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# FARMING

January 3rd, 1899.



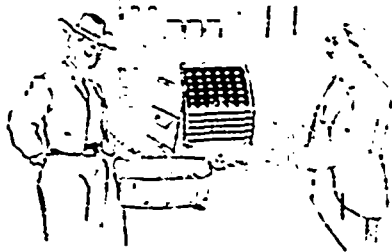
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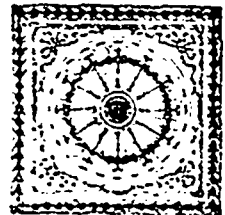


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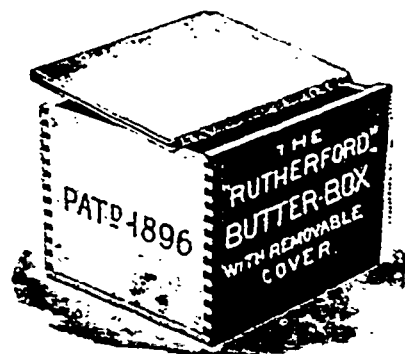


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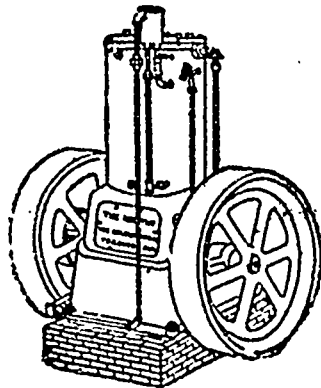
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# FARMING

VOL. XVI.

JANUARY 3rd, 1898.

No. 18

## Agricultural News and Comments.

|| New York State farmers received last year \$5 per ton for sugar beets supplied the factory at Binghamton, N. Y. The average yield for 1898 was about 20 tons per acre, while the percentage of sugar varies from 15 to 13.

The New York Poultry and Pigeon Association will hold its tenth annual exhibition at Madison Square Gardens, New York City, January 31st to February 4th (inclusive), 1899. The attendance at this show is always very large. The secretary is G. P. Reynaud, Mount Vernon, N. Y.

To have fowls with lots of stamina avoid continuous inbreeding; use only mature stock for breeding, hatch chickens under the best of conditions, give them plenty of fresh air; provide for abundant exercise, feed sensibly sound healthful food stuffs, and nature will do the rest.

Farmers in many localities in the United States are anxious to begin breeding horses again, but there are no suitable stallions available. It is estimated that there is not more than one pure bred draft or coach stallion to a county to be bought. Importation has begun, but breeders will have to give up the old cheap service and insurance and adopt business principles.

The native sheep of South Africa have tails weighing as much as 20 lbs., and some with tails weighing as much as 30 lbs. have been recorded. The usual weight varies from 6 to 15 lbs. This curious appendage, which is broad and flat, consists chiefly of fat, which is sometimes used as a substitute for butter. They are a hardy breed of sheep and easy to please in the matter of grazing.

Chapped teats in cows are caused more by wet milking than anything else. The wetting and subsequent drying causes cracks in the skin, and once these harden it is difficult to heal the wounds while the cows are milking. The best remedy is to apply pure vaseline to the teats and soften the skin and the wounds, and milk with great care. After milking the vaseline should be again applied.

It is now clear that the total shipments of apples from America this year will not fall very far short of last year. Up to and including the week ending Dec. 3rd, the shipments from the ports of New York, Portland, Boston, Halifax and St. John, N.B., were 837,620 barrels, as against 571,307 up to the same date last year. The demand for good apples in England is active, and there is no trouble in disposing of large quantities of the right sort.

The cost of producing a pound of butter will depend on the value of the land on which the cows are kept; the value of the cows; the value of the calf; the value of the feed consumed, the cost of labor and the value of manure. Where so many factors have to be considered it is impossible to give a cost that will cover all cases, so much will depend upon the dairyman himself, who has it in his power to lower or increase the power almost at will.

Oleomargarine can be distinguished from butter by the following test. A few drops of sulphuric acid combined with butter will turn it first to a whitish yellow and in ten minutes to a brick red. If oleomargarine is treated in the same way, it first becomes of a clear amber and in twenty minutes turns a deep crimson. Use a small glass rod when making the experiment and also compare the results when making use of both articles at the same time.

A high authority advances the theory that meat eaters are less subject to tuberculosis than vegetarians and reasons, thus: Carnivorous animals are, as a rule, immune to tuberculosis, while, with perhaps, the exception of the horses, sheep, and goat, grammivorous and fungivorous animals are highly susceptible. A going from this, it is believed that more deaths from consumption in the human family occur among people whose diet consists of vegetables than among habitual meat-eaters.

Mr. W. J. Kennedy has been appointed Dairy Instructor for the State of Minnesota Farmers' Institute System. Mr. Kennedy is a Canadian, and an associate graduate of the Ontario Agricultural College. Last September he entered the Iowa Agricultural College, and was one of the representatives of that institution in the students' competition in the judging of live stock at the Omaha Exposition, where he won the third prize. The position which Mr. Kennedy now holds was formerly filled by Prof. W. L. Carlyle, of the Wisconsin University, also a Canadian.

Many men have overlooked the important fact that the manure yielded by milk cows is not so rich as the manure from fattening stock when both are fed on the same foods. There are, however, varying conditions which must not be overlooked, such as the widely different quantities of milk given by cows of different breeds, the different composition of the milk of some breeds and the peculiarities of individual animals. At different periods of lactation the milk yield of each cow varies in amount, and so, too, in a like degree does the value of richness of the manure yielded. These variations may, however, be corrected by the law of averages in the herd.

## Killing Beef on the Farm

The farmer every year is becoming more of a beef eater. Fifteen or twenty years ago beef was considered on the farm only in the light of a luxury. Every farmer would put down enough salt pork in the winter to do till hog killing again came round, and for months at a time there would not be a pound of beef eaten on the farm. But the farmer to day is eating nearly as much beef as pork and he can provide himself with the one almost as cheaply as with the other. To kill a beeve is much more difficult than to kill a pig. Every farmer, however, can kill his own beef just as well as he can kill his own pork. The following detailed plan of procedure taken from one of our exchanges will enable every farmer to kill and prepare his own beef without any great difficulty:

Make a tripod as follows: Take three poles twelve feet long, 2x6 scantling will do, bore a hole through each on the six inch face six inches from one end and bolt them together with an eight bolt, having a clevis clamping the middle scantling and included in the bolting. In this clevis fasten the hook of one block of an ordinary block and tackle or if you have not a block and tackle fasten a pulley into the clevis in the tripod and have a roller fastened between two of the standards of the tripod near the ground and run the rope used for hoisting the carcass over these.

To kill the creature shoot with a 32-calibre rifle, placing the ball between the eyes two inches below a line even with the base of the horns. If a rifle is not at hand use a good shotgun at close range, not more than ten feet, closer would be better. If you have neither rifle nor shotgun use

an axe, striking a sharp blow with the head on the spot indicated above. When the animal is felled, cut its throat lengthwise from a point nearly opposite where the jaws form a pivot to the brisket, then insert the knife full length and sever the jugular vein. Use a good knife six or seven inches long and have it steel sharpened.

As soon as the animal is dead skin out the head and remove it, then the forelegs to the knee, afterwards the hind legs to the gambrel joint. Turn the animal on its back and notice the line formed in the inside of the hind legs by the hair coming together or feathering out, follow the this line with the knife in skinning. Do not run too near the tail; in a cow your line should come about six inches behind the udder. Skin down the sides, leaving the fore legs with the hide on. Cleave the pelvis bone and the brisket. Take the evener of a set of double trees and insert one clevis in each gambrel cord, if the clevis is not long enough use an S hook. Hook the tackle to the middle clevis of the evener and raise the carcass so that the upper end is about as high as a man's head--then remove the entrails, using care to do a neat job. If any washing is needed do not wash the inside of the carcass--wipe it out with a damp cloth that has been wrung out of clear, cold water; an open fabric like gunny sacking is the best. After the entrails are removed skin down the back as far as convenient and saw down the backbone, then raise the carcass higher, skin down the back and saw down the backbone more, continue in this way till the two halves hang apart; then skin out the forelegs and your beef is hung for cooling. As soon as this is done salt your hide and do it up neatly, leaving the trimming for the hide buyer to do unless you are an expert in putting hides in shape for market. When the beef is thoroughly cold, take down and cut up for fresh meat or to salt, as suits.



### Producing Export Bacon

At the annual meeting of the Dominion Swine Breeders' Association, held in Brantford on December 2nd last, a report of which was given in FARMING for Dec 13th, Mr. G. E. Day, B.S.A., Agriculturist, Ontario Agricultural College, read a very valuable paper on the production of bacon for the export trade. This trade is an important one, and particular attention must be given to the production of the right quality of bacon if we hope to develop the export trade in that article. The quality of Canadian bacon does not come in touch so much with American as with the Irish and Danish article.

In his address Prof. Day states that the best live weight of hogs for the production of the best Wiltshire bacon range from 170 pounds to 190 pounds, though these are not cast-iron units. The hog should be light in head, jowl, neck and shoulder. He should have medium width of back, great length and depth of side, good thickness through from side to side of belly, well developed ham, and medium bone. He should be active and sprightly and possess general smoothness of body, showing no coarseness in any part. When cut down the back the fat should be of uniform thickness over loin and shoulder, and firm in texture, while the belly should be thick. The carcass should show a good development of lean meat, with a fair amount of fat. In addition to a uniformity in quality there must also be a uniformity in quantity if the trade in Wiltshires is to be developed.

One of the objections to the bacon hog is that the packer wants the hog before it is heavy enough to satisfy the feeder. This objection is hardly tenable as it has been clearly proven at various times that the cost of producing a pound of gain steadily increases as the hog grows heavier. From frequent weighings of 36 hogs fed last summer at the O.A.C. the following facts were brought out: While increasing in live weight from 54 lbs. to 82 lbs., hogs required 3.10 lbs. meal per lb. gain; from 82 lbs. to 115 lbs., 3.75 lbs. meal per 1 lb. gain; from 115 lbs. to 148 lbs., 4.38 lbs. meal per 1 lb. gain, and from 148 lbs. to 170 lbs. 4.55 lbs.

meal per 1 lb. gain. The greatest and most common objection to the bacon hog is that it costs more to produce it than it does to produce the fatter types. This contention is not borne out by facts. In the latest experiments at Guelph the group which evinced the most desirable characteristics from a packer's standpoint was first out of six in point of economy of gain. The group, scored second by the packer, was fourth in economy of gain, while the group, scored third by the packer, was second in economy of gain.

The bacon hog is born not made. Food can modify, but it cannot overcome individuality, and the foundation of our bacon industry rests upon judicious selection and mating of breeding stock. In the investigations at the college very good bacon hogs have been found practically in all the leading breeds. In some cases, however, those which came nearest to the packer's standard were furthest from the standard of excellence for the breed. The great bulk of the hogs sent to the factory is made up of grades and crosses and not of pure-bred hogs. What is the best cross is not known. However, if a sow possesses undesirable qualities from a bacon standpoint, it is folly to mate her with a boar of a breed characterized by the same qualities and hope to produce a bacon hog.

One of the great difficulties which the packers have to encounter is the soft condition of the fat of many hogs. This is something that feeders should give special attention to. Losses from soft bacon will ultimately fall upon the producer. Soft bacon does not mean fat bacon. It means a soft condition of the fat, which develops while the bacon is in the salt, and reduces the value of the side according to its degree. An absolutely soft side is comparatively worthless, and between this condition and firmness there are all shades and degrees of tenderness. It is claimed that this softness is due to over feeding and forcing hogs to heavy weights at an early age. This may be the case where forcing is carried to extremes, but in the experiments at the college more softness has been found among unthrifty hogs that were too lean to be slaughtered than among heavier and fatter hogs which had received the same food and treatment. The blame is also put upon the feeding of corn. But soft bacon has been produced at the college without feeding corn. It is also claimed that soft bacon is due to the lack of exercise. Yet, perfectly firm bacon has been produced from hogs that have had the least possible exercise from time of weaning to slaughtering. The feeding of clover is also blamed for it, yet reports are to hand of hogs that were sent from a clover pasture to the factory and pronounced first-class. From this it seems clear that softness is not due to any one cause, but may result from various causes, acting either singly or in conjunction.

Investigations regarding the causes which may produce soft bacon are merely in the initial stages. The most extensive and reliable experiments on record regarding the influence of food or the firmness of bacon are those conducted at Copenhagen, Denmark. These experiments go to show that the continued feeding of corn to young hogs tends to produce softer bacon than when barley was fed alone, and that the softness varied according to the proportion of corn in the ration, or the length of time during which corn was fed. They also showed that wheat, bran, and rye shorts produced similar bad effects. At the College, from experiments conducted previous to 1898, it had been noted that hogs fed in pens from the time they were two months old were more seriously faulted for tenderness of fat than similar hogs fed in outside lots where they had plenty of exercise. It was also noticed that hogs which had exercise till they weighed 100 pounds and were then put in pens and fattened rapidly were pronounced firm. These examinations were made before the bacon was salted, and are therefore not altogether reliable. During 1898 hogs were fed in six different ways, and the bacon was examined after it had come out of the salt, so that there could be no mistake about its firmness. The results of these experiments are summarized as follows:

Thirty-six pure-bred hogs were purchased when from 7

109 weeks old. They were divided into three groups, each group containing two hogs of each of six different breeds. One group was fed in pens with small outside yards. From July 4th to August 19th the ration was wheat middlings, from August 19th to Sept. 12th it was equal parts by weight of barley and shorts; and from Sept. 12th to Oct. 24th, it was equal parts by weight of peas, barley and shorts. When the carcasses came out of the salt the condition was very unsatisfactory. Only four out of the twelve were positively firm; one was slightly tender and the remaining seven ranged from decidedly tender to soft. Another group was kept in the same building in exactly similar pens and fed exactly the same ration; but about two pounds of whey were fed with each pound of meal. When these carcasses came out of the salt only one showed any sign of tenderness and the remaining eleven were first-class as regards firmness. Such a striking difference cannot be accounted for on any other basis than that the whey was responsible for the superiority of the second group. The third group was allowed the run of a half acre lot and fed exactly the same ration as the first group. This group came out of the salt in decidedly better condition than the first group, but not equal to the group which received whey. By far the greater amount of tenderness was found among the lighter and leaner hogs, and since several unthrifty hogs had been purposely put into the third group, the group was placed at a disadvantage. The hogs in the third group, which were heavy and fat enough for Wiltshire bacon, were all firm but one.

Twelve strong, fleshy, store grade hogs, fresh from the stubble, and averaging about 109 pounds each live weight, were also purchased. These were put on full feed in pens for six weeks before slaughtering. Part were fed cornmeal alone, part were fed a two-thirds ration of cornmeal with all the rape they would eat, and part were fed equal parts by weight of peas, barley and shorts. All these hogs produced firm bacon except one in the peas, barley and shorts group, which was somewhat tender. There seems to be little danger, therefore, of spoiling hogs of this class with either corn or rape.

Twelve more grades were confined in pens from time of weaning to slaughtering. They were fed skim milk and wheat middlings (except during about three weeks, when they were fed skim milk with barley and shorts,) until they reached an average live weight of about 100 pounds. The skim milk was then discontinued, and during the next six weeks some of them were fed cornmeal, others were fed equal parts by weight of peas, barley and shorts and the remainder was fed a two thirds ration of the peas, barley and shorts mixture, together with all the rape they would eat. All of these hogs produced firm bacon, excepting one in the group receiving peas, barley and shorts with rape. The only practical difference between the feeding and treatment of these hogs until they reached 100 pounds and the group of pure breeds, which gave such very bad results, consisted in feeding the grades skim-milk with their meal ration. From this it would appear that skim milk has a very beneficial influence on the firmness of the bacon. The chief points in these experiments were given in a letter by Prof. Day in last week's issue.

### Good Roads Wanted

A few weeks ago a petition was presented to the Lieutenant-Governor from the County of Dufferin, in which it was alleged there was large waste in the present methods of constructing the roadways, and asking that a general supervision of the work be provided for. The petitioners pointed out that the average organized and settled township in Ontario spends annually \$2,500 for opening up and keeping the highways in repair within its limits, but, owing to the inexperience of those in charge of the work and the lack of uniformity and system as to methods, the public does not realize the benefits it is entitled to expect from so large an expenditure. The bad roads throughout the country cause considerable inconvenience and loss to

farmers and citizens alike. It was also pointed out that many of the States of the Union were expending large sums of money in improving the roadways under Government supervision, and that unless similar provision were made whereby the work of road-making in the townships could be supervised by some competent authority Ontario would soon be away behind in the matter of good roads.

The importance of the request and statements contained in this petition cannot be over estimated. There are thousands of dollars expended every year in this province, in addition to the work performed under the statute labor system, which are to a large extent wasted because of a lack of uniform and systematic method in getting the work done. Not only is systematic work needed, but the work should be carried on in such a way as to bring the very best results. This is not always done. One reason why we have so many bad roads in the country is because our road makers are ignorant of how to make a good road. If Government supervision could be provided, and all road-making carried on after some approved plan authorized by the Provincial Road Commissioner, we would soon see a marked improvement in the public highways of this country.

### The Shipments of Fat Poultry from the Government Stations a Success

Returns have been received by the Minister of Agriculture from one of the trial shipments of fattened chickens sent to Liverpool from the Dominion Government Poultry Fattening Station, at Carleton Place, Ont. These chickens were sent in cold storage *via* St. John to Liverpool, where they met with ready sale at 16 cts. per lb. wholesale. The chickens were sent plucked but not drawn, and weighed, on an average, five and one-half pounds each, which would make the wholesale price per pair \$1.76.

The chickens were landed in first-class condition. The following extracts from a letter from the consignee will indicate what the prospects are for a further development of this trade.—“I was agreeably surprised at the all-round excellence of your small experimental shipment of Canadian capons. On opening the cases the birds were found to be in beautiful condition, and presented a most saleable appearance. After the birds were uncased I hung one, to find how long it would retain its bright appearance, and found that it became milky white in color as soon as the bird had dried out of the chilled state. To-day, five days later, it is as nice-looking as a fresh-killed bird. I think the price obtained will both please and pay you. It is a fair market price, and on a par with the present rates for Surrey chickens. For small weekly arrivals I venture to think the price could be maintained, but anticipate that large consignments would bring the figure down to seven pence (14 cents) per pound.”

The chickens when put up to fatten were worth about 50 cents per pair. The food consumed per pair during the fattening cost 31 cents, making a total cost of 81 cents per pair, without allowing anything for the labor of attending them. The packing-cases cost at the rate of 3 cents per pair, and the transportation and selling charges would cost in the usual course of business for such chickens not more than 22 cents per pair, a total of \$1.06, leaving 70 cents per pair for the labor and profit.

PETHERTON, Dec. 20th, 1898.

Please find enclosed the sum of \$4.00, the arrears due for FARMING. The paper is all a farmer could desire.

Yours truly,  
WM. SHARP.

CHISHOLM, Dec. 24, 1898

DEAR FARMING:

I wish you a Merry Christmas and a prosperous New Year, for I think FARMING a grand paper.

Yours, etc.,  
JAMES PURTELL.

## The Cheese and Butter Association of Western Ontario

The program for the 32nd annual convention of the above association has reached us. This annual gathering of Western Dairymen will take place in the Grand Opera House at Guelph, Ont., on January 17th, 18th and 19th next. A splendid array of talent has been secured, and dairymen who can avail themselves of the privileges of this convention will be well repaid in the fund of practical and up-to-date information they will receive on all branches of dairying. Among the prominent speakers who are to address the convention are the Hon. Sydney Fisher; Hon. John Dryden; Hon. Thos. Ballantyne; A. F. MacLaren, M.P.; A. Pattullo, M.P.P.; Prof. Robertson; Prof. Jordon, Director New York Agricultural Experimental Station; Prof. Beardshear, President Ohio State College of Agriculture; Prof. McKoy, Iowa State Dairy Instructor; Dr. Saunders; Dr. Mills; Prof. Dean; Prof. Shutt; Dr. Connell; C. C. James, Deputy Minister of Agriculture; A. W. Campbell, Provincial Road Instructor; F. C. Harrison, and D. Derbyshire, President Eastern Butter and Cheese Association. Arrangements have been made for a return trip for single fare to Guelph. Delegates must secure standard certificates from the ticket agent from whom a first-class single ticket to Guelph is purchased.

Though we have as yet received no programme of the annual convention of the Eastern Cheese and Butter Association, we understand that the annual gathering of Eastern Dairymen will be held at Kingston, Ont., on January 10th, 11th and 12th next.

### Influence of Feed on Quantity and Quality of Milk

Paper read by Prof. C. F. Curtiss, Iowa Experiment Station, before the Ontario Experimental Union, 1898

At the outset it may be stated that it is universally conceded that feed exercises a marked influence in determining the quantity of milk yield from dairy cows; so much so that the yield of a dairy herd is in many cases directly proportional to the nutritive value of the ration given. The dairy functions of the cow are never developed to their maximum capacity except by liberal and intelligent feeding. To be sure, it requires something more than liberal feeding to make a good dairy cow in all cases, but of one thing the dairyman may rest assured, viz., that no really good dairy cow was ever produced without it. The good dairy cow does not come by chance or accident. She grows, but not spontaneously; she begins milking at about two years of age, and, when surrounded by favorable conditions, continues to develop and grow in milk-producing capacity until the age of seven. It then takes seven years of constant, careful work after birth to make a dairy cow what she ought to be, and many of our best cows represent at least a hundred years of intelligent selection and breeding before birth. During all this time feed exercises a dominant influence in the development of dairy function and increasing milk-giving capacity. The quantity of milk, then, is directly dependent upon two principal factors—feed and hereditary training or force. Feed is simply the raw material from which the cow, as a delicate organization or machine, makes the first product of the dairy; milk and other things being equal, the results are always in favor of the cow capable of utilizing the largest amount of this raw material. The importance, then, of liberal feeding and the cow having large digestive capacity is readily apparent.

The second phase of the question under consideration relates to whether or not the cow is able to furnish a uniform product under all conditions independent of the kind of raw material or feed used. For several centuries this question was answered negatively by almost universal consent. It was considered settled. But the invention of Dr. Babcock giving to the dairy world a simple and accurate means

of measuring the fat content of milk, shed new light on this problem, and we have another illustration of the saying, that great questions are never settled until they are settled right. The reading of the Babcock test did not reveal the variation in quality of milk due to feed that had been supposed to exist, and a great many careful and practical investigators have been studying this subject during recent years. The authorities are not yet agreed on the influence of feed in this respect. The investigations that have been conducted in the United States have generally indicated that feed has comparatively little influence in determining the quality of milk, while many practical dairymen yet believe the opposite. Some of the British authorities hold very positive views on this subject. I quote the following sentence from a writer in a recent number of a British agricultural journal, relating to the work of an American experiment station: "It is impossible to too strongly denounce the false teaching of those ignorant American would-be scientists and their fellow-followers in this kingdom."

The false teaching referred to was the conclusion reached at one of our stations to the effect that feed exercised no perceptible influence in modifying the composition of milk. The writer then proceeded to quote from the report of that station, and from the report of an experiment by Mr. J. Speir, of England, in parallel columns. The sentences quoted are as follows:

"So far, however, no method of feeding has yet been devised that so far improves the quality of milk as to produce more butter at one time than at another."—American Experiment Report.

"On pasture, 100 pounds of milk produced 3.77 pounds of butter; on decorticated cotton-cake feeding, 100 pounds of milk produced 5.26 pounds of butter."—English Report.

A superficial glance at these statements indicates a marked discrepancy in the two investigations under consideration, and, if the latter were accepted as conclusive, the American investigators alluded to, and a number of others as well, would unquestionably have to plead guilty to ignorance. Mr. Speir's report was published in the Journal of the Royal Agricultural Society in 1896. The experiment covered a vast amount of research, carefully and conscientiously reported by Mr. Speir, but there were a number of factors entering into the experiment tending to modify the results in such a way as to make them not directly comparable. The experiment started out with only four cows, and all of them were changed between the grass and the cotton-seed feeding periods, so that these periods were really nine months apart, and conducted with different sets of cows. When the variation due to these influences is accounted for, the contrast in the result is much less striking than the above comparison indicates. There was, however, a less marked variation in the composition of the milk, that was attributed to the influence of feed. Mr. Speir summarized the results in the following words, "There are at least two foods, viz., young fresh grass and grains that have the power of lowering the percentage of fat in milk, and two others, viz., vetches and decorticated cotton-seed cake, that have a tendency to increase it."

These findings harmonize with the conclusions of England's most eminent investigators, Lawes and Gilbert, who report from their Rothamsted experiments, in the Journal of the Royal Agricultural Society, 1895, that, "The yield of milk was in much greater degree increased by grazing than by any other change in the food, and that roots came next in order. Also that grazing considerably reduced the percentage composition of the milk, though owing to the greatly increased quantity yielded, the amount of constituents removed in the milk whilst grazing may nevertheless be greater per head than under any other conditions."

The experience and observation of practical dairymen are quite generally in accord with the foregoing results, though on careful analysis the distinctions not infrequently partially or completely vanish. In the Iowa Experiment Station herd in 1897, the record of seventeen cows was taken, extending over a period of eight months, from Feb-

ruary to September inclusive. The seventeen cows used were in perfect health and good condition. The list comprised four Jerseys, four Shorthorns, seven Holsteins, and two Red Polls, all pure breeds. Each cow's milk was weighed and sampled at every milking and a composite sample tested at the end of every week. The average number of pounds of fat per 100 pounds of milk in February on dry feed, and 5 pounds of roots per head daily, was 4.21; in May it fell to 4, in June to 3.91, and in September it rose to 4.27. The advance in the period of lactation would account for the highest percentage of fat in September over the other months, but the decline from February to May and June is probably due to the influence of the succulent ration furnished by pasture grass. No account was taken in this experiment of solids, other than fat. The four Jersey cows produced slightly more butter fat per 100 pounds of milk in May than in February, and only .12 of a pound less in June, though the other cows in the test fell off considerably. In an experiment conducted at the Iowa Station in 1891, in which sugar meal, a by-product of a glucose factory, was fed against corn and cob meal, the former feed resulted in increasing not only the percentage of fat, but the proportion of fat to other solids as well. This, and an experiment by Gustave Kuhn at Mockern, in addition to those already noted, are about the only ones indicating any material influence of the composition of milk due to feed. Kuhn used palm-nut meal in nine trials, and in every case the percentage of fat in proportion to other solids was slightly increased.

At the Vermont Station, and at the Copenhagen Station, where experiments have been conducted comparing feed with pasture, no appreciable effect has been found due to pasture, and at the Pennsylvania Station no difference was detected in the composition of milk due to feeding green and dry grasses. At the Vermont Station the results were summarized as follows: "The evidence appears overwhelming that cows and early pasture (May and June) not only make more, but richer milk than during the last months of their barn life."

Professor Henry, in his excellent book on "Feeds and Feeding," concludes a review of this subject as follows:

"The extensive Danish investigations conclusively show that the dairy farmer cannot hope to measurably increase the percentage of fat in his milk by any practicable system of feeding. The dairyman who wishes to improve the quality of his milk must look to breed rather than feed."

Professor Henry also states that it is remarkable that dairymen have so generally held an erroneous opinion regarding the ability of feed to permanently affect the value of milk, and expresses the opinion that they have been led to this belief because any marked improvement of the cow is always accompanied by a larger flow of milk, and, consequently, by a larger total amount of fat. The preponderance of evidence seems to indicate that no marked and permanent change in the composition of milk can be attributed to the influence of feed. It should be clearly understood, however, that the acceptance of this view does not imply excuse for failure to furnish the dairy cow a liberal and nutritious ration, and all other conditions essential to good returns. Let it be kept constantly in mind that a good cow always responds to good treatment, and renders proportional returns and profit. The effect of good feeding cannot be measured by the results of a comparatively short trial with a limited number of cows, but it is only when such feeding enters into the perpetual environment of the cow that it exercises a permanent and lasting influence. The history of our domestic animals abounds in practical lessons and demonstrations to that effect. In western Germany and Holland, for instance, the moist atmosphere, the low-lying soil, with its rank vegetation, and succulent feeds, have combined to produce a cow yielding a large quantity of comparatively watery milk; while the scanty vegetation and rich feeds of the Channel Islands have developed a breed prized for its rich milk. These breeds are simply what their environment and breeding have made them. It would be impossible to reverse the conditions and maintain either without modification. Both

breeds are subject to material variation when transferred to the Mississippi Valley. There are many similar illustrations pointing conclusively to the fact that ultimately feed does affect the quality of milk.

Aside from this, there are other ways in which the quality of milk is influenced by feed. It is well known that many feeds impart a characteristic flavor to milk, and that this influence generally affects the products made from milk in even a more marked degree than the milk itself. The new pasture exercises a marked influence in this respect, and the "grassy flavor" is very pronounced early in the season. Potatoes, turnips, cabbage, and rape, if fed in large quantities, will impair the flavor of butter. Gluten and linseed meals, when used exclusively, tend to make butter soft, while cotton seed meal has the opposite effect, and all three of these feeds are detrimental to the quality of butter when used to excess. In the experiment reported by J. Speir in the Journal of the Royal Agricultural Society the melting point of butter varied from 95 degrees to 106 degrees in changing from a ration containing seven pounds of linseed meal to one containing the same amount of cottonseed meal. Bright well-cured clover hay is known to have a particularly favorable effect in promoting good flavor of butter during the winter months. Feeds partially decomposed or badly tainted in any way will cause tainted milk.

It will, then, be seen that feed is in various ways an extremely important factor that must be reckoned with in its effect on both the quantity and quality of dairy products, though the immediate modification in quality that may be attributed to feed is comparatively slight.

## Fattening Home Grown Lambs.

By Prof. Shaw, University of Minnesota.

This paper presents a synopsis of the facts contained in Bulletin No. 59, Section 3, recently issued by the Minnesota Experiment Station. It treats of the fattening of a bunch of home-grown lambs of good quality. The chief of the objects sought were: (1) To bring the lambs to a high finish and that would at the same time produce an excellent quality of meat; (2) to ascertain the effect of such a diet upon the development during a prolonged period of feeding; and (3) to test the capacity of lambs grown on summer forage other than grass for fattening. The feeding period was a long one. It began Nov. 9th, '96, and ended March 15th, '97, thus covering a period of 126 days. The experiment proper lasted for 112 days.

When the heavy lambs of the previous winter had been fattened, difficulty was experienced in disposing of them in the Twin cities. The objection made was that they were too fat for the market demands, and some dealers went the length of saying that lambs could not be brought to a very high degree of finish without overloading them with tallow. The writer contended that the most perfect finish could be made without undue fatness, providing the foods were suitably chosen, suitably blended and suitably fed. And this experiment was conducted with the principal object in view of sustaining this theory.

The lambs were all bred upon the farm. They were reared upon pastures other than grass, that is to say, on sown pastures such as winter rye, peas and oats, corn, sorghum, rape and cabbage. While being thus pastured they were not fed grain. They were dropped in March and late in the month. The sires were pure Dorsets and the dams were common grades, with a good sprinkling of Merino blood in their composition. The lambs were of good form, but were not of the highest low down type of development.

They were fed in a shed 9x12 feet and had access to a yard at will. The yard was 18x28 feet and on the sunny side of the building. They had water and salt at will. The food consisted of oats, bran, barley and oil cake in the proportions of 3, 3, 3 and 1 parts respectively by weight; native hay and roots. The roots consisted of carrots and mangels. The hay was very poor in quality,



being overripe and overcured. The ration, therefore, was nitrogenous rather than carbonaceous. The lambs were given what they would eat clean of grain and hay and what was considered a fairly liberal supply of roots. The food was charged at average market prices within the state. These were as follows. Bran, \$6.50 per ton; oil cake, \$14.00 per ton; corn, 18c. per bu.; barley, 16c.; and oats, 14c. The native hay per ton was \$3 and the roots 4½c. per bu. of 50 lbs. These are low prices, but in some instances they are more than was actually paid. Bran was bought at \$4.50 per ton and oil cake at \$13 per ton. These figures will be a surprise to feeders who live in the East.

The average food consumed per day was as follows. Grain, 2.28 lbs.; hay, .93 lbs.; and roots, 1.88 lbs., or a total of 5.09 lbs. The proportion of hay to the grain consumed was 40 per cent. With range lambs fed somewhat similarly, but without roots, it was only 23 per cent. The greater consumption of the former may possibly have arisen from feeding a diet of roots. The cost of feeding one animal for 126 days was \$1.51.

The average weight of one lamb when put into the experiment was 90 lbs. When sold 126 days later it was 134.2 lbs. without shrink. The average increase per animal per month was 10.5 lbs., during the experiment proper it was 11 lbs. These were excellent gains for so long a period. With the lambs of the previous winter the average gain per month was 12 lbs., but they were fed for but 84 days. Another feature of the gains was their continuity. Notwithstanding the length of their feeding period, the gains were quite as good during the closing portion as during any previous part of the feeding period. The cost of making 100 lbs. of increase in weight during the feeding period was \$3.41.

At the commencement of the feeding the lambs were valued at \$3.50 per 100 lbs. This was the highest price paid for such lambs at the time for feeding uses. They were sold by Col. W. M. Liggett, the Director, to E. M. Prouty & Co., St. Paul. They ultimately reached the retail markets of the Twin Cities through the trade of W. E. McCormick. The price paid was \$5.50 per 100 lbs., shrunk weight. Range lambs sold at the same time brought \$4.87½. Only 7 of the 10 lambs were thus sold, but in the financial statement they are all valued at 5½c. per pound, the price for which the 7 lambs sold. One of the lambs was presented to the Commercial Club of St. Paul and served by the Club at luncheon. At the luncheon were several of the most distinguished men of the state. The unanimous verdict of the guests placed the character of the meat in the highest scale. The proportion of the lean to the fat was unusually large. The blending of the fat and lean was simply perfect, and the meat was tender and juicy as that of a spring lamb. The other two animals of the lot were served on tables of some of the best judges of meat in the state, and the testimony was unanimous as to the excellent character of the meat.

The financial statement is as follows.

Value of the 10 lambs, shrunk weight (1288 lbs.), when sold	
March 16th, '97, at \$5.50 per 100 lbs.	\$ 70.84
Value of the 10 lambs on Nov. 9th, '96, when the experiment began, at \$3.50 per 100 lbs.	31.50
Total cost of the food	15.08
Total net profit	24.26
Total net profit per lamb	2.43

The value of each average lamb when the experiment began was \$3.15 and when it closed \$7.08. The average increase in value, therefore, from the 126 days of feeding was \$3.93. In other words the value of the lambs was more than doubled during the said period of feeding. The total net profit of \$2.43 per lamb is probably unequalled in the annals of experimental feeding in this country, at least for a period not extending beyond 126 days. And it may be that it will not be equalled again. The price of food is not likely to be so low again for many years, if, indeed, ever, hence the making of increase in weight will be more costly.

The ration was doubtless a very suitable one to secure the end sought.

The lambs were in uniformly good health during the entire experiment. They were always ready for their food, and at all times during the experiment they made good gains. The feeder, Mr. Craig, has expressed the opinion that he never fed a lot of animals which gave a more satisfactory account of themselves at every stage of the feeding. The result should tend to encourage farmers to grow lambs of a good quality and to finish them at home.



## Raising the Colt

By Alex. Galbraith, Secretary American Clydesdale Association.

The old adage that an article properly bought is as good as half sold may by a slight alteration or paraphrase be made to read that a colt properly bred is half raised or at any rate more easily raised on that account. That "blood will tell" has been so conclusively proved to every man of experience or observation as to leave no room for dispute at this time of day. Farmers should see, therefore, that their colts are bred only from worthy ancestors and that they do not inherit any serious blemishes, weaknesses or malformations which will naturally mar the colt's usefulness nor lessen or destroy its value.

Before speaking of the colt, however, I would say a few words regarding the treatment of the mare during pregnancy. Experience proves that the more natural and less artificial the conditions the better. Fat and idleness are to be deprecated especially. There is no breeder of any extent but who will confirm the statement that better results will almost invariably be obtained by keeping the mares in medium flesh and working constantly, but not of course excessively, up till time of foaling. If work cannot be provided for all the brood mares they should at any rate have abundant exercise daily and on no account be confined to the barn closely. Corn should not be fed at that time. It is too fattening in its tendency and does not contain sufficient nitrogen and ash to build up the frame of the unborn foal. Let oats and bran be the staple ration with a few roots daily—carrots preferably. As the time for foaling approaches see that the mare's bowels and digestive organs are in good, healthy condition, and if necessary increase the proportion of bran, giving it in the form of a mash every evening. Clean out carefully a good roomy box stall, have it thoroughly bedded with clean straw and turn the mare into the stall every evening. See that it is scrupulously clean, however, as the chief danger to colts comes from septicæmia or blood poisoning, by the absorption of filth or disease germs through the navel cord at time of birth.

There has frequently been a great mortality among foals throughout the country from that cause. The symptoms are a swelling of the young colt's joints, first one, then another, a loss of appetite and vitality, resulting usually in death from one to two weeks from time of birth. In addition to absolute cleanliness in the stall and on the part of the attendant, an excellent preventive is an application of carbolic acid—say ten per cent. strength—to the navel cord at time of birth and twice daily thereafter for about four days. Some other preparations are excellent, notably one called Umbilicure, which can be had from Prof. A. S. Alexander, Evanston, Illinois, by the use of which all danger from blood poisoning can easily be obviated.

Now, assuming that the foal is safely born and learned to suck—which is the first operation—it is well to see that the youngster is neither suffering from constipation nor diarrhoea, either of which, if allowed to continue many days, will prove fatal. A tablespoonful of castor oil and an injection of soap and tepid water may be administered with good results during the first few days of the colt's life in case the bowels are in any way unnatural; indeed, many successful breeders make an invariable practice of giving a small dose of castor oil as a lubricant to every young foal. The practice is a safe one, and frequently very efficacious. Weather permitting, the mare

and foal may be allowed to run out during the day as soon as the colt is a day or two old, good judgment, of course, being used in not allowing them to stand long in the cold nor in a drafty place, and on no account must the foal be allowed out when raining, as the soft, woolly texture of his coat readily absorbs moisture, which results frequently in colds, rheumatism, or bowel complications.

The young colt should be taught to eat oats just as early as possible—some must commence to nibble along with their mother when only a few weeks old. Later on they should, when the mare is being fed, and I recommend all brood mares to get a feed of oats at least once a day, receive a small allowance of oats where the mother can't reach it. The habit once learned, the youngster will come regularly and readily for his grain ration—the result being that when weaning time arrives, at four or five months old, he is practically independent of his mother's milk.

The colt should be handled kindly and regularly and halter-broke just as early as possible. When weaned, it is desirable that the colt be not left alone but put in the company of another colt, or, failing that, some other quiet, good-tempered animal. Horses are social beings, and do best when not in solitude. From weaning time onwards it is most essential that the colt receive a liberal and nutritious grain ration with great regularity. This is the point where the average farmer falls short. He is apt to consider that, as the colt is young and small, he should be fed sparingly and will become a better horse if brought up "hardy" and allowed to rustle for a living round the straw stack. Such treatment is cruel and suicidal. The young colt will certainly become stunted in growth and never can mature into as large, as good, or as valuable an animal unless he gets a sufficient grain ration the first winter especially.

As to the amount of grain which can be safely and judiciously fed, this necessarily depends on the individual case. The quantity which the colt is able to "clean up" will soon be ascertained, and, with plenty of out-door exercise—and remember he must be turned out every day, snow or shine—there is very little danger of over feeding oats and bran, a few carrots once a day are excellent. Do not use corn at all the first winter, unless, perhaps, one or two ears in very cold weather. Bright clover hay, if free from dust, is much to be preferred to timothy, but it should be fed twice or thrice daily and not in large quantities. Many colts are fed too much hay—it is both wasteful and injurious.

Care should be taken to see that the colt's feet are kept right and not allowed to grow too long nor pointed outwards or inwards. While the foot is in a soft, cartilaginous state, as it is during the first year, it is a simple matter to train it with an ordinary pocket knife and so prevent the habit of "toeing out" or "toeing in," which not only interferes seriously with the animal's value when grown, but, in point of fact, becomes a transmissible malformation descending to future generations.

## CORRESPONDENCE

### Profit in Feeding Lambs

To the Editor of FARMING:

Replying to your letter in regard to the lambs which I am feeding, I cannot give much information, as the lambs are to be delivered in February and I cannot tell what the results will be. But I fed forty lambs a year ago with a certain amount of success and I will endeavor to give the method, rations, etc., followed then.

About thirty of these lambs were well bred Cotswolds and ten were Shropshire grades. My experience tells me that the Cotswolds are far ahead for winter feeding. After weaning, the lambs had a small patch of rape. When this was done they were turned on clover till the snow came, when they were taken under shelter and fed lightly for a couple of weeks. On December 8th they were weighed, averaging 105 lbs. each.

The lambs were then fed for eighty-five days on the following: clover hay, 1¼ lbs. per lamb per day or 106 lbs. for the period. This at \$5 per ton would be 26½ cents for each lamb, grain, ground, 1½ lbs. per day per lamb or 127½ lbs. for the period, worth at 80 cents per cwt. \$1.02. Turnips 10 lbs. per day per lamb or 850 lbs. for period, worth at 6 cents per lb. 85 cents per lamb.

From this I deduce the following:

Cost of feeding one lamb eighty-five days.

106 lbs. of hay at \$5 per ton	\$ .26½
127½ lbs. of grain at 80 cents per cwt.	1.02
850 lbs. of turnips at 6 cents per bus.	.85

Total cost, \$2.13½

Adding to this the cost of each lamb \$2.50, we find the total cost to be \$4.63½.

At the end of the fattening period the lambs weighed 134½ each and the price I received was 5 cents per lb or \$6.72½ each and, therefore, the profit per lamb was \$2.09 and on the 40 lambs \$83.60. From this the price of pasture for probably two months should be deducted.

I find it profitable to cut the hay. In feeding in racks the lambs pick off the leaves and head and waste a great deal of the best feed, but when it is cut they eat it up clean.

I find that sheep are the most profitable part of farming, and if in answering your letter I have been of any service to you I shall be very much pleased indeed.

Respectfully yours,

WM. RICHARDSON.

Vandorf, Ont., Dec. 23rd, 1898.

### The Jubilee of the Ontario Poultry Association at Toronto June 10-13, '99.

TORONTO, Dec. 13, 1898.

To the Editor of FARMING:

I was pleased to notice the articles concerning our large poultry show in your two last editions, and must thank you for inserting them.

I can assure you that the local association is doing its utmost to make the dressed poultry department the grandest display of fowls, ready for the market, ever given in Canada, and if the local farmers will only assist us along this line I assure you their aid will be very much appreciated.

In conversation with Mr. A. J. King, who has exported alone to England this fall 50,000 (just think of this quantity!) turkeys, he stated that many of them had to be sold at a loss, for the simple reason that they had not been either properly fattened or dressed. What I saw in his store, some of them at least, were a perfect disgrace to any one to send out. If they had been shipped to England there would have not been anything left but bones.

Prof. Robertson has kindly consented to give a lecture on Thursday afternoon, January 12th, on how to feed, dress fowls, etc., for export. Added to this Mr. King and Mr. G. B. Jones, manager of the Toronto Cold Storage Co., have also, by special request, promised to give some practical information as to how to kill, pluck and store poultry for shipment.

The last named firm has, to show their appreciation of the work being done along this line, offered a silver cup to the exhibitor for the best three turkeys, three geese, three pairs of ducks and three pairs of chickens, all of 1898 hatch, dressed ready for export or cold storage.

I might say in passing that all such fowls should be dry-picked, killed by being stuck in the roof of the mouth or in the neck, not fed for 24 hours before killing and fattened for two or three weeks previous.

Thanking you for the space occupied, and wishing you the compliments of the season,

I am, yours very truly,

A. W. BELL,

President Poultry Association of Ontario.

## QUESTIONS AND ANSWERS.

## THE BUTTER WON'T COME.

A subscriber at Bradshaw, Ont., asks: "What causes thick foam to come on cream so that the butter will not come till it is churned for three or four hours when the cows are getting mangels?"

In a circular issued by the Dairy Department of the Ontario Agricultural College, Guelph, the following are given as among the chief reasons why butter will not come:

- (1) The temperature is not right—usually the cream is too cold in the churn.
- (2) The cream may have been kept too long.
- (3) The cream of a "farrow" or "strip-per" cow may be causing the trouble.
- (4) The cream may be too thin—get rid of some of the skim-milk.
- (5) The cream may be too thick—add a little skim-milk or water.
- (6) The churn is too full.

In the present instance we would advise putting some nice flavored buttermilk in the cream as soon as skimmed, and churning in not over four days after commencing to gather the cream for churning. Add a table-spoonful of salt to the cream before commencing to churn.

## PIG BREEDING AND FEEDING.

Editor of FARMING:

I have been a reader of your valuable paper since the "Exhibition number," and consider it first class in every respect; certainly it was the best-paying investment I ever made.

The main business of my farm is dairy, with pig-raising and feeding for the market of Grand-Mere, which requires six months pigs at 180 pounds, live weight. Here, in the summer, pigs are fed mostly on clover pasture, with skimmed-milk and butter-milk, with a little mixed meal of corn and peas and oats ground together. I want to know:

- (1) Which is the best breed of swine for my farm and my situation, the breed of profit for its feeding qualities?
- (2) Is it true that Tamworths are not prolific; same for Berkshires?
- (3) Can you let me know which breed has Mr. MacPherson, of Lancaster, on his farm?

Hogs fill an important place on my farm; my sows must produce five litters every two years.

I hope you will not think I am asking too much. I want to know all I can about my farming business; I want and I like to learn very, very much.

Yours truly,

L. O. BOURNIVAL, M.D.

S. Barnabé of St. Maurice, Quebec,  
Dec. 21, 1898

As the writer does not state whether the hogs required for the Grand-Mere market are of the bacon type or not, it is hard to give a definite reply to his first question. We should judge that any of the leading breeds of swine would fill the bill. If the bacon type

## Prevention of Cruelty to Horses.



Many a poor horse, utterly run down by impoverishment of blood and its accompanying ills, is blamed for laziness and harshly treated. The use of

### DICK'S BLOOD PURIFIER

would strengthen such an one, would fortify him to endure fatigue; enable him to accomplish work

without loss of tissue and make in a cheerful, willing worker. It pays to use Dick's Blood Purifier. It greatly increases the flow and richness of a cow's milk.

50 CENTS A PACKAGE.

TRIAL SIZE 25 CENTS.

LEEMING, MILES & CO., Agents, Montreal.

DICK & CO., Proprietors.

### THE HOME MONEY MAKER



## HOME WORK.

We want the services of a number of families to do knitting for us at home, whole or spare time. We furnish \$20 machine and supply the yarn free, and pay for the work as sent in.

Distance no hindrance. \$7 to \$10 per week made according to time devoted to the work. Write at once.

Name references.

CO-OPERATIVE KNITTING CO.  
TORONTO, ONT.

is required hogs with the bacon characteristics strongly prominent should be selected, and, if the thick fat hog is the one desired, the selection should be made accordingly. Experiments conducted at the Ontario Agricultural College by Prof. Day show that very good bacon hogs have been found practically in all the leading breeds.

It is generally believed that thick fat type of hogs will produce pork cheaper than the so-called bacon type. Here again the experiments above referred to show that in several instances the hogs which evinced the most desirable characteristics from a parker's standpoint stood up well in point of gain. So it is difficult to say which is the best breed of pigs from the standpoint of greatest gain for the amount of feed consumed. So much depends upon the feed and care which the hog receives. That any breed will give good results in so far as the quantity of pork produced in proportion to the food consumed is concerned.

We do not think the Tamworths or Berkshires as a class are any less prolific than the other leading breeds. There may be individuals in all breeds lacking in this respect. In this, also, a great deal depends upon the care and feeding of the brood sow. If she is improperly fed or cared for the sow of any breed may become less prolific.

We are not aware that Mr. D. M. MacPherson keeps any particular breed of swine. Where a person feeds so many hogs as he does it is hardly possible to get them all of one breeding.

Parent Roller and Ball-Bearing Galvanized Steel

Wind Mills Towers and Flag Stuffs

"Maple Leaf" Grain Grinders. Iron and Spray Pumps.

Send for New Illustrated Catalogue.

**GOLD SHAPLEY & MUIR CO. LIMITED**  
PRINCEFORD CAN.

### Stock Notes.

Mr. W. D. FLATT, of Hamilton, Ont., reports the following sales during last month from his well-known Trout Creek herd of Shorthorn cattle: To Mr. W. H. Easterbrook, Freeman, Ont., the red and white two-year-old, Lady Blyth, by the imported Cruickshank Bull, Prince Royal, 6418, bred by Mr. E. Cruickshank, of Aberdeen, Scotland, and a descendant of a long line of Royal prize winners, also Lady Blyth 2nd and her four-months-old calf, and the dark roan heifer, Maggie, by Kinellar 2nd, 19560, d.m. Red Empress 2nd by Marshal, 14732. To Mr. C. D. Wagar, of Enterville, Ont., the light roan cow, Hazel, 13579, a prize winner at many county and local fairs, and an excellent breeder and milker; also a ten-months-old bull of

# GIVEN AWAY!

We ask not a cent of your money.

Simply send your name and address, and we mail you a shipment of the best wicks in the world, absolutely free of charge also our complete price list of articles given for selling them. A few only are shown here. We have also Manture Sets, Sterling Silver Jewellery, Pure Gold Rings, Chains and Bracelets, Fountain Pens, Tool Sets, Single Lanterns, Motors, Musical Instruments, etc., etc. Cash Commission if Preferred. You will the wicks, return our money, and we forward your prize, all charges paid by us.

**WICKS IS THE PERFECT WICK** Its light is like the most steady. No more spluttering, chattering and fuel odor. It makes reading and needlework a pleasure. All we need is to have it introduced, and we can well afford to make the most generous offers to get agents. Lose no time. Order a once. You run no risk. Unsold Wicks are returnable. When writing mention this page and the prize you want.

**The Whitelight Wick Co., Toronto**

Wick with Chain and Ring for mailing 3 dms.

Gold Ring for mailing 3 dms.

Wick with Chain and Ring for mailing 3 dms.

Wick with Chain and Ring for mailing 3 dms.

# A SLASH IN FURS

We are determined to sell every FUR COAT in our immense stock between this date and the next four weeks. The stock is without doubt the largest in Canada and this will be the grandest opportunity ever offered to **Farmers and Stockmen** for purchasing a first-class article at from 25 to 40 per cent. less than our regular prices. The prices given here are for **spot cash** and every line offered will be guaranteed.

## HERE THEY ARE

**LOT 1.—Walloby Fur Coats.** These coats are a dark grey fur, 50 inches long, storm collars, quilted farmer satin linings, fur binding, with hoops and barrel button, our regular price \$25.00. Selling now for..... **\$18**

**LOT 2.—Matissima Buffalo Coat**—long strong fur, made same style as above. An excellent coat for teaming and rough wear, will last a lifetime. Every farmer should have one. The regular price was \$35. We are selling them now at..... **\$25**

**LOT 3.—The strongest coat ever made, Prairie Dog Fur,** looks exactly like Coon, well made and lined, inside and outside pockets. We have only a few of these left and will sell at \$15. Don't think of buying a cloth coat when you can get one of these fur coats for \$15. You'll never regret it and we'll guarantee them.

**LOT 4.—The finest assortment of Real Coon Skin Coats** in Canada. They are as you can see—beautiful long hair, well made, nothing wanting, any size, 50 inches long. Regular \$50. Selling at... **\$35**

rare promise, Trout Creek Champion. To Mr. Wm. McCarthy, of S. Catharines, the eight-month-old bull, Senator, a large, sappy calf. To Mr. O. I. Statton, of Cookshire, Que., a seven months bull, Missie's Hero. This fellow is full of quality and good in all his points. To J. B. Bingerman, Bloomingdale, six-months-old bull calf, Waterloo Champion. Mr. Bingerman should congratulate himself on this purchase as he has certainly got a good calf.

### 1899 BREEDING NOTES.

At this, the beginning of the New Year, is a proper time to cull the herd. Let all the undesirable breeders pass away with the old year. The culling process should be severe and none but the best retained for 1899 breeders. It is equally desirable, however, to continue the culling process to the advertising mediums used during the past year. All papers that have failed to make sales equal in amount to the cost of their advertisement should be discarded. Papers that have just barely paid may be retained another year; but the papers that have paid well, it is good business to increase the size of your ad by one-half.

At this, the beginning of the New Year, is the proper time to make your advertising contracts for the year. If your business amounts to anything at all, make yearly or half-yearly contracts and don't spend your money uselessly in transient, spasmodic advertising. It costs too much for value received. Spasmodic advertising seldom pays unless you are willing to offer stock at about the cost of raising it. Canadian breeders have little choice in choosing their mediums. Geographically great as our wide Dominion is, there is but one weekly agricultural paper within its borders, but that one, **FARMING**, is a good one.

Geo. P. Rowell, the great advertising man of New York, says that merchants find the daily paper much cheaper, and a good deal more profitable, than the weeklies. If this is true, then it follows that the weekly must be much more profitable than the monthly or semi-monthly, and this is what one might reasonably expect. The weekly live-stock journal gives results at once, certainly within a week, while those agricultural journals published but once or twice a month are necessarily slow; you have to wait too long for results. The last ten years have brought about wonderful results from modern progress, in this Canada of ours, but progress in agricultural journalism has not kept pace with the progression. The United States is much ahead in this regard. Nearly all of the prominent American agricultural journals are published weekly. I look for the daily agricultural paper by the end of the next decade. Daily mail delivery must come first, however, but with the progress of electricity this is bound to come.

Many good pigs go to market for want of buyers when they are fit to head any herd.

# RAW FURS WANTED

**WE** are buying thousands of dollars' worth of Furs from farmers all over Canada. We want **THE BEST**, and will pay the highest prices. You can send us your raw furs per express at our expense, we will look them over and write you what we can give; if the prices do not suit we will send them back if you desire us to do so. Can anything be more fair? Let us hear from you at once.

## Cummings & Sellers,

Manufacturing 244 Yonge Street,  
Furriers . . . TORONTO, ONT.

### THE CURE OF ASTHMA.

Liebig's Asthma Cure will cure Asthma, Hay Asthma or Hay Fever. Hundreds of people in four continents will say so. It is a first-class medicine, endorsed by medical men, and used by the best people in all parts of the civilized world.

A free trial bottle will be sent to any sufferer by mail prepaid. If you are afflicted, send your name and address to The Liebig Co., 179 King street west, Toronto, and say you saw this free offer in **FARMING**.

### AS TO EPILEPSY AND FITS.

Liebig's Fit Cure for Epilepsy and kindred affections is the only successful remedy, and is now used by the best physicians and Hospitals in Europe and America. It is confidently recommended to the afflicted. If you suffer from Epilepsy, fits, St. Vitus Dance, or have children or relatives that do so, or know a friend that is afflicted, then send for a free trial bottle and try it. It will be sent by mail, prepaid. It has cured where every thing else has failed.

When writing mention **FARMING**, and give full address to The Liebig Co., 179 King street west, Toronto.

# DINEEN'S

140 YONGE STREET,  
TORONTO.

Established 50 years.

## \$1800. FOR FOUR TOMATOES

This is a wonderful Tomato—Immense size, best quality and will last longer than any other. They are bright red very good for seeds and free from any spots. Ripen from July 4 till frost. We paid \$500. for one wagon load of 2500 lbs. and offer \$1800. Cash for fruit this year. Write for catalogue and order. 250 lbs. \$1000. 500 lbs. \$2000. See what you can do. Inquire through sent with seed.

1000 FOR TOMATOES
\$1000 FOR A POUND
500 - 3 1/2
250 - 3
50 - 2 1/2

## \$300. FOR 6 NAMES!

catalogue for 1899 in answer to . . . photographed in colors and in full of new things. We have new Cabbages, Lettuce, Asparagus, Peppery, Parsley and Sweet Peas. Not one has been named before will pay \$50. Cash for a name for each. **Special Offer:** We will pay for each 2500 lb. Tomato 250 lbs. \$1000. 500 lbs. \$2000. 250 lbs. \$1000. 50 lbs. \$200. See what you can do. Inquire through sent with seed. **FAIRVIEW SEED FARM** Box 101 Rose Hill, N.Y.

Money is lost for fear of spending some. Take a case in point: A man has got two or more registered sows due to farrow next April or May. These litters at seven weeks old will not fetch more than \$2.75 each in the local market. That's just about the cost of raising them. So the owner, rather than sell for \$2.75, prefers to fatten them. At six months the pigs will probably fetch \$8 in the open market. Now, the breeder, in acting thus, is not doing himself justice. By using a few simple business methods and spending a little money the profits from these two sows may be quadrupled. How? Write out an advertisement forthwith; send it to FARMING, telling them to place it in one-inch space for six months. That will cost too much, you say. It will probably cost \$20, but the sale of three pigs will pay for the ad. Why sell thoroughbred pigs for \$8 at six months of age when you should get \$8 at seven weeks? And you will if you take this advice.

Some breeders never think of advertising until they have their stock ready to sell. That is expecting too much of an advertisement. The ad. should be there several months before you have anything to sell, so that buyers may have a chance to get acquainted with you. People do not care to purchase of strangers. By placing your ad. before readers this month, buyers will make your acquaintance by the time your stock will be ready for sale, which will be in May or June. Again, when you are advertising by the year, you are buying space at wholesale; you all know the advantage of buying goods at wholesale, rather than retail. You know the margin is from 50 per cent. to 100 per cent. Take, therefore, the advantage of wholesale prices, and make your contracts for the year. If not yearly then, at least, half-yearly or quarterly.

Breeders should take at least three good farm papers. Competition is keen, and if you wish to keep your place on the front seat you must be in touch with the whole world. You cannot do this by taking but one farm paper. I do not think we need to draw upon Europe for our agricultural papers. We have much better papers published right here in America. Some of these may be under a different flag from ours, but the science of successful breeding and scientific methods of farming knows no flag or country. Our progressive neighbors have made their journals grand vehicles for dissemination of agricultural knowledge. The three best papers I know of are FARMING, Country Gentleman and Breeders' Gazette, and to these should be added a fourth, and few can afford to be without it, for it fills a place all its own. I refer to *Hoard's Dairyman*. If you send the money to FARMING you will be able to get these papers much cheaper than if you send money direct to the office of publication. FARMING has special clubbing rates with *Breeders' Gazette*, *Country Gentleman*, and *Hoard's Dairyman*, and by taking advantage of FARMING's special clubbing rates you will be able to obtain these journals at 25 to 50 per cent. less than publisher's price. Like FARMING, all these are weekly papers, and I have no hesitation in affirming that the above four papers are the best the land affords, and money invested in them will pay a big profit by the end of 1899. And wishing a prosperous New Year to Canada's only weekly agricultural paper — FARMING — I remain, yours truly,

J. A. MACDONALD.

Hermanville Farm, P. E. I.,  
New Year's, 1899.

## Publishers' Desk.

**Fur Bargains.**—There is no time like the present for the farmer to buy furs. The famous fur manufacturers, H. & W. D. Dineen, are advertising bargains in this issue, and no one should fail to read their announcement. If you want anything in the fur line they can supply it at astonishingly low prices.

**Handy for the Boys.**—The skate sharper advertised by the Enterprise Mfg. Co., Toronto, is a very useful little tool. It will sharpen your skates in a minute, and the beauty of it is that it is always ready for business, as it can be carried in the pocket and

# ... 1898 ...

Has been the best year we have had. November and December months we have been exceptionally busy. We are now admitted to be the best farmers' co-operative store in Canada.

Any farmer can send us his produce at any time and we will return him cash or goods as he may direct.

If you have not our Catalogue send for one.

We wish you all a Happy New Year.

THE FARMERS' CO-OPERATIVE STORE  
THE PEOPLE'S WHOLESALE SUPPLY CO.  
144-146 KING ST. EAST (Opposite the market), TORONTO  
R. Y. MANNING, MANAGER.

## Hamilton Engine AND Thresher Works

Compound and Simple Traction  
and Plain Engines  
Threshing Machines,  
Clover Hullers,  
Horse Powers,  
Saw Mills, with all the latest improvements.

—ALSO—

### ROAD-MAKING MACHINERY

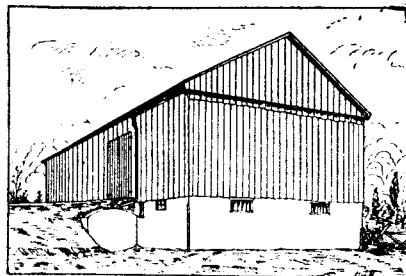
Stone Crushers, Road Rollers, and Graders

For descriptive catalogues, prices, and terms, apply to

SAWYER-MASSEY CO., LIMITED  
HAMILTON, ONT.

Established 1841.

Thorold High in Quality  
Cement Low in Price  
58 years in use



BARN OF GEO. AXFORD, TALBOTVILLE, ONT.  
Size of Basement Walls 31 x 88 x 9 feet. Built with Thorold Cement.

Talbotville, Elgin Co., Dec. 2nd, 1897.

During the past summer I have built a basement with your Thorold Cement under my barn 31 x 88 x 9 feet high from bottom of foundation; footing for foundation 18 in. thick; above the footing 12 in. thick. I used 6 parts of gravel to 1 of cement. I also built a cistern under the approach to the barn 8 x 18 x 7 feet high; wall around cistern 16 inches thick; arched over the top 10 inches thick.

I also put a floor into my cow stable, 32 x 57 x 4 inches thick, in which I used 27 barrels of Thorold Cement. I used six parts gravel to one of cement, except one in front of the surface, which was three parts gravel to one of cement. The floor is as hard as a stone. I consider both wall and floor better than I could have made of any other material, and much cheaper. Yours truly,  
GEO. AXFORD.

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.

Estate of Jno. Battle Thorold Ont.  
Mention FARMING.

# Ask for Eddy's

when you order matches. Then you will be sure of having the best.

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

used whenever required. Every boy should have one.

**Dogs of Various Breeds.**—Spratt's Patent (Am.) Limited, 239-245 East 56th Street, New York, have issued their catalogue for 1899. As usual it is an exceedingly handsome production, and is illustrated with pictures of the various breeds of dogs, etc. Send 7c. in stamps for one.

**Safes.**—Mr. S. S. Kimball, of Montreal, is advertising fire-proof safes in this week's issue. Everyone who has valuable deeds, documents and papers which they wish to keep from being lost or destroyed needs one of these safes. They are cheap, but at the same time of good workmanship and material, and will answer all the requirements of any business man. Send for catalogue of prices.

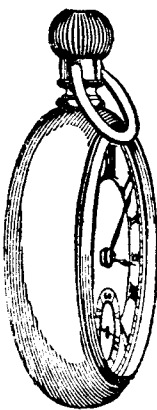
**The Value of a Cream Separator.**—Do you know how much a cream separator is worth to the farmer who has a number of cows? If you do not, it is in your interest that you should, and any of the manufacturers of cream separators, whose advertisements appear in FARMING, will give you reliable information on the subject. They are all first-class firms, and will make no statement which is not strictly in accordance with fact.

**Ontario Veterinary College.**—The Christmas examinations of this well-known institution were concluded on Friday, Dec. 23rd, at the college in this city. The Board of Examiners, which is composed of prominent veterinary surgeons practising their profession in various parts of the province, after subjecting the candidates to a stringent examination, awarded diplomas to a number of graduates in Canada and the United States.

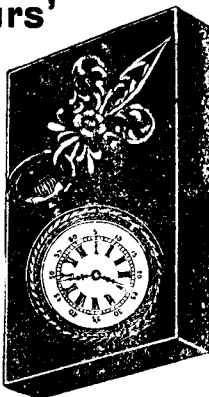
**A Timely Suggestion.**—What more enduring or pleasing memento could one bestow upon his children and family than an organ or piano? Just think it over. There is nothing that will more completely relieve the monotony and isolation of the country home during the long winter than music. Make the home attractive to the young people and their natural desire for the stimulating but not always healthful amusements of the town will be easily controlled. Music is the greatest attraction you can furnish. During the year 1898 the Bell Organ and Piano Co., of Guilph, Ont., have placed hundreds of instruments in country homes in all parts of the world and we will venture to say have done more to satisfy the young people with their surroundings than any other agency in this country. Their catalogue and price list will tell you what it will cost to give your family the greatest pleasure it is possible to confer. Procure a copy and think the matter over.

**An Old Friend of the Farmers.**—In years past there was probably no manufacturing firm more widely known or more popular in Canada than L. D. Sawyer & Co., of Hamilton. The products of their shops were to be found everywhere, and an expansion of their trade could hardly have been thought possible within the limits of this country. But since the incorporation of the firm under the name of The Sawyer & Massey Co., Limited, new fields of industry have been created, and the volume of business has been wonderfully increased. The Sawyer & Massey road-making machinery is to be found in all up-to-date municipalities, and the demand for good roads which has developed throughout the country in the past few years is forcing the hands of less progressive municipalities, so that it will not be long before every township and village in the Dominion will be supplied with a complete equipment of this class of machinery. The other manufactures of the company, such as traction engines, threshing machines, clover hullers, horse powers and saw-milling machinery are in greater demand than ever, and are second to none in workmanship and the material employed in their construction. The company have issued a very handsome catalogue descriptive of all these machines, with prices and terms of payment, which will be sent free to anyone interested. See their advertisement.

# FREE! For a Few Hours' Work.



We give these beautiful Premiums for selling our gold-topped, enamel-backed **LEVER COLLAR BUTTONS** at 10 cts. each. **NO MONEY REQUIRED, you run no risk.** Write and we forward the buttons, postpaid, and our prize list which contains many articles besides those shown here, such as Magic Lanterns, Tool Sets, Work Boxes, Manicure Sets, Motors, Printing Presses, Fountain Pens, Sterling Silver and Gold Jewellery, etc., etc. Sell the Buttons, return our money, and we send your premiums promptly and **FREE OF ALL CHARGES. Liberal Commission if Preferred.** Our **Boy's Watch** is of American make, handsome, durable and reliable. Our **Lady's Watch** is a little gem, Swiss made, dainty and accurate. The **Daisy Air Rifle** and **Boker's Skates** speak for themselves. Our **Cameras** are of latest model, warranted for time or lightning exposures. In fact every article we offer is thoroughly reliable, as we find it to our greatest interest to handle only what we can guarantee.



Gold Ring for 2 doz. Jewellery, etc., etc. **Free, with a handsome Chain and Charm, for selling 2 doz.** At **Daisy Air Rifle** with 500 rounds ammunition, or pair **Boker's Best** Hickey Skates with Screws **free for selling 2 doz.**

Free, with Guard or Chatelaine, for Selling 3 doz.

Mention this paper when writing and the prize you want.

**Lever Button Co.**  
TORONTO ONT.  
With Battery complete for sale in 5 doz.

With every Watch we send a **WRITTEN GUARANTEE** to Repair or Replace. Good for one year.

## HELDERLEIGH FRUIT FARMS AND NURSERIES

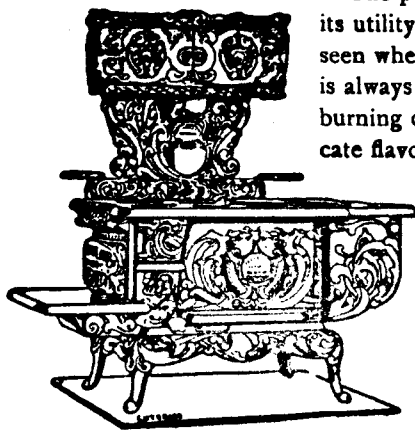
—400 ACRES—



Situated at the base of the Mountain in a warm and sheltered valley where trees arrive at full maturity. Having over 125 acres planted in fruit, I have unusual facilities for knowing the value of the different varieties and establishing their purity. Everything is **GUARANTEED TRUE TO NAME** or purchase price refunded. I have for the fall of 1897, and the Spring of 1898, a complete line of Trees, Shrubs, Vines, etc., both fruit and ornamental. Write for a Catalogue which is furnished **FREE**, and which contains over ten pages of closely written matter about the various **PESTS** that trouble fruit growers and means of preventing their ravages. Buy **CANADIAN GROWN STOCK** only, and thus escape the dreaded San José Scale so prevalent in the States. There is no more reliable, healthier, hardier, or more complete assortment than mine. Good reliable salesmen wanted in a number of fine townships, to start work at once. Complete outfit free. Address **E. D. Smith, WINONA, Ont.**

# Souvenirs...

## Breathe Fresh Air



The peculiar operation of an aerated oven and its utility in art of improved cooking, will be easily seen when it is understood that food in the oven is always surrounded by pure, fresh, sweet air. No burning or foul odors can exist to spoil its delicate flavors.

The simple meaning of aerated is to supply or impregnate with fresh air—to compel its free action within any prescribed limit. It intuses and continually forces a rapid circulation of fresh air in exactly the same manner as we aerify our lungs. So we say aerated ovens in Souvenir Stoves actually breathe fresh air.

Sold Everywhere. One Will Last a Lifetime.

**The GURNEY-TILDEN CO., Limited**  
Stove, Furnace and Radiator Manufacturers  
Wholesale Agencies in **TORONTO, MONTREAL and WINNIPEG** **HAMILTON, ONT.**

# Cash Prizes

## \$80.00 CASH

will be given to any one sending us not less than 100 new subscribers at \$1 each

## \$45.00 CASH

will be given to any one sending us not less than 90 new subscribers at \$1 each.

## \$40.00 CASH

will be given to any one sending us not less than 80 new subscribers at \$1 each.

## \$35.00 CASH

will be given to any one sending us not less than 70 new subscribers at \$1 each.

## \$30.00 CASH

will be given to any one sending us not less than 60 new subscribers at \$1 each.

## \$25.00 CASH

will be given to any one sending us not less than 50 new subscribers at \$1 each.

## \$20.00 CASH

will be given to any one sending us not less than 40 new subscribers at \$1 each.

## \$15.00 CASH

will be sent to any one sending us not less than 30 new subscribers at \$1 each.

## \$10.00 CASH

will be given to any one sending us 25 new subscribers at \$1 each.

### IN ADDITION TO ALL OTHER CASH PRIZES

## \$35.00 CASH

will be divided between the persons sending as the two largest lists of new subscribers prior to 1st June, 1899, as follows:

## \$20.00 CASH

to the person sending us the largest list, and

## \$15.00 CASH

to the person sending us the second largest list. If the two largest lists are equal, the \$35 prize will be equally divided between the persons sending them in.

"The laborer is worthy of his hire," and no one who attempts to obtain a prize will go unrewarded, so long as he succeeds in obtaining subscriptions, no matter how small the number may be.

Those competing for cash prizes who do not obtain a sufficient number of new subscriptions to entitle them to the prize for which they are competing, or to any cash prize, may select any other premium to which the number of subscriptions sent in will entitle them; or, if they prefer it, we will pay them at the rate of 40 cents for each new yearly subscription they have sent to us. **You stand a good chance to win one of the special cash prizes for the largest list, although you may not obtain a sufficient number of names to entitle you to the prize for which you compete, as the special prize will be awarded for the largest and second largest lists, though they may contain only a small proportion of the names required to secure one of the regular prizes.**

**A Special Number to Every Subscriber.** Every man who subscribes for one year will receive one of our Magnificent Special Numbers, which is easily worth 50c.

**Five New Trial Subscriptions Count** as one new yearly subscription in any competition for either cash prizes or premiums.

Sample Copies and Premium Lists free. Address

# FARMING

Toronto, Canada.

# Pearce's Poultry Supplies

Green Bone Meal; Guaranteed No. 1..... \$7 00  
 " " " " No. 2..... 10 00

## "THE BEST" INCUBATOR AND BROODER

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# The Ontario Agricultural Gazette

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

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

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

### BENEFITS OF MEMBERSHIP.

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

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

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

The name and address of each member, and the stock he has for sale, are published once a month. Over 20,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

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

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 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. Hodson, Secretary.  
Parliament Buildings Toronto, Ont.

## STOCK FOR MANITOBA AND THE WEST.

Under the auspices of the Dominion Live Stock Association a carload of thoroughbred live stock will be sent out early in January. Space has already been assigned to several parties and enquiries are being received daily. Persons desiring to send stock with this shipment to Manitoba and the West are invited to correspond with the secretary of the Live Stock Associations, Mr. F. W. Hodson, Parliament Buildings, Toronto.

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

(Continued from last issue.)

### CRIMSON CLOVER.

Some recent experiments by the New Jersey and Michigan Stations throw some light on the best time and manner of seeding this crop under different conditions of soil and climate.

In one of the New Jersey experiments the clover was sown on rather heavy clay loam soil on August 4th, 13th, 29th, and October 1st. The best results were obtained from the earlier seedings, the difference between the crops of the first and second seedings being very small. The seeding of October 1st proved a failure.

The second experiment was made on a soil ranging from a coarse sand to a sandy loam. The crop from seed sown July 11th was destroyed by hot weather soon after it began to grow. Seed was sown July 21st among tomatoes, but this seeding was also destroyed by the hot weather. From seed sown the same day among citron vines, which gave better protection than the tomato vines, a thin stand was obtained, and the plants made a

good growth the following spring. Seed sown on August 4th, on a plot on which a crop of peas had been turned under, gave satisfactory results, except that the plants lodged. August 18th seed was sown among late tomatoes. A good stand was obtained, and the crop made a vigorous growth. Seed was sown September 14th, and the plant came up in three days. A good stand was obtained, and the growth during the fall was promising. The plants, however, were small when winter set in, and, being unprotected, many were killed, while the rest were stunted. Seed was sown September 20th in a citron patch, being put in with a cut away harrow. The plants were protected by crab grass and the remaining citron vines, and stood the winter well, but were small as compared with those of the earlier seeding. Seed sown at the same time in an old sand field without protection did not do well, many of the plants being destroyed during the winter. A stand of clover was obtained, however, from seed sown in an orchard September 29th, and put in with a cut-away harrow. Of the seeding made with rye, October 4th and 23rd, few plants survived the winter, and the majority of these had but a single branch.

In the third experiment on sandy-loam soil the seed sown with rape, June 8th, gave a rather uneven stand, but the crop made a good growth during the fall.

*Crimson Clover in Michigan*—At the Michigan station half an acre of crimson clover was sown with oats in the spring. After the oats were cut the clover made a rapid growth, yielding 5,134 pounds when cut for green feed October 23rd and November 12th. Another plot of equal size sown without grain grew rapidly from the start, and when cut, June 24th,

yielded 1,870 pounds of green feed, or 418 pounds of hay. It produced a second crop, on which sheep were pastured for about six weeks during August and September. After the sheep were removed it made a further small growth.

At the same station in 1896 a one-tenth acre plot of crimson and red clover was sown the last day of every month, beginning in March. The yield of crimson clover was, on the whole, apparently somewhat greater than that of the red clover. The March crop of crimson clover matured a crop of seed early in August, but the plants, instead of dying thereafter, as in previous years, continued to put forth blossoms until checked by hard frosts. Late in October nearly all the plants in this plot died. The April plot did not seed so abundantly, but the clover which seeded freely in the other plots died at the same time as those in the March-sown plot. The plots which produced little or no seed remained green and thrifty. The plots sown the last of May produced only an occasional blossom and entered the winter with a thick mass of verdure about eight inches deep. The later-sown plots were of smaller growth, and those sown after August 1st were so little advanced that they were hardly likely to survive the winter.

Taking the result of the experiments at the Michigan Station, the climate of which would more nearly approximate that of Ontario, it is evident that spring seeding gives the best results. A good crop is secured the same year, and the clover is left in as good a condition as possible to withstand the serious inroads of winter on it, which are apt to destroy it.

### FLAX CULTURE.

It has always been held that flax growing makes a heavy draft on the fertility of the soils. In order to test this the Minnesota Station has recently been making some investigations which throw considerable light on this point.

It appears that many of the crops ordinarily grown remove more plant food from the soil than the average flax crop. This is especially true of corn. The oat crop removes about the same amount of nitrogen and phosphoric acid, but nearly as much again of potash as the flax crop. The necessity for a fertile soil in successful flax growing is due, therefore, not to the fact that this crop requires larger total amounts of fertilizing con-



situations than other common farm crops, but to the fact that, although it is a somewhat dainty feeder with a small root system, yet it must secure the necessary plant food for its perfect growth in a short growing period of from sixty to one hundred days. The plant food must, therefore, be not only abundant but in a readily available form.

Flax culture makes the heaviest draft on the nitrogen of the soil. This explains why flax succeeds best on virgin soils, because nitrogen is more abundant in them. It is also a strong reason why clover should be included in a crop rotation with flax.

The Minnesota Station also carried on experiments to see why flax could not be grown continuously on the same soils. It was found that the flax straw and roots in their decomposition produce products which destroy the following flax crops. When a period of five to seven years intervene between two flax crops, the old straw and roots are then thoroughly decomposed and will not injure a new flax crop. Flax must, therefore, be grown in rotation with other crops, unless new land is available. The rotation should include a hoed crop in order to keep the soil clear of weeds. Green manuring and the plowing in of clover stubble is the most economical way of keeping up the fertility of the land

#### DOMINION STUD BOOK.

The twelfth annual meeting of this society was held at Clinton, on December 14th last. The president, Mr. John McMillan, M.P., in his annual address, urged the importance of securing adequate representation for the society at the leading fairs and kindred breeders' associations. He expressed the conviction that the present unsatisfactory condition of the horse trade, and the condition of its registration bodies, pointed to a great change in the near future and a general re-arrangement along permanent lines. He believed the advisability of the Shire and Clyde cross would yet be admitted where now it was denied, and as that was the basis of the society it should keep in a position to justify its existence and claim recognition.

The secretary's report showed that the new registrations for the year are still very light as compared with former years. Financially, the organization was the strongest society of its kind on this continent, the cash balance in the bank being about \$1,000. The secretary was instructed to have the annual report published in the Live Stock Association Book, issued annually by the Ontario Department of Agriculture. He was also instructed to compile the by-laws and regulations, with amendments to date, and have them printed for circulation. A grant of \$10 was made to each of the following fairs: West Huron, South Huron, and North Perth.

All the old officers were re-elected for 1899. The secretary of the society is Mr. James Mitchell, Goderich, Ont.

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For cattle coughs, sore throat, sprains, sore or caked bag and a score of accidents that might befall the herd, Griffith's Menthol Liniment is the greatest of external applications—proved the success that is claimed for it a thousand times—good in an emergency—quick to cure.

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# Potash

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Crops flourish on soils well supplied with Potash.

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Consumption, if Properly Treated, is Curable. Left to Itself it is Slow, Sure and Deadly.

There is no human ailment so destructive of life as Consumption. It is the weapon of the grim reaper, carrying off its victims at any time; and in no month or in no season can they feel sure of immunity.

Modern medical science has made many discoveries along many different lines, but in no case is the human race under a greater debt of gratitude than to that distinguished and eminent chemist, Dr. T. A. Slocum, whose researches have resulted in a cure for consumption, bronchitis and all throat and lung troubles—a cure that exterminates the cause, builds the body and kills the germ of disease.

To prove the efficacy of this cure, three bottles are offered free to any sufferer. All that is necessary is to put your name, post-office and nearest express office on a postcard and mail it to The T. A. Slocum Chemical Co., Limited, 179 King street west, Toronto, Ont., stating you saw this free offer in FARMING, when the three bottles will be sent to you at once.

This test costs you nothing, and it is a duty you owe to yourself and your friends to try the Slocum Cure.

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Representative for Great Britain and Ireland, W. W. CHAPMAN, Fitzalan House, Arundel St., Strand, LONDON, ENG.

MARKET REVIEW AND FORECAST.

Office of FARMING,

January 2nd, 1899.

Business is always dull between Christmas and New Year's in wholesale trade circles. There has, however, been more doing this holiday season than for the past few years back, which is an indication of the healthy condition of general trade in the country. It is generally believed in trade circles that there will be a vast expansion of business during the next few years.

Wheat.

The wheat situation has been somewhat irregular during the past few weeks. Two weeks ago we noted a marked advance in prices on this continent as well as in Europe. Last week's reports showed this advance to be of a somewhat temporary character, and this week we have to record another advance and greater activity in European wheat circles. The primary cause of this activity is said to be due to a decrease in the visible supply in Canada and the United States of 1,856,000 bushels, though some authorities claim that it is due to the speculative element which was responsible for the advance of a few weeks back. There are undoubtedly signs that the "bullish" element is gaining prominence in wheat centres, and that there is a growing sentiment in favor of a permanently higher level of values for American products. It is claimed that Europe was never more dependent upon this continent for her food and feed supplies than now. There are signs that the "bears" in the market are getting nervous, and have been covering in spite of the usual dullness of the holiday season. Export orders in the United States have increased during the holiday season instead of decreasing. The world's supply in sight is 55,263,000 bushels, an increase of 23,000,000 bushels since last August, and a decrease of 14,000,000 bushels as compared with a year ago.

A London cable despatch to the *Trade Bulletin* of Dec. 29th, reads thus: "There is a firm feeling, and light stocks give holders a decided advantage with business in Canadian red winter 3d. per quarter advance. On the Baltic a more active business has transpired, and floating cargoes are higher, hard Manitoban participating. At the close there is an easier feeling." The Chicago wheat market made a sharp advance on Tuesday to 71½c. May, which caused an excited feeling in Ontario, where prices for red winter advanced to 70c., 71c. f.o.b., being 1 to 2c. above the export basis. The market here is

firm at 69 to 71c. for red and white west. Goose is firm at 70c. No. 1 Manitoba hard is quoted at 79 to 80c., Toronto, and No. 1 Northern 75 to 76c. On the local market red and white is quoted at 72 to 73c.; spring life at 71½c., and goose at 70c. per bushel.

Oats and Barley

The London oat market is quiet, but with light stocks holders will not make concessions and last week's quotations are maintained. The Montreal market for oats on spot is firm, with sales reported in car lots at 32½c. for No. 2 and 32c. for No. 3. The market here is firm at about 29c. west. On the local market oats bring from 33 to 33c. per bushel.

The Montreal barley market is quiet at 54 to 55c. for No. 1 malting. The market here is steady at 46 to 48c. west. Locally barley is worth from 49 to 50½c. per bushel.

Peas and Corn.

There is an advance of 1s. per quarter, with a good demand at the advance on the London market for peas. The Montreal market keeps firm at 70½ to 71c. in store. The market here is firm at 65 to 66c. north and west in car-lots. On the local market the quotations are 63½c.

The Montreal market for corn is strong at a further advance in prices, and quotations are: 45 to 46c. in car lots for No. 2 Chicago mixed. American is quoted here at 46½c. in car lots. Canadian yellow is quoted at 36 to 37c. west, but it is almost impossible to get a sufficient quantity to make a car load.

Bran and Shorts.

Ontario winter wheat bran is steady at Montreal at \$14. Shorts are quoted there at \$14.50 to \$15 and middlings at \$16. Mill feed is firm here at \$14 to \$16 for shorts and \$12 to \$12.50 for bran west. City mills quote bran at \$14 and shorts at \$15 in car lots f.o.b. Toronto.

Clover and Timothy Seed.

American timothy seed is quoted at Montreal \$1.25 to \$1.50 in store, red clover at \$4.25 to \$5 per bush. and alsike at \$4 to \$5 per bushel. Red clover on the local market here is quoted at \$3.50 to \$4; white clover at \$6 to \$9; alsike \$4 to \$5, and timothy at \$1.25 to \$1.35 per bushel.

Eggs and Poultry

The London and Liverpool markets for eggs are dull, milder weather having brought liberal supplies from the Continent, causing prices to give way. The Montreal market continues firm at 26 to 28c. for new laid eggs in large lots and 29 to 30c. in single case. Straight candled fresh stock brings from 15 to 16c. Eggs are in good demand here at 20 to 22c. for new laid. Held fresh bring from 16 to 18c. On the local market 22c. is about the price for fresh eggs.

Stocks of dressed poultry at Montreal are considerably less than at this time last year. The quotations are 9 to 9½c. for turkeys; 6

to 6½c. for geese; 6½ to 7½c. for chickens and 7½ to 8½c. per lb. for ducks. The market here is steady but the demand is slow at 7 to 9c. for turkeys, 5 to 6½c. for geese; 30 to 70c. per pair for ducks and 25 to 50c for chickens.

Potatoes.

The Montreal market is firmer at 55 to 60c. per bag of 90 lbs. on track. They bring 65 to 70c. in a robbing way. Cars on the track are quoted here at 55 to 70c. Out of store potatoes sell at 65 to 57c. They bring from 55 to 65c. per bag in a local way.

Hay and Straw.

Montreal market is steady at \$3.50 f.o.b. for clover mixed hay in country. The quotations there are \$4.50 for clover in cars on track; \$4.75 for clover mixed; \$5 to \$5.50 No. 2. No. 1 timothy is reported scarce and is selling at \$7 to \$7.50. The market here is dull and cars of baled hay on track are quoted at \$7 to \$7.50. On the local market timothy brings from \$9 to \$10.50 per ton and clover at \$6 to \$7.50. Baled straw is quoted at \$4.50 on cars on track. On the local market sheaf straw brings \$7 to \$7 per ton and loose \$4 to \$5.

Fruit.

The export apple trade is quiet. Our late sales in England have been disappointing, owing chiefly to large supplies and the bad condition of the fruit on arrival. Greenings are reported to have kept very badly. Quotations at Montreal are \$2.50 to \$3 per barrel. The sale of about 1,000 barrels of red fruit is reported here at \$2.85 f.o.b.

Cheese.

Though the market for cheese last week was quiet, owing to lack of export orders, there has been no weakness in values. In fact, the public cable advanced 6s., and finest Canadian are quoted in London at 50s. to 51s. c i f. Every one in the trade is looking forward to what the statistical position will be when the New Year's stocks are made up. It is expected that by the close of this season's trade there will be a shortage of fully 750,000 boxes in Canada and the United States, as compared with the season of 1897. The outlook then for good prices during the winter is almost a certainty, and dealers who were counting on there being plenty of stuff on hand and neglected to lay in a supply will have to pay several shillings more for them than if they had bought two months ago. There is very little stock in factorymen's hands just now, so that the middleman will come in for most of the profit there will be in the winter's trade. Finest western is quoted at Montreal at 10½ to 10½c, and finest eastern at 10 to 10½c.

Butter.

Reports from the British markets are encouraging. A special cable from London to the *Trade Bulletin* of Dec. 29th reads: "Despite liberal imports from Australia, the

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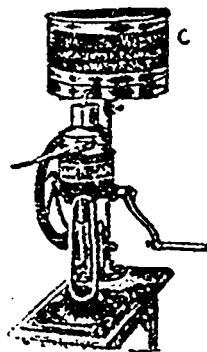
BLYTHESWOOD, ONT., JUNE 8TH, 1898.

MESSRS. RICHARDSON & WEBSTER,  
St. Mary's, Ont.

DEAR SIRS,—Enclosed find settlement for the Separator and oil received from you on May 28th. I placed the Separator on trial with Mr. S. D. Wilkinson, Leamington, and after 4 days he bought it. He is perfectly satisfied. I have tested the skim milk several times for him and it has never shown more than a trace of butter fat. I consider it a perfect machine in every respect and would like to act as your agent in this part of the county. Mr. Wilkinson is one of the most prominent dairymen around here. He says he will save enough in butter to pay for the Separator in 4 months. Yours truly, (Signed) F. A. LEAK.

Write RICHARDSON & WEBSTER, St. Mary's, Ont., for Catalogue and Prices. It will pay you to have a Separator as well as others.

W. G. GLENN, Agent for Owen Sound and vicinity



RICHARDSON & WEBSTER.

ST. MARY'S, ONT

market remains firm and it now looks as if we were not going to have a surfeit of supplies. Finest Canadian, 10cs. to 104s; good to fine, 95 to 98s." The statistical position still continues favorable for an upward market. The total shipments from Montreal and New York from May 1st last to date show a decrease of 30,534 packages as compared with last year for the same period. The Montreal butter market exhibits considerable strength under a good export and local enquiry, and sales of finest winter creamery butter have been made at 20 to 20½c. in tubs, and 20½c. in boxes on export account. Other grades fetch from 18 to 20c.; Eastern Township dairy is quoted at 17½ to 18c., and Western dairy at 14 to 15½c.

Creamery butter is steady here at 20 to 22c. for prints, and 19 to 20c. for tubs. There is a good demand for dairy at 14 to 15c. for large rolls, and 11 to 13c. for tubs. On the local market pound rolls bring 14 to 18c., and large rolls 13 to 14c.

**Cattle.**

The cattle markets have been dull all week owing to the holiday season. Local butchers had got in such large supplies before the holidays began that they were not wanting supplies during the week. It is expected that things will be better this week and that the old order of things will prevail.

**Export Cattle.**—Very few of these have been offering of late. They are quoted at \$4.25 to \$4.50 per cwt. for choice heavy exporters, and \$3.85 to \$4.25 for light ones. Export bulls, medium, bring from \$3.25 to \$3.40; and heavy ones, of good quality, \$3.65 to \$4.12½.

**Butchers' Cattle.**—There has not been much doing in these owing to the local butchers being loaded up with Christmas meat. Picked lots of butchers cattle are quoted at \$4 to \$4.15; good, at \$3.45 to \$3.50; medium, at \$3.30 to \$3.45.

**Stockers and Feeders.**—These are quiet, with quotations for stockers and medium to good \$3.25 to \$3.40. Heavy feeders bring from \$3.40 to \$3.60 per cwt.

**Sheep and Lambs**

The Buffalo market has been overstocked of late, and the supply is too great for the demand. The market here is quiet, and quotations are. Fawns, \$3.25 to \$3.50 per cwt., and bucks, \$2.50 to \$2.75 per cwt. Prices for lambs are easy at \$3.50 to \$4 per cwt., with picked lots bringing \$4.25 per cwt.

**Hogs**

The Montreal market is a little more active. Live hogs are selling at 4¼c. per lb., with 54¼c. for the best. Prices here continue about the same for choice bacon hogs. Selected ones weighing from 160 to 220 lbs. each, unred and unwatered off cars, bring from \$4.15 to \$4.25 per cwt. Prices for thick, fat hogs are lower at \$3.75. Light fats bring \$4 per cwt.

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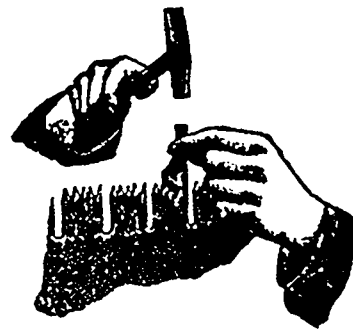
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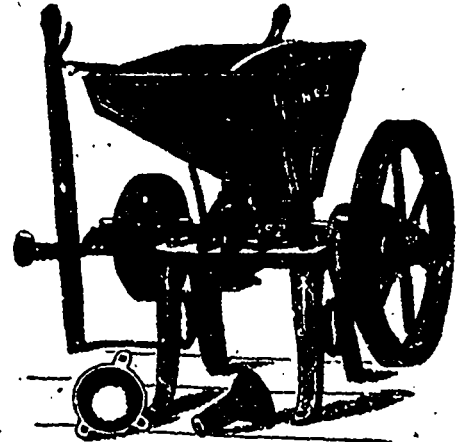
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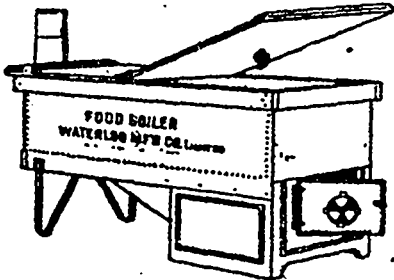
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of the Consulting Chemist of the ROYAL AGRICULTURAL SOCIETY OF ENGLAND; published in their Journal, 31st December, 1897, page 732;

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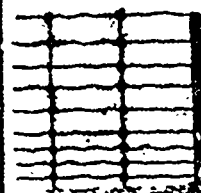
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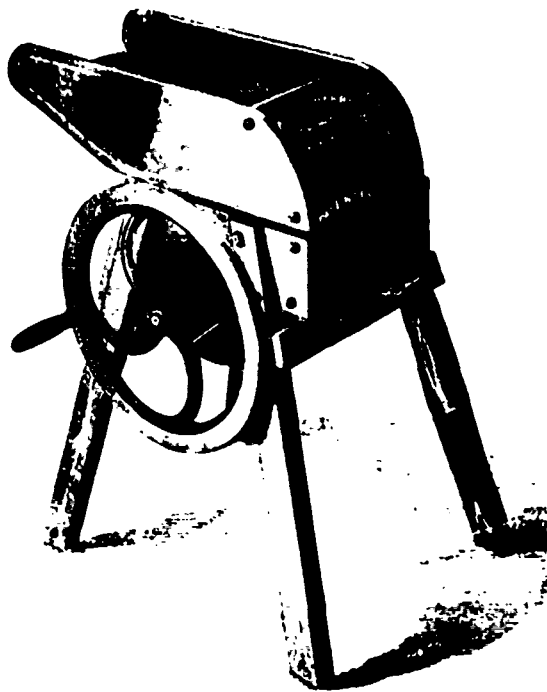
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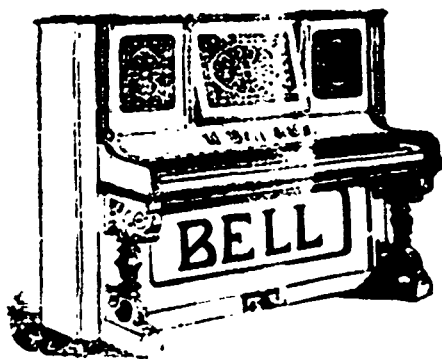
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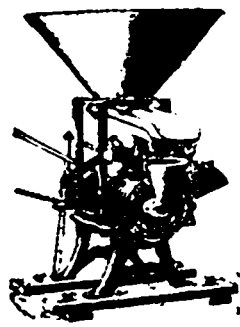
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