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# FARMING

February 21st, 1899.

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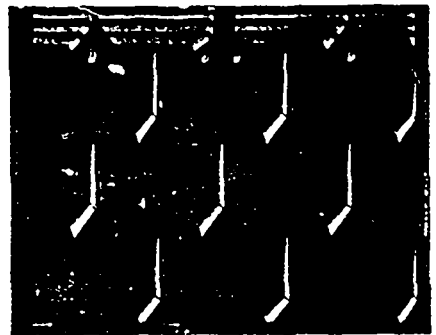
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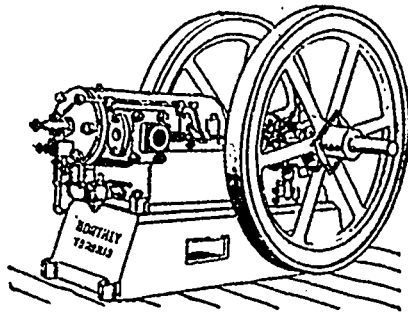


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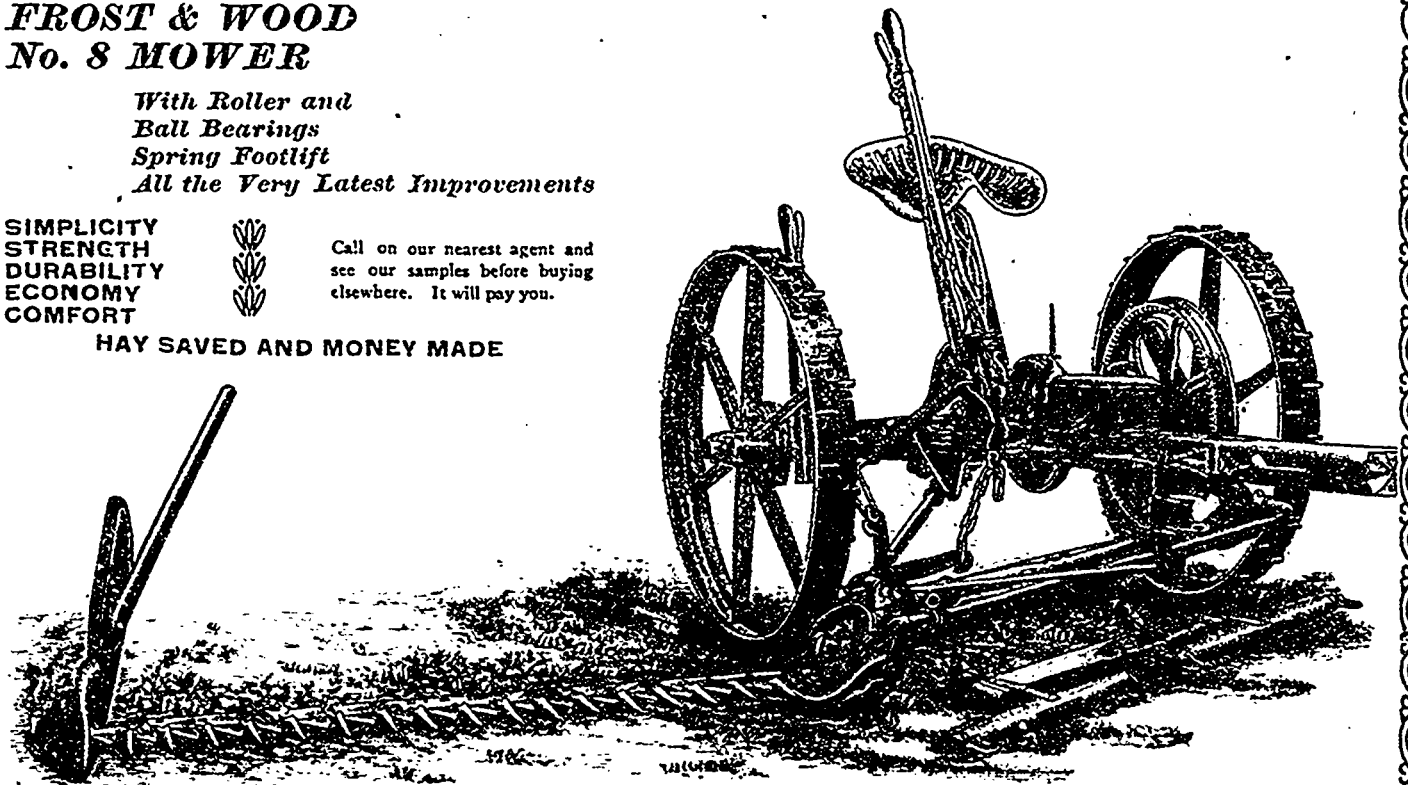
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# FARMING

Vol. XVI.

FEBRUARY 21st, 1899.

No. 25

## Agricultural News and Comments

In the ordinary silo a cubic foot of ensilage at the bottom will weigh about 50 lbs., while a cubic foot at the top will weigh only about 30 lbs. This would give about an average of 43 lbs. per cubic foot through the whole silo. Knowing this and the size of the silo, it is not difficult to estimate the total weight of the contents.

As the time for lambing approaches the coarse, dirty wool about the ewes' buttocks and udder should be cut away and saved. This should always be done before any succulent food is given the ewes to make them give milk. On many ewes the wool grows over the udder so that the lamb finds it almost impossible to reach the teat.

During the five years that the New Jersey good roads law has been in operation 325 miles of road have been converted from sandy, heavy stretches into smooth, hard roadway. The total cost has been about \$565,000, or over \$1,700 per mile. The people of that State claim that this amount is not so much of a tax as the cost of teaming over the old roads, as double loads can be hauled at all times of the year.

An American fruit-grower recommends a decoction of tobacco stems as a remedy for the sting of the curculio and plant lice. His method is as follows: Half fill a vessel with tobacco stems, loosely pressed down; fill up with boiling water; let it stand till the next day; then syringe the trees thoroughly. Do this when the plums are about the size of a pea, and again two weeks later.

Last summer the Dominion Minister of Agriculture authorized the sending to Great Britain of a trial shipment of honey. The quality of the honey was rated as very superior. One Western Ontario firm followed that shipment by sending several car-loads, and sales are reported at satisfactory prices. Last week Prof. Robertson received a report showing that honey in one-pound bottles was selling wholesale for over seventeen cents per bottle.

Prof. Henry, in his work on "Feeds and Feeding," states that Prof. Roberts, from data gathered at the Cornell Station and elsewhere, makes the average value per ton of manure from farm animals as follows: Horse, \$2.49; cow, \$2.43; sheep, \$4.25; pig, \$3.20. Nitrogen is rated at 15 cents, phosphoric acid at 7 cents, and potash at 4½c. per lb. The value per year is given as follows: Horse, \$24.04; cow, \$32.25; sheep, \$2.29, and pig \$3.06.

In almost all farmhouses after potatoes are peeled for cooking the usual but wasteful way is to throw them in the swill barrel for pigs. They are very little good for pigs, but if cooked and mixed with wheat bran or fine middlings they make an excellent feed for hens. A raw potato is not good for much for any kind of stock. The best part of the potato is in the peeling, and many who eat roast potato find the skin, with a lump of good butter inside, much the best part of it.

The recommendations of the last Royal Commission on tuberculosis in Great Britain are as follows: (a) That the test be applied by a veterinary surgeon; (b) that tuberculin be supplied to only such owners as will undertake to isolate reacting animals from healthy ones; (c) that the stock to be tested shall be kept under satisfactory sanitary condi-

tions, and more especially that sufficient air space, ventilation, and light be provided in the buildings occupied by the animals.

The champion Aberdeen-Angus heifer "Ju Ju," of Glamis, and the winner of prizes to the value of £785, a photo-engraving of which appeared in FARMING for Feb. 7th, was sold to go to Wales. She was 2 years, 10 months, and 12 days old; live weight, 15 cwt., 2 qrs., 21 lbs.; daily gain of live weight, 1 69 lbs.; weight of dressed carcass, 1,248 lbs.; percentage of carcass to gross live weight, 71.03; weight of hide, 66 lbs., and of loose fat, 135 lbs. She made a fine body of beef, of good color, and a fine cutter, though in parts rather too fat for ordinary purposes.

A Nova Scotia dairyman, who keeps four grade Jersey cows, gives the following statement of the product of these cows for 1898:

915 pounds of butter at 20c. ....	\$183 00
Milk and cream sold. ....	92 00
Milk used home for two families (a moderate estimate)....	40 00
Skim milk valued at ten dollars per cow...	40 00
	<hr/>
	\$355 00

Average return per cow \$88 87.

The Island of Jersey, the home of the Jersey cow, has a population of 55,000, with visitors and tourists to the number of 40,000 or 50,000 more. About 11,000 cows are kept on 10,000 acres, and 1,000 animals are sold for export each year, with an export value of about \$100,000. The total exports outside of cattle, which are chiefly potatoes, grapes and other fruits, vegetables and cut flowers, are valued at between \$3,000,000 and \$4,000,000 annually. The annual rental of land is from \$40 to \$75 per acre. The whole system there is that of "intensive farming," large products from small areas well cared for. The whole island contains some 25,000 acres, which would only be a fraction of the average Ontario townships. Just imagine one of our townships exporting \$3,000,000 worth of products! The Jersey farmer shows what can be done under the most intense system of cultivation.

## The Export Bacon Trade

A few years ago Canadian bacon was almost unknown in the British market, while to-day it is looked upon with considerable favor by the English consumer, and is steadily leading the American product in that market. This should be very encouraging to those who are engaged in promoting this important industry. During the past few months, however, the markets have been somewhat depressed through increased offerings of Danish and Irish bacon, which has caused many hog producers in the country to be somewhat apprehensive as to whether the bacon trade is one that can be depended upon as a money-maker for the farmer. Such drawbacks, however, come at times in the development of every trade where there is keen competition. Those familiar with the development of the cheese trade will remember that it passed through several series of depressions of this kind before it reached the important place it holds to-day. Had our dairymen ten or twenty years ago relaxed their efforts to establish the trade

on good footing whenever there was a depression in prices Canada's export cheese trade would never have been what it is at present. If the same perseverance and determination is applied to the development of the export bacon trade as was applied to the cheese trade there is no reason why the former should not bring into this country within a very few years fifteen or twenty millions of dollars annually. What is wanted is that everyone interested, from the producer to the packer, should put forth every effort to turn out the quality of bacon that the market demands.

For the year ending December 31, 1898, England imported from Canada bacon to the value of \$5,000,000, which is a gain of nearly 100 per cent. as compared with the year previous. This amount, however, is only about one tenth of the total amount imported by Great Britain. Last year the Mother Country imported over \$50,000,000 worth of bacon and, what is surprising, these imports increase each year at a marvellous rate. The increase in the imports of bacon by Great Britain during 1898 was \$7,500,000 more than in 1897. With this large and rapidly-growing market for our bacon is there any good reason for doubting that within a very few years our export bacon trade will be very largely increased? Even at present prices for bacon hogs there should be money for the farmer in producing hogs if he understands how to breed and feed to the best advantage. Prices for bacon fluctuate the same as for any other commodity, but if the yearly average is taken into account values for this product are comparatively speaking as high as for any other.

### Agriculture in Public Schools

The Minister of Education has introduced a bill in the Legislature to amend the Education Act. One of the amendments makes further provision for the teaching of agriculture in the public schools. The clauses referring to this subject are as follows:

(1) The Council of every municipality may, subject to the regulations of the Education Department, employ one or more persons holding the degree of Bachelor of Science of Agriculture or a certificate of qualification from the Ontario Agricultural College to give instruction in agriculture in the separate, public and high schools of the municipality, and the Council shall have power to raise such sums of money as may be necessary to pay the salaries of such instructors, and all other expenses connected therewith. Such course of instruction shall include a knowledge of the chemistry of the soil, plant life, drainage, the cultivation of fruit, the beautifying of the farm, and generally all matters which would tend to enhance the value of the products of the farm, the dairy and the garden.

(2) The trustees of any public, separate or high school or any number of boards of such trustees may severally or jointly engage the services of any person qualified as in the preceding section for the purpose of giving similar instruction to the pupils of their respective schools, providing always that such course of instruction shall not supersede the instruction of the teacher in charge of the school, as required by the regulations of the Education Department.

(3) As far as practicable the course of lectures in agriculture by such temporary instructor shall occupy the last school period of each afternoon, and shall be open to all residents of the school section or municipality.

This provision, if the municipalities and boards of trustees take advantage of it, furnishes an opportunity for doing very good work in connection with the study of agriculture in our schools. But we must confess to having some doubts as to whether the municipalities or boards of trustees will be willing to spend the money required to engage a special lecturer for this work. The tendency now is to cut down expenses as much as possible, as is shown by the low salaries that teachers are paid, and to induce these bodies to expend a sufficient extra amount to cover this special instruction will, we think, be a very hard task indeed. However, though we hope that before very long the Minister will go the whole length and place the study of agriculture in the public schools on the same plane as the other subjects taught and for which a special text-book has been authorized, this arrangement will serve to arouse fresh interest in the subject and perhaps induce many of the teachers to take a special course in the Agricultural College in order to fit themselves for this new work.

### To Extend Inter-Provincial Trade

At the Cattle, Sheep and Swine Breeders' meetings held a couple of weeks ago strong committees from each of these organizations were appointed to form a deputation to wait on the Ontario Government to ask for a grant of \$1,000 for the purpose of extending the inter-provincial trade in purebred live stock. The Legislature could not, we think, expend \$1,000 in a better way. The associations, with the means now at their disposal, have succeeded in putting this trade on a good working basis, and all that is necessary now to bring it to its fullest development is for the Government to come to their assistance by providing the funds to further extend this work. The associations during the past year have published a monthly list of the purebred stock for sale by the members. These lists have been sent to prospective buyers in the other provinces, the United States and elsewhere, and have been the means of greatly increasing the trade in purebred stock for which this province is so well adapted. We understand that it is the intention if more funds can be secured, to circulate these lists more widely and thus greatly increase the market for pedigreed stock.

### The Tuberculin Test in England

There is no question, perhaps, agitating the minds of stockmen and breeders of all countries to-day more than that of tuberculosis and the application of the tuberculin test. At the breeders' meetings held in this city two weeks ago this question seemed to supersede all others in the minds of most of the cattle breeders present. The subject is just now receiving more than usual attention in England. At a great meeting held recently at Marlborough House, over which the Prince of Wales presided, this all important question came up for discussion. The consumer there, as distinct from the breeder and cattle owner, is looking for more rigid inspection of the meats, etc., which he buys, which might mean the abolition or rigid inspection of town dairy herds and private slaughter houses, or the compulsory application of the tuberculin test to the whole of the herds in the United Kingdom. Those in authority, however, seem to be decidedly averse to adopting any harsh measures. The Marquis of Salisbury, at the meeting referred to, appeared to deprecate parliamentary action of any kind, the general feeling being that any enforcement of the tuberculin test should be voluntary rather than compulsory. This seems to us to be a rather wise course to take, and if our Government would relax a little in regard to the application of the tuberculin test to purebred cattle coming into Canada, we do not think our breeders would take advantage of the situation to bring in diseased animals. They have as much honor as any other class of our citizens, and if left to themselves we do not think they would knowingly bring into the country cattle that should not come here.

### Western Dairymen Appoint Instructors

The Board of Directors of the Cheese and Butter Association of Western Ontario met at Stratford on Feb. 11th, when it was decided to expend \$3,400 for instruction at such cheese factories and creameries in Western Ontario as would apply for the services of the instructors. Four instructors were appointed as follows: James Morrison, Stratford, for the south-eastern division; C. O. Luton, Belmont, for the south-western division; George McDonald, Bluevale, for the north-western division, and Arch. Smith, Beachville, for the north-eastern division. In addition to looking after the cheese factories in his division, Mr. Smith will act as instructor at the summer creameries under the jurisdiction of the association. The following scale of fees will be charged cheese factories and creameries: Fees for visits of one day's duration—One visit, \$5; two visits, \$8; three visits, \$10; four visits, \$12.50; five visits, \$15. Fees for visits of two days' duration—One visit, \$6; two visits, \$11; three visits, \$15; four visits,

\$18; five visits, \$20. It was strongly urged that strenuous efforts be made to have the milk delivered at the factories in a uniformly perfect condition.

### The San Jose Scale

The Hon. John Dryden has introduced a bill in the Legislature *re* this pest. The bill comprises three paragraphs, the most important of which provides for a general fumigation of all nursery stock by hydrocyanic acid gas, which is extremely poisonous. The object of this is to destroy all insect life on these plants. Another paragraph provides for the destruction of an entire orchard where there is general evidence of the prevalence of the scale. Another clause provides for the notification of the Department of Agriculture in all cases where inspectors discover the scale, when the owner of the stock shall not be allowed to dispose of the trees till the inspector shall report that it is safe to do so.

### Management of a Shorthorn Herd

In Scotland the breeders of Shorthorns usually desire to have the bulk of the calves born in spring, and the bull calves are often sold in October. Scotchmen have been long known as skilful feeders of stock, and the root crops grown on the granite soils are probably the most valuable in feeding properties which are produced anywhere.

The calves are generally suckled on their dams, and great care is taken not to overload the stomach of the young animal during the first month of its existence. It is customary to milk from the cow, at the same time that the calf sucks, the surplus beyond what is necessary for it. Experience has shown that when a calf is allowed to take milk too freely indigestion sets in, and this is frequently followed by a very troublesome scour. Artificial food, in the shape of linseed cake and corn meals, is supplied as soon as the calves are old enough to eat it, and this is usually continued until they are a year old.

For several of the October sales the young bulls are very well done, and are brought out in the pink of condition. They realize such high prices that the breeders can well afford to give them everything that is necessary to exhibit them at their very best.

In some herds, where high prices are not expected for the young stock, the cows are milked, butter is made, and the calves receive skim milk, with which is mixed linseed mucilage or fine meal porridge, with some of the popular calf food which are now so well prepared and so largely employed. When, however, fairly good prices are had for the calves, the new milk is probably the best as well as the cheapest thing to use, and the suckling of the calves saves the labor of milking.

The cows are out on the pastures all the summer, and in winter turnips are used with an addition of decorticated cotton cake. At one time the undecorticated cotton cake was in favor with some breeders, but an occasional loss was sustained owing to the indigestible nature of the cotton husk. This led to its use being given over, and the decorticated cake put in its place. In the case of young cattle, to which linseed cake is given, it is with many breeders usual to feed it the first thing in the morning before turnips are given, but some stockowners prefer to mix the cake with pulped roots.

The Scotch breeders are alive to the fact that a supply of pure water for the cattle is of very great value, and they accordingly take good care to have it at the command of the stock.

In some cases the cows whose calves suckled them were slow to come into use, but in many other herds no such disadvantage arose from the practice of suckling. Where

the heifers are liberally fed, they are usually had to calve at two years old or a little older. This is found to be the safest course, because in some cases where heifers were allowed to be more advanced in age before giving calves they became uncertain breeders. That they lose size by this early calf-bearing is a matter of course, but it is usual to rest them, so to speak, for a time before they are again put to the bull, and during that period they make up the size which was lost owing to their rather premature fulfilment of maternity.

Some of the Scotch breeders adopt the old-fashioned plan of turning out the bull on grass with the cows and are quite assured that this is the best course. Others, however, keep the sire apart and bring in the cows for service as they come in use. Many hold the opinion, which is probably well grounded, that cows are more likely to hold when allowed to run with the bull in a natural way. That fell disease, quarter-evil, has to be guarded against. It is usual to seton the calves, and this precaution, together with the use of oilcake, is found, as a rule, to prevent losses. Bran is a favorite article of food with some herd owners. It is in many cases used with turnips. In other places, particularly when swedes may happen to be a short crop, the bran is mixed with straw or hay chaff moistened with treacle. Scotch breeders are eminently practical, and they never allow calves to want from their birth to maturity. They give liberal keep, but do not at all force their breed



ST. ANNE DES CHÊNES CHEESE FACTORY, MANITOBA, THE PROPERTY OF MR. D. W. SHUNK.

ing stock, and in this way no damage is done to the milking properties, which are developed, uninterfered with, in accordance with the natural powers latent in the young animals.

A famous and very highly-bred herd was that belonging to the Earl of Dunmore at Dunmore, near Sirling. This was collected, it may almost be said, regardless of expense from celebrated stocks in the United States of America, in Canada, and at home. It was successfully managed, of course, on a most liberal scale, and everything which skill in feeding could do to grow the animals and keep them in fine health and condition was put into practice. Record prices were made at its dispersion. The sale was one of the greatest ever held, some of the lots making several thousand guineas each, and the event quite marked a red-letter-day in the history of Shorthorn breeding in Scotland.

Mr. James Douglas, of Athelstaneford, had a very noted herd, which was managed with extraordinary skill. His beautiful show team year after year entered the lists against the crack exhibits of Warlaby and Towneley Park. For years in succession heifers from Athelstaneford carried off the prizes at the three great national shows in the United Kingdom, and Rose of Sumner was the first-prize cow at the great Paris International Show, where an offer of 600 guineas was refused for her. None but a very clever and experienced feeder could hope to manage such a herd as this. Variety of diet, careful watching of the effects of many articles of food, unwearied attention and observation are all required to obtain success. The feeder must, indeed, be very fond of his charges, and feel proud of their success in the many contests in which they may be engaged. The animals were forced to the highest point con-

sistent with safety, yet in certain cases, notwithstanding all the cultured skill employed, that point was over-reached. For example, the lovely heifer, Queen of Athelstane, which was never beaten, died some months after she was sold to Lady Pigot, and it was found, on *post mortem* examination, that her heart was so closely enveloped in fat that it ceased to act. The triumphs achieved by Mr. Douglas shed quite a lustre around Scottish Shorthorns, which must illuminate their history for all time.—*John Downing, in London Live Stock Journal*.

## North Lanark Farmers' Institute

(Special Contribution.)

A very successful meeting of the North Lanark Farmers' Institute was held in Lanark village on January 24th. A good sprinkling of representative farmers were present during the afternoon, and at least 450 people were present in the evening, keenly appreciative and attentive.

In the afternoon Mr. N. G. Somerville spoke on the milk producers' responsibility outlining the methods necessary if a clean and sweet article is to be delivered to the cheese factory. He urged strongly the adoption of the system of paying by the Babcock test. It was an obvious injustice to pay to the farmer who brought in 1,000 lbs. of milk showing 4 per cent. butter fat only the same money



A CO-OPERATIVE CREAMERY, NEEPAWA, MAN.

that was handed to another farmer for the same weight of milk testing  $2\frac{1}{2}$  per cent. The former's sample would make far more cheese or butter than the latter. As a matter of common honesty it should receive a higher price. Payment by the butter fat test would also naturally tend to improve the general quality of the herd.

Mr. A. Elliott, of Galt, gave a vigorous and practical talk on essentials to success in dairying. He would not advise anyone to rush into purebred stock even of a dairy breed. The best foundation for a good dairy herd was the common Canadian cow. She was hardy, usually a good feeder, and generally free from disease. Use a purebred bull of the dairy breed you fancy best, raise the heifers from the best cows only, and stick to purebred mates of the kind you first start with. Kindness and cleanness are the two essential virtues in the cow-stable. Mr. Elliott also warmly advocated the use of the Babcock test in cheese and butter factories.

Mr. M. Burrell, of St. Catharines, addressed the afternoon meeting on the subject of "Insects in Relation to Agriculture." The speaker emphasized the importance of this too much neglected study, and pointed out the enormous damage done annually by insect pests, such as tent caterpillars, cut-worms, codlin moth, horn fly, and so on. Mr. Burrell then dealt briefly with the structure and classification of insects, and referred to the transformation of

insects. It was necessary to know what a particular insect was like in the various stages of its existence, some of our injurious pests being comparatively easy to destroy at one stage of their life, and impossible to control at another. Clean farming birds and beneficial insects were instanced as agencies by which we were helped in the fight, and the use of poisons was touched on, the speaker closing with the remark that to fight our worst insects successfully it was absolutely necessary to know something of their breeding habits, transformations, etc. No subject could be more interesting to study; few more profitable.

Mr. W. C. Caldwell, M.P.P., took the chair in the evening, and, in introducing the speakers, called attention to the excellent work being accomplished by the Farmers' Institute meetings, in stimulating and arousing thought amongst agriculturists all over the country. Mr. Elliott spoke on the "Changed Conditions of Agriculture." He clearly and forcibly showed that in many directions competition in the British markets was becoming too fierce for the Ontario farmer. He had to compete in that market with the products of Russia, India and Argentina, many of whose agriculturists were little better than slaves. The Canadian farmer, it is true, was more intelligent than these people, but his wants were greater, neither could he live on the miserable pittance that supported the Russian serf or the Indian ryot. The secret of our success in the future must not only be the lessening of the cost of production, but the production of a higher quality. What we had accomplished with our cheese and our bacon, we must accomplish in other lines. For agricultural produce of the highest quality there 'is, and always will be, a limitless market in Great Britain.

Mr. Burrell gave an address on "Birds in Relation to Agriculture." The speaker pointed out the interdependence of all forms of conscious, and even unconscious, life, and reviewed at some length the conditions of the world of nature round us. The struggle for life amongst plants, insects, and higher forms was fierce and continuous. We, who depend largely on plant life for our subsistence, would feel disastrously the effect of the thousands of injurious insects were it not that many of these serious pests were themselves the food of birds. Mr. Burrell discussed forcibly the economic status of the crow, the hawks and owls, the oriole, robin, native sparrows and English sparrow. The last was condemned wholesale, the speaker urging that it was responsible for the driving away of our Canadian birds, nearly all of which were highly beneficial.

The officers of the North Lanark Institute are to be congratulated on so successful a meeting. At the same time, one cannot help reflecting that much of the success was due to the President, Mr. David Moir, and the indefatigable and popular Secretary, Mr. A. McLean. Both these gentlemen are untiring in their efforts to make the Institute work a success. We only heard of one man ever refusing to give the 25c. subscription. The Secretary's hearty and winning manner coaxed out the needful quarter every time. If every institute were blessed with such officers the system would be accomplishing even far more than it does now.

## A Great Help

ST. THOMAS, Feb. 9th, 1899.

SIR,—Find enclosed \$1, to continue my subscription for 1899. I find it a great help to me in working my farm and improving my stock.

Yours truly,

J. G. CHAPMAN,  
O.k Farm.

### Some English Pig-Feeding Experiments

No question is of more importance to Canadian farmers to-day than that of the best way of feeding their hogs so as to get the best results. During the past year two interesting experiments along this line have been conducted by the Agricultural Department of the University College, Nottingham, England. The following are the results of one of these experiments as given in a recent issue of the *Mark Lane Express*:

One experiment was undertaken to ascertain (1) the relative feeding value of separated milk and whey respectively when fed to pigs along with cornmeal; (2) whether it would be more profitable to sell the whey and separated milk direct from the dairy or to use it for fattening pigs (the price obtainable being one-third of a penny per gallon for whey and penny per gallon for separated milk); (3) which of the following rations would be most profitable for feeding pigs: Cornmeal and water, cornmeal and whey, cornmeal and separated milk, if the same pecuniary value of the three mixtures were used.

The whey and separated milk were valued at a price which could have been obtained if they had been sold to farmers and pig keepers in the neighborhood, the corn at the actual cost delivered to the institute.

The trial lots of pigs were made up from three litters, and from each litter six pigs were taken and divided equally amongst the three lots, making six pigs to each lot. This was done to secure uniformity in fattening propensities.

The rations at first used consisted of the foods in the following proportions, fed to each lot of six pigs:

	Total Rations per 6 Pigs.	Ration per Pig per Day	Total cost of Ration per 6 Pigs.	
			s. d.	pence.
Lot 1	32 lbs. corn meal. Water at pleasure.	5½ lbs. corn meal. Water at pleasure.	1 4	2½
Lot 2	20 lbs. corn meal, 6 gallons separated milk.	3½ lbs. corn meal, 1 gallon separated milk.	1 4	2½
Lot 3	Water at pleasure. 24 lbs. corn meal, 12 gallons whey. Water at pleasure.	Water at pleasure. 4 lbs. corn meal, 2 gallons of whey. Water at pleasure.	1 4	2½

NOTE.—The corn meal was scalded and allowed to soak for a few hours before giving to the pigs, and was fed along with the liquids.

After twenty days the quantities of corn meal were increased by 1 lb. per head per day, bringing the cost of ration per pig per day up to 3 1-6d.

The following table shows the net profit on feeding:

	*Value of pigs when put up to feed.			Value of carcasses after feeding.			Cost of food.			Profit on feeding per lot.			Profit on feeding per pig.			Cost of putting on 1 lb. of carcass weight per day.
	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	s.	d.	Pence.	
Lot 1 6 pigs	15	0	0	23	8	2	4	11	7	3	16	7	12	9	3.12	
Lot 2 6 pigs	14	10	0	23	13	0	4	11	7	4	11	5	15	3	2.84	
Lot 3 6 pigs	15	5	0	25	15	0	4	11	7	5	18	5	19	9	2.48	

NOTE 1.—\*These values are arrived at by estimating 75 per cent. of the unfasted weight at the price mentioned.

2.—The prices are taken at 6s 8d. per stone, being the value realised on the sale of the pigs.

3.—The above table assumes that the manure made is set against the cost of attendance and litter.

The report of Mr. T. N. Parr, of Nottingham, who purchased the pigs, states that the corn alone fed pigs exhibited big leaf, thin on the belly, while the back was thick and fat. The flesh also was soft and did not set well. Between the "corn-separated milk" and "corn-whey" fed lots there was little to choose, both lots showing less leaf and thicker on the belly, and with a good proportion of lean. If anything, the corn-whey lot were firmer in flesh, which was as he expected.

It appears that a gallon of separated milk and a little less than two gallons of whey are equal in value for pig-breeding purposes.

That it is much more profitable to turn the skim-milk and whey into pork than to sell it at the prices obtainable, viz, 1d. per gallon for separated milk and 1-3d. per gallon for the whey.

That where separated milk and whey can be purchased at the prices named, and used to supplement the same value of corn the quantity and quality of pork will be greatly increased, without any increase in the cost price. As to feeding value the corn and whey ration stood first, corn and skim milk second, the corn alone ration being very far behind.

It must be admitted that these experiments were carried out under the most favorable circumstances. The three lots of pigs were of grand quality, and in thriving condition when the experiment commenced; the weather was mild, pork was making a good price, and corn was reasonable to buy. Under less favorable circumstances the profits made would not have been so high, but this would not have altered the relative feeding values of the foods given.

It is interesting to note the quantity of meal required for each lb. increase in live weight. If we take Lot 1, we find that during the whole period of sixty days each pig consumed 360 lbs. of meal, which works out at 5.2 lbs. of meal required to make 1 lb. increase in weight.

### Keep More Sheep

Articles under this heading have appeared very frequently in these columns during the past year or two. The subject, however, is a live one and too much cannot be written or said in regard to it. The following article, from the pen of Mr. George McKerrow, Madison, Wisconsin, who rendered such valuable services as a judge at the Provincial Fat Stock and Dairy Show at Brantford last December, will be read with interest by our sheep-breeders and farmers. Mr. McKerrow writes in a recent issue of *Farm, Field and Fireside* as follows:

Very many farmers, and farms too, would be benefited by a flock of sheep. I believe I may be permitted to claim that I say this from experience, having kept a flock without intermission for thirty years or more. I invested my first savings, while a boy in my teens, in sheep, and have never regretted it.

Why will the farm be benefited? Sheep will clean it up; but you will say, can good sheep be reared on weeds and brush alone? To which I must answer, no; but good sheep can be grown on clovers, grasses, corn, oats, corn stover, alfalfa, rape, cabbage and roots, and this rotation of crops will make clean land and produce good mutton and wool, and you will find that sheep being well fed on such rations as the above mentioned will also surprise you by the amount of weeds and tender browse they will take as dessert.

A small or moderate sized flock will glean a good living most of the year from foods that would, on many farms, go to waste without them. I recently met a German farmer in Northern Wisconsin who told of his little flock of ten ewes that had brought in a sixty-dollar income in 1895, when sheep products were low. When I asked him what it cost to keep them that year, he replied: "Dat cost nothing." When pressed for an explanation, he shrugged his shoulders and said: "Dey run in der brush in der summer, und dey run in der brush in der vinter. Come



to der haystack, eat a little hay, dat's all." This was practically true; they only cost him what hay they ate in the winter.

"The hoof of the sheep is golden," is an old Spanish adage; nevertheless a true one. Every sheep pasture becomes richer. No class of stock improves the soil as does the sheep. If you will go with me to the districts where sheep husbandry has been intelligently followed, in conjunction with other lines of farming, we will find better farms than in localities where natural advantages are the same and no sheep are kept. In proof of this I beg to refer the reader to many districts in Ontario, Vermont, Pennsylvania, New York, Ohio, Indiana, Illinois and Wisconsin, and to scores of farmers in these districts who have often told me they would not farm without sheep.

How can sheep benefit the farmers? First, by increasing their revenue. During the past thirty years I have kept pretty close account of our flocks, and in the worst seasons have found the balance on the right side, and in the good seasons it has been well up on the right side. With sheep and clover, grasses, corn and roots to feed them I have been enabled to buy worn-out grain lands, pay for them, and bring them up in condition and value, and I am not alone in this. I know of others who have done the same, and we are no luckier or brighter than other farmers.

Sheep are easier cared for than any other class of stock. The farmer, without experience, can begin with a small flock, and as his flock grows his experience will also grow until he will soon have some knowledge of animal life that will aid him in handling other lines of stock. You must remember the large flock requires proportionate skill to handle it well.

The mutton for the farmer's own table is one of the most important and profitable items. It saves butcher's bills, gives health and strength as no other meat diet can. I know of several farmers who use from five to twenty-five sheep or lambs annually on their own tables, according to the size of their families, and all are loud in its praise as a healthful and economical meat food.

The question of cheap fencing is one constantly brought up. In these days of cheap woven fences this is pretty well settled. Many of these make quite good movable sheep fences, as we find from their use.

I will not say every farmer should keep sheep, but am safe in saying there should be at least four flocks where one is now kept. The increase in most cases should come by more flocks rather than larger flocks.

Low, wet farms are not suited to sheep. Small farms that are paying well as dairy farms will, in most cases, be as well without them. The farmer who does not like sheep should not keep them, but most others should.

If you decide to start into the sheep business (or any other line) you must make up your mind that it will have both ups and downs, and if you are to get profit from it you must stick to it, up hill and down hill, and you will thus be on top of the wave part of the time. Too many of our farmers are of the class who sell out when a thing is low and buy what is high to have it to sell when it gets low, thus always starting some new line high to sell when it gets low.

Study your conditions and environments and decide for yourself, but you may take it for granted that nine times out of ten a small flock of sheep pays on every farm.

## The Composition and Use of Cattle Foods

W. H. Jordan, Director N.Y. State Experiment Station

### THE FUNCTIONS OF FOODS.

Foods are used in several ways in the building and maintenance of the bodies of animals.

1st. They supply all materials for growth and for the restoration of wasted tissues. The bodies of animals are built entirely from the food which they consume. This is

true of the bone, the blood, the lean meat, the fat tissue, and of every organ. Milk also comes directly or indirectly from the constituents of the food.

2nd. Foods are burned to maintain the heat of the body. The body must be kept at or very near to a definite temperature if the animal is to maintain a state of health. If the temperature of the body falls below this required standard for any length of time death ensues. This warmth is the result of the burning of the foods which, though more gradual and longer continued, is ultimately the same process that is seen in the fire-place where wood is burned. Just as in the furnace a pound of coal furnishes a definite amount of heat, so in the animal a unit of food is capable of supplying a definite amount of animal warmth.

3rd. From the food comes all the energy which the animal uses in moving the muscles in work and in performing all the functions of the body. This may be illustrated by an electric light plant. The latent energy of the coal through combustion appears as heat. This is transformed into the motion of the engine, that through the action of the dynamo is changed into the electricity which moves cars and lights our houses. In a similar manner the latent energy in the food which the animal eats is transformed into all the activities which the animal body manifests.

### CONSTITUENTS OF FOODS.

All ordinary foods are mixture of a number of constituents called nutrients. For example, timothy hay contains as nutrients water, mineral compounds or the ash, nitrogenous compounds, fat or oil, starch, sugars, gums, cellulose or fibre, etc. Exclusive of the water, these different compounds are grouped into four classes, as follows: (1) protein or nitrogenous compounds, (2) carbohydrates; (3) fats or oils; (4) ash or mineral salts. The table which follows shows very clearly that the several cattle foods contain these different classes of nutrients in greatly varying proportions.

*Water.*—The amount of water in foods varies greatly. For instance, there is sometimes as much as ninety-five pounds of water in a hundred pounds of English turnips, whereas a hundred pounds of corn meal often contain not more than ten pounds of water. This water, though held in the tissues in such a way as to be invisible, is entirely like the water that is drawn from the well and performs the same functions in the animal body. The use of water is to form a portion of the organs and fluids of the body, to aid in dissolving solid foods, and in carrying them into the blood and to various parts of the body.

*Protein* (also sometimes spoken of as albuminoids, proteids, nitrogenous materials, etc.) is a name applied to a collection of compounds in the plant, all of which contain the element nitrogen. The gluten of wheat, upon which the quality of bread so largely depends, is a mixture of various albuminoids, such as gliadin and glutenin, the sum total of which is known as the protein or gluten of the wheat. The protein of cattle foods is absolutely essential to the growth or repair of all the nitrogenous tissues and compounds of the animal body. From a food lacking protein no muscular tissue and none of the nitrogenous constituents of the milk can be formed. Protein furnishes the material for lean flesh, albuminoid compounds of the blood, nerve tissues, tendons, skin, hair, horns, wool, the casein and albumin of milk, etc. The growth of the young animal and the production of milk are sometimes limited because of an insufficient supply of protein in the food. No other food nutrient can take its place. While possibly, under certain conditions, it may be a source of fat, and by being burned in the body may be a source of heat or muscular energy, yet it must be credited with a peculiar function which does not belong to any other food compounds, viz.: it is the source of the nitrogen compounds of both the body and milk. We have reason to believe, too, that a generous amount of protein in the ration exercises a peculiar stimulus upon the activities of the animal body, such as growth and milk production. Such food as cot-

ton-seed meal, linseed meal, the gluten feeds and meals, buckwheat middlings and peas and beans, are those which contain a relatively large proportion of protein. The ordinary farm crops contain a relatively small proportion of protein.

**Carbohydrates.**—The term carbohydrates is one that includes the starches, such as potato starch and corn starch; cane sugar, which is the common sugar of the household; glucose, which many plants contain and which may be made from starch or from woody fibre; gums, of which gum-arabic is a good example; cellulose or fibre, which is represented by cotton fibre and wood pulp. Exclusive of water, carbohydrates form the greater part of most vegetable foods. All the cereal grains, such as corn, oats, wheat, barley and rye, consist very largely of starch and similar compounds. This is true also of potatoes and roots. The farm produces carbohydrates greatly in excess of other food constituents. A large part of the carbohydrates of a ration is burned to furnish the animal body with the necessary heat and energy, but a portion may be converted into body fat and perhaps into milk fat.

**Fat.**—This term includes vegetable fats and oils such as cotton-seed oil, linseed oil, rape oil, corn oil, etc. The fats usually exist in plants in relatively small proportions, although such vegetable substances as cotton seed, linseed, rape seed, etc., contain comparatively large percentages of oil. Vegetable fats are burned in the animal body to furnish heat and energy and may probably be stored as fat in the body and may be a partial source of milk fat. The heat or energy which a pound of fat will supply through combustion is equal to what would come from the burning of about two pounds and a quarter of starch or protein.

**Ash**—The ash of a plant, or that which remains after it is burned, includes the mineral salts, among which are the phosphates, sulphates and chlorides of calcium, magnesium, potassium, sodium, iron, etc. These compounds are used in making bone and in furnishing certain constituents of the digestive fluids.

(To be continued.)

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## CORRESPONDENCE

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### Mammoth Cluster Oats

To the Editor of FARMING:

I see by reading FARMING of the 17th of January that there is a demand for Mammoth Cluster Oats. I obtained twenty pounds of seed about two years ago from the Leclair Seed Company, of Brighton, near Rochester, and I paid \$2 for them. I sowed the twenty pounds on about a quarter of an acre, and threshed fifteen bushels of oats. Last year the results were equally as good.

Yours truly,

THOS. COXWORTH.

Cedar Grove, Feb. 11, 1899.

### Babcock Tests vs. Churn Tests

To the Editor of FARMING:

In reply to recent inquiries on this subject, Prof. W. A. Henry, of Wisconsin Experiment Station, Madison, Wis., writes to me as follows under date of December 27, 1898:

"Replying to your inquiries, will say: First, without being able to prove my statement, but basing my judgment on the results of the most carefully and fairly conducted dairy tests, I believe that most of the records showing thirty pounds or more of butter in seven days are unreliable. I do not affirm that the parties did not get thirty pounds of something which they called butter for the seven days, but I am firmly convinced that a large part of these so-called records were not honest, merchantable butter. I believe that private tests with dairy cows and those where the milk and butter are not analyzed are no more reliable than private trotting tests would be with horses, for human nature is the same in the owners of both these animals. Second: I believe that the Babcock tests together with the scales combined give us a far more correct method of estimating the butter capacity of a cow than the churn itself. This is true, because with these instruments we can determine the total quantity of fat yielded by a cow in a given time, and when a cow has produced this fat she has done her part and is entitled to full credit. The churn is not a meas-

ure of a cow's butter productive capacity, because fat may be lost both in separation and churning, and the cow cannot be held accountable for either of these losses. Again, unless the butter is analyzed it may not be a merchantable product, for which fault again the cow is not to blame, nor on the other hand should she have credit for water, casein, extra salt, or all of these, which the worker through his desire for a large production may leave in excess in the butter. Of course the Babcock test can be wrongly used, or it can be misrepresented, but with the scales it forms the simplest and most direct combination for measuring a cow's butter value. A man who will cheat with the churn will also cheat with the Babcock test, but the skimming device and the churn may both cheat the cow when the man or the committee are honest. This the Babcock test will not do. By means of properly conducted official tests, and the use of the Babcock test, the representatives of our various breeds of dairy cattle are in a position to establish records which are reliable, and in time will become immensely valuable as data accumulates and the effects of breeding and selection are realized.

"W. A. HENRY,

"Dean and Director."

This letter should be in the hands of every dairyman and every breeder of dairy cattle. Before the invention of the Babcock test, the churn was the only practicable means for testing cows within the reach of dairymen. It is probable that the earliest tests did not give full credit to the cows. As strife for extraordinary records grew there seemed to be no end to the number of pounds that might be reached. One record passed 46 lbs. in seven consecutive days; the cow and the whole process of making was in the hands of an intelligent committee. The World's Fair threw a great light over such records. Cows that had been credited with 30 lbs. and upwards, under most favorable conditions at that Fair, failed to make 20 lbs. of butter of 80 per cent. fat in the ordinary period of seven consecutive days. It was a great surprise. The public lost all confidence in the great records that had been reported. If these tests had no other effect they were not altogether vain.

With a view of finding out how some of these great records might have been made, I took a quantity of rich cream, properly ripened, and churned it at a low temperature until it reached the point described by the word "broke." If it had been chilled it would have been about as dry as snow. An enthusiastic record-maker might have reasoned in this way, "It is not cream, it is not buttermilk, therefore it must be butter." I estimated its weight 46 lbs., and it contained 33 per cent. fat. I added ice-water and again started the churn. When it appeared as granules about the size of wheat, I drained off the buttermilk and let it stand draining several hours. No one not a practical butter maker would have had suspicion that it contained an excess of moisture. It weighed 18½ lbs. By chilling it still more it might have been salted without loss of weight. A thoroughly conscientious man, unfamiliar with butter making, might have readily endorsed this weight as the correct one of a merchantable product. I warmed it up, salted it, and found it produced 11 lbs. of merchantable butter. It would make all the difference in the world whether a cow had a record of 18½ lbs. or of 11 lbs., or double these figures, 37 lbs. in seven consecutive days, made one way, or 22 lbs. made another way. I do not pretend to know other ways, doubtless more fraudulent, by which great records may have been made. But I know butter by the churn is an indefinite quantity. In the light of the present we can put comparatively little value on records made by it.

The following letter recently received by our firm shows that there are some persons who are willing to instruct others in the mysteries of making large records by the churn:

"Toronto, January 9th, 1899.

"Messrs. A. & G. Rice:

"DEAR SIRS,—We have fitted up the dairy of Mr. —, of Toronto, with our new process of butter-making. It is giving very satisfactory results. We can guarantee 25% better returns, a simpler process, more certain in results, better butter, a purer butter, less casein and water, and better keeping.

"We work from 25% to 30% above the Babcock test. These advantages are important to you. We invite investigation, and can refer you to —, who has kindly consented to your making any test you like, with either his cream or your own, and we suggest that you bring one week's cream of any cow you prefer, and that you have made previous test of, and see what our process will turn out, or any other

test you may wish. We use no chemicals or foreign material. We sell nothing, but work on royalty. Shall be pleased to give you any further information.  
"Yours truly,  
"\_\_\_\_\_."

At the same time we must not be too severe in our judgment of earlier churn records. Most of the cows are now dead, and we have no other means of getting at their worth. Many of them were great cows. Just what records to discount and to what per cent. can never be known. But the farce of making records of 30 lbs. and upwards is ended. The Babcock test is of wonderful accuracy, yet simple in its operation. No valid objection can be raised against it. What shall we say then of those who would continue the old game of reporting churn tests? Be the records great or small, they are no longer worthy of attention, and it seems to me an insult to their readers for our papers to publish them. It is difficult to overvalue official records made with the Babcock test. Prof. Henry points out the reasons why in a single sentence: "By means of properly-conducted official tests," he writes, "and the use of the Babcock test, the representatives of our various breeds of dairy cattle are in position to establish records which are reliable and, in time, will become immensely valuable as the data accumulates and the effects of breeding and selection are realized."

Currie's, Ont., Feb. 9th, 1899.

GEORGE RICE.

### Butter-making on the Farm

To the Editor of FARMING:

At your request I send you some notes telling you how we make our butter, hoping that they may be of some benefit to the readers of your paper. It is easier work for me to make butter than to write for a paper. I have said we in my notes; Mr. Willis or some of the boys do the churning after we get the churn ready and myself and daughter attend to the butter afterwards. We got our method for making butter from reading articles in the papers.

In making butter, like everything else, you must commence right. That is, you must have everything clean as it can be, the stable, the bedding, etc. The cows also should be brushed and cared for the same as your driving-horses. Then the feed should be of the very best quality, with plenty of good pure water. The milk should not be allowed to stand in the stable after you are through milking. It should be strained and cared for at once. The sooner you get it into the creamers and into the cold water the better the cream will separate. We use the deep setting cans, placed in tanks of cold water with ice, just enough so that there is ice in the tanks all the time, otherwise you will lose some of the cream. We set the milk from fresh cows from one milking to the next.

After they have been milking a few months we set for the twenty four hours, as it takes the cream longer to rise in such milk. We skim by letting the milk run out of the taps in the cans into pails. Then we empty the cream into cans with tight fitting lids holding about five gallons apiece. The cream should be stirred each time fresh cream is added. We use buttermilk as a starter, putting about a pint in the can when we commence to put the cream in. If more than one can is used you must keep it mixed so that the cream will all ripen at once. It is one of the secrets in making good butter to have the cream ripened just right, that is, it should thicken all through and look like a piece of satin on the top, nice and glossy but not too sour.

After the cream is ripened the next thing is to get to the right temperature for churning. In the summer we bring the cream out of the cellar a little while before churning, but in the winter we place the cans of cream in warm water not more than 75 degrees. We always strain the cream into the churn through a strainer made of thin crash used for this purpose. We churn at 70 degrees by the thermometer we have, an article every dairy should have. There should be no guess-work; but have the temperature just right, and it will save a lot of labor.

We keep mostly pure-bred Jerseys (they are the cows for cream and butter). In churning cream from grade or native cows you would have to churn at a lower tempera-

ture, as we have found from using them. In the winter months we use a little butter-color; with the Jerseys not much butter-color is needed. We use the Daisy churn, and it takes about 30 minutes to churn to the granular form, or till the butter rises on the top of the buttermilk, so that it will strain and not come out with the buttermilk, when it is run off. We wash the butter in the churn, using as much water as there is buttermilk, also adding a little warm water, or the cold water will make the butter too hard to print well. If you want to pack the butter you must wash it ill the water is clear. If the butter is for prints less washing will do, as too much washing is an injury to the flavor.

We salt in the churn, using one ounce to the pound of the best dairy salt, being very careful to get it mixed all through evenly. Then put the lid on the churn, and let it stand an hour to let the salt get dissolved. We work also the butter in the churn, turning slowly to let the brine off when half worked. This plan will work the butter into one large roll if it is right. In washing you must turn very fast to keep the granules apart, so that the butter will salt all right. After it is worked we take the butter out with a ladle onto a board, with one end raised a little to allow the surplus brine to drop into a pan. We smooth the mass of butter down to the thickness of the pound print; then cut out the prints just as you would cut out shortcakes, printing them out onto a board, covered with a piece of cotton to keep the butter from sticking. The board, ladle and print should be scalded and cooled before using, or the butter will stick to them. After printing we put the butter away to cool for a few hours, then we weigh each pound, and wrap it in a printed wrapper of parchment butter paper. If the butter is to be packed we work it in the churn the same as for prints; then we take it out and work it a little more in the bowl with the ladle. It is then set away over night, when it is given another good working in the bowl until it is dry, but not too much so, being careful to press and not to rub with the ladle to spoil the grain of the butter. The butter should be pressed in the jars very firmly to keep all the air out. After the churning is done then comes the washing up (a very important part). Every vessel and article used should be well washed and scalded and placed in the sun to be aired. Yours truly,

MRS. WM. WILLIS.

Pine Ridge Farm, Newmarket, Sept. 3rd, 1898

NOTE.—In the letter enclosing Mrs. Willis' article, Mr. Willis sends us some facts regarding his herd of cows, which are worth noting. In regard to the output of his dairy for 1898 he says: "Our cows last year were a kind of mixed lot, from having to buy some grades to help, after selling off some of my Jerseys. We bought these grades to help till a nice lot of heifers I have come in. Besides, several of our cows were heifers which had been milked over a year, as I have them come in when about 2 years old and let them go about 16 or 18 months before calving again. We had twelve of these mixed cows last year and made 3150 lbs. of butter. We sold 2850 lbs., for which we realized \$575 and some cents, which makes about \$40 over 20 cents per lb. the year through. I do not think this is anything very big, but it helps the farming along very well in place of selling the grain off the place. The average for each of the twelve cows and heifers was 262½ lbs. of butter, which at 20 cents makes a trifle over \$50 each. I am not such a heavy feeder as some I read about. I feed my best heavy milkers when fresh about 10 or 11 lbs. of oats and peas if I have them, or ensilage with a feed of hay night and morning, with all the clean oat chaff and straw they want at noon. I am laboring under some disadvantage in having to drive the cows to the creek in winter, about 80 rods away. I have already spent quite a sum of money in wells and boring for water, and hope to overcome this disadvantage some time." If the skim-milk and butter milk were taken into account Mr. Willis' twelve cows have certainly made a good showing. There are, we think, very few farmers in Canada who are annually making \$50 a piece in hard cash out of their cows. Mr. Willis reports that he has nine cows milking since January 1st, and one fresh cow since, and averaged 80 lbs. of butter a week during January.—EDITOR.

**QUESTIONS AND ANSWERS.**

**TO ESTIMATE THE QUANTITY OF ENSILAGE IN A ROUND SILO.**

A subscriber asks for directions how to estimate the number of tons of ensilage in a round silo.

To estimate the quantity of ensilage in a silo it is necessary to know first how much is contained in a cubic foot of space. This amount will vary according to the depth of the ensilage in the silo, and also the quality of the ensilage. In a silo filled to the depth of 30 feet with well-matured corn the average amount of ensilage in a cubic foot will be from 40 to 43 lb., the amount varying from about 22 lb. per cubic foot at the top to about 55 lb. at the bottom. To find the quantity in a round silo find the diameter, which is one-third of the circumference. Square the diameter, that is to multiply the figures by themselves, take three-quarters of the product and multiply this by the height all in feet. This will give the number of cubic feet, which if multiplied by the number of pounds in a cubic foot will give a quantity from which the number of tons can easily be ascertained. This method will give a fair estimate of the quantity in any round silo. The following table shows the capacity in tons of round silos of various sizes:

Diameter of silo in feet.	Depth of silo.			
	20 feet.	22 feet.	25 feet.	30 feet.
10	31 tons	34 tons	40 tons	47 tons
12	45 "	49 "	58 "	65 "
14	63 "	68 "	77 "	90 "
16	80 "	90 "	103 "	130 "
18	100 "	110 "	125 "	150 "
20	125 "	135 "	155 "	185 "
22	145 "	160 "	180 "	215 "

**WESTERN FAIR ASSOCIATION.**

The annual meeting of this prosperous Exhibition was held at London on Feb. 15th. The yearly report showed the finances of the Association to be in a flourishing position, the total receipts for the year showing a balance over expenditure of \$8,496.99. It was also pointed out that the time had come when prizes on a more liberal scale might be offered in some classes, particularly in live stock departments. This will no doubt be received with favor by the breeders of the country.

**CANADIAN FAIRS ASSOCIATION.**

The annual meeting of this organization took place at Toronto on Feb. 15th. A number of topics were discussed bearing upon the management and operation of agricultural and local fairs. Mr. J. T. Murphy, Simcoe, Ont., in discussing the best way of managing an agricultural show, pointed out that among other things only expert judges should be appointed, a prize list complete in every detail up to present needs; no member of the board or superintendents of classes in any way to communicate with the judges unless applied to by the judges for information, no favorites but all treated alike and in accordance with the rules and regulations, and if

**WHY IS IT ?**

The roads have been bad; the weather has been, oh! so cold. But, nevertheless, our cash sales so far this month averaged over \$30.00 a day ahead of same days last year. The answer must be, We please our customers. Have you seen our Spring Circular and Seed List? If not, send for one.

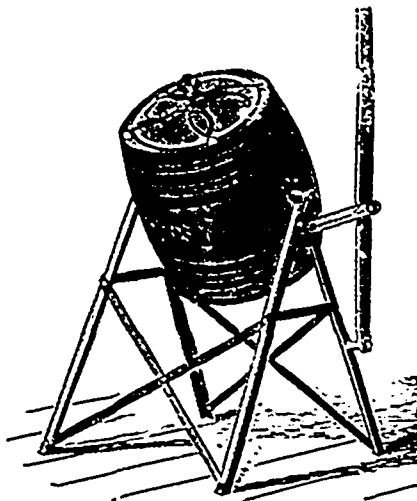
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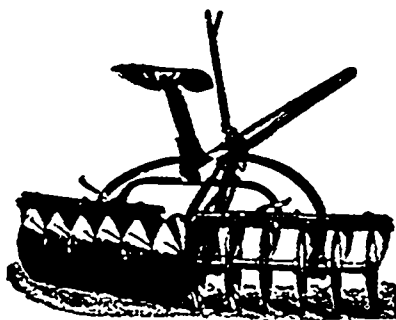
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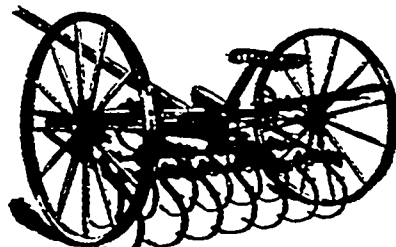
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NOXON NEW BUFFALO PATENT ALL STEEL DISC HARROW

**The Buffalo All-Steel Disc Harrow.**

This is the only Disc Harrow made or sold in Canada, having independent, adjustable spring pressure upon the inner ends of the gang disc, allowing any amount of pressure to be thrown upon the inner ends of the gangs, by the foot of the operator. By this means a perfectly flexible action is secured and the ground can be worked to a uniform depth. Examine this Machine carefully and compare with others.



NOXON No. 12 SECTIONAL SPRING TOOTH CULTIVATOR

**The No. 12 Cultivator**

IS A MARVEL OF SUCCESS. The only Cultivator made that both lines of teeth will cut an even depth in the ground. Examine it and you will see why. The only Cultivator with a movable tooth set so that the angle of the teeth can be regulated to suit any condition of soil. Pressure can be regulated to act differently on every section requiring it. The teeth are carried between the wheels instead of trailing behind, as in other machines, thus securing lighter draft. This machine is furnished with grain and grass seed box when required. It has reversible diamond steel points for the teeth; also extra wide thin-cutting points can be furnished. Examine it and you will buy no other.

**THE BEST DRILL MADE.**

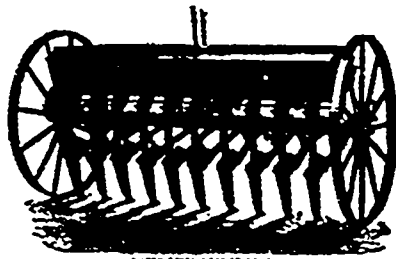
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Over 40,000 Drills and Seeders of our manufacture in use in Canada. The only Drill made with lever for instant and perfect regulation of depth of hoe in all kinds of soil, while team is in motion. Sows absolutely correct to scale; saves seed, as every kernel is deposited at a proper depth to grow. Purchase only the best and you will be satisfied.

We also manufacture Binders, Reapers, Mowers, Rakes, Cultivators and Pulpers, as good as the best. Send for illustrated catalog.

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Ingersoll, Ont., Canada.



HOOSIER STEEL HOOSIER DRILL

**WHEN WRITING TO ADVERTISERS PLEASE MENTION FARMING**

attractions and entertainments be permitted the utmost care to be exercised as to morality, etc. Under no circumstances or consideration should fairs be allowed access to the grounds. All these recommendations are on the right line and should be fully considered by the management of all fairs and exhibitions.

#### GUELPH FAT STOCK CLUB.

The annual meeting of this flourishing club took place last week. The finances of the club are in a healthy condition. It was unanimously decided to hold a winter show in 1899 some time in December, but the date will be selected later. A committee was appointed to wait upon the Ontario Government to endeavor to secure a grant to be expended in prizes for fat stock.

#### Stock Notes

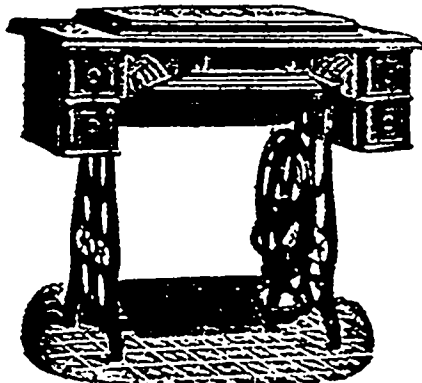
MR. J. E. BRETHOUR, Burford, Ont., proprietor of the Oak Lodge herd of improved Yorkshires, has been doing a very extensive business in Yorkshires during the past few months. Some idea of the extent of his business and herd may be gathered from the statement that, since Sept. 1st, 1898, Mr. Brethour has sold no less than 3,500 purebred Yorkshires. He is sending hogs every week to the United States. 1898 was a record breaker for the Oak Lodge herd in the way of prize winnings. The herd won, in all, 100 prizes, besides a number at country and township shows. Among these was the first prize at the Provincial Fat Stock and Dairy Show for the best four bacon hogs of any breed, grade or cross. The prizes won at the leading fairs are summarized as follows:

*Toronto Industrial Fair.*—Aged boar, 3rd; boar over 6 months and under 12, 1st, 2nd, and 3rd; boar under 6 months, 2nd and 3rd; sow over two years, 1st and 2nd; sow over one and under two years, 1st and 2nd; sow over 6 months and under 12 months, 1st; sow under 6 months, 1st; best boar and two sows of any age, 1st; boar and four of his get under 6 months old, the produce bred and all owned by the exhibitor, 1st; sow and four of her produce under 6 months old, the

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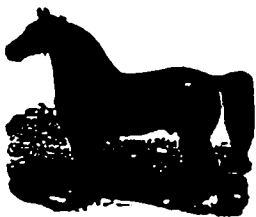


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A Veterinary Medicine Chest in Itself  
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IT CURES

Strains, Curb, Chapped Hocks, Wind Galls, Splints, Strained Tendons, Rheumatism, Over Reaches, Coughs, Colds, Sore Throat, Founder, Lameness, or any Soreness, Swelling, or Inflammation.

Griffiths' Menthol Liniment is endorsed by the highest live-stock authorities as the greatest of external applications.

It never blisters or removes the hair; should be in every home.

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Invariably goes to the one with best brain—one who has education, special training. Why not qualify for one of the best places going? You have the chance.

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opens the door to success for many young Men and Women each year. It offers splendid equipment, thorough work, a strong staff and good results.

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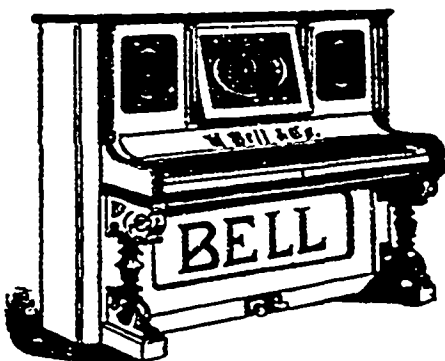
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THE BELL ORGAN & PIANO CO., LIMITED

produce bred, and all owned by the exhibitor, 1st.

*Western Fair, London*—Boar one year and over, 1st and 2nd; boar 6 months to 1 year, 1st and 2nd; sow 6 months, 1st and 2nd; boar and three sows, any age, 1st, and bronze medal; sow, breeding, one year and over, 1st, 2nd, and 3rd; sow 6 months to 1 year, 1st, 2nd, and 3rd; sow under 6 months, 1st and 2nd; sow and four of her offspring, all owned and produce bred by exhibitor, 1st and bronze medal.

*Illinois State Fair, Springfield, Ill.*—Boar 2 years or over, 1st; boar 1 year and under 2, 3rd; boar under 6 months, 3rd; sow 2 years and over, 1st and 2nd; sow 1 year and under 2, 1st and 3rd; sow 6 months and under 1 year, 3rd; sow under 6 months, 1st; boar and three sows over 1 year, 1st; boar and three sows under 1 year, 3rd; boar any age, 1st; sow any age, 1st.

*Trans-Mississippi and International Exposition, Omaha, Neb., U.S.A.*—Boar 2 years or over, 1st; boar 1 year and under 2, 2nd; boar 6 months and under 1 year, 2nd and 3rd; boar under 6 months, 1st and 2nd; sow 2 years or over, 1st and 2nd; sow 1 year and under 2, 1st and 2nd; sow 6 months and under 1 year, 1st and 2nd; sow under 6 months, 1st and 2nd; boar and three sows over 1 year, 1st and 3rd; boar and three sows over 1 year, bred by exhibitor, 1st and 2nd; boar and three sows under one year, 1st and 2nd; boar and three sows under 1 year, bred by exhibitor, 1st and 3rd; four swine, get of same boar, bred by exhibitor, 1st and 2nd; four pigs under 6 months, produce of same sow, 1st and 3rd; boar any age, 1st and 3rd; sow any age, 1st and 2nd; boar any age, bred by exhibitor, 2nd and 3rd; sow any age, bred by exhibitor, 1st and 2nd; fat barrow 6 months and under 10 months, 1st; bacon hog, 3rd.

*Southern Fair, Brantford.*—Boar 1 year and over, 1st and 2nd; boar 6 months to 1 year, 1st and 2nd; boar under 6 months, 1st and 2nd; sow 1 year and over, 1st and 2nd; sow 6 months to 1 year, 1st and 2nd; sow under 6 months, 1st and 2nd; boar and two sows, 1st and 2nd.

*Ontario Provincial Fat Stock Show.*—Barrow under 6 months, 3rd; sow 9 months and under 15 months, 1st; sow 6 months and under 9 months, 1st; sow under 6 months, 3rd; three pigs, offspring of one sow, bred by exhibitor, 1st; export bacon hogs, 3 pure-bred York-hires, 2nd; four hogs, any grade or cross, 1st.

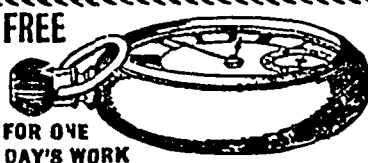
MR. GEORGE GREEN, Fairview, Ont., reports his stock of Berk-hires as doing well. He has upwards of thirty brood sows in pig to his exhibition boars including the imported Rubens. Among Mr. Green's recent sales are four fine sows to the Hon. Thomas Greenway, Crystal City, Man.; one fine boar to the Experimental Farm at Brandon, and one good young boar to a breeder in Prince Edward Island.

MR. WM. WILLIS, Pine Ridge Farm, Newmarket, Ont., reports his Jerseys as doing very well. He is selling off several of his grades. He has still two very fine young bulls for sale. His flock of sheep are doing well, and some are beginning to lamb. He already has five young lambs and two ten days old. He has recently sold four ewe Cotswold lambs to Mr. Albert Perrier, Markham, Ont.

MR. ALEX. GALBRAITH (formerly Galbraith Br. s.), the celebrated importer and breeder of Clydesdales, Suffolks, Panch and Hackney horses, of Janesville, Wis., is advertising for sale a number of high class animals from his new importation of prize winners. These horses were brought out in October last, and are said to be an extremely fine lot. Intending purchasers will do well to communicate with Mr. Galbraith before placing their orders elsewhere.

SUMMERHILL HERD OF YORKSHIRES.—Mr. D. C. Flatt, of Millgrove, Ont., reports that his fine herd of Yorkshires have passed the winter in good condition. Mr. Thomas Bradshaw left St. John, N.B., on the 7th February, per steamer *Concordian*, for Liverpool, England, to bring out Mr. Flatt's importation of Yorkshires. The stock is being purchased from the best and most celebrated

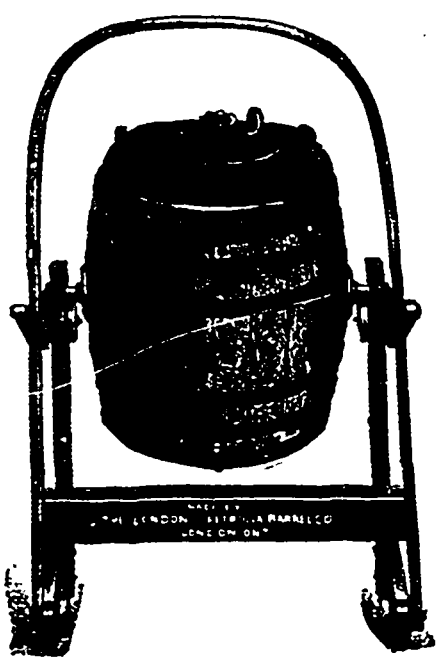
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WE GIVE this fine WATCH, with a chain and charm, for selling 2 dozen gold-topped, enamel-backed Lever Collar Buttons at 10c. each, or a lady's watch and guard for selling 3 doz. No Money Required. You run so risk. Write and we send the Buttons, post-paid, with our big Premium List. Sell the Buttons, post-paid, and we send watch, free of all charge. Unsold buttons returnable. Liberal commission if preferred. Be the first in your field. Send your name and address to-day. In writing, mention this paper.

LEVER BUTTON CO., TORONTO, ONT.



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It does not require a “crank” to work the Improved “QUEEN” CHURN. The easiest working Churn ever offered to the trade. A child can work it.

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“THE FAVORITE”



Patented, Roller Bearings, Steel Stand,  
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ST. MARYS, ONTARIO, CANADA.

breeders in England, and from herds that have taken a prominent place at the leading shows in Great Britain for many years. The arrival of the stock selected will therefore be looked forward to with interest by every stockman in the Dominion. The following are some of the sales made by Mr. Flatt since his last report, and indicate the increasing demand for first-class Yorkshires in all sections of the country: Boar to Mr. Robert James, Tara, Ont.; boar to A. Smith, Enfield; boar to Andrew Graham, Ponroy, Manitoba; two boars and a sow to Wilson Porter, Port Dover; sow to A. S. Carpenter, Simcoe; sow and boar to C. F. Hulbert, New York; two boars and four sows to J. N. Greenshields, of Saleigh Grange Farm, Danville, Quebec; boar, Chas. Dymond, Cuptown, Ont.; boar, John Marshall, Pentland, Ont.; sow to Ernest Readhead, Lowville, Ont.; sow to Alva Stockton, Clifford, Ont.; boar to T. Eaton & Co., Toronto or Islington; sow to Robert W. Meek, Sandford, Ont.; sow to R. G. Martin, Marysville, Ont.; boar to T. S. King, Beaverton, Ont.; sow to Daniel K. High, Vineland, Ont.; boar to K. Pettigrew, Hight, Ont.; boar and sow to Geo. Herrington, Tyrone, Ont.; boar and sow to Geo. A. Miller, Feversham, Ont.; boar to W. J. Graham, Blockney, Ont.; boar to Derlin McMillan, Newington, Ont.; boar and three sows to B. E. Smith, Ohio; boar and four sows to John Lane, Michigan.

MR. JOHN CAMPBELL, of Fairview Stock Farm, Woodville, Ont., is experiencing the benefit of the improved conditions in the live stock trade. Mr. Campbell's business was never very seriously affected by the "hard times" cry, because the class of stock he keeps is always in demand at good prices. But he is no doubt exulting quietly to himself on his past successes as well as in the prospects of the coming season. The fact is he was one of the first if not the first who saw the possibilities of the future, and predicted in the columns of FARMING the approaching era of prosperity. In writing to FARMING last week, he says: "Another very good season's trade is at hand. There seems to be an unlimited demand for real first class Shropshires. My fitting-up of a car lot for Mr. Joseph Bullard, of Vermont State, last month took all available black faces, and the outlook for 1899 is all that Shropshire breeders can desire. Though the best lot of breeding I ever owned is still retained in my barn, yet I will find it necessary to import rams and ewes to meet the demand for the now-in-sight trade. I have already booked good orders for show lots from the States, and many more are in view. I feel very confident regarding the trade in Shropshires of high standard." It will be seen that although Mr. Campbell was one of the sanguine ones his expectations were not equal to the realization, and that his preparation for the excellent conditions which he foresaw will have to be supplemented this year by even greater ones.

**Publishers' Desk.**

**A Correction.**—By a typographical error in last week's issue we were made to say, in referring to the Evans early potato grown by Robt. Evans & Co., of Hamilton, Ont., "it is said to yield 70 bushels per acre," instead of 700 bushels per acre. Of course, any potato grower would know that it was a mistake. But, in order to make perfectly sure, we think it best to make this correction.

**Endorsed by the Best Men.**—Mr. Andrew Brown, formerly M.P. for Hamilton, now postmaster at that place, and president of the Royal Canadian Humane Society, in speaking of the Canada Business College, says: "The principal of this College (Mr. R. E. Gallagher) has been connected with it for twenty years and he has a good record. His name at the head of this college is a guarantee of practical training and thorough work. A glance at your graduation lists shows how many young men and women owe excellent positions to the business education they receive here, and owe character and high standing in the business community."

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SELECTED  
FARM  
SEEDS**



annual purchases of BRUCE'S SELECTED SEEDS with the same regularity as the agriculturists of Ontario and Quebec. Write for our Illustrated Seed Catalogue, which is mailed free.

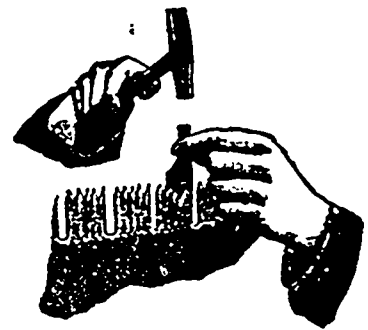
**JOHN A. BRUCE & CO.,** Seed Merchants, Hamilton, Ontario

**THE RAZOR STEEL, SECRET TEMPER, CROSS-CUT SAW**

WE take pleasure in offering to the public a Saw manufactured of the finest quality of steel and a temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than any process known. A saw to cut fast "must hold a keen cutting edge." This secret process of temper is known and used only by ourselves. These saws are elliptic ground thin back, requiring less set than any Saws now made, perfect temper from tooth to back. Now, we ask you, when you go to buy a Saw, to ask for the **MAPLE LEAF, RAZOR STEEL, SECRET TEMPER SAW**, and if you are told that some other saw is as good, ask your merchant to let you take them both home, and try them, and keep the one you like best. Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand. It does not pay to buy a Saw for one dollar less, and lose 25 cents per day in labor. Your saw must hold a keen edge to do a large day's work. Thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws.



**Maple Leaf Saw Set**

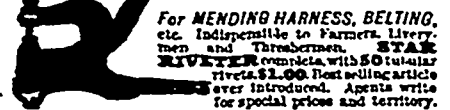


**Directions.**—Place the Set on the point of tooth as shown in the above cut, and strike a very light blow with a tack hammer. If you require more set, file the tooth with more bevel. If you follow directions you cannot make a mistake. Be sure and not strike too hard a blow, and it will set the hardest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

Manufactured only by **SHURLY & DIETRICH, Galt, Ont**

**HENRY ARKELL, Arkell, Ont.**  
Importer and breeder of  
**OXFORD-DOWN SHEEP**  
Ewes in lamb to Royal Warrick and Imp. Hero 5th for sale.  
**PRICES REASONABLE.**

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**A.J.C.G. JERSEYS**  
St. Lambert Blood.

Young Bulls ready for service, and stock all ages, second to none in Canada, for sale.



**Large Improved Yorkshires**  
Write for Bacon Pigs, all ages. Boars ready for service, etc.

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**CYPHERS INCUBATOR.**  
It combines the good qualities of all machines and has the faults of none. Our Catalogue and Guide to Poultry Culture is all about the laws of incubation, and how to raise, feed and market poultry—all about the money end of the business. Contains plans for construction and cost of modern poultry houses and many other things worth knowing. Sent for 10 cts. THE CYPHERS INCUBATOR CO., 200 N. 7th St., N.Y.

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and Almanac for 1899. 100 pages. 100 illustrations of Fowls, incubators, Brooders, Poultry Houses, etc. Tells how to raise chickens successfully, their care, diseases and remedies. Diagrams with full descriptions to build poultry houses. All about INCUBATORS, BROODERS and Fancy Poultry, with Lowest Prices. Price only 15c. C. C. Shoemaker, Freeport, Ill., U. S. A.

**HATCH CHICKENS BY STEAM**—with the **EXCELSIOR INCUBATOR**  
simple, perfect, self-regulating.  
Thousands in successful operation. Lowest priced first-class hatchery made.  
**GEO. W. STANLEY,**  
Circulars free. Send 5c. for Price Catalogue. 114 to 120 S. 6th St., Quincy, Ill.

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**SHEEP.**

**OXFORD DOWNS**

For Sale

Good Shearling Ram and some fine Rams and Ewe Lambs; also some good young Yorkshire Sows and Boars. Some good young Heifers in Calf for sale.

John Cousins & Sons, Harriston, Ont.



**Another Importation.**

All present surplus Shropshires sold, Customers pleased, and I am happy. Very choice rams and ewes producing. But not enough for coming trade. Will therefore import next July. Importing orders taken for any breed. John Campbell, Fairview Farm, Woodville, Ont., Can.

**OXFORD DOWNS**

For Sale.—A fine lot of ram and ewe lambs, bred from imported sire and dams. Prices to suit times.

SMITH EVANS  
Gourrock, Ont.  
Breeder and Importer



**MAPLE LANE FARM**  
One mile north of Claremont, on C.P.R.

**Gotswolds**

Twenty good ram lambs, shearing and two-shear, at farmers' prices. Some excellent shearing ewes, bred to our best studs. Berkshire Sows ready to breed. Boars fit for service. Twenty Plymouth Rock Cockerels, choice.

O. T. GARHUT, Box 18, Claremont, Ont.

**W. B. BOWMAN**

Offers for sale:

Twelve Shorthorn Cows and Holfers  
Yorkshire and Berkshire boars and sows ready for breeding at \$10.00 each.

A 10 month Jersey Bull for \$35.00.  
Mount Forest, P. O., Ont.

A. TELFER & SONS, Paris, Ont., Breeders and Importers of reg. Southdown Sheep For sale.

JAS. P. PHIN, The Grange, Hespeler, Ont., breeder and importing Shropshire Sheep a specialty

JNO. A. MCGILLIVRAY, Q.C., Jerseyville Farm, Uxbridge, Ont., Breeder and Importer of Dorset Horned Sheep, Jersey Cattle, and Tamworth Pigs.

**SWINE.**

**Chester Swine a Specialty . . .**

Stock for Sale of all ages and both sexes

EGGS FOR HATCHING from L. Brahmas, Buff Cochins, Partridge Cochins, P. Rocks, S. G. Dorkings, Black Minorcas, S. White and Brown Leghorns, Rose Comb White Leghorns, B. B. Games, and Cornish Indian Games at \$1 for 15. Mixed eggs if desired; also Aylesbury, Rouen, and Pekin Ducks' eggs at \$1 for 9. A few grand cocks for sale of White and Brown Leghorns, Cornish Indian Game, Pyle Game and B. B. Game stock.

Geo. Bennett & Pardo, Charing Cross, Ont.

**CHESTER WHITES.**

I have on hand forty head of pigs from two weeks to four months, both sexes, pairs not akin, from imported and home-bred stock.

J. H. CHALK, Calton Ont.

**AGENTS WANTED**

Send for our cash prize and premium lists. It will pay you. Address

FARMING,  
44-46 Richmond St. W., Toronto

**LARGE**

**ENGLISH BERKSHIRES**

My herd won 306 prizes, 22 diplomas, and 5 medals since 1888. Choice stock of all ages for sale.

GEORGE GREEN, FAIRVIEW, ONT.  
Stratford Station and Telegraph Office.

**POLAND-CHINAS** at Williscroft.  
**ARE THE RIGHT KIND.**

Brood sows for sale. Boars ready for service. Young sows ready to breed. Lots of pigs two to three months old; good long pigs with heavy bone. Mention FARMING.

493 R. WILLIS, Jr., Glen Meyer, Ont

**Large English Berkshires**

I have a share of some of the best. I keep them for breeding more than for show.

Prices according to Quality. Also S. L. Wyandottes, S. G. Dorkings, P. Cochins, B. Minorcas, S Hamburgs. Eggs in season, \$1 per setting.

Geo. Thomson, Bright, Ont.  
Seaside Farm, 3 miles from Bright Station, G.T.R.

**TAMWORTH AND CHESTER WHITE BOARS**

Fit for Service

SOWS ready to breed, and a choice lot of FALL PIG now ready to ship, at rock-bottom prices, from the sweep-stake herd at Toronto Montreal, London and Ottawa Exhibitions, 1897. We pay express charges to your station, and guarantee safe arrival of all stock shipped. Pairs furnished not a in. Drop a card before buying elsewhere.

H. GEORGE & SON  
Crampton, Ont.

Oxford Herd of Poland Chinas

Choice stock of either sex and all sizes, from 2 months up. Bred from the best strains known to the breeder. Write for prices.

W. & H. JONES  
Mt. Elgin, Ont

The Home of the Winners



**TAMWORTH SWINE.** For Sale  
Boars fit for service. Sows in pig; also bred to order. Large quantity of young pigs. Address, JOHN BELL, Clydesdale Farm, Amber P.O. Agincourt Station, G.T.R. and C.P.R.

**Large English Berkshires.**

Young boars for service. Young sows in farrow. Young pigs from two months up. From first-class show stock. Prices right. Write for particulars. Mention FARMING.

C. R. DECKER, Chesterfield, Ont.

**NORTH BRUCE HERD**

**Large White Yorkshires**

Boars fit for service and young stock of both sexes from eight weeks to six months old for sale. Orders looked for Spring Pigs at eight weeks old.



WM. HOWE, - - North Bruce, Ont.

**COLDSRING TAMWORTHS**



no. 2111. Am looking orders for spring pigs at the lowest prices.

Boars fit for service; sows in pig and bred to order. Sept., Oct., and Dec. pigs of both sexes of the right bacon type, pairs and trios

NORMAN M. BLAIN  
Coldspring Farm, St. George.

**R. H. Harding,**

Breeder and Importer of Dorset Horn Sheep and Chester White Swine

THORNDALE, ONT.



Anyone in want of a young boar fit for service, or a young sow for mating, should write to me before ordering elsewhere, as I have quite a few left at right prices

HIGHEST TYPE OF BACON HOGS . . .

**Oak Lodge Herd of Large Yorkshires**

The Largest Herd of Pure-Bred Yorkshires in America.

This herd has won the best prizes offered for the breed during the last ten years. Only one breed kept, but the choicest of its kind. Three imported stock boars and several sows that have all been winners at the largest shows in England, also winners at prominent Canadian and United States shows. Pigs of all ages for sale.

J. E. BRET HOUR, Burford, Ont

JOS. CAIRNS, Camlachie, Ont.

IMPORTER AND BREEDER OF

**Chester White Hogs**

Stock on hand for sale at all times of all ages, and at right prices.

**..POULTRY..**

**BUFF ROCKS**

The coming breed, very popular. All my stock the same blood as the best prize winners as the Toronto Exhibition last year.

**PRICES.**

Best cockerels, \$10 each; ordinary cockerels \$2 each. Pullets and hens have all been sold. Settings: 13 eggs \$2; 25 eggs \$3.50.

**BELGIN HARES (Solid Colour)**

from Imported Stock, \$3 a pair. (Full brothers and sisters sold at \$40 a pair.)

**ADDRESS:**

**R. F. HOLTERMANN,**

**BRANTFORD, ONTARIO, CANADA.**

**BARRD PLYMOUTH ROCKS**

In the pen a cock and four pullets, purchased and selected for me by the well known poultry expert, Mr. Jarvis, of the Ontario Agricultural College, Guelph, who has also acted as judge for many years in the leading poultry shows of Canada and the United States. The Cock is Thompson, bred at Canton, Ohio, it won first as a cockerel. Again under Bridge it this year tied for 1st place for cock in very strong competition. One pullet took 1st at Canton, Ohio, the other was one out of the pen which took first for the best breeding pen. The cock was also pronounced by Mrs Comyns-Lewer, editor *Fraser World*, London, Eng., who visited the great Toronto Poultry Show this year, as the most perfect type of Barred Rock she had seen on the American continent.

Settings: 13 eggs \$2; 30 eggs \$4. Best cockerels, \$10 each. A few culls left \$3 each. No pullets or hens for sale.



**They Like it Fine.**—Mr. James H. Peters, of Moosomin, Assa., is evidently impressed with the value of the Vessot sub-soil lance. In writing to FARMING on Feb. 6th, enclosing some questions on poultry-raising, he takes advantage of the opportunity to say, "I have purchased a Vessot sub-soil lance through an advertisement I saw in FARMING, and all who have seen it work think it fine. We could tell to the row where it was used." The implement referred to is made by S. Vessot & Co., of Joliette, Que., and the testimony of Mr. Peters in favor of it only confirms what we have previously heard about it.

**A Do-All for the Farm.**—A Canadian invention, whereby an Ontario farmer, by means of an attachment to a wind-mill, can run a grindstone, grind up 45 bushels of corn an hour, peel apples or raise water 1,500 feet high, was eagerly discussed by the directors of the Ontario Wind Engine and Pump Co. at its annual meeting at the Palmer House yesterday. The inventor is President S. H. Chapman. It is claimed for it that the invention will put cheap power on every farm in the country. The past year has been the best the company have had, and their shipments abroad include South America, Cyprus and Egypt.—*Toronto World.*

**Nothing to Equal It.**—The following letter speaks for itself and is only one of many unsolicited testimonials to the merits of the machines it refers to: Carp, O., Nov. 17th, '98, Messrs Frost & Wool, Smith's Falls, O.; Dear Sirs,—I have purchased this past season from your agent, A. Andrews, of Caro, one of year No. 2 new binders and No. 8 mowers, and must say that I am well-pleased with both. Your No. 8 mower is what I consider an up-to-date, first-class machine, and don't think there is anything to equal it as a mower, while the new No. 2 binder is a machine that I have no hesitation in recommending to any of my brother farmers for simplicity of construction and ease of management. Yours truly, W. J. MONTGOMERY.

**A Suggestion.**—It has been suggested by one who has had a great deal of experience in buying machinery that it is a good plan for every farmer to obtain and keep by him ready for reference when required the catalogue and price list of every implement maker offering machines for sale. By doing this he has the means of comparing the claims of the different manufacturers as well as their prices, and there will often be found some suggestion in the catalogues which will enable an intending purchaser to arrive at an intelligent conclusion as to the merits of the various machines. We repeat this suggestion, believing that our readers will find it to their interest to act upon it and to secure the catalogues of the various manufacturers whose advertisements are to be found in the columns of FARMING.

**Sugar-Flakers' Convention.**—The annual convention of the Vermont Maple Sugar-makers' Association was held at St. Johnsbury, Vt., Jan. 5th, 1899. This association represents a very large number of the maple sugar-makers of the State of Vermont, which produces more maple syrup and sugar than any other State in the Union. Prizes are offered for the best maple sugar and syrup displayed at the annual gathering. This year they were awarded to users of the Champion Evaporator, as follows:

**Pail and Tub Sugar, Class A.**—1st, A. A. Leland, Johnson, Vt.; 2nd, M. Shattuck, Eden, Vt.; 3rd, C. H. Chase, East Fletcher, Vt.; 4th, G. W. Humphrey, East Brookfield, Vt.

**Cake Sugar, Class B.**—1st, H. W. Shattuck, Eden, Vt.; 2nd, M. C. Chase, East Fletcher, Vt.; 3rd, Mrs Zna Chase, East Fletcher, Vt.; 4th, F. H. Leland, Johnson, Vt.

**Syrup, Class D.**—1st, H. B. Chase, East Fletcher, Vt.; 3rd, A. A. Leland, Johnson, Vt.; 4th, H. W. Walker, Woodstock, Vt.

**Stirred Sugar.**—1st, Helen Barkley, East Craftsbury, Vt.

**Sweepstakes.**—1st, D. Carlton, Woodbury, Vt.; 2nd, W. W. Chase, East Fletcher, Vt. The manufacturers of the Champion Evaporator in Canada are The G. H. Grimm Mfg. Co., Montreal, Que. They feel proud of the success of their Vermont customers in securing so many prizes. Send for free catalogue.

**SUNNYSIDE POULTRY YARD**

I have for sale the following varieties of the richest strains of blood which can be produced, winning 300 Firsts, 150 Seconds, at the following shows: Toronto Industrial, Provinial Quebec, Galt, Drumbo, Paris and Burford in 1898:—

Choice Silver and Golden Wyandottes, Light Brahmas, Black Langshans, Black Javas, Cornish Indian Games, B. B. R. Games, S. G. Dorkings, Brown S. C. Leghorns, Barred and White Rocks, White Crested Black Polands, Black Minorcas, Andaluzians, B. B. Red Bants, Pyle Bants, M. B. Turkeys.

**T. A. COX, - Brantford, Ont.**

**Thoroughbred Poultry For Sale**

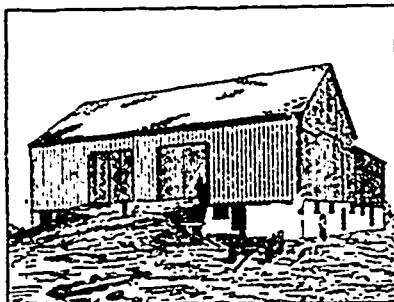
Trlo Dark Brahma Fowls for \$4.50.  
Trio Dark Brahma Chicks for \$5.50.  
A few Dark Brahma Hens at \$1.50 each.  
Two Partridge Cochlin Cockerels at \$2 each.  
One White Cochlin Cockerel at \$2.50.

White and Barred Rocks and White Wyandotte Cockerels for breeding purposes cheap. All from prize-winning stock. Write

**A. J. GEORGE,  
Clarence St., - London, Ont.**

Established 1841. 53 Years in Use.

**WORK DONE WITH  
Thorold Cement  
SPEAKS FOR ITSELF**



Barn of ALLAN McMANE, Elma Township, Basement Walls, 81x110x9 feet high. Built with Thorold Hydraulic Cement.

ELMA TOWNSHIP, Nov. 15th, 1898. It gives me much pleasure to testify to the excellence of your Thorold Hydraulic Cement for building purposes.

If I had stone on the ground I would not use it as I much prefer a concrete wall built of your Thorold Cement and gravel.

During the past summer I erected a barn 84 feet by 100 feet, with basement walls 9 feet high. Your Thorold Hydraulic Cement was used in the erection of the said walls. I also put in floors with it for my horses and cattle. It has given splendid satisfaction, and I have no hesitation in recommending it to those who require to use Cement.

My walls and floors are here for inspection, lots 24 and 25, Elma Township. I strongly recommend your Thorold Cement to all farmers who intend building barn walls or putting in stable floors.

Yours respectfully,  
ALLAN McMANE,  
Atwood P.O., Perth Co., Ont.

Our Thorold Cement is the best and cheapest for Silos, Barn Walls, Floors for Horses and Cattle, Pig Pens, etc. Write us for free pamphlet and full particulars.

**AGENTS WANTED** in unrepresented districts

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

Mention this paper.

**The JONES LOCKED WIRE FENCE**



is the best fence in the market. Also makers of Metallic Roofing and Siding. Write for catalogue and circular

**The Locked Wire Fence Co., Limited,  
London, Ont.**

See our Seed Premiums on page 468.

**STRATFORD BROS.**

BRANTFORD, ONT.

Tamworth Boars, Dorset Rams, Shetland Ponies, Light Brahmas, Houdans, Cornish, Indian Games, Black Langshans, White Langshans, White Plymouth Rocks, Buff Plymouth Rocks, Barred Plymouth Rocks  
Prices Right.

**A. ELLIOTT, Pond Mills, Ont.**

Emden Geese, Pekin Ducks, Bronze, White Holland and Narraganset Turkeys, Collie Dogs and Oxford Sheep. All of the best strains.

**CHOICE BERKSHIRES FOR FEBRUARY**

2 good young BOARS, 10 months old, weighing about 220 lbs. each, at \$12. Must go to make room for young pigs. 4 choice SOWS, about same age, due to farrow in April and May. Bred to a grand young boar from Imported Sire and Dam. Price \$18. Also fine lot of Boars and Sows 4 months old.

**E. E. MARTIN,  
Paris Station, G.T.R. Canning P.O., Ont.**

**The Spramotor**

The only way to prevent what's past is to put a stop to it before it happens, as

Mrs. Partington would say. Many fruit-growers and farmers are induced to buy cheap sprayers, for one reason and another, and they always regret it.

Cheap sprayers are always in need of repairs, cheap sprayers are always made of iron or mostly iron, and iron sprayers are useless in copper mixtures. You would not use a cast-iron carving-knife, because it's unsuitable.

The only way to prevent this trouble is to put a stop to it before it happens, or at least before it happens again.

The SPRAMOTORS are the result of the best efforts of the brainiest manufacturers alive.

The SPRAMOTOR embody more good features than all others combined, and that is the reason of the great demand. It is not only necessary to have one good feature, but one to be in the front rank must have all the good features.

The SPRAMOTORS shoot mixtures stronger and even than any, which fact has greatly increased their sales.

The SPRAMOTOR will last longer than any other, and is therefore economical to buy.

The SPRAMOTOR is made of brass, is the result of THREE PATENTS and others pending, is carefully made and less liable to need repairs.

Many times more SPRAMOTORS are used today in Canada than all others combined, which is one of the best arguments why you should buy one and be up with the procession. Nearly every first-class store in this country carry SPRAMOTORS in stock.

All the first-class brewers in Canada are using the SPRAMOTORS for whitewashing and disinfecting work.

SPRAMOTORS are recognized as being the standard of the world, and they have proven it by EVERY TEST that a machine can be put to.

They cost from \$3.00 upward, and a catalogue will be mailed you on application.

**SPRAMOTOR CO.**

357 Richmond St., - London, Ont.



Incubators and Brooders. Self-Regulating. Special low price for first in any locality. Agents wanted everywhere. Eggs for hatching, by the hundred cheap. B. P. Rocks a specialty. Catalogue free. Address Geo. S. Singer, Cardington, O.

**DEAL DIRECT**

IF YOU CAN USE ANY:

Grape Vines, Currant Bushes, Ornamental Shrubs, Shade Trees, Norway Spruces or other Evergreens, or any Fruit Trees or Plants, write to

**E. MORDEN, NIAGARA FALLS, SOUTH,**

for his Price List. Stock reliable and cheap and can be shipped to any point in Ontario in good order and season if order arrives early enough.

When replying to advertisements please mention FARMING

# 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 9,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

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

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

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

## INSTITUTE MEETINGS.

The following is the average attendance at meetings, reports of which have been received since the last list published:

Amherst Island.....	99
Elgin, East.....	97
Huron, East.....	132
Huron, South.....	106
Kent, East.....	45
Kent, West.....	36
Lincoln.....	117
Parry Sound, West.....	27
Perth, North.....	141
Simcoe, South.....	92
Waterloo, South.....	137
Wellington, Centre.....	240
Wentworth, South.....	109
York, East.....	28

The following is a list of the members received since the last list published:

Algoma.....	18
Amherst Island.....	12
Bruce, South.....	5
Bruce, West.....	43
Carlton.....	26
Durham.....	2
Dundas.....	4
Elgin, East.....	147
Glengarry.....	2
Grey, North.....	83
Grey, South.....	5
Haldon.....	18
Huron, East.....	208
Huron, South.....	70
Kent, East.....	38
Kent, West.....	60
Lincoln.....	30
Oxford, South.....	49
Parry Sound, East.....	7
Parry Sound, West.....	16
Perth, North.....	92
Peel.....	306
Peterboro', East.....	4
Port Carling and Bala.....	4
Prescott.....	2
Simcoe, West.....	8
Storont.....	7
Waterloo, South.....	159
Wentworth, South.....	128
York, East.....	12
York, West.....	13

## LIST OF STOCK FOR SALE.

### THE DOMINION CATTLE BREEDERS' ASSOCIATION.

#### Shorthorns.

Bonnycastle, F. & Sons..	Campbellford.....	Bull, 4 years; 6 bull calves; heifers and heifer calves.
Barclay, L.....	Port Hope.....	2 bull calves, 12 months; bull, 3 years; heifer.
Birrell, J.....	Mosboro.....	4 bulls, 6 to 12 months.
Eldridge, J.....	Hepworth Station.....	3 bulls, 5 to 18 months.
Davis, J. F.....	Tempo.....	2 bulls, 2 cows and 2 heifers.
Douglas, J.....	Caledonia.....	6 young bulls, cows and heifers.
Fairbairn, H. K.....	Thelford.....	2 bulls; 12 cows and heifers, 2 years and over; 4 bull calves; 5 heifer calves.
Fried, J.....	Roseville.....	2 bulls, 18 and 24 months; 8 bull calves, 1 to 11 months.
Gibson, R.....	Delaware.....	Bull, 16 months.
Gorwill, S. B.....	Fanshaw.....	3 bull calves; heifers.
Holdsworth, R. L. & Son..	Port Hope.....	3 bull calves; yearling heifer.
Jeffs, E. & Son.....	Bond Head.....	3 young bulls; heifers.
Jeffrey Bros.....	Whitby.....	Bulls, 12 and 14 months.
Legge, T. H.....	Temperanceville.....	2 bull calves, 10 months; bull, 3 years; cows and heifers.
Linton, W.....	Aurora.....	2 bulls; 3 heifers.
Martyn, J. W.....	Canton.....	Females, 10 months to 7 years.
Martindale, F.....	York.....	5 bull calves, 6 to 13 months.
Milne, D.....	Ethel.....	18 cows, 12 heifers, 21 bulls, all ages.
Pettit, W. G. & Son.....	Freeman.....	10 bulls, 9 to 20 months.
Rusnell, D. H.....	Stouffville.....	Imp. bull; bull calves, cows and heifer.
Skittiter, T. A.....	Grenfel.....	Bull, 18 months; 7 bulls, 6 to 9 months.
Smith, A.....	Trowbridge.....	6 calves, 9 to 11 months.
Smith, A. W.....	Maple Lodge.....	6 young bulls; cows and heifers.
Van Nostrand, J. A. M..	Vandorf.....	Bull, 15 months; 3 bull calves; females all ages.

#### Herefords.

Smith, H. D.....	Compton, Que.....	Bull calves.
Stone, A.....	Guelph.....	Stock all ages.

#### Polled Angus.

Burt, J. W.....	Conningsby.....	Young stock.
Kaufman, A. E.....	Washington.....	Bull, 1 year; 3 bull calves; 2 yearling heifers; 4 heifer calves.
Murrison, J.....	West Lorne, Box 781.....	2 cows; 2 heifer calves.
Sharp, J.....	Rockside.....	2 bulls, 13 and 18 months.
Varcoe, J.....	Carlow.....	2 bull calves, 8 and 10 months; 16 females, all ages.

#### Jerseys.

Bull, B. H. & Sons.....	Brampton.....	4 yearling bulls, 5 bull calves, females all ages.
Caldwell Bros.....	Orchard.....	Yearling bull.
Duncan, J. H.....	Sault Ste. Marie.....	2 bulls, 9 and 21 months.
Gibson, R.....	Delaware.....	2 yearling bulls; cows and heifers.
Jones, Mrs. E. M.....	Brockville.....	3 bulls, 4, to 36 months; 3 heifer calves; 2 yearling heifers; 2 young cows.
O'Brien, J.....	W. London West.....	3 bulls, 1 to 3 years.
Willis, W.....	Newmarket.....	4 bulls, 2 months to 2 years.

#### Ayrshires.

Alexander, J. R.....	Brantford.....	Bull calf, 10 months.
Caldwell Bros.....	Orchard.....	3 bulls, 8 to 10 months; yearling bull.
Edwards, W. C.....	North Nation Mills, Que.....	8 bulls, 1 month to 2 years.
Hume, A. & Co.....	Menie.....	Bull; young bull calves.
Leitch, D.....	Grant's Corners.....	2 bulls, 13 and 19 months.
McGillivray, J. A.....	Toronto.....	4 cows and 5 heifers; bull, 2 years.
Smith, W. M. & J. C.....	Fairfield Plains.....	3 bulls, 4 to 10 months; 2 cows.
Stephen, W. F.....	Trout River, Que.....	Bull calves.
Yull, J. & Sons.....	Carleton Place.....	24 bull and heifer calves, under 4 months; cows all ages.

#### Galloways.

McCrae, D.....	Guelph.....	3 bulls; 6 bull calves; 30 cows and heifers.
Sibbald, J.....	Annan.....	4 bulls, 12 to 16 months; 2 yearling heifers; 2 young cows.

## AN ABRIDGED REPORT OF AMERICAN EXPERIMENTS WHICH ARE OF VALUE TO CANADIAN FARMERS.

(Continued from last Issue.)

### INFLUENCE OF BUCKWHEAT ON SUCCEEDING CROPS.

A small experiment was conducted at the New Jersey Station to test the effect of buckwheat on a succeeding crop of turnips. Two crops of buckwheat were turned under. The effect was to largely increase the crop of turnips. This disposes of the idea held by some farmers that buckwheat acts as a poison to the crops that follow it.

**THE DOMINION SHEEP BREEDERS' ASSOCIATION.**

<b>Shropshires.</b>	
Hanmer, D.G. & Sons, ...Mt. Vernon .....	75 ewes; 50 ewe and ram lambs.
Yuill, J. & Son.....Carleton Place .....	Ewes and ewe lambs.
<b>Cotswolds.</b>	
McCrae, D.....Guelph.....	6 ram and 20 ewe lambs.
Park, J. & Son.....Burgessville.....	35 ram and ewe lambs; 25 yearling and 2 shearling ewes.
<b>Southdowns.</b>	
Jeffs, E. & Sons.....Bond Head .....	Rams; ewe lambs, and young ewes.
Smith, W. M. & J. C.....Fairfield Plains.....	2 rams.
<b>Leicesters.</b>	
Jeffs, E. & Sons.....Bond Head.....	Stock all ages.
Smith, A. ....Maple Lodge.....	20 young rams; ewes all ages.
<b>Oxfords.</b>	
Birdsall, F. & Son....Birdsall.....	Ram, 2 shears.

**THE DOMINION SWINE BREEDERS' ASSOCIATION.**

<b>Tamworths.</b>	
Blain, N.....St. George.....	Boars, 6 to 12 months; sows; young stock from 4 months down
Bretboar, J. E.....Burford.....	Imp. boar, 12 months; 3 boars.
Brown, W.....Pais'ey.....	Stock, 5 months.
Caldwell Bros.....Orchard.....	12 boars, 4 to 10 months; 14 sows, 3 to 8 months.
Gibson, D. J.....Bowmanville.....	Sow, 5 months; sow, 4 years; boar, 2 years; boar, 5 months; sows and boars, 6 weeks.
Golding, H. J.....Thamesford.....	10 sows, 3 to 10 months; 2 boars, 3 months.
Hawkshaw, H.....Glanworth.....	Boar and 2 sows, 5 months.
MacKenzie, J.....Piesqu' Isle.....	Young stock.
Simonton, J. H.....Chatham.....	Boar 9 months; 4 boars and 8 sows, 8 months; 20 sows, 4 months; 8 sows and 10 boars, 6 weeks.
Smith, H. D.....Compton, Que.....	Spring pigs not akin
Trevelton, C.....Belleville.....	2 boars, 7 and 20 months; 2 sows, 2 years; sows, 7 months; 8 pigs, 8 weeks.
Wiley, N.....Wisbeach.....	Boars and sows, 4 months.
<b>Chester Whites.</b>	
Birdsall, F. & S. n.....Birdsall.....	Pigs, 6 weeks.
Cairns, J.....Camlachie.....	10 boars and 20 sows, 2 to 6 months; aged boars and sows.
Goddard, C.....Cherry Valley.....	2 boars, 9 months; pigs, both sexes, 3 months; sow, 6 sows, 9 months; 11 sows and boars, 3 months.
Herron, H.....Avon.....	Aged boar; boars and sows, 7 and 10 weeks.
Holdsworth, R. L. & Son.....Port Hope.....	
<b>Duroc-Jerseys.</b>	
Fraser, I. O. & Son.....Fellows.....	Stock, both sexes, all ages.
Martin, S. E.....Bloomfield.....	Aged boar and sow; 2 yearling sows; boar and 5 sows, 7 months; 25 pigs, 1 week.
Park & Son, J.....Burgessville.....	Aged boar; 6 boars and sows, under 5 months.
Terhune, F. W.....Brantford.....	2 boars, over 1 year; 2 sows; 5 boars and 5 sows, 3 months.
<b>Yorkshires.</b>	
Barr, D., Jr.....Renfrew.....	Young sows; 3 boars, 1 week.
Betzner, G. D.....Copetown.....	Boar, 3 years; boars and sows, 5 to 7 months.
Brethour, J. E.....Burford.....	40 boars, 2 to 7 months; 80 sows, 2 to 12 months.
Caldwell Bros.....Orchard.....	5 boars and 4 sows, 5 months; young stock.
Gibson, D.....Delaware.....	Sows and boars, 3 to 4 months.
Goddard, C.....Cedar Valley.....	Aged boar.
Harknew, T. J.....Annan.....	3 boars and 4 sows, 4 1/2 months.
Hood, G. B.....Guelph.....	20 pigs, both sexes, 4 to 6 weeks.
Hume, A. & Co.....Menie.....	2 boars, 4 and 5 months; sows; young stock.
Ross, A. W.....Douglas.....	17 sows, 5 to 6 months; 2 boars, 6 months.
<b>Berkshires.</b>	
Boonycastle, F. & Sons...Campbellford .....	20 head, 4 weeks to 8 months.
Hull, B. H. & Son.....Brampton.....	Stock, all ages.
Caldwell Bros.....Orchard.....	4 sows, 4 months.
Decker, C. R.....Chsterfield.....	28 head, boars and sows.
Gibson, D. J.....Bowmanville.....	4 sows and 4 boars, 2 months.
Glendinning, H.....Manilla.....	Young stock.
Harris, G. N.....Lynden.....	2 boars and 2 sows, 8 months; 2 sows and 1 boar, 5 months; 2 boars, 4 months.
Holdsworth, R. L. & Son.....Port Hope.....	Aged boar; boars and sows, 9 weeks; sow.
McCrae, D.....Guelph.....	4 imp. boars, 4 months.
Pettit, W. G. & Son.....Freeman.....	4 boars, 6 to 9 months.
Smith, H. D.....Compton, Que.....	2 sows, 6 months.
Yuill, J. & Son.....Carleton Place.....	Sows, all ages.
<b>Poland Chinas.</b>	
Smith, W. M. & J. C.....Fairfield Plains.....	Sows and boars, all ages.

**SEED PREMIUMS.**

**Choice New Varieties of Field and Garden Seeds Absolutely Free to the Readers of "Farming."**

We have made arrangements with Messrs. John S. Pearce & Co., of London, Ont., which enable us to offer the choicest new varieties of this season's seeds as premiums for new subscriptions. We are assured that these seeds are selected from the best stocks which it is possible to procure. Some of the varieties are not only choice but rare, and those who desire to obtain them should act promptly, as the supply of these is limited and will very soon become exhausted. Every reader of FARMING can easily obtain the requisite number of subscriptions if he will try it will not only pay as an immediate and present means of obtaining something really valuable but enable those securing the seeds to make large profits from the product of them in the future. Strike while the iron is hot. "The Pearce" Potato, grown

from seeds imported from Texas, claimed to be the best cooking and the longest keeping variety grown in that state. It is oblong in shape, has a fine bluish and white, mottled skin, with strong eyes even with the surface. Large and very smooth. Flesh very white, cooking up dry and mealy. Of such strong growth the bug does not work on them as it does on some of the more delicate growing varieties. Price, 50c. per lb.; \$2 per peck; \$6 per bush. One lb. free with one new yearly subscription; one peck free with 3 new yearly subscriptions, one bushel free with 8 new yearly subscriptions at \$1 each.

**Pearce's Improved Half Long White Carrot.** Best in shape, best in quality, best in yield, and best keeper. Wherever shown has carried off first honors. The only true half-long carrot in cultivation. Comparative value by experimenters of Ontario Agricultural and Experimental Union, 100 per cent. Took the lead in point of yield in co-operative experiments in 1896 and in 1897, and gave an average of 3 to 4 tons per acre more than the large white Belgian variety, and has beaten everything in

sight for six years. Average yield for six years at the Ontario Agricultural College Farm, 29.28 tons per acre. Price, 40c. per lb., or 2 lbs. for 80c. Two pounds free with one new yearly subscription at \$1.

**New Zealand Oats. Introduced for the first time this year.** Yielded 100 bushels to the acre the past season. Grain beautiful white color, long and slim, with thin hull, and a first-class weighing variety. Very stiff, strong straw, and never known to lodge. Stools out well, and thus requires less seed to the acre. Entirely free from rust on all kinds of soil. Price, 25c. per lb.; 3 lbs, 50c.; peck, \$1; 1/2 bush., \$1.50; bush., \$2.50. Three pounds free with one new yearly subscription; one peck free with two new yearly subscriptions; half bushel free with three new yearly subscriptions; one bushel free with five new yearly subscriptions at \$1 each.

**Danish Island Oats.** Very productive; strong, stiff straw; plump, thin-hulled, bright grain; does not lodge, nor grain fall out. As many as forty stocks are produced from a single grain. Price 15c. per lb.; 4 lbs., 50c.; bush., \$1. Four pounds free with one new yearly subscription; one bushel free with two new yearly subscriptions; four bushels free with five new yearly subscriptions at \$1 each. Linen bags, 10c.; cotton bags, 20c. each, extra.

**White Hull-less Barley.** It is hull-less, beardless, early; yields over 60 lbs. to the measured bushel; yields well on poor land and enormously on good land; makes better pork than corn; makes excellent flour; the straw makes good hay. Of inestimable value to every one who feeds stock. Price, 25c. per lb.; peck, 75c.; bush., \$2.50; 2 bush., \$4.50. Three pounds free with one new yearly subscription; one peck free with two new yearly subscriptions; half bushel free with three new yearly subscriptions; one bushel free with five new yearly subscriptions at \$1 each. Bags, extra, 15c.

**Mandscheuri Barley.** Price, 75c. per bushel. One bushel free with two new yearly subscriptions at \$1 each, with 20c. added to pay for bag.

**Prussian Blue Peas.** Price, \$1.25 per bushel. One bushel free with two new yearly subscriptions, with 15c. for bag.

**Canadian Beauty Peas.** An entirely new white field pea; grain large; bright, clear color; of the white Marrowfat type. In point of productiveness it leads all field peas. Price, per bushel, \$1.25. One bushel free with two new yearly subscriptions at \$1 each, with 15c. for bag.

**Hungarian Brome Grass.** The great forage grass of Russia. The greatest boon ever discovered. It is not only the grass for dry sections, but can be raised on almost any kind of soil in any climate. Animals eat it greedily, green or dry. Price per lb., 20c. Three pounds free for one new yearly subscription at \$1.

The descriptions given above are extracted from the annual seed catalogue of Messrs. John S. Pearce & Co., a copy of which may be obtained on application to them by anyone desiring further information.

The prices and terms stated above are for seeds f.o.b. at London, freight or express at purchaser's expense. Small parcels which can be sent by mail are prepaid.

**Evans' Electric Bug Exterminator.** The Workman's Friend and the Insect's Enemy. For description and prices see advertisement on page 448 of last week's issue. One of these machines with tin reservoir—indispensable to every farmer, fruit grower, and gardener—will be sent free, postage or express paid, for two new yearly subscriptions at \$1 each.

Sample copies of FARMING will be sent free to anyone who will undertake to form a club. Address

**FARMING**

44-46 Richmond St. West, Toronto, Ont.

**GUERNSEY CATTLE INTERESTS.**

The reports of the secretary and treasurer of the American Guernsey Cattle Club submitted at the recent annual meeting of the club showed a marked increase in the number of animals placed in the register for the breed, and also in the sales recorded. As compared with previous years the work has nearly doubled in the last five. A committee from the club has been chosen to formulate plans for increase of office accommodation and safe storage of the records. This committee will report at the next meeting of the club.

The first year's home tests of Guernseys under the auspices of the club are now well under way and some very interesting results will be obtained. Twenty-one cows are competing for the herd prizes, and five cows in the single cow test. These are owned by Geo. C. Hill & Son, Rosendale, Wis.; Levi P. Mouton, Rhinecliff, N.Y.; Ezra Michener, Carversville, Pa., and Jas. H. Beirne Oakfield, Wis.

The January issue of the *Register*, which is published in quarterly parts, has four illustrations of Canadian and Island Guernseys that have become noted for their excellent record in the show ring and in breeding.

WM. H. CALDWELL,  
Secretary.

**MILK YOUR COWS CLEAN.**

BY D. H. OTIS, KANSAS EXPERIMENTAL STATION.

It is a well known fact that cows not milked clean will tend to dry up in short order. Another important reason for milking clean is to get all of the butter fat, which is contained in a much larger per cent. in the last than in the first milk drawn, as is shown by the following experiment.

The college dairy has conducted an experiment showing the importance of clean milking. Five cows that were giving a fair quantity of milk were selected and their milk collected in half-pint bottles, each teat contributing its share to every bottle. These samples were tested with the Babcock test, with the following results:

Cow No. 6 varied from .6 of 1 per cent. to 7.2 per cent.

Cow No. 10 varied from .2 of 1 per cent. to 6.6 per cent.

Cow No. 14 varied from 1.6 per cent. to 5.8 per cent.

Cow No. 15 varied from 1.5 per cent. to 6.8 per cent.

Cow No. 20 varied from .8 of 1 per cent. to 7.8 per cent.

The results showed a gradual, though not entirely uniform, increase in the per cent. of fat from the beginning to the last of the milking, except with the

**SEPARATOR BOILER AND ENGINE A BARGAIN.**

A 600-lb. per hour Little Giant Sharples Separator with four-horse boiler and engine, all in good working order. Separator will skim to a trace of butter fat.

BOX 16, FARMING,  
Toronto, Ont.

**Raise Your Calves!**

Yes, we know your skim-milk has been through a cream separator and no trace of butter-fat remained in it, also that you are discouraged by many failures made by feeding raw grain meals in your skim-milk, but one way still remains, feed



which is a scientifically prepared, pre-digested food, one that will add more, and more easily digested nourishment, to your skim-milk than the cream separator has taken out, and at from one-quarter to one-third the price that you get for the butter-fat.

See how cheap Pearce's Canadian Calf Meal is:

Box of 26 feeds for	\$0.25
" 60 "	0.50
Sack of 136 "	1.00
" 50 pounds for	2.50
" 100 "	4.75

**..Correspondence Invited..**

**JOHN S. PEARCE & CO.**

Manufacturers of Live Stock and Poultry Food Supplies

LONDON, . ONT.

**Hermanville Tamworths**

**PIGS**

Ready to wean.

1 Pig, \$10.00

2 Pigs, \$18.00

3 Pigs, \$25.00

Cross-breds

Half-price

Orders booked and filled as received.

**Yorkshires Duroc-Jerseys Cross-breds**

Every sow in the herd has either been a winner, produced a winner by a winner, or out of a winner. No other herd with such a record. Litters come in April, May and June. Orders now received. Address (P.O. on Farm), HERMANVILLE FARM, P.E.I., Can.

**Berkshires**



In my herd there is such blood as BARON LEE, DORSET CHIEFTAIN and WINDSOR SUPREME and other noted strains. Choice stock for sale at reasonable prices. Write for particulars.

**GEORGE N. HARRIS**

LYNDEN, ONT.

**COLOR** and flavor of fruits, size, quality and appearance of vegetables, weight and plumpness of grain, are all produced by Potash.

**Potash,**

properly combined with Phosphoric Acid and Nitrogen, and liberally applied, will improve every soil and increase yield and quality of any crop.

Write and get Free our pamphlets, which tell how to buy and use fertilizers with greatest economy and profit.

GERMAN KALI WORKS,  
93 Nassau St., New York.

**CHOICE AYRSHIRE BULLS**

FROM IMPORTED STOCK.

We offer for sale Three (3) BULL CALVES from 8 to 13 months old, sire and dams imported; also 6 calves from 1 to 4 months, good individuals and from the very best milking strains obtainable in Scotland.

W. W. BALLANTYNE,

(formerly Thos. Ballantyne & Son)

"Neidpath Stock Farm," Strathford, Ont.  
Farm adjoins city, main line G.T.R.

**...FOR SALE...**

**8 SCOTCH SHORTHORN BULLS**

From 10 to 18 months old. 1 BULL 2 years old, bred by O. & W. B. Watt, Salem. Also a number of

**COWS AND HEIFERS**

DAVID MILNE, - - - Ethel, Ont.

**FIVE AYRSHIRE BULLS**

Ranging from six months to two years. First-class animals, fit to head any herd.

Also, **BIRDS**

of thirty varieties of land and water fowl

WILLIAM STEWART & SON  
Monte, - Ont.

**JERSEY**

COWS AND HEIFERS FOR SALE

**R**ich in St. Lambert blood at reasonable prices. Some heavy with calf. All registered in the A.J.C.C.

FOR FULL PARTICULARS

Address **J. J. KEATOR,**  
Deseronto, - - - Ont.



**Summer Hill Herd of Yorkshire Hogs**—Large Lengthy English Type—Among them being the undefeated prize-winning boar "LOOK ME OVER"—2602—acknowledged to be as good as any if not the best of his kind on the continent of America to-day. Also "ROYAL DUCHESS," a first-prize sow at the Royal Show, Birmingham, England, in 1898, together with a choice lot of other sows, young boars fit for service, and pigs eight weeks old, single or in pairs not akin. Also choice young sows bred to "Look Me Over." We ship to order, prepay express charges, guarantee stock as described.

**D. G. FLATT, Millgrove**

Telephone and Post Office

last two samples drawn from each cow. Here the per cent. of fat would take a sudden leap, amounting often to a third or a half of the total variation.

This shows very clearly how important it is to get all the milk. By averaging the result it was found that the last quarter of a pint was worth from three-fourths to one and a half pints of milk first drawn from the udder.

Moral: Milk clean and get fat.

#### THE COW AND HER CUD.

(1) Of what does a cow's cud consist? (2) Does she chew the same cud for any length of time? (3) Is chewing the cud a necessity for the health of the cow? (4) If the cow loses her cud, can a cud be made that will take the place of the lost one?

(1) Grass, or other herbaceous food, hastily swallowed without chewing, and afterward forced up into the mouth again, in successive wads, or boluses. A number of animals, called "ruminating animals," chew the cud. They have rather complicated stomachs. That of a cow has four compartments. (2) Each cud is chewed for two or three minutes, and is then swallowed. Within five or ten seconds another cud comes up. This series of operations continues as long as there is any material requiring such treatment, if the animal be in a mood for it. (3) Digestion does not take place without such chewing, because, until the food is well masticated and mixed with saliva, it will not pass into the further compartments of the stomach. (4) What is called "losing her cud" is the failure of the stomach to force up the usual wads, and practically amounts to indigestion. The proper thing to do in such a case is to call in a veterinary surgeon, and not to improvise a new cud. The latter practice, if absolutely mythical, is, at least, very foolish.—*New York Tribune.*

#### RESULTS COUNT.

"That paper is the cheapest which pays the best results in proportion to its rate no matter what that rate may be."—*Printer's Ink.* An advertiser of poultry received from four to six replies a day to an advertisement in FARMING which cost him \$1.20 and within a week he sold over \$30 worth of stock as the result. His replies cost him about three cents each and his sales less than four per cent. of the amount received. Other advertisers in FARMING have no doubt received much greater returns than this, but this is an authentic case and we mention it as one of the numerous instances showing the value of FARMING as a medium for advertising stock.

Another case is that of an advertiser who placed his advertisement in FARMING and at the same time in a paper claiming more than 100,000 circulation, and charging very high rates for advertising. He came in the other day and said, "It's a very curious thing and I don't know whether I should tell you about it or not, but the fact is that my advertisement in FARMING has brought me four replies to every one I have received from the—" (naming the high priced medium). These cases can be easily verified and should have due weight with advertisers who are looking for the best results in proportion to the amount invested.

## Style and Stamina

Cannot be expected in a horse which is "run down,"—"out of sorts" through impoverishment of the blood,—but build him up with Dick's Blood Purifier and he has both. It destroys all the impurities in his system and fortifies it. He feels good and his spirit is high. It aids digestion—gives gloss to his coat—brightness to his eye—vitality to his action. It will double his usefulness and value.

50 CENTS A PACKAGE, TRIAL SIZE 25 CENTS.

DICK & CO., PROPRIETORS.  
LEEMING, MILES & CO., MONTREAL, AGENTS.



Dick's  
Blood  
Purifier

### A FIRST-CLASS INCUBATOR FOR SALE.

ADDRESS— FARMING, TORONTO,  
ONT.

## Safes

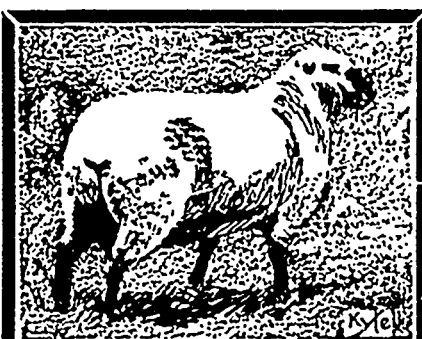
CHAMPION AND  
BURGLAR-PROOF

Everyone wants a good safe. We make them in all sizes and at prices to suit the times. Sixteen years' trial have proved that ours are second to none.

Send for Catalogue, Etc.

S. S. KIMBALL

577 Craig Street MONTREAL, P.Q.



### Persiatec Sheep and Animal Wash

A powerful non-irritant and healing preparation that is proving a boon to farmers all over Canada for sheep and cattle ailments, such as:

TICKS  
MAGGOTS  
GANGRENE  
SHEAR CUTS  
RED LICE ON SHEEP  
WOUNDS  
RINGWORM  
BRUISES, ETC., ETC.  
AND SCAB.

Full directions on every can. Cures the worst cases. The most effective and economical dip on the market. If your dealer can't supply you, write us direct for it, and if there's anything out of the ordinary in the ailments of your flocks and herds we'll be pleased to give free any additional advice in the matter.

The Pickhart Renfrew Co.

(LIMITED)

STOUFFVILLE, ONT.



Trade Mark

### THE BEST RESULTS

in making Butter or Cheese can be obtained only by using the best ingredients.

That is why

so many good butter and cheese makers always insist on having

## RICE'S PURE SALT

Every Package Guaranteed.

Sole Makers:

The North American  
Chemical Co., Limited

Goderich, Ont.

BUY

**Coleman's  
Salt**

THE BEST

For Dairy or Table Use

IT IS UNEQUALLED.

Salt on the Farm

for wire worm, joint worm, army worm and all insects that destroy crops. Salt is the best insecticide. It is also a fertilizer.

TRY IT.

R. & J. Ransford,  
CLINTON, ONT

## MARKET REVIEW AND FORECAST.

Office of FARMING,

44 and 46 Richmond street west,  
Toronto, Feb. 20, 1899.

General trade continues to show the same favorable conditions, though the extremely cold weather during the first half of this month had a telling effect on some lines of trade. However, so far, February has been a very favorable month, and the showing will be greater than last year.

## Wheat.

There is nothing new to report in the wheat situation. The Chicago market has fluctuated somewhat, showing that the speculative element is doing a little. The Liverpool market is reported dull, and the London market on Feb. 16th was reported lower, but there was a somewhat better demand at the decrease. It is generally believed that up to the present the growing crop has not been seriously injured, though it will be hard to find out definitely the extent of the injury until the mild weather has continued a while. The *Cincinnati Price Current* of last week has this to say in regard to the situation: "In the grain markets no striking changes have occurred during the week, and the position at the close is about the same as a week ago. Should the later conditions develop freezing and thawing to a serious degree there would naturally arise a strengthening sentiment concerning wheat. And when farmers find opportunity for becoming busy in spring work, quite likely the marketing of corn will decrease. But this grain has been increasing in supply at the centres recently, and is in ample quantity for current calls."

Reports from Montreal show that western millers have been paying from 69 to 69½c. for red winter, but exporters cannot pay these figures. The market here is steady at about 69c. north and west; goose is quoted at 69 to 69½c., and No. 1 Manitoba hard at 81 to 82c. at Toronto, and No. 2 northern at 78½c. Red and white on the local market is quoted at from 73½ to 74c.; spring life at 71½ to 72c. and a goose at 70 to 70½c.

## Oats and Barley.

The London (England) market for Canadian oats is steady, and more business is being done. The Montreal market is easier at 32 to 32½c. The market here is steady at 29 to 29½c. West; on the local market they bring from 34½ to 35c.

The Montreal barley market is steady at 55 to 57c. for malting grades. Higher prices now are asked. The market here is firmer at 46 to 47c. West. These are about the ruling figures on the local market here.

## Peas and Corn.

The London market for peas has dropped 6d., but at the decrease there is a better demand. At Montreal the market is quiet, and quotations are 70 to 71c. in store. The market here is firm at 65 to 66c. West; on the local farmers' market peas bring from 65 to 66 cents.

No. 2 American mixed corn is quoted at Montreal at 46 to 47c. in car lots. Canadian yellow is quoted here at 36c. West, and American at 41½ to 42c. on track Toronto.

## Bran and Shorts.

Ontario bran is quoted at Montreal in bulk at \$14.50 to \$15, and shorts in car lots at \$15.50 to \$16. City mills here sell bran at \$14 and shorts at \$16 in car lots f.o.b. Toronto.

## Clover and Timothy Seeds.

The Montreal market for timothy seed keeps steady and Ontario timothy is quoted there at \$1.60 to \$1.75; American at \$1.25 to \$1.50; red clover at \$4.25 to \$5 and alsike \$4 to \$5 as to quality. On the local market here red clover brings from \$3.40 to \$3.90; white clover, \$6 to \$9; alsike, \$3 to \$4.20 as to

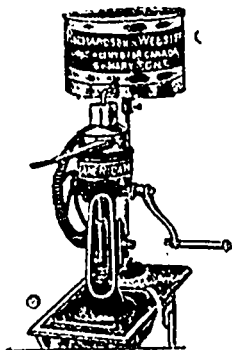
To be Simple is to be Great—Emerson.

That is why the

American  
Cream Separator

Is considered such a great machine.

No simpler machine can exist and the result of the work is wonderful. Gasoline Engines for all purposes. Write us for full particulars and Catalogues.



Richardson &amp; Webster,

ST. MARYS, ONTARIO

quality, and timothy at \$1.20 to \$1.35 per bushel.

## Eggs and Poultry.

The London and Liverpool egg markets are weaker and lower owing to more liberal receipts. The extremely cold weather caused a rise of a couple of cents at Montreal early in the week, making the quotations 20 to 22c. for new-laid eggs. Later on the market was easier at 19 to 20c. straight candled at 14½ to 15c. and limed at 13 to 15c. as to quality. Larger offerings of new-laid eggs are looked for here and prices are easier at 18 to 20c. and 17 to 16c. for held fresh. On the local market strictly new-laid eggs are quoted at 20 to 24c.

Canadian turkeys have given good satisfaction in England. An importer recently stated that they were all right so far as color and size were concerned, but they were not filled out enough, their frames being sufficiently large to carry nearly twice the weight. There is an improved demand for choice fresh turkeys at Montreal at 10 to 11c. per lb. Choice fresh killed chickens bring from 7 to 8c.; geese from 4 to 6c. and ducks from 8 to 9c. The market here is rather slow at 10 to 11c. per lb. for turkeys, and 6 to 7c. for geese, and 50 to 75c. per pair for ducks and 30 to 50c. for chickens.

## Potatoes.

The Montreal market ruled firmer early in the week owing to the cold weather, but since then prices have eased off and are about 55c. per bag on track. There has been a reaction in the market here since the mild weather made it more favorable for shipping. From 60 to 65c. seem to be the ruling prices for cars on track. They bring from 65 to 85c. per bag on the local farmers' market.

## Fruit.

There has been a little improvement in the fruit trade at Montreal during the week. Apples continue firm at from \$3 to \$4.50 per barrel as to quality. Apples on the local market here are quoted at from \$2.50 to \$3.50 per barrel.

## Hay and Straw.

Considerable hay continues to go forward and there has been a fairly good business at country points for the British markets. No. 1 timothy is very scarce at Montreal; good No. 2 is quoted at \$4.50 to \$5.50; choice at \$6 to \$6.25. Clover ranges from \$3.25 to \$4. The market here is dull at \$7 to \$7.50 for cars on the track. Baled straw is quoted at \$4 to \$4.50 in car lots. On the local market it brings from \$8 to \$9.50; clover \$6 to \$7.50; straw sheaf \$6 to \$7 and loose straw \$4 to \$5 per ton.

## Cheese.

The cheese market remains quiet. English dealers do not seem anxious to get supplies and are doing a hand-to-mouth business. Holders on this side, however, are not anxious to unload, but are waiting for the orders

which they know will come later on. Montreal quotations for cheese are 9½ to 10c. for Westerns, and 9½ to 9¾c. for Easterns. It is felt on this side that English dealers are overestimating the quantity still to go forward from Canada. The exports from Canada and the United States from May 1st, 1898, to date show a decrease of 594,279 boxes as compared with the same period of 1897.

## Butter.

Owing to the large arrivals of butter from the United States the London England market has fallen off 2s., but at the decline the market is steady, finest Canadian creamery being quoted at 94 to 96s. Owing to the scarcity of creamery at Montreal prices have advanced. The local dealers there are paying more than exporters can afford to give. Sales of a number of lots have transpired of choice late made creamery at 20c., 20¼c. and 20½c., tubs bringing as much as boxes. Stocks of choice creamery are light, but there are large stocks of western dairy around which will likely be in demand as soon as the creamery is worked off. The extremely cold weather of a week or two ago no doubt checked the supply of milk at the winter creameries, but now that mild weather has again set in supplies may increase. Roll butter is quoted in Montreal at 14 to 15½c., and really choice quality at 16c. The total shipments from Canada and the United States from May 1st, 1898, to the present time show an increase of 30,657 packages as compared with the same period for 1897. This increase has been made up of large shipments from the United States.

Creamery is steady here at 20 to 21c. for prints and 19 to 20c. for tubs. There is a good demand here for dairy at 14 to 15 cents, and 15 to 16c. for lb. rolls; pound rolls on the local market bring from 15 to 21c., and large rolls 13 to 16c.

## Cattle.

The American cattle markets have had an easier tendency during the week. One reason for this has been the severe storms in the East which have hindered shippers somewhat. Trade was fairly good on Friday's market here, and there has been little change in values during the week. The quality of the fat cattle offered has been only fair and there are too many unfinished cattle coming forward. It will pay farmers to finish their cattle better.

*Export Cattle.*—Choice heavy exporters bring from \$4.50 to \$4.75, and light ones \$4.30 to \$4.50 per cwt. A few choice lots of heavy exporters brought from 10 to 20c. more than the sale figures on Friday, but they were few in number. Export bulls bring from \$3.60 to \$4, and light ones from \$3.25 to \$3.50 per cwt.

*Butchers' Cattle.*—Choice picked lots of these, equal in quality to the best exporters, and weighing from 1,000 to 1,150 each, are worth from \$4.10 to \$4.30 per cwt.; good cattle bring from \$3.75 to \$3.90, and medium at \$3.35 to \$3.60 per cwt.

**Stockers and Breeders.**—Buffalo stockers are in fair demand at \$3.40 to \$3.75 per cwt.; stock heifers, weighing about 500 lbs. each, bring from \$2.60 to \$2.85 per cwt. There are very few feeders coming forward, but choice bred steers, weighing from 1,050 to 1,150 lbs., are worth from \$3.80 to \$4 per cwt.

**Calves.**—These are in fair demand at Buffalo where supplies are light. On this market the general run bring from \$3 to \$7 each, and choice heavy veals of good quality bring about \$5 per cwt.

**Milch Cows and Springers.**—These vary in price from \$25 to \$50 each.

**Sheep and Lambs.**

These have ruled somewhat easy at the American markets during the week, with lambs specially weak in most places. There were about 200 sheep and lambs delivered on this market on Friday. Ewes sold at \$3 to \$3.25 per cwt., and bucks at \$2.50 to \$2.75 per cwt. There was a good demand on Friday for yearling lambs, which brought from \$4.30 to \$4.50 per cwt. for the general run. A few choice lots brought 10 to 15c. per cwt. more.

**Hogs.**

The deliveries have been large during the week with prices unchanged. Choice select bacon hogs, 160 to 200 lb. each, bring from \$4.37 1/2 to \$4.50 per cwt. off cars. Light hogs bring from \$4 to \$4.25, and thick fats of all kinds \$3.87 1/2 per cwt. The London, England, bacon market is reported firmer and higher, with a good consumptive demand at the advance of 2s. for Canadian.

**Horses.**

The American horse markets have been somewhat sluggish during the week, owing chiefly to operations on export account being reduced owing to reports of disaster to shipments during the severe weather. There is an improved demand for horses from some farming districts.

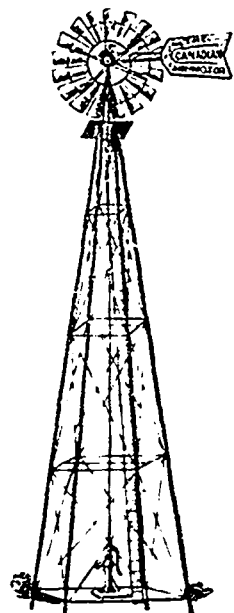
Chickens reared in brooders are free from lice, and grow better than when cared for by hens. Any farmer can make a brooder for a few dollars.

**Wanted**

A steady position by a middle-aged married man, to take charge of and manage a farm. Long experience in stock raising and general farming, one who is steady, reliable, strict in habits, can take charge of men and keep accounts. Can give good references. Any person in need of such a man please apply to

**HENRY BELL**

AMBER, Ont.



**Windmills**

No machine on a FARM yields better results than a

**Canadian Steel Air-Motor**

**Will** Grind, Chop, Pulp, Run Grindstones, Fil-Silos, etc.

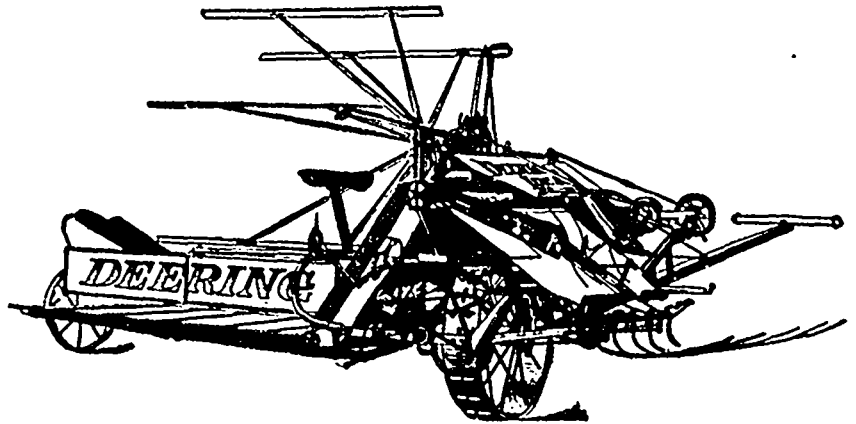
And give you House and Barns A Full Supply of Water

**PUMPS, TANKS, GRINDERS**

Have you seen our **WATER BASINS?**

**Ont. Wind Engine & Pump Co. Limited**  
 100 ATLANTIC AVE., TORONTO  
 (Largest Manufacturers under British Flag)

**The Machines that Made America Famous**



Deering Ideal Binder, 5 ft., 6 ft. and 7 ft. Cut

If you are a good farmer you are competent to judge between a good harvesting machine and a bad one. Buy a machine that you know is trustworthy. It is better to be sure than sorry.

BUY A DEERING.

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**Manure Now**

Before the snow goes off, or at least before the mass of gravity water drains off the soil.

Observe this Rule in Using

**ALBERTS'**

**Thomas-Phosphate Powder**

or results may prove disappointing.

**WALLACE & FRASER**

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ST. JOHN,  
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Sheep, Cattle, Calf and Hog Labels.

Send for circular and prices.

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 Farm Implement Forwarding Agency,  
 Howmanville Ont.

**Elm Shade Farm**



The head of the herd is Lord Sterling, a prize winner. The imported Cows, Blue Bell, White Glen, and Kate Wallace, belong to this herd. Won the 2nd herd prize at Montreal in 1897, against strong competition. Young stock of both sexes for sale bred from imported and prize-winning stock. **WM. WYLIE,** Howick, Que., or 228 Bleury St., Montreal.

**CHEAP CATTLE FEED**

**OAT DUST** on hand, a good substitute for Bran or Shorts. Delivered at any station of the Grand Trunk or Canadian Pacific Railways. For Prices write to

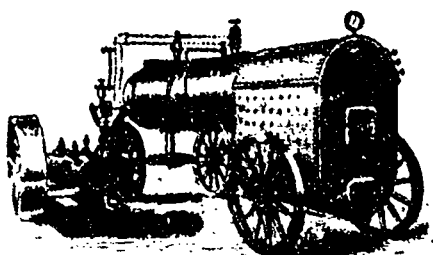
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 Monkland Mills, Fergus, Ont.

**CHAMPION EVAPORATOR**

For MAPLE, SORGHUM, CIDER, and FRUIT JELLIES. Has a corrugated pan over firebox, doubling boiling capacity, small interchangeable syrup pans (connected by siphons), easily handled for cleansing and storing; and a perfect automatic regulator. The Champion is as great an improvement over the Cook pan as the latter was over the old iron kettle hung on a fence rail.



**THE G. H. GRIMM MFG. CO.,**  
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**ENGINE AND BOILER  
MANUFACTURERS**

LONDON, CANADA.

Build Engines for every purpose, from 3 h.p. and upwards, with either stationary or portable Boilers to suit.

If you require power for a Dairy, Cheese Factory, Grist or Saw Mill, etc., write us, stating what power is required, and for what purpose, and ask us for Catalogue 35 B.

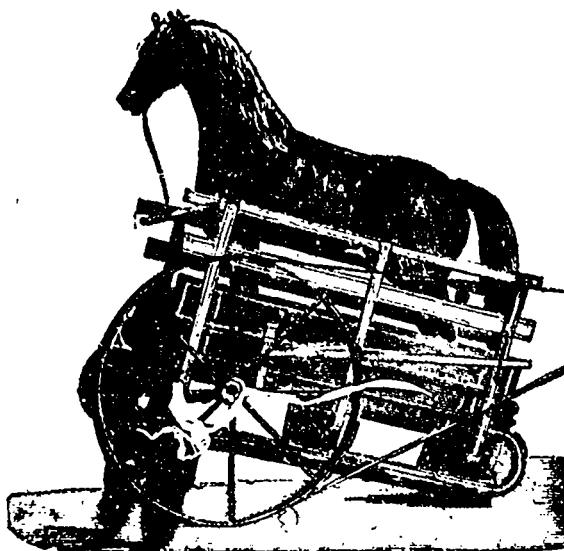
# TREAD POWER

We make them in three sizes, for one, two, or three horses. With a heavy horse, this size will suit well to run a cream separator, small threshing machine, circular saw machines, feed cutters, etc.

We have hundreds of them in use in the farmers' hands.

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—400 ACRES—

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SEND FOR CATALOGUE, which is furnished FREE to applicants.

DO NOT MAKE THE MISTAKE OF BUYING CHEAP STOCK—IT IS DEAR AS A GIFT  
GOOD RELIABLE SALESMEN WANTED in a number of fine townships, to start work at once. Complete Outfit FREE.

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## Why ? Because

In these times of keen competition is there such a great demand for this All-Steel Flexible Harrow.



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

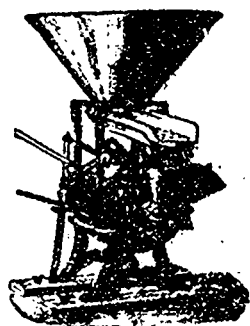
The flexibility of the Harrow enables it to adapt itself as readily to rough and uneven ground as to smooth, and the oscillating motion produced by its flexibility pulverizes the ground, and leaves it in a loose and more porous condition than any other Harrow, and it is made of the very best material money can buy for the purpose. The bars are made of

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very stiff and strong, the hinges and teeth being of solid steel, all of which are of a higher grade than is possible to use in any other make of Harrows. We can guarantee more than double the strength and wear in this Harrow than there is in any other make.

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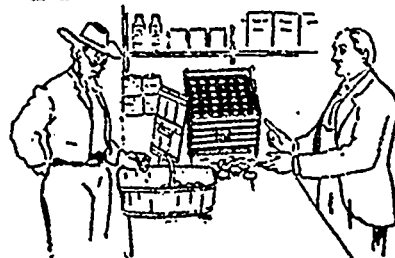
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Make a  
Mistake**

If You Buy this Grinder.  
It is made by

**S. VESSOT & CO.,**  
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Prices and Terms are right.

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See what loss might have been prevented if the new Egg Crates were used by all farmers.

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If your dealer has not got them send to us for Circulars.

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GREAT  
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Catalogue Free

The W. A. FREEMAN CO., Limited  
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## Binder Twine

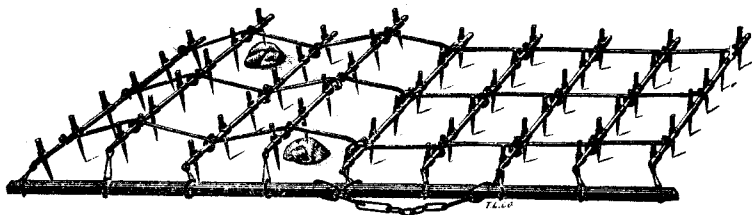
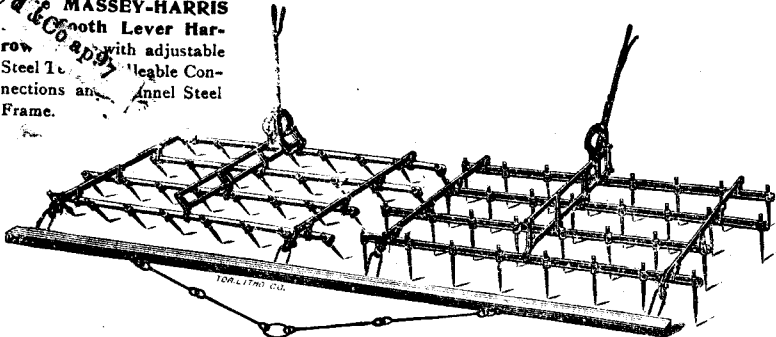
Agents Wanted. Ontario Binder Twine Co., 124 Front St. West, Toronto, Ont.



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THE WORLD OVER FOR DOING GOOD WORK IN ALL KINDS OF SOIL.

MASSEY-HARRIS  
Smooth Lever Har-  
row with adjustable  
Steel Teeth, Malleable Con-  
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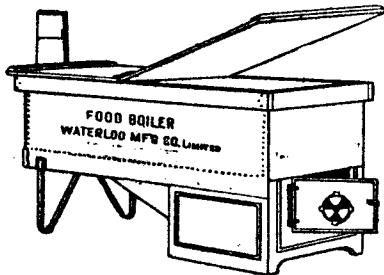


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Used chiefly by Farmers, Stock Feeders  
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**COOKING FEED FOR STOCK AND  
POULTRY,**  
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Etc., Etc.

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**IT PAYS TO BOIL FEED for STOCK, HOGS and POULTRY**

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per cent.

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has proved by its effective work that a bottle  
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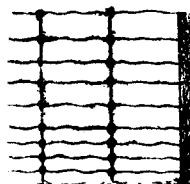
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