,600	5,300

It will be thus seen that our soils contain a large amount of the necessary plant foods, and also that they compare very favorably with the European soils. It will be necessary now to see what growing fruit trees take from the soil.

**Production of Apple Wood.**

Professor Shutt has analyzed a great number of samples of apple wood. It gives about 2 per cent. of ash. The ash contains about 3½ per cent. of potash, and 3¼ per cent. of phosphoric acid, and a much larger amount of lime. Thus 100 lbs. of apple wood takes from the soil less than one ounce each of potash and phosphoric acid and not more than three to four ounces of nitrogen.

Allowing that the trunk and branches of an average tree weigh a thousand pounds, then at the figures just given, one tree would take away from the soil from 2 to 2½ lbs. of nitrogen, and about 10 ounces each of potash and phosphoric acid. At thirty trees to the acre this would amount to 60 to 70 lbs. of nitrogen and about 19 lbs. each of potash and phosphoric acid per acre.

**Production of Leaves.**

One hundred pounds of mature leaves show by analysis about 14 ozs. of nitrogen, 3 ozs. of phosphoric acid, 6 ozs. of potash, and 14 ozs. of lime. One hundred pounds of young leaves taken the 25th day of May showed only 12 ozs. of nitrogen, a little more than 4 ozs of potash, and a little less than 4 ozs. of phosphoric acid.

In estimating the weight of leaves we have no basis to work upon, but the leaves on an average fruit tree would not weigh more than 100 lbs. This, then, at 30 trees to the acre

would mean a loss of 24 lbs of nitrogen, about 9 lbs of potash, 7½ lbs. of phosphoric acid, and 18 lbs. of lime. Since, however, the leaves fall to the ground and thus return to the soil much of what is taken from it, it is only fair to take about half this estimate as the annual loss of plant food by means of the leaves.

**Production of Fruit.**

About 80 per cent. of the fruit is juice, the rest is pomace. The juice is simply water containing from ¼ to 1¼ per cent. of oxalic acid, 6 to 12 per cent. of sugar, and a little flavoring material. Everything in the juice except the water comes from the air.

The pomace contains the core and seeds. The seeds are rich in nitrogen, and the forming and maturing of the seeds taxes the vital forces of a plant. Hence heavy crops are less trying on the trees if they are thinned out. It is better for the trees and the fruit is larger and of better flavor and quality. The capacity of the tree for future work is also economized.

One hundred pounds of apple pomace contains 4½ ozs. of nitrogen, 2 ozs. of potash, and less than ½ of an ounce of phosphoric acid. At 30 trees to the acre, each yielding six barrels of fruit annually, the loss to the soil would

be about 60 lbs. of nitrogen, 30 lbs. of potash, and 7 lbs. of phosphoric acid.

**The Waste per Acre.**

	The Waste per Acre.		
	Nitrogen	Potash	Phosphoric Acid
	lbs. ozs.	lbs. ozs.	lbs. ozs.
For total growth of the wood	2 8	10	10
For half the annual growth of leaves	12	4 8	3 8
For the annual waste in producing fruit	60	30	7
Total loss per acre	74 8	35 2	11 2

**How to Return the Waste.**

A ton of average farmyard manure contains from 8 to 10 lbs. of nitrogen, 10 to 15 lbs of potash and from 6 to 8 lbs. of phosphoric acid. So that an application of fifteen tons of well rotted farmyard manure every three years would more than supply all the plant food removed. But as this supply must reach the roots it must be liberal.

The nitrogen is best supplied by plowing down clover sown in the spring. The clover will also gather potash from the soil and when plowed down it too will be rendered available. It can also be supplied in the more expensive forms of nitrate of soda and ammonium sulphate. Potash can be supplied in the form of unleached wood ashes,

kainit, and as muriate of potash. Phosphoric acid can be supplied as ground bone, apatite, basic slag and superphosphate. Basic slag is decomposed by humus and vegetable acids in the soil.

**Losses by Other Fruits**

It will be seen from the foregoing tables that the greatest loss is with the fruit. The following table will give some idea of the losses which the other fruits cause.

Per 1,000 lbs. of fruit.	Potash.	Phosphoric Acid.
Apple	1 lb.	½ lbs.
Pear	2½ lbs.	1½ "
Plum	2½ "	1½ "
Peach	2½ "	1½ "
Cherry	2½ "	1½ "
Grape	7 "	3 "
Strawberry	5½ "	1½ "

The raspberry and blackberry take about ½ less potash than the apple. Knowing the drain these fruits make on the soil, we will be able to keep the soil supplied in a proper manner with the necessary manures.

See that the supply of fire wood for the summer is got into the woodshed ready for use. Don't leave it until it is wanted, or you will have to stop more important work to attend to it.



**WHEN THE SAP BEGINS TO FLOW.**

By R.S.G.A., in *The Westminster*.

When nights are clear, and frosts are keen,  
And the day is warm in the sun,  
The snow wreaths vanish like a breath,  
The sap begins to run.  
And thro' the bush with shout and song  
The merry toilers go;  
For the boys are out for work and fun  
When the sap begins to flow.

When trees are tapped, and the pails are hung  
For the nectar of the Spring,  
Then over the blazing maple logs  
The giant kettles swing;  
And the dipper that stirs the bubbling spoil  
From lip to lip doth go;  
For there's nothing so sweet as the syrup that's made  
When the sap begins to flow.

But it's best at dusk by the light of the flame,  
In the bonfire's smoky breath,  
Where shadows weird by the cauldron crouch  
Like the witches in "Macbeth";  
Shadows that gibber and clutch and writhe,  
With laughter echoing full;  
For it's work to carry the amber juice,  
But it's fun at the taffy-pull.

When night is clear, and the frost is keen,  
And the sap has ceased to run,  
And the sugar is caking clear and crisp,  
The work of the day is done,  
And thro' the bush with shout and song  
The weary toilers go;  
But they'll play it again on the morrow morn  
When the sap begins to flow.

**THE MOST PROFITABLE HOG.**

By SANDERS SPENCER, Holywell Manor, St. Ives, Hants, Eng.

Some weeks since Prof. Curtiss, of the Iowa Agricultural Experiment Station, wrote me that he was carrying on experiments to prove which of the various breeds of pigs were the most profitable to rear and fatten. He mentioned that he had a number of hogs of the Berkshire, Chester-White, Duroc-Jersey, Poland China, Tamworth, and large white breeds, and that the latter were descended from my stock. Such an experiment carried out with the great care which has always characterized Prof. Curtiss' work, could not be other than most interesting and valuable. To me his letter was pleasant reading, from the fact that some few years since I was presumptuous enough to occupy a pretty considerable amount of your space in discussing with eminent breeders on your side the value of certain breeds of pigs for the farm and the bacon market. My views were very hotly, but in the main courteously, contested. It is true that a little heat was generated at times, but nothing less is to be expected when an outsider has the bad taste to attempt to teach his grandparents either how to suck eggs or to breed the best and most profitable hog, more particularly when the outsider's remarks are not in favor of the particular kind of hog which we may be breeding, and which we look upon as well nigh perfection in the porcine world.

For opposition of this character I was quite prepared, as I was not unused to bringing down on my devoted head the blessings of those who did not appear to have quite kept up to the times in various parts of the fields of agriculture and stock breeding, and besides this I am inclined to look upon a fair amount of opposition as the salt of life; it braces one's energies and puts one on his mettle.

Your readers will readily understand how warmly I welcomed the results of these experiments, which go far to support my oft-repeated contention that the large white Yorkshire is the best general purpose hog. In almost every respect the large whites beat their competitors. It is true that the Chester Whites made a somewhat larger daily gain, the exact figures being 1.26 lbs. for the latter against 1.16 of the former, but this was made at an increased cost of some 10 per cent., as the Yorkshire made 1 lb increase at a cost of 1.9 cents, whilst the same gain of the Chester Whites cost 2.1 cents; and further, the meat of the large white was much superior. The gain of the Poland Chinas was somewhat less, as was also the cost per lb of increase, but here again the produce was of less value. The Duroc Jerseys proved slower producers of less valuable quality of meat at the same cost as the large whites; the Berkshires come out worse than I had expected, as the gain was small, 1.03 lbs. per day at a cost of 2.0 cts. per lb.; but the very worst figure is cut by the Tamworths, whose daily gain is only 1.0 lb at a cost of 2.1 cents.

If we examine the percentages of dressed meat from each of the breeds of pigs we find the Berkshires at the bottom of the list with 76.2 per cent., Duroc Jerseys 77.2, Poland Chinas 78.2, Chester Whites and Tamworths 78.4, and large whites far superior to all the others at 79.3 per cent.

There is only one other point to study, *i.e.*, the value of the hogs of the different breeds as determined by the quality, form, and leanness of the carcasses. In connection with this a curious circumstance is noticeable in that it proves that even the most experienced of the American pork packers are unable to realize the enormous value of the large white pig as a producer of a large amount of valuable meat in proportion to its appearance and weight when alive. When the pigs were sold at the show, one of the buyers of Messrs. Swift & Co., a most experienced man, estimated the value of the Berkshires and the Tamworths at \$3.80 per cwt., and the remainder at \$3.70 per cwt., live weight. How erroneous this estimate was soon became apparent, as the large white had over 3 lbs. of meat per cwt. of live weight more than the Berkshires, 2 lbs. more than the Duroc Jerseys, over 1 lb more than the Poland Chinas, and nearly 1 lb more than the Tamworths, whilst the carcass of the large white was declared to be quite the equal, if

**SCIENCE IN FEEDING POULTRY.**

By K. C. ALLEN, Coburg, Ont.

For some time past I have been in receipt of letters of inquiry upon all branches of poultry culture, and the question most frequently asked is, 'What shall I feed my hens to get eggs?' The query naturally suggests itself, why have we not a feeding standard for poultry, from which anyone may compute the values of the foods he uses in constructing a complete ration for the production of eggs and the growth and fattening of market poultry?

Experiments along this line by private enterprise are necessarily slow, and often conducted under unfavorable circumstances. This may partly account for the dearth of information on the subject, but it is to be regretted that the directors of our experimental and educational farms have not yet seen fit to place the feeding of poultry upon the same scientific and intelligent basis as that upon which advanced dairy and stock men manage their feeding operations.

stances together with another group of substances called carbo-hydrates which are not found to any appreciable extent in the body.

Water enters largely into the composition of the body and amounts to from forty to sixty per cent. of the living animal. The ash amounts to about five per cent., and exists principally in the bones.

Protein is the name given to a group of substances of which the white of an egg may be given as a type. All the machinery of the body, the brain and nerves, the internal organs, the organic part of the bones, the muscles and skin are largely composed of protein. The protein of feeding stuffs supplies the material for the growth of this tissue which may be either increase in bulk as in the growing chick, the maintenance of the body of the mature fowl, the growth of feathers or the production of eggs. For all these purposes no other ingredients may be substituted.

The uses of fat and carbo-hydrates are similar. They are burned in the body to produce the animal heat and to produce the force exerted in motion. If the supply in the food is greater than is needed for the production of heat and force the excess causes the laying up of fat in the body. One pound of fat is, however, equal to two and a quarter pounds of carbo-hydrates for these purposes.

Thus we find that protein serves a different purpose in the animal economy from what the carbo-hydrates and fats do; therefore the relative amounts of each in a given ration is most important. This relation is expressed by the term "nutritive ratio" and means the ratio of digestible protein to digestible carbo-hydrates, plus the fat.

A feeding stuff containing a large proportion of carbo-hydrates and fat as compared with protein, is said to have a wide nutritive ratio; a feeding stuff having a small proportion of carbo-hydrates and fat compared with protein is spoken of as having a narrow nutritive ratio.

It is plain that the proportion of protein in the ration should vary according to the purpose for which it is fed. If we are feeding for eggs sufficient protein to furnish raw material for this production, in addition to what is required to repair the waste of the body, must be supplied. If for fattening, only enough for the needs of the body, and the rest may be largely carbo-hydrates and fat.

In considering the component parts of a ration for laying stock, the aim of the egg-producer is to compound a ration which shall contain protein, carbo-hydrates, fat and mineral matter in proper proportions for the object he has in view. Eggs contain a large proportion of protein, about 16 per cent. together with 10.5 per cent. of fat, the shell being composed of mineral matter in the form of lime.

I have never heard that the digestibility of fowls in comparison with other farm animals has been determined, but it is reasonable to suppose that they assimilate as much of the digestible elements in food as other farm stock do. For lack of conclusive evidence on this point I have used the computation tables for farm animals and find that the rations giving best results in egg production have a narrower.

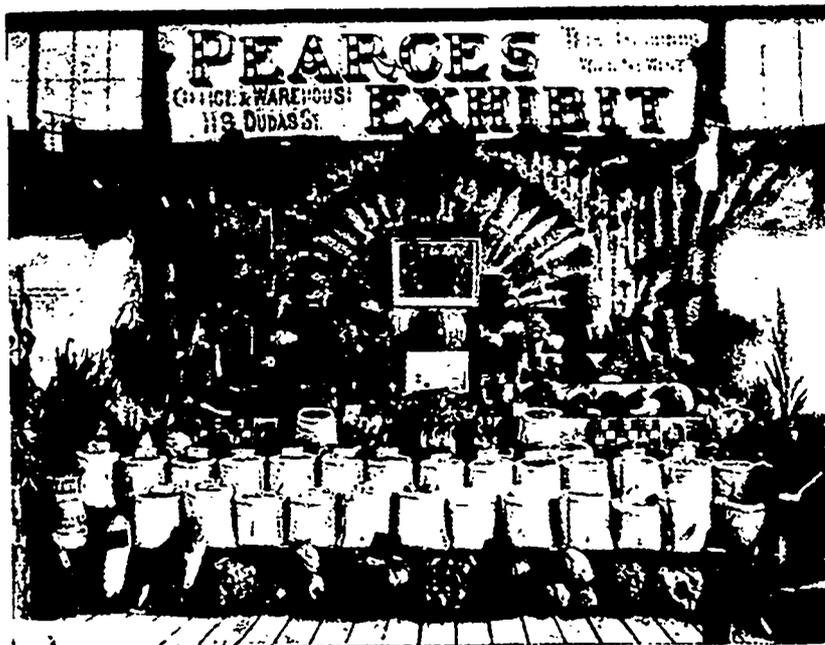


Exhibit of Jno. S. Pearce & Co. at the Western Fair, London, 1897.

not the superior, of the other two breeds more favored by the buyers.

The last and final stage of the experiment is yet to be carried out, it is the disposal of the various carcasses on the English markets. It was very possible that this may not be conclusive of the value of the different carcasses, as it will be dependent to some extent on the curing and the form in which the cured meat is sent over. The most valuable form is the Wiltshire cut, but then the whole of the carcasses are too large to realize the highest prices.

NOTE.—That our readers may better understand Mr. Spencer's letter we subjoin a table giving the results of Prof. Curtiss' experiments. We understand Prof. Curtiss intends repeating these experiments during 1898.

Breeds.	Average age.		Average weight.	Average daily gain per head.	Average cost of the feed for one lb. of gain.	Price paid by the packer on foot.
	Days.	Lbs.				
Berkshire	196	192	1.03	2.0	3.80	
Tamworths	212	208	1.00	2.1	3.80	
Yorkshires	221	225	1.16	1.9	3.70	
Poland Chinas	213	200	1.34	1.8	3.70	
Chester Whites	202	184	1.26	2.1	3.70	
Duroc Jerseys	209	207	1.09	1.9	3.70	

Bulletins are issued treating upon the computation of rations for dairy cows, sheep, swine and horses, but nowhere do we find anything for the enquiring poultryman. Much has been said about the importance of the Canadian hen, and surely the poultry industry deserves to have some of our leading poultry educators issue this information in such a form as will enable any poultry keeper to adapt his rations with some degree of accuracy to the object he has in view.

To go into the subject comprehensively would require more space than a short article would cover. I would like merely to place before your readers (so many of whom have written me about feeding for eggs), the result of a number of experiments and my own practical experience in feeding for egg-production during several years.

A brief synopsis of the general principles regarding the composition of animals and feeding stuffs, and the part served by the food in the animal economy will perhaps not be out of place. The body of a fowl is composed of water, ash or mineral matter, protein or albuminoids and fat. Feeding stuffs contain the same four sub-

ratio than that recommended for milk cows, viz., 1:5.4.

Several different rations that proved highly satisfactory, each having been used for a season, have had in each instance a nutritive ratio of about 1:4, that is one part protein to four parts carbo-hydrates and fat. That used during the present winter consists of feeding stuffs in the following proportions: clover cut fine, 3 lbs.; pea meal, 2 lbs.; canella, 4 lbs.; bran, 1½ lbs.; mangolds, 20 lbs.; wheat, 10 lbs.; corn (fed on cob), 6 lbs.; barley, 5 lbs.; lean meat or liver, 7½ lbs., and ground green bone, 7½ lbs. The above has a nutritive ratio of 1:4.07 and has given excellent results. It is fed at the rate of 7 oz. per hen a day, to pure-bred Leghorns. Barred Rocks receive more of the lean meat and less corn than is allowed the Leghorns, on account of their susceptibility to turn their rations into fat rather than into the egg basket. This experience has been confirmed in

adapted to the object he has in view, and also how much food should be given.

It might prove interesting and instructive if other practical poultrymen would give to your readers some of the rations that have given good results for egg production, stating the conditions under which they were fed, and also the breed of fowls. Bulletin 104, issued by the O.A.C., Guelph, will enable anyone to compute the value of the grain foods and vegetables used; and for those who may not be able to obtain the information readily I may state that the percentage composition of average ground green bone is as follows: Moisture, 34.2; fats, 20.5; ash, or mineral matter, 22.8; albuminoids, 20.6; undetermined organic constituents, 1.9. The ash contains 87.4 per cent. of phosphate of lime, 11.5 per cent. carbonate of lime, and 1.1 per cent. other mineral constituents. Liver contains 20.0

will infest the bodies of fowls, both summer and winter. They are often found in cold weather, because the birds are confined more closely, and do not dust themselves as frequently as in summer. Furthermore, many people do not think of lice as affecting their fowl only during the warm season.

There are many things used to exterminate these pests; various liquids, oils and powders are used to destroy the lice. The majority of them will also kill the fowl to which they are applied, and thus the remedy is often worse than the disease. I find that keeping the houses clean and giving the fowls plenty of dust in which they may dust themselves is the best and cheapest way to keep clear of lice.

*Clean the Houses.*—Houses should be cleaned twice a week, and after each cleaning the drop boards should receive a thin coating of air slaked lime. In summer sprinkle with kero-

a clear profit of one dollar a head; this year I will keep a hundred, and make a hundred dollars. That is all right, keep a hundred pullets and make a hundred dollars; but for mercy sake don't try to keep a hundred, or even fifty, in the same space in which you kept only thirty before. If you crowd the fowl in this way, the chances are that you will be a hundred dollars out of pocket. There is too much of that kind of poultry-keeping, and it is the kind that does not pay. If you have room for only thirty fowls, don't try to keep more.

*Utilizing Bulky Refuse.*—A large amount of valuable material may be utilized if it is cooked. Pea-pods, string-beans, apples, squashes, turnips, carrots, and all peelings from the house, if well boiled, will furnish a quantity of food that is really more serviceable than too much grain. Fowl of all kinds may be kept at but little expense by such a mode of feed-

#### MANURING OATS ON CLAY SOIL WITH PHOSPHORIC ACID.



No Phosphoric Acid

Manured with Phosphoric Acid in form of Bohemian Thomas-Phosphate.

Manured with Phosphoric Acid in form of Albert's Thomas-Phosphate.

Manured with Phosphoric Acid in form of Bone Meal.

Equal quantities of Phosphoric Acid applied in each experiment.

The above photo and the one on the next page are taken from an illustrated lecture on "Rational Manuring of Field Plants" by Professor Paul Wagner, Ph.D., Director of the Agricultural Station at Darmstadt, Germany. This photo shows the growth of the plants tested with different forms of fertilizers containing phosphoric acid.

other cases, notably one conducted at the Hatch Experiment Station, Amherst, Mass., when it was found that a ration having a nutritive ratio of 1:4.8 produced eggs at a cost of one cent per egg less than one having a somewhat wider ratio.

In all cases an abundance of pure, fresh water, grit and lime were supplied the laying stock.

It is not proposed to lay this down as an arbitrary rule, to be followed in all cases, but simply to give a feeding standard that in my own case and in that of several others has given the best results under ordinary conditions.

The proper ration will vary with the different breeds of fowls, the condition of the birds, the prices prevailing for the different feeding stuffs, and the conditions under which they are fed. The poultryman needs to know that for some purposes he requires more protein than for others. He also should know what proportion of protein to carbo-hydrates and fat is best

per cent protein, .05 per cent. fat, and .04 per cent. carbo-hydrates.

I had hoped that an abler pen than mine might be employed in bringing this subject to the notice of progressive egg producers. If some of our successful poultrymen will come forward with the results of their experience and practice, much may be done for the advancement of the science of feeding, and the discouragement of the hap-hazard methods now prevailing.

#### PRACTICAL HINTS ON POULTRY.

By J. B. CARR, Belleville, Ont.

*Save your Poultry.*—There is no enemy to poultry that compares in its destructiveness with the common hen louse. More fowls are lost every year from this cause than from any other, and it takes some people a long time to find this out. Lice simply worry the fowls to death. When nothing is done to prevent them they

sene emulsion, and scrub the roosts once a week with pure kerosene oil. The houses should be whitewashed once a month.

*Treatment of the Hen and Chicks.*—For lice I use a mixture of sassafras and sweet oils; shake well, and at night, every ten days or so, with the tip of the finger put a small amount of the mixture on the top of each chick's head and on the tail bone above the vent. Then hold each one over a sheet of paper and give them an application of Lambert's "Death to Lice." Coops should receive an application of kerosene oil. In feeding young chicks be careful not to feed them too much, as that is worse than not enough, for a chick that has too much feed will not grow as well as one that is fed often and a little at a time.

*Don't Crowd.*—This piece of advice is meant for those who kept a flock of pullets last year and made them pay a good profit. They now have the hen fever, and will figure thus: Last year I kept thirty pullets, and they made me

ing. It furnishes a cheap and nutritious diet, promotes health and prevents the fowls becoming too fat. In feeding such material no grain is necessary except at night, when wheat and oats should be given. Season all soft food with salt. A small quantity of linseed meal mixed twice a week in the morning mash makes the plumage glossy and keeps the comb in good condition. Fowls should have plenty of bulky food if they are to be made profitable.

#### ABOUT PLANT FOOD.

The need of artificial manures in this country has already been demonstrated. Unfortunately the proper manner of applying them is not as yet as well understood as it should be. Ignorance in this respect frequently causes complaints to be made that commercial manures are unprofitable. Some even go so far as to say that they are simply "stimulants," and act upon the soil very much in the same way as

alcohol acts upon the human body, "bracing" it up for a time, and after the effects begin to wear off, leaving it in a worse state than before. Such a statement is easily made off hand, but a little investigation will prove how inaccurate it is.

The commercial fertilizers on the market are compounded for the purpose of supplying three plant ingredients. These are phosphoric acid, nitrogen and potash. The mixture contains a number of other ingredients like soda, magnesia, etc., but no attention is paid to them for the simple reason that they exist in sufficient quantities in any soil to meet the demands of the crop. The purchaser, therefore, has only to concern himself about the phosphoric acid, nitrogen and potash in his fertilizer, but often the entire success or failure of his crop is to a great extent dependent upon the proportions in which these three important constituents are applied.

Before deciding how to apply fertilizers, the farmer should learn which fertilizers to apply. The best way to

After having brought a soil to this state, the next important point is to put on the fertilizers in such a way as to ensure conditions that will be favorable for the change from the solid to the liquid state, and also to allow a sufficient time for the transformation to take place. The great mistake so many make is in applying their fertilizers just at the time of sowing their seed, and as the fertilizers do not then have sufficient time to become dissolved and disseminated, the results are apt to be disappointing, especially during a season of drought, when there is but little moisture in the soil.

If the fertilizing materials are put into the soil some weeks before planting, they have a better opportunity to get into the proper condition. Some attention, however, must be given to the special action of certain fertilizer materials; for example, nitrogenous fertilizers like nitrate of soda and sulphate of ammonia are quite soluble, and if they were put into the soil too long before planting there would be a loss from leaching; such materials,

Don't allow your milch cows to drink impure water.

Don't allow your milch cows to go without salt.

Don't allow your milch cows to eat apples or refuse from the cider mill.

Don't allow your milch cows to eat rape or rye.

Don't allow your milch cows to be abused, whipped or run by dogs, or excited.

Don't allow your milkers to milk with dirty hands.

Don't milk in a dirty or filthy stable.

Don't leave your milk standing in the stable or barnyard.

Don't allow your milk to stand in an impure atmosphere.

Don't milk into wooden pails.

Don't allow your milk to stand in the hot sun.

Don't mix hot and cold milk together if you can avoid it.

Don't allow your cans of pure milk to be placed on a dirty, filthy wagon.

Don't allow whey to be taken home in your milk cans.

Don't draw cheese to the railway in

cheese, unless the cheese-maker or some one who knows is there to see every cheese boxed right.

Don't allow your cheese to leave the factory uncovered.

Don't allow anyone to put in the cheese which were left out by the buyer.

If you carry out all the above "Dont's" you will win.

A GOOD COW.

We have just received from Messrs. A. & G. Rice, Curries, a report of an official test for seven days of their celebrated Holstein-Friesian cow, Calamity Jane. She was calved January 6th, 1891. Her last calf was calved on November 12th, 1897, and two weeks later she was tested. The following is a summary of the test:

1897.	Lbs. of milk.	Average per cent. of fat.	Lbs. of fat.	Lbs. butter.
Nov. 26. ....	74.1875	3.73	2.7695	3.462
Nov. 27. ....	81.3750	3.6	2.9285	3.6618
Nov. 28. ....	80.321	3.38	2.713	3.392
Nov. 29. ....	81.0	3.4	2.750	3.638
Nov. 30. ....	82.437	3.25	2.6769	3.3462
Dec. 1. ....	80.687	3.4	2.743	3.429
Dec. 2. ....	80.93	3.5	2.834	3.543
Total. ....	562.9375		19.41	24.2716

It will thus be seen that Calamity Jane gave 560.93 lbs. of milk, containing 19.41 lbs. of butter fat, which would make 24.2716 lbs. of butter, containing 80 per cent. fat. During the test the cow's rations were 27 lbs. of bran, oat chop, pea meal, and oil-cake, 36 lbs. of ensilage, 30 lbs. of mangels, 10 lbs. of carrots, and 10 lbs. of hay per day. This is a heavy ration, but the results show that it pays to feed a heavy producer a large ration.

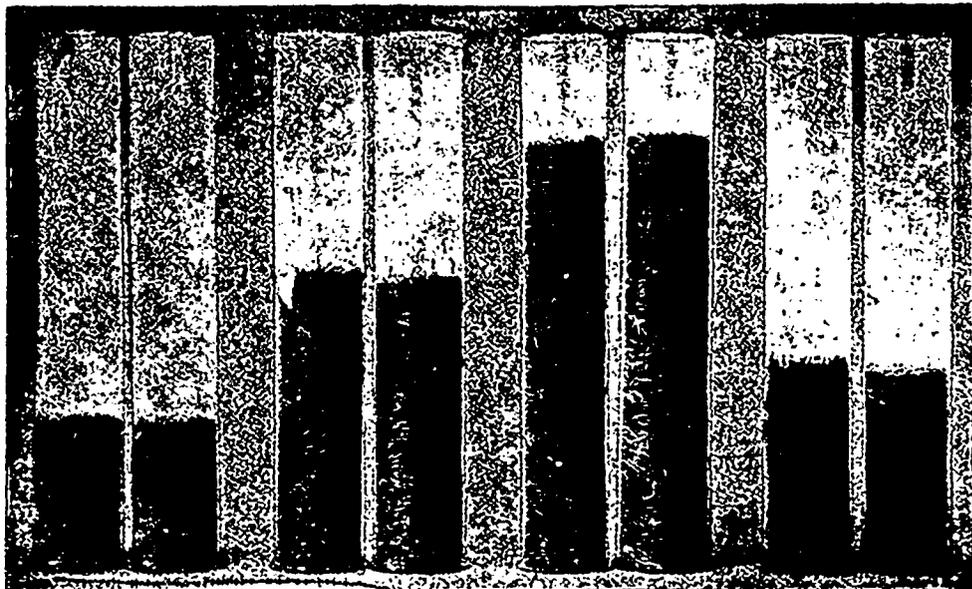
Messrs. Rice estimate that this ration costs 31c. a day. The aim, however, was not to see how cheaply, but how much milk the cow could produce. Taking it, however, as it stands, it shows that the butter cost less than 9c. a pound, and of course less than this if the skim milk were deducted.

A remarkable feature of the test was the amount of water the cow drank. She drank daily 200 lbs. of water besides the water in her bran mash. This strikingly shows the necessity of having a plentiful supply of water for milch cows, and also that this water should not be too cold, as it requires to be warmed to the temperature of the body.

Compared with the record made by Holstein cows tested in 1896 for the advanced registry of the American Holstein-Friesian Association, Calamity Jane would stand in 7th place, no mean place to stand in when competing against the best cows of the continent. The best cow tested in 1896 gave 27 lbs. 1 3/4 oz. of 80 per cent. butter.

The clover catch for a number of years has not been a good one, and many a field has missed its enriching influence. Clover seed is cheap this spring, therefore every farmer should aim to sow as much of it as possible. There is nothing equal to it for improving the character of the soil, for it gathers nitrogen from the atmosphere, and stores it in the soil. A clover sod nearly always gives a good paying crop.

YIELD OF THE CROP OF OATS TESTED WITH PHOSPHORIC ACID, AND SHOWN ON OPPOSITE PAGE.



No Phosphoric Acid. Crop: 4 ozs.

Manured with Phosphoric Acid in form of Bohemian Thomas-Phosphate. Crop: 8.2 ozs. Increase 4.2 ozs.

Manured with Phosphoric Acid in form of Albert's Thomas-Phosphate. Crop: 12 ozs. Increase 8 ozs.

Manured with Phosphoric Acid in form of Bone Meal. Crop: 5.4 ozs. Increase 1.4 ozs.

gain this information is by practical field tests. Apply different fertilizer combinations to different parts of the field, and then compare results. This is actually putting the question to the soil itself, and the answer is received in the shape of yields of varying proportions.

After having found the combination of fertilizers best suited to any particular soil, the next thing is to study the best manner of applying the same. The aim should be to give the food at such a time and in such a way that the plants can absorb and assimilate it to the best advantage possible. We all know that the plant food in the soil must first become dissolved before it can be taken up by the plants; hence, we should see that the soil conditions are favorable for the transformation of the fertilizing materials from the solid to the liquid state. This means that the soil should be reduced to the finest possible physical condition, as free from lumps as possible, and so well cultivated that it will afford an easy passage for air and water.

therefore, should be applied at planting time. Experience has demonstrated that nitrate of soda gives the best results when used in small doses as top-dressing throughout the growing season; in other words, applied at times when just needed by the plant.

The mineral ingredients, on the other hand—that is, the materials like acid phosphate and muriate of potash—will not leach out of the soil; in fact, they form combinations in the soil which holds them there. It is best to put on the potash and phosphate at least some weeks before planting, and then work them lightly into the soil.

If more attention were paid to the proper application of fertilizers, they would become more popular than they are at present on the farm.

A CHAPTER OF DONT'S.

Part of an address by A. F. McLAUREN, M.P., at the Western Butter and Cheese Association Convention, London, January, 1898.

Don't allow your milch cows to eat turnips.

a dirty filthy wagon, one which has been hauling manure the day before.

Don't allow your cheese-maker to buy second hand supplies.

Don't pay him such poor prices that he is obliged to use inferior goods.

Don't allow him to buy poor salt, poor rennet, poor bandage cloth, or anything poor, get him the best supplies and make the very best cheese.

Don't allow him to keep a dirty, filthy, slimy factory.

Don't allow him to go round with dirty clothes, dirty pants and dirty aprons which will stand alone.

Don't allow him to neglect curing his cheese, see that he keeps the fire on in curing room in spring and fall, and at the proper temperature.

Don't have a pig pen under your milk stand.

Don't allow your cheese to leave the factory an inch or two above the box.

Don't allow your cheese to leave the factory with the box above the cheese.

Don't allow your cheese to go to the railway station in the rain.

Don't allow anyone to box the

# The Ontario 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.

## 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' Association is 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 20,000 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 15th 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. The data will be published in the most condensed form.

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

## LIVE STOCK FOR THE NORTHWEST.

The third car of purebred live stock sent to the Northwest under the auspices of the Dominion Cattle, Sheep and Swine Breeders' Associations, is about to start. There is yet room for three animals. Parties wishing to send purebred live stock to the Northwest at reduced rates are respectfully requested to correspond with me at once.

F. W. HOBSON,  
Parliament Buildings, Toronto.

## CIRCULAR TO BREEDERS, IMPORTERS AND EXPORTERS OF PURE-BRED LIVE STOCK.

Transportation of Pure-Bred Animals by Freight in Ontario.

The Transportation Committee of the Dominion Cattle, Sheep and Swine Breeders' Associations met the representatives of the various Canadian Railways, and obtained the following reduction in shipping weights of purebred animals. The weights at which purebred animals will hereafter be carried by the Canadian Railways are as follows. The charge per cwt. remains as heretofore:—

	Pounds each
Bull calves, 6 months old and under	500
Bulls and bull calves, over 6 months and under one year old	1,000
Bulls, one year and up to two years	2,000
Bulls, over two years old	2,500
Cows, one animal	2,000
Cows, two animals in same car	3,500
Cows, three animals in same car	5,000
Each additional animal in same car	1,000
<i>(Must be from one shipper, to one consignee, in one shipment, to one destination.)</i>	
Heifer calves, 6 months old and under	500
Heifer calves, over 6 months and up to one year old	1,000
Heifers, over one year and up to two years old	1,500
Heifers, over two years old, same as cows.	

Certificates of registration must, in all cases, be produced by shipper. Agents will take note of particulars as to name of animal and age, and keep record of same. Also make note of billing accordingly.

Pedigreed stock, as above, may be taken without men in charge, provided owners sign the usual contract releasing the company from liability in consequence thereof.

The above special estimated weights will only apply when owners sign the usual valuation agreement for ordinary stock. If extra values are declared the weights and rates will be as per classification for valuable stock, page 42, classification No. 10.

Freight Rates on Pure-Bred Cattle, Sheep and Swine from any point in Ontario to any point in Manitoba and the Canadian North-West.

The Joint Transportation Committee has also arranged with the officials of the Canadian Pacific Railway and the Grand Trunk Railway to carry purebred cattle, sheep and swine, in car loads, from any point in Ontario and Quebec west of Montreal, at the rate charged on settlers' effects. The charge for a car load of purebred stock from any point in Ontario to any point in Manitoba and westward may be learned from any agent of the C.P.R. or the G.T.R., and is published in the pamphlet known as "F. T. No. 45, Canadian Pacific Railway Special Through Westbound Tariff on Settlers' Effects." The rate for a car load of 20,000 pounds from any point in Ontario or Quebec, west of Montreal, to Winnipeg, is \$72 per car load; to Regina, \$90; to Calgary, \$114; and corresponding rates to all other western points. (The rates hitherto in force for a similar car load have been—to Winnipeg, \$130; to Regina, \$164; to Calgary, \$202; and these latter rates are now charged for animals not recorded.)

### Rates to British Columbia.

A car load of purebred stock weighing 20,000 pounds, may now be sent to New Westminster, B.C., for \$251.

Mixed Car Loads May Be Shipped at the Above Reduced Rates.

The officials of the C.P.R. have recently granted the following additional concessions to shippers of purebred live stock to Manitoba and the Northwest: A mixed car load of purebred live stock and settlers' effects may now be carried at the above reduced rates, provided that the goods and live stock (other than the purebred animals) are for a bona fide settler who is going to Manitoba or the Northwest for the purpose of taking up land and farming thereon. To obtain this privilege special arrangements must be made; this can be done by corresponding with the Secretary.

Settlers' effects, within the meaning of this tariff, may be made up of the following described property for the benefit of actual settlers, viz.: Live stock, any number up to, but not exceeding ten (10) head, all told, viz.: Cattle, calves, sheep, hogs, mules or horses; household goods and personal property (second-hand); waggons, or other vehicles for personal use (second-hand); farm machinery, implements and tools (all second-hand); lumber and shingles, which must not exceed 2,500 feet in all, or the equivalent thereof; or in lieu of, not in addition to the lumber and shingles, a portable house may be shipped; seed grain; small quantity of trees or shrubbery; small lot live poultry or pet animals; and sufficient feed for the live stock while on the journey.

All, or any of these goods may form part of a car load if shipped in accordance with these conditions; the remainder of the car may be filled with purebred live stock.

Under the new arrangements it is not necessary to load all the animals composing a car load at one point, i.e., part of a car may be loaded at London, part at Woodstock, part at Toronto, or at any other stations on the direct line between the starting point and the destination of the car. No additional charge will be made for a car so loaded except shunting charges, which are \$3 for the first stop, and \$2 for each subsequent stop.

One man will be passed free with each car load, and he will be returned from the destination of the car to the original point of shipment at one cent per mile, second class. All animals (except those classified as above as settlers' effects) sent at the above rates must be purebred, and shipped for breeding purposes only; and a certificate of registration for each animal must be presented to the agent at the shipping point. After being examined by the agent, each certificate will be returned to the shipper.

Parties who wish to ship single animals from any point in Ontario to Manitoba and the west, may do so at car load rates by corresponding with the Secretary of the Associations, and as soon as enough animals to fill a car are offered, the car will be forwarded in charge of a suitable attendant. The price charged for the transportation of such animals will be about \$12 per head for cattle when sent to Winnipeg. If sent to Regina, the charges will be about \$15 per head; and to Calgary, \$18. Young cattle, and sheep and swine will be carried at proportionate rates. The above charges include feed and attendance.

The above rates are approximate. If the car is full of animals of medium size, the animals may be carried for less than the sum stated; if the animals are very large and the car not full, the price charged may be in excess of the sums given. Every effort will be made to economize and deliver the animals as cheaply as possible. Each shipper will be required to pay shunt-

ing charges necessitated by his shipment. Freight in all cases should be prepaid.

In regard to unloading and the final distribution of purebred stock shipped from Ontario to points in the Northwest, the following arrangements have been made with the C.P.R. The car containing stock shall be way-billed through to the farthest point of destination, and may be stopped off at intermediate points on the direct line to unload animals. Two dollars will be charged for each time the car is stopped. That is, a car may leave Toronto containing animals bought by persons residing in or near Winnipeg, Portage la Prairie, Brandon, Regina, Prince Albert and Calgary. This car may be billed through to Calgary, and the car stopped at Winnipeg and animals unloaded. It may again stop at Portage la Prairie and animals again dropped off, so also at Brandon and Regina. The animals intended for Prince Albert would require to be transhipped at local freight rates from Regina to Prince Albert; the car would then proceed to Calgary. Two dollars will be charged for each of these stops, excepting the one at Calgary, which is the destination of the car. All animals transhipped from a central point over branch lines will be charged local freight rates.

The following circular dealing with local freight rates has been issued to agents, shippers and consignees by the Canadian Pacific Railway lines, west of Lake Superior, Manitoba and Northwestern Railway, and the Great North western Central Railway.

### Reduced Rates for Shipment of Thoroughbred Cattle, Sheep and Swine.

In order to encourage the introduction and exchange of thoroughbred cattle, sheep and swine in the agricultural districts of Manitoba, Assiniboia, Alberta, Saskatchewan, and British Columbia, shipments will be accepted for carriage, in less than carload lots, at a reduction of 50 per cent. from published tariff rates between stations on all lines west of Lake Superior.

To entitle shipments of aged (full grown) cattle, sheep and swine to this concession in rate, the owner or agent must produce to the shipping agent a properly attested descriptive certificate that the animal is purebred, and admitted to full registry in a book of record established for that breed.

Unregistered young stock will be accepted for shipment at the same discount when accompanied by the breeders' statutory declaration, descriptive of the animal and its pure breeding, showing that it is eligible for registration and that written application for a certificate has been made to the secretary of the book of record for that breed.

Agents are expected to examine the stock offered for shipment under the terms of this circular, and to see that the animals agree with the descriptive pedigree or statutory declaration provided by the shipper.

Way-bills for aged stock (full-grown)

must give a description of the animals, the number of the certificate, name of herd-book, etc.

Way-bills for unregistered young stock must give a description of the animal and bear notation that breeder's declaration was produced and is on file with the agent's copy of live stock contract.

The owner or agent will be carried in charge on the same terms and conditions as prevail in the handling of ordinary stock.

Rates Charged on Animals Shipped from Ontario to Exhibitions in Manitoba and the West

The C.P.R. will carry animals from Ontario to the Northwest for exhibition purposes at the reduced rate per carload, and will return the same at one-half the going rate. For instance, a shipment to Winnipeg would be charged \$72. If returned to the original point of shipment the rate would be \$36 in addition to the \$72, total \$108, from any point in Ontario west of Montreal to Winnipeg. Corresponding rates to other points.

An attendant will be carried free with each carload.

Complaints have recently reached my office from breeders residing near outlying stations in the Province of Ontario that they cannot obtain the privileges outlined in this circular. The complaint sometimes has been that the reduced weight rates given herein were not allowed by certain station agents, or that the reduced rates for carrying purebred animals are not known and not granted by certain agents. In every case of this sort that has been brought to my notice I have appealed to the railroad authorities, and in every case I have obtained the required rebates. Hereafter if any shipper of live stock fails to readily obtain the privileges herein outlined, if he will communicate to me by letter, telegram, or telephone, I will have no trouble in having the matter immediately set right.

Further particulars may be had by applying to the general or local freight agents of the C.P.R. or the G.T.R., or F. W. Hodson, Parliament Buildings, Toronto, Ontario. In case any shipper fails to obtain any of the above freight rates, such a one is respectfully requested to immediately write or telegraph full particulars to the undersigned.

F. W. HODSON.

N.B. The rate of \$251.00 to New Westminster, B.C., which is given above, will also apply to Vancouver.

Secretary Dominion Cattle, Sheep and Swine Breeders' Associations.

Parliament Buildings, Toronto, February 23rd, 1898.

Telephone No. 4461.

LAMBING TIME.

NECESSARY PREPARATIONS AND PRECAUTIONS.

All flocks should be looked over now and the shearlings placed in a pen by themselves. They are not such hearty eaters generally as the older animals and will not get a fair chance among them.

Separate all shy eaters and thin ewes into a pen by themselves so that they can be better fed or coaxed a little. Otherwise they will not be in the best shape to come through the

lambling season successfully and to do well by their lambs. Thin ewes are often an indication that the fetus is making too heavy demands on the vitality of the ewe.

If the ewes have been forced by high feeding at the time of conception they are likely to have a larger number of lambs, but if they have been let down in their feed during the early part of the gestation period, as is the general practice, they may require very careful handling or a large measure of this increase may be lost. Don't lower the feed too much. From now on the ewes should have a good substantial diet. The fetus will soon begin to make more exacting demands on the system of the mother. Therefore the feed should be sufficient to meet this, or otherwise there will be a demand made on the vital energies of the ewe, and she will come to the lambing time with impaired constitutional vigor. The result will be a greater loss both of ewes and lambs than there need have been. If death does not occur the constitutional vigor of both the ewe and lamb may be so impaired that no after amount of liberal feeding will make up for it.

Try to prevent crowding as far as possible by having wide doors to the pens. See that the ewes are sheltered from rainstorms.

A great many early lambs are lost from preventible causes, simply because no preparation has been made for them. Have the lambing pens ready in plenty of time so that the first lambs can have the proper attention. The early lambs are generally the most profitable ones; get ready for them.

PRACTICAL ADVICE FOR MANITOBA FARMERS.

At a recent meeting of the South Brandon Farmers' Institute, Mr. S. A. Bedford, superintendent of the Experimental Farm at Brandon, gave a most interesting address. He advised the farmers not to try too many new varieties of spring wheat, but rather stick to the old well tried Red Fife. A great deal could be done to improve the yield of wheat. Clean, pure seed wheat was badly needed. He urged every farmer to select a quantity of pure seed, sow it on clean ground, and save it carefully for seed the following year.

He gave examples from his work on the Experimental Farm, showing the value of thorough work in preparing the land for wheat. On land on which the stubble was burned off, disc-harrowed, then the seed drilled in, the yield was thirty bushels per acre; on land burned, then seed drilled in, the yield was twenty four bushels per acre; on

land on which the seed was drilled in without the stubble being burned, the yield was only twenty-three bushels. There were more weeds in the crop on the land not burned off than in the others.

Wheat grown on land that had been summer fallowed produced thirty-five bushels per acre, on land plowed in the spring twenty-eight bushels, on land plowed in the fall twenty-six bushels. On land which had been treated as a summer fallow then oats sown on it and pastured off by stock, the yield of wheat was thirty-four bushels. Where the oats were cut and taken off the ground for green feed, the yield was only twenty two bushels. The best variety of oat at the farm was the Banner.

He advised the farmers to seed down at least once in four years, and recommended Brome grass as the best grass to sow. He had had great success with clovers, and was better pleased with corn silage than roots for winter feeding.

He advocated flat cultivation for potatoes. After planting them harrow the land once a week until the potatoes were four inches high and don't mould up too high. Farmers could grow all their own small fruits if they only give the subject a little attention. He saw no reason why every homestead should not have a good wind-break around it.

MARKETING A HORSE.

We would advise those who have horses to sell this spring to get them in proper shape. A farmer can fit a horse just as well as a regular horse-dealer if he will set to work in the right way. Don't let the horse run to the straw stack all winter, then when the buyer comes tell him that the horse never had a blanket on him and that he will make a beautiful horse when he is in shape. It costs time and money to put the horse in shape and you may just as well have that money as the dealer. Someone is going to get it and you may as well make a bid for it.

Put the horse in a good stable, feed him well, give some laxative food every day and thus put the digestive organs in good working order. Now slick up your horse, trim up his ears, cut his whiskers, singe off the long hair over the body, wash out his tail occasionally and thus make him more presentable or really more marketable. See that he has a thorough grooming every day and that a good blanket is kept on him. It takes plenty of elbow grease along with good feed to make his coat shine.

First impressions go a long way in

influencing the prospective buyer therefore have the horse well halter-broken. Keep a good halter on him and train him to look well at the halter, both when standing and in action. Teach him to hold up his head and look alive, smart and active. Give him exercise every day at this so that he will know his lessons without prompting when the buyer comes to see him.

Train him in harness the same way. Drive him at that speed at which he will show the cleanest gait and best style of action and no faster. There are plenty of "three minute" horses in the country if their owners are to be believed, but that speed is too fast for city driving or comfortable driving anywhere, or to show a horse's best action. So drive your horse at the speed best suited to him and don't try to see how fast he can go. Attention to these things will put some of the money in your pocket that would otherwise go into the pocket of the horse-dealer.

BOOKS AND BULLETINS RECEIVED

Ducks and Geese, Standard Breeds and Management. By G. E. Howard. Farmers' Bulletin No. 64. Care of Milk on the Farm. Farmers' Bulletin No. 63. By R. A. Pearson, B.S. Department of Agriculture, Washington.

Stock Feeding Suggestions. Bulletin No. 39. Maine Experiment Station, Orono, Maine.

**FREE** Government Free Seeds are simply "not in it." To illustrate the best Michigan Northern Green New Land Seed Potatoes, Farm, Garden and Flower Seeds everywhere. I will give away **ABSOLUTELY FREE** 500,000 Packets of choice Vegetable and Flower Seed. Your name on a postal card wins you Free Seed Book from which you may select from our supply. Write today an entire garden. Write today. **HARRY N. HARMOND,** Seedsman, Box 4, Oscatur, Mich. **SEEDS**

WANTED

**A DAIRYMAN** to take charge of the Dairy department; one who can handle a steam separator and make gilt edged butter.

**A CATTLEMAN** to take charge of a herd of Dairy Cows; one who thoroughly understands the breeding of and caring for dairy cattle.

**A VEGETABLE GARDENER** A thoroughly competent man; none but clean, tidy and trustworthy men need apply. References as to character and ability must accompany applications.

THE BOW PARK CO., LIMITED BRANTFORD, ONT.

**Seed Raised** from carefully selected cabbage, onion, carrot, beet, etc., and yet at as low prices as seed raised from trash. Try the Surprise, I'm warranted to be the very earliest of all the wrinkled sorts. Try the Enormous potato (64 bush per measured acre) the best of all the early sorts, the new cabbage, cucumber, lettuce, etc. To have the best garden you will need our catalogue. It contains the best varieties of vegetables, many of them of our own raising. The Flower Seed page is of particular interest to wife and daughter. It is Free. **JAMES J. H. O'CONNOR & SON,** Established 43 years. Marlborough, Mass.

**"Alpha" DeLaval Separators** Capacity from 175 to 2,500 lbs. per hour. Retail Prices from \$65 to \$500 each. The closest skimmer and best machine on the market. Gives perfect satisfaction wherever used. Send for Catalogue and full particulars. **Canadian Dairy Supply Company,** The Ballantyne Dairy Supply Co., Stratford, Ont. 327 Commissioners St., T. A. McLean & Co., Charlottetown, P.E.I. MONTREAL, CAN. T. L. Walworth, Vancouver, B.C.



CORRESPONDENCE.

BUSINESS METHODS IN FARMING.

Mr McPherson's Letter Criticized.

Editor of FARMING

The publication of "Business Methods in Farming," by D. M. McPherson, Lancaster, Ont., in your issue of December 28th last, has been of great interest to the writer as a study in higher thought for progressive farmers. The article is one which has attracted a good deal of attention among reading and thoughtful farmers. It certainly merits much good discussion if those interested would take the time upon it.

I made a few critical notes upon it the first time I read it, so as to act as a stimulant to thought and to better enable me to expand upon these thoughts should the occasion arise. Therefore I now submit at the first convenient opportunity a few of the observations I have made, and I trust that others will follow in order to help those who are anxious and willing to learn:

1. Mr. McPherson's method of farming is of great value from a practical as well as a scientific standpoint, because it is constantly increasing the fertility of his land in three ways—

(1) Exclusive growing of green food, silage corn, and pasture.

(2) Feeding on the farm all crops produced.

(3) Buying grain and millfeed for extra feeding.

The principle of this method every intelligent farmer knows, but it is one which a very small proportion practise. It is somewhat analogous to borrowing money, which, on returning to the lender, brings with it an interest almost equal in amount to the principal; hence the increased value each year of Mr. McPherson's farm.

2. In discussing with farmers the financial part of Mr. McPherson's work I observe that a portion of them are inclined to doubt his figures respecting the amount of clear profit. The only apparent error that I have found, however, that would tend at all to raise the suspicions of the sceptical is a difference of \$15.50 in the two items of pork and veal sold, recorded in the inventory and cash accounts. It is interesting to note, however, that the balance to Mr. McPherson's credit upon his capital investment is over 11 per cent. The average farm in Ontario scarcely pays one per cent., while rented farms, free from mortgage, etc., scarcely net the owners 3 per cent.

There are several other matters I would be pleased to discuss, but shall leave these for a future opportunity.

W. J. THOMPSON.

Lake Shore Farm, Bronte.

QUESTIONS AND ANSWERS.

CAPACITY OF ROUND SILOS.

R.W.N.: I intend building a round silo outside of my barn. (1) I would like to know which kind of lumber would be the best, rock or soft elm, hemlock or tamarack. (2) I can get tamarack 2 1/2 ft. in length, would it be as durable as the hemlock? (3) Does the foundation of a silo require to be level with, or lower than, the surface of the ground (the land is dry.) (4) There are no round silos in this neighborhood, so please state the capacity of a silo. (5) Which kind of power would be the best for cutting straw, corn and crushing grain, wind, tread or horse-power?

1, 2. Our choice would be the hemlock. Both the rock and soft elm are too twisty in their nature to work in a stave silo. The hemlock would be more satisfactory than the tamarack.

3. The foundation can be either level with, or lower than the surface of the ground. If necessary the site could be set a foot or so in the ground, but the extra labor of getting the silage out of this level is often much greater than it would be to build the silo on the level and elevate the corn that much higher to begin with. Build on the level, throw up a little earth against the wall on the inside and the same on outside. On the outside it is a good plan to put a layer of old lumber next to the silo to prevent the earth coming in contact with the silo walls.

4. On an average well pressed silage will weigh about 40 lbs. to the cubic foot, thus requiring 50 cubic feet for a ton.

APPROXIMATE CAPACITY OF ROUND SILOS IN TONS.

Depth in feet	Inside diameter in feet.				
	14	15	17	19	22
20	45.64	58.74	85.65	104.6	125.1
21	47.24	60.09	87.50	106.57	127.5
22	48.88	61.58	89.42	108.54	130.5
23	50.55	63.11	91.41	110.5	133.5
24	52.24	64.68	93.37	112.5	136.5
25	53.96	66.29	95.4	114.5	139.5
26	55.7	67.94	97.5	116.5	143
27	57.46	69.63	99.67	118.5	146.5
28	59.24	71.36	101.86	120.5	150
29	61.04	73.13	104.1	122.5	153.5
30	62.86	74.94	106.4	124.5	157

5. Wind power is not satisfactory for filling a silo, you cannot depend on it. Many silos are filled by tread power very satisfactorily. Steam power is the best for filling a silo. For other seasons of the year we prefer either wind or tread power.

SPRINGHALT.

Subscriber, Asa: I have a horse that has a slight touch of springhalt. Can anything be done for it?

Springhalt is generally considered incurable. An operation is sometimes performed for it, and is said, in some cases, to be beneficial. Better consult a qualified veterinary.

MANITOBA POULTRY SHOW.

Manitoba is beginning to show the world that she can do other things besides grow wheat. The meetings of the dairymen, stockmen and poultrymen, held a week ago in Winnipeg, call attention to interests that sooner or later are bound to become very prominent features of Manitoba agriculture.

The number of exhibits at the Manitoba Poultry Show were one-third more this year than they were in 1897. The quality was equally as good and the variety even greater. The increase in the number of entries shows that greater interest is being taken in poultry, and we may soon look for a rival at Winnipeg to our large poultry shows in the east. The judging was done by Mr. Butterfield, who scored all the birds. The exhibits of pet and fancy stock were also large and good, so that altogether the Manitoba Poultry Association has good reason to be proud of its 1898 show.

Publishers' Desk.

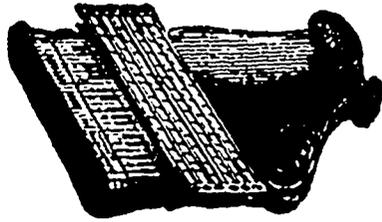
Seed Facts to be Relied Upon.—The latest catalogue of the seed growing firm of J. J. H. Gregory & Son, of Marblehead, Mass., describes some valuable results achieved by this long-established house, in which two generations have devoted brains and energy to improving squashes, cabbages, potatoes, peas and other vegetables. In new varieties and old ones this firm has always been found reliable. They have always taken great pride in the purity and standard excellence of their seeds and in this respect, as well as in fairness of prices, they have an enviable reputation. They will send their catalogue free on request.

Wallace & Fraser, St. John, N.B.—"If you wish to increase your soil and to store it with a supply of phosphoric acid which will serve for fowling lands, meadows, vineyards and fruit gardens, etc., no phosphate is better at present for this purpose than Albert's Thomas-Phosphate Powder. Let me give an example: Supposing that you lay down a field of grass and wish to supply the land with a

WE CAN PLACE A FEW MORE GOOD AGENTS

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EVERY HARP GUARANTEED CIRCULAR FREE.



Heretofore only two of our Harps could be made to produce ALL CHORDS IN ALL KEYS; after this date every

APOLLO HARP

(except 4 and 5) will do so. Every chord you can get on a piano you can get on these harps, and absolutely no discord. Play it in One Week.

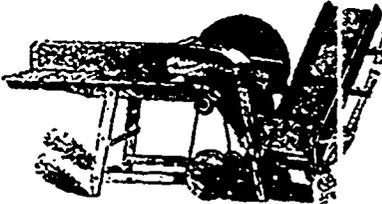
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TORONTO

The Ripper Feed Cutter



The best machine made in Canada. It leaves the corn stalks pulped and in good condition for feeding, and makes them easy to digest.

Will cut hay or straw. The RIPPERS are made in four sizes: 12 and 15 inch, for horse power; 15 and 20 inch for steam power. Hundreds of these machines in use.

The original BLOWER ELEVATOR SILO FILLER has many imitators, but all efforts to imitate it are failures. Farmers prefer the original. We give them the benefit of years of experience.

WATFORD TREAD POWERS still lead. We lead in all lines.

For prices and testimonials apply

THE FARMERS' AND STOCKFEEDERS' FAVORITE MACHINE

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\$10.00

Will buy a new 100 egg Wagner Incubator complete. This offer will be good for ten days.

Apply at once.

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Life Size Pictures made from any of your small Photos, A. 1, at a very low figure.

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2,000 Cream Separators

This is the size of one single order given for

MELLOTTE HAND SEPARATORS

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Easiest Driving Highest Capacity High-Class Construction

CAPACITIES, 330 to 850 lbs. PRICES, - - \$100 to \$185.

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IMPORTANT SALES

—OF—

Pure-Bred Stock....

—IN ENGLAND

JOHN THORNTON & CO. will sell by auction as follows:

FRIDAY, MARCH 25.—Mr. W. H. Fowler's entire prize herd of GUERNSEY CATTLE at Reading.

WEDNESDAY, MARCH 30.—Captain Duncombe's herd of prize SHORTHORNS at Wareley Park, Huntingdonshire

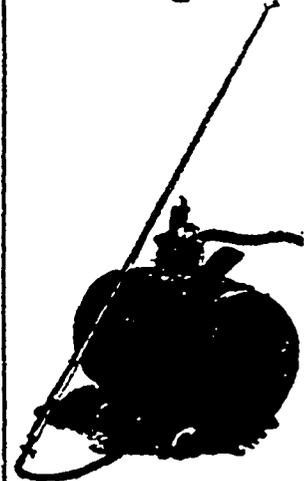
THURSDAY, APRIL 7.—A number of superior young SHORTHORN BULLS from first-class herds at Dringhouses, York.

SATURDAY, APRIL 23.—Selections from the first-class herds of JERSEYS belonging to Hugh C. Smith, Esq. and Harry McCalmont, Esq., at Mount Clare, Roehampton, Surrey.

THURSDAY, MAY 5.—The entire herd of SHORTHORNS belonging to Sir Mark Collet, Bart., at St. Clare, Kemming, Severnolds, Kent.

Catalogues may had of JOHN THORNTON & Co., 7 Princes Street, Hanover Square, London, England, who will execute commissions and undertake shipment.

"The Spramotor"



It has received the Highest Awards wherever shown, and also received the First Place at the Government Spraying Contest at Grimby

CERTIFICATE OF OFFICIAL AWARD:

This is to certify that at the contest of Spraying Apparatus held at Grimby on April 2nd and 3rd, 1906, under the auspices of the Board of Control of the Fruit Experimental Stations of Ontario, in which there were eleven contestants, the Spramotor, made by the Spramotor Co., of London, Ont., was awarded First Place.

H. L. HURT, } Judge  
M. PERRY, }

Catalogue and Price List on application.

Agents wanted. SPRAMOTOR CO. Mention FARMING. 357 Richmond St., LONDON

supply of phosphoric acid sufficient for say four years. Should you now apply this in the form of superphosphate? No, that would not be reasonable. The quantity of superphosphate required would be far too large; it would probably have an advantageous effect for the first year but would let the plants starve for want of phosphoric acid in the third and fourth years, for the plants would cause a great waste of phosphoric acid during the first year, and would surfeit themselves without yielding a correspondingly larger increase. You may, without hesitation, however, consign the phosphoric acid in the form of Albert's Thomas-Phosphate Powder. The plants will suffer no harm, and will not take up too much phosphoric acid during the first year; the Thomas-Phosphate Powder will supply the plants with phosphoric acid equally during the four years, and the cost of the manure will not be so great as that of superphosphate."—Dr. Paul Wagner, Ph.D., Director, Agricultural Station, Darmstadt, Germany.

**J. S. Pearce & Co., London.**—Our readers will be interested in the photo we give this week of J. S. Pearce & Co.'s exhibit at the Western Fair, London, last September, for which they were awarded a gold medal. This handsome exhibit contained samples of nearly five hundred different varieties of wheat, oats, corn, peas, beans, barley, millet, buckwheat, tares, tomatoes, beets, pumpkins, potatoes, squashes, melons, mangels, carrots, turnips, and other farm and garden seeds. Large as the number is, it is only a small proportion of the many varieties tested at their "Rosedale" trial grounds. Messrs. J. S. Pearce & Co. exercise great precaution in testing all new varieties, so that customers can rely upon the purity and superiority of their seeds. They have also introduced the last few years a number of grains and roots that have proved superior to all others grown in the province. We have made special arrangements with this leading seed firm to supply us with collections of garden seeds specially selected and adapted to farmers' gardens. These selections are made with great care, and specially chosen from varieties which we can confidently recommend to our patrons. Details of our special offer will appear next week. Messrs. J. S. Pearce & Co. will be pleased to send their valuable seed catalogue to any one desiring it.

**Stock Notes**

**SPRING HORSE SHOW.**—It has been decided to hold the Horse Show this spring in connection with a great military tournament the first week in May.

The 13th annual meeting of the American Holstein Friesian Association will be held at the Iroquois Hotel, Buffalo, N.Y., on the 16th of March, 1898. A number of important questions will come up for discussion. F. L. Houghton, secretary.

The Council of the Smithfield Club are to be commended for the promptness with which they have decided on and made public the prize lists for the next show. The prize list has been increased a little on account of the next show being a centenary show.

**R. D. Reid & Co., HINTONBURG, ONT.,** write: "Our herd of Ayrshire cattle are wintering well and sales have been extra good. Patrons of cheese factories and others wishing early bull calves to raise would do well to write us as we have five dropped in February, and a very nice lot, from deep milking cows and by such sires as Matchless, 7366, and Gold King, 1373, both sons of the famous old matron, Nellie Osborne, 2012, (Imp.). Our Herkshires and Tamworths are doing fine."

HULSTERS are winning their way in various sections of the province. Mr. A. D. Foster of Eclipse Stock Farm, Halloway, Ont., has recently added to his herd five imported purebred Holstein-Friesian cattle from the herd of Henry Stevens & Sons, Lacombe, N.Y. Among them is the noted cow, Maggie Keyes, whose milk record as a three-year-old has never been beaten except by her dam and another. Mr. Foster thinks that the breeding of this heifer is not surpassed on the continent. Her dam and her sire's dam have the largest official better records yet made. His herd is headed by the milk and butter prince, Sir Pieterijs Josephine Mechtild.

**ISALIGH GRANGE FARM, DANVILLE, QUE.**—Mr. T. D. McCallum, manager of the farm, reports that the stock are doing exceedingly well in their new quarters. So far there has not been a single case of sickness, which speaks well for the new stables and the careful plan of feeding that is followed. The herd now consists of about 100 head of purebred Ayrshires, 40 Guernseys, 200 pure Shropshire sheep and 100 Yorkshire pigs. Matchless and the young stock after him are doing well, so is the stock after Derby of Danville. Mr. McCallum leaves in March for the old country. He intends to make a large importation of choice Ayrshire and Guernsey cattle, Shropshire sheep and Yorkshire swine from the best flocks and herds of the old land.

**MANITOBA DAIRYMEN'S CONVENTION.**—The 15th annual meeting of the dairymen of Manitoba was held last week in Winnipeg. There was a good attendance at the different sessions. Reports were received from various creameries, which, as a rule, showed a very successful state of affairs. In many cases the routes are far too long, forty-five miles out and back was not an uncommon length of route. At one cream-

ery cost 2c. for every pound of butter to draw the cream. This will improve as the country settles up and more cows are kept. Among the dairymen the year has been a quiet but a prosperous one, and the outlook for the future was very bright. The total make of butter for the province during the season is placed at 2,397,464 lbs., and the total make of cheese is placed at 897,007 lbs. Butter makes a good showing, but cheese makes a better one. Mr. Macdonald's report showed that Manitoba butter and cheese makers had been very successful at the Winnipeg exhibition. He thought it would be better if their creamery packages were shipped in jute bags. This would protect the boxes during transit. The following officers were elected: President, W. M. Champion, Keaburn; vice-president, D. W. McGuinn, Macdonald; and secretary-treasurer, R. Waugh, Winnipeg; secretary-treasurer, Miss E. Cora Hind, Winnipeg.

**SPECIAL PRIZES FOR SHROPSHIRE.**—The American Shropshire Association have decided to offer special prizes at a number of the leading exhibitions during 1898. All animals competing must be American bred, owned at least ten days before showing and recorded in the American Shropshire Register. Any sheep having won an Association prize at any show will not be allowed to compete again, except at the Provincial Fat Stock Show, Madison Square Garden Show, Chicago Fat Stock Show and the Omaha Exposition. Out of a long list of prizes we select the following as of special interest to Canadian breeders. Two prizes will be offered at both Toronto and London, \$75 for best flock (one ram and three ewes) one year and over, and \$15 for best flock of lambs (one ram and three ewe lambs). At Halifax, Montreal, Ottawa and Winnipeg exhibitions prizes of \$15 and \$10 will be offered for the old and young flocks in stead of \$50 and \$15.

At the Provincial Winter Show, which is to be held again in Toronto in 1898, \$50 is offered as a grand sweepstake premium of the show if won by a registered Shropshire sheep.

Best registered Shropshire wether, one year old and under two, 1st, \$10; 2nd, \$5.

Best registered Shropshire wether, under one year, 1st, \$10; 2nd, \$5.

Best three registered Shropshire wether lambs, 1st, \$10; 2nd, \$5.

Extra special premiums, best grade wether, one year old and under two, sired by a registered Shropshire ram, 1st, \$10; 2nd, \$5. Under one year, 1st, \$10; 2nd, \$5.

Good prizes will be given at the Chicago Fat Stock Show and in all over \$500 will be given in special prizes by the Association at the great Exposition that is to be held in Omaha this year. This Exposition promises to be something extra and our Canadian breeders of all kinds of stock should be well represented.

Amongst the breeders of Pedigree Stock in England few names stand higher than that of Mr. J. E. Casswell, of Laughton, Folkingham, Lincoln, England, no matter whether it be for horses, cattle, sheep, or poultry. The leading place is given, however, to Lincoln Longwool Sheep, because they have been the recipients of the closest attention from the foreign and export buyers. No wonder need be expressed at this view when it is known that the stock is one whose existence can be proved to have been in continual existence since some date anterior to 1736. It was at this date that the great grand sire of the present owner commenced the letting of rams for stud purposes, and with this he also commenced a record still in existence and which has been continued by his descendants until the present time. In 1817 the grandfather of Mr. J. E. Casswell commenced the plan of letting rams by auction, when the first ram let, not sold, realized the high price of \$450. This system was continued until 1867, resulting in the letting of an average number of about 170 rams each year. From this date the present day system has been in vogue, namely, selling by auction. This is an annual practice. In 1895, owing to the known excellence of the flock, the whole of the produce was sold at their home for export.

The one great feature of the flock is that its females have never been dispersed; no alien blood has been added to the flock except by specially and most carefully selected sires. The result of this systematic and careful way of breeding is fully exemplified when one has the privilege of annually inspecting the flock. The very thing that constitutes a stock is found here, namely, a likeness type and character of such matchlessness that when you have seen one lot of these you have seen the whole. The flock is justly noted for the grand and even quality of the fleece, and its specimens are all of such even type and character that they will satisfy the severest critic.

During the past four years, at the great annual sale at Lincoln, the flock has been represented on three occasions by an entry of twenty rams, namely, in 1895, 1897, and 1898 (1896 being the year when the rams were all sold at home for export), and on each occasion the highest average made by any flock entering twenty rams was secured. This is a successful flock, and one from which purchases can be made with every confidence that the result will be of a most satisfactory nature.

As with Lincoln sheep, so with Shire horses; the best of the best are reared for the stud that Mr. J. E. Casswell keeps. The stud horse is Hutchin Drayman 2nd, joint property of Mr. J. E. Casswell, Messrs. S. E. Dean & Sons, and Messrs. T. & R. Casswell; a grand typical horse, of great merit, being a grandson of Hutchin Conqueror, out of Hutchin Black Violet, a noted winning mare. A second stud horse is Laughton Duke, being three, a grand young horse of great promise, by Stratton Tom, by Fortham's Honest Tom, out of Stanton mare.

The female section of the stud is also one of very great excellence, both in respect to pedigree and individual merit. Space, however, forbids mention being made of them in detail, but one must not omit that grand mare, noted alike for quality and substance, "Alberia," by Drayman, out of Flower Often Field by Honest Tom 1111. This grand mare was dam of Rocks Glory 2073, sold at Wainwright's sale in 1896 as a two-year-old for \$7,000.

The Shorthorns are also a typical collection of first class animals, and though, from time to time, extensive sales have been made, the herd has always been kept at a very high standard. Every attention is given both to the milking and to the meat producing qualities of this herd. Pampered and over-fed stock find no home at Laughton. Bulls selected from this herd can be relied upon for work as well as being those descended from cows of superior breeding. Canadiana visiting this country could spend a day at Laughton with great profit, and secure much information that would be both of value and service to them.

**A.J.C.C. JERSEYS**

Write for prices on cows, heifers, yearlings, and bulls, and say **Exactly what U want.**

**J. J. KEATOR, P.O. BOX 356 DESERONTO, ONT**

**RIVERVIEW POULTRY YARDS**

**STOCK FORT SALE.**

5 BUFF LEGHORN pullets direct from France & Walling, N.Y. June hatch, laying; the lot \$7, a bargain.  
2nd PRIZE P COCHIN COCK, Western Fair 1897. Price \$2.50, another Cock never exhibited, for \$1.50.  
Pure steel gray, heavily feathered, Dark Brahma pullets, \$3 per pair. 2 Cockerels, \$1.50 each, good Eggs for Hatching, from Dark Brahmas, Black Langshans, R.C White and S.C Brown Leghorns for \$1.50 per 13, \$2.50 per 26, \$3 for 39. Satisfaction guaranteed.

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52 Clarence St. - - LONDON, Ont.

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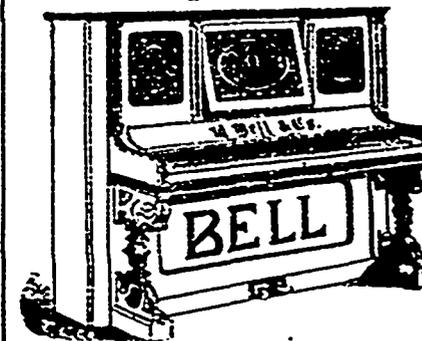
Now is the time to decide what you are going to plant, and where you are going to get them.

Will it not be better to send direct to an old reliable Nursery and be sure of getting the varieties you want, free from San Jose Scale and diseases, than to buy of Travelling Agents who import trees often infected with these pests, and that you have no certainty of being what you want till they bear, and paying higher prices besides? Send for my catalogue, or send a list of your wants and see what I can do for you. Address,

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**R. & J. Ransford CLINTON, ONT.**

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**THE M. CAMPBELL FARMING MILL CO. OF CHATHAM - LIMITED,**  
Chatham, Ont. Also manufacturers of the Famous Chatham Farming Mill with Flaring Attachment. Write for their book entitled, "How to make Dollars out of Wind," or "The Science of Farming." Mailed free to any address.

MARKET REVIEW AND FORECAST.

Office of FARMING,

44 and 46 Richmond street W., Toronto, February 25th, 1898.

The snow storm last week interfered somewhat with trade. So also has the election campaign. In consequence, the general sales of the week have been somewhat smaller than they were last week. The millinery openings take place this week, and this combined with the cut in railroad rates and the improvement in general business, will, no doubt, result in bringing numerous buyers to the city.

Wheat.

The wheat market continues in a panicky and unsafe condition. The market continued at about last week's prices until the close of the week, but it required constant support from the Leiter crowd to hold it there. Towards the close of the week there was a break of two or three cents in price, caused by increased offerings from Argentina and the Leiter clique selling. The clique have steadied prices but at the least sign of weakness the bears will break the price. There seems to be no diminution in the receipts of wheat from the east.

On the local market the receipts of wheat have been increasing. During the early part of the week the price was over 60 cents, but with the close of the week prices declined a few cents in sympathy with the drop at Chicago. The market is easy at 57c. to 58c. for red wheat north and west. Manitoba wheat remains steady at \$1.10 at North Bay and \$1.08 at Midland. The Manitoba farmers are offered a good price now for their wheat, but very few of them have any to sell.

Barley and Oats.

The barley market has been steady at prices quoted last week. No. 1 barley is quoted at 45c., No. 2 at 40c., No. 3 being 35c., and feed barley 35c. The market has not changed at Montreal.

Oats are somewhat easier than when last reported, 20% for mixed lots and 30c. to 31c. for white in car lots north and west. The position of oats is, however, considered to be a very strong one. The Russian oat crop is now said to be 125,000,000 bushels smaller in 1897 than it was in 1896. Reports from the States show that the stocks of oats are light. European reports show the same thing, as the supply in Germany is limited, so also in France, and the market is much stronger in Holland. Attention is now being turned to American oats, and we are likely to see better prices. Prices at Montreal run at about 32 1/2c. out of store.

Peas and Corn

The market for peas has advanced a little during the week, but is now a little easier at this advance, 50c. for cars west, and 57c. to 57 1/2c. for cars east of Toronto.

Peas are quoted at Montreal at 60c. to 60 1/2c.

Corn continues steady at from 30c. to 31c. for Canadian corn west. American corn is a little easier at 37c.

Buckwheat and Rye.

Buckwheat is steady at 35c. to 36c. west. Prices run at Montreal at about 41c. to 42c.

Rye is in good demand and steady at 51c. for cars north and west.

Bran and Shorts

The offerings of mill feed are very small and the demand good. Bran is quoted at \$12 per ton, by the car lot west, and shorts at \$14.

At Montreal Ontario bran is quoted at \$14, and Manitoba bran at \$15. Oats and shorts \$16, and Middling \$16.50 to \$17 per ton.

Timothy and Clover Seed

Red clover has advanced a little, and now \$1.50 to \$1.60 for top quality. Vernal \$3.25 to \$4. timothy, \$1.25 to \$1.35. At Montreal red clover seed is quoted at \$4.50 to \$4.59. Blue at \$4.75 to \$4.85. Timothy \$1.50 to \$1.60.

Potatoes

There are more offerings of potatoes coming in by the car on the tracks, and the market is easy at 58c. by the car on the tracks, and 60c. to 70c. out of store. It is reported that a car was sold for \$100 on the tracks.

Poultry.

The offering of small turkeys is in demand at 50c. to 60c. At Montreal turkey, being 100 lbs. hocks, \$4.50 to \$5.00. Large turkeys, \$6.00 to \$7.00.

Eggs

The supply of new laid eggs is fair, the de-

mand good, and the market steady at 18c. per dozen. Lined eggs are quoted at 14c. to 15c. The receipts at Montreal have been ample for the demand. Prices are steady at 19c. to 20c. for fresh eggs. Lined eggs are somewhat scarce, at 14c.

Cheese.

There is nothing new to report in regard to the cheese market. Very little business is being done, and buyers and sellers are still apart. A sale of about 400 boxes of Quebec goods is reported at from 7 1/2 to 8 cents. Dealers on this side are looking for cheap cheese in the spring, and strongly advise factorymen not to begin making till the first of May at least. This is pretty sound advice, and if all the factories would unite in this matter it would do more than anything we know of to stiffen prices and brighten the prospects for next season's trade. Reports from Britain indicate that a large consumption of Canadian cheese is being kept up, and that the demand for Canadian goods is increasing.

Butter.

The butter market continues somewhat firm, and goods of fine quality are in active demand. At Montreal during the week finest fresh made creamery was selling readily at 16c. to 19 1/2c., but old creamery was only bringing about 17c., and was very slow sale at that. In Toronto good creamery is in brisk demand at about 20c. for prints and 18c. to 19c. for tubs. Dealers here report the quality of the winter creamery as being very good. It is gradually taking the place of the dairy goods, and the time seems to be fast drawing near when the demand for ordinary dairy butter will be practically nil.

In Montreal western dairy is bringing from 16c. to 17c. In Toronto prices are a little better than these figures show. From 16c. to 17c. for large tubs; 17c. to 18c. for choice pound tubs; 17c. to 18c. for dairy tubs, and 12c. to 14c. for low grade to medium tubs are reported.

Cattle.

The receipts at the cattle market on Tuesday were somewhat light owing to the snow-storm. However, the usual number of buyers were not present, and prices were a little weaker. About half a dozen car loads were taken for Montreal. Friday's market was a much better one, a large number of buyers were present and prices a little better.

Export cattle are in good demand, and prices were steady at from 3 1/2c. to 4 1/4c. for choice steers. Export bulls bring from \$3.25 to \$3.70.

Good butchers' cattle are in demand up to 3 1/2c., and extra fancy ones higher. Poor stuff run down to 3c. and lower.

There is a fair inquiry for stockers at from 2 1/2c. to 3 1/4c. per pound. Feeders bring from 3 1/4c. to 3 1/2c. per pound.

Sheep.

Butchers' and export sheep are a little weaker, with a wider range of prices. Last week the range was from 3c. to 3 1/2c.; this week the range is 2 1/2c. to 3 1/2c. Lambs are a little lower than last week, 5c. to 5 1/2c. being the ruling price.

Hogs

There is a little firmer feeling in the hog market this week, and prices are likely to look up a little. Choice bacon hogs are quoted at \$4.00 to \$5. Light and thick fat hogs from \$4.45 to \$4.75.

At London 5c. is also being paid for choice hogs.

A Montreal choice bacon hogs bring 5 1/2c.

Dressed Hogs

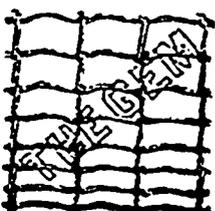
On the local market light weight hogs are quoted at \$6.10 to \$6.25 per cwt., and heavy hogs at \$6 to \$6.15 delivered.

At Montreal dressed hogs are going at \$6.75 for light, and \$6.25 to \$6.40 per cwt. for heavy hogs in a jobbing way.

Hay and Straw

Hay continues slow, the demand is slow. Hay stacks on the track are quoted at \$8 to \$8.50 per ton laid.

There is not much demand for straw. Cars on track are quoted at \$4.50 to \$5.



Fence Machine

will weave your fence of any kind of wire. 40 to 50 rods per day. Price saved in one day's work. Hard Coiled Wire of extra quality for sale. Agents wanted. Write for particulars. McCREGOR, BANWELL & CO. Windsor, Ont.

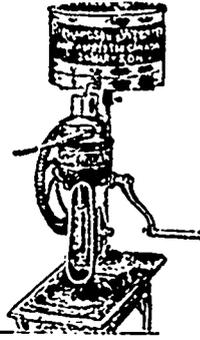
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American Cream Separator

A CLEAN SKIMMER

Messrs. RICHARDSON & WEBSTER, Jarvis, Ont., July 26th, 1897. GENTLEMEN,—In reply to your letter of the 22nd, I would say the American Cream Separator that I purchased from you last September has done all that you claimed for it. I went to Toronto fair last fall with the intention of buying a separator; after looking over the different makes, I concluded to buy the "American," and it has given me entire satisfaction. I find it runs easy, is no trouble to keep in repair, and it is a clean skimmer. In my opinion it is the most perfect machine on the market. Wm. PARKINSON.

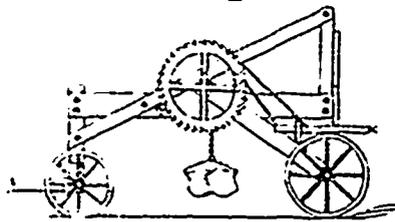


They all have something of the same to say. Are you building a creamery? If so, get our prices for the complete outfit. We manufacture and handle churns, butter workers, engines and boilers cream separators, and everything required for making butter or cheese.

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Lemire Stone and Stump Lifter



NOUVELLE PATENT.

Capacity of Lifting 18,000 lbs. WITH NO EQUAL.

Lifting and carrying stones at will, so you can make with them fences from four to five feet high. You will clear your land for the mowers and reapers. To lift a stone you make the lever work, and the hooks will hold it when lifting. You can lift, remove, and put into place a stone in ten minutes. Agricultural societies should buy it. Farmers, if they like, may join in club to buy it. Price moderate. For all particulars address to

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The "MONTREUIL" Card Cutter.

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The space between the small cutters is 3/4 inch, and the large blades cut 1/4 of an inch in thickness.



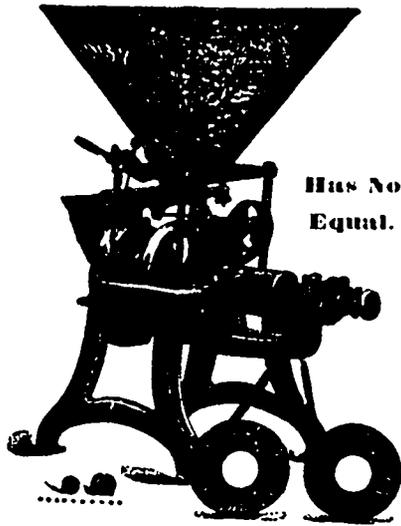
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The 1898 "DAISY" is far in advance of any other Churn in the market. Fitted with improved Gas Vent if required. The Gas Vent is not necessary, but you can have it if you want it.

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Write for Descriptive Circular and Implement Catalogue before purchasing any other.

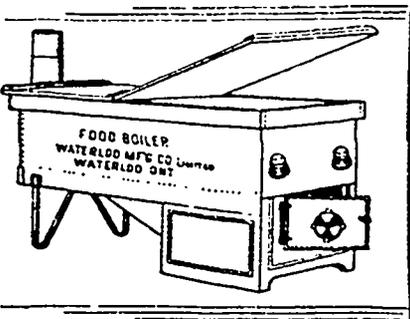
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The Sweetest of Butter — the Finest of Cheese —  
Order the **SALT** that always will please —

**Rice's** "The Salt of the Earth."  
**Pure Salt**

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**The Waterloo Food Boiler**



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**MONTHLY MOTTOES—**  
**MODERN MANURIAL MAXIMS**

- FEBRUARY.** Fertile fields freely furnish funds for fall! Farmers find fortunes from fertilizing frequently.
- MARCH.** More meadows manured mean more money made. Manure moderately, make moderately; minimize manure, multiply mortgages.
- APRIL.** Abandon antiquated agriculturists advising applying ammonia. Assimilate available atmospheric air and apply aftermath.  
Advanced authorities are agreed Albers' acids are all available, and advocate

**ALBERTS' THOMAS-PHOSPHATE POWDER**  
**THE FARMERS' FRIEND**  
**WALLACE & FRASER**  
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The variety of subjects, the completeness of its news gathering organization, its freedom from sensationalism, and its fair and impartial reports have been time and time again favorably commented upon.

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Oat dust and Meal Seeds in car loads f. o. b. Fergus, either Grand Trunk or Canadian Pacific Railways. Samples and prices on application

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**Sheep and Cattle Labels**

New Patent Fanning Mill and Bagger, Bag Truck and Bag Holder. Price List and Circular Free. R. W. James, Farm Implement Forwarding Agent, Bowmanville, Ont.

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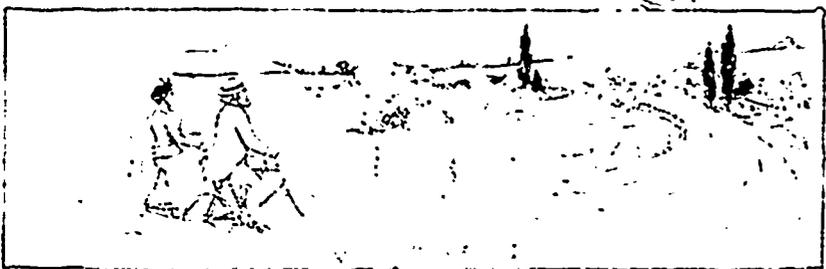
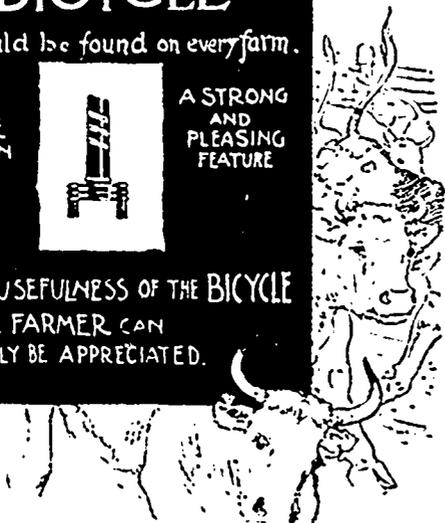
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A STRONG AND PLEASING FEATURE

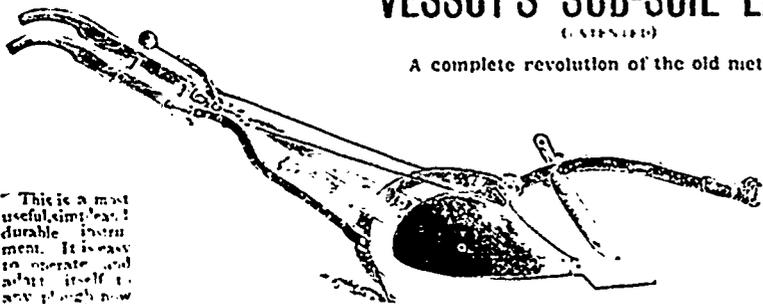
THE USEFULNESS OF THE BICYCLE TO THE FARMER CAN SCARCELY BE APPRECIATED.



## Something New in Agriculture is VESSOT'S SUB-SOIL LANCE

(PATENTED)

A complete revolution of the old methods.

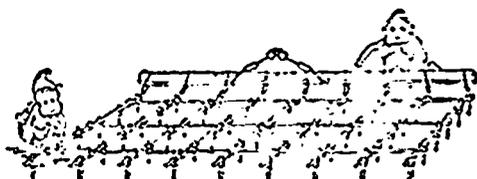


This is a most useful, simple and durable instrument. It is easy to operate and adjusts itself to any plough now in use, following the soil and making but very little harder to draw. It is sold very cheap.

THE VESSOT IMPROVED GRAIN GRINDER LEADS

S. Vessot & Co., Joliette, Que.

## Why in these hard times is there such a great demand for this All Steel Flexible Harrow? Because



Parties wishing a first-class Harrow will do well to write us direct, or apply to the local agent.

Our Motto, "Not how Cheap, but how Good."

TOLTON BROS., GUELPH, ONT.

The flexibility of the Harrow enables it to adapt itself as readily to rough and uneven ground, to smooth the soil, and to follow the contour of the land, thus producing a better result than any other Harrow. It is made of very hard spring steel, and is guaranteed to last for many years.

### HARD SPRING STEEL.

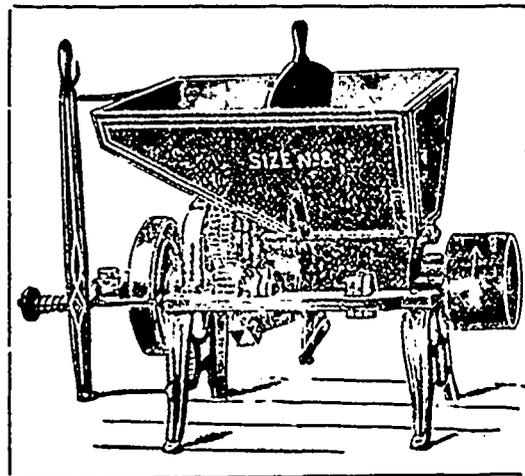
Very hard spring steel, the hinges and teeth being of the best quality, and of a better grade than is generally used in any other make of Harrow. We can guarantee more than double the strength and wear in this Harrow than there is in any other make.

# Something New.



Our Grinder has conical grinding plates. A divided hopper for corn on cob and for small grain has force feed-relieving lever. The capacity of our largest size is from twenty to sixty bushels of grain per hour. A perfect machine in every way. Elevators supplied when desired.

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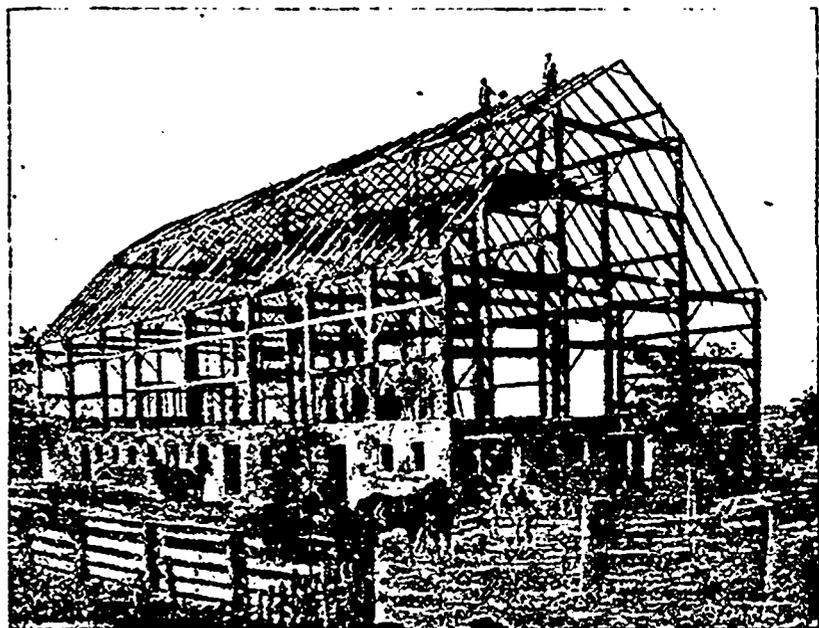
Matthew Moody & Sons,  
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High in Quality  
Low in Price

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The Leading Cement for Building Bank Barns, Cement Floors in Stables, Silos, Culverts, Pig Pens, etc.



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