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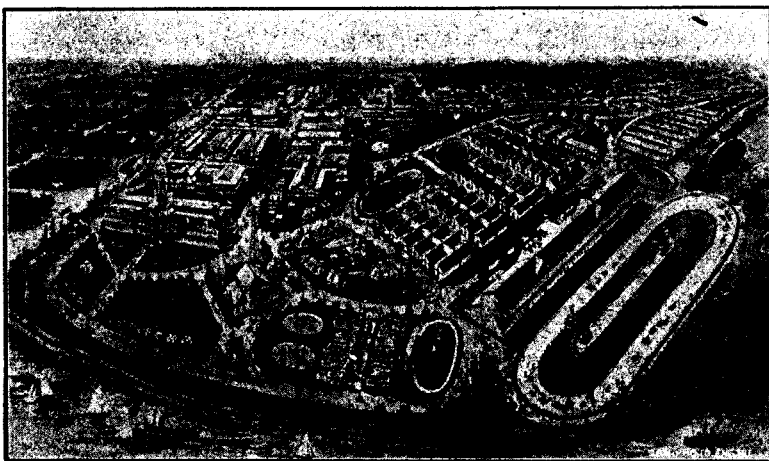
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Farming

A Paper for
Farmers and Stockmen

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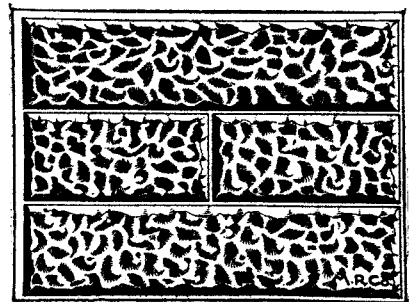
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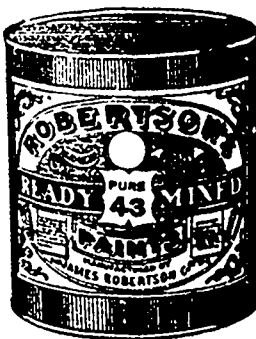
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FARMING

VOL XVI

JULY 18th, 1899

No. 46

Supplementary Feed

Begin to Cut it for the Cows Before the Pastures Get Very Dry

Now is the time to begin cutting green fodder for the cows. Unless there has been abundance of rain pastures by the middle of July will begin to get parched and dry and the grass less succulent. When this stage arrives the dairyman should begin to cut a little green fodder such as peas and oats for his cows. This combination answers well till the corn is ready and the dairyman who has neglected to provide his cows with this supplementary feed will soon find them failing in their milk and his returns from the cheese factory or creamery gradually diminishing.

Many dairymen who grow supplementary feed for their cows fail to get the full benefit from it because they do not begin cutting it soon enough. The practice generally followed is to leave off feeding it till the cows begin to show an appreciable falling off in the flow of milk. This is very poor practice. The cows should be given a little of this supplementary green feed as soon as the pastures begin to look dry and before the cows begin to shrink in their milk. If this is done the flow of milk can be kept up pretty well during the dry season and the cows will be in better shape for milking during the fall months when dairy products are at their highest in price. If, on the other hand, the cows are left without this extra green feed till they have fallen off considerably in the flow of milk it will be very difficult to get them back to their former supply. The only sure plan, then, is not to allow any shrinkage in milk to take place by keeping the cows well supplied with good succulent feed during July and August.

The Export Bacon Trade

The Prices of Danish, Canadian and American Bacon in 1898 Compared

In a recent issue of the *Journal* of the British Board of Agriculture attention is called to the steady increase in the imports of bacon and hams, which have risen from 4,819,000 cwts., valued at £10,856,000, in 1894, to 7,683,000 cwts. in 1898, valued at £14,216,000. Three countries contributed nearly the whole of the quantity imported into Great Britain in 1898. The United States sent 5,939,000 cwts.; Denmark, 1,918,000 cwts., and Canada 653,000 cwt. It is pointed out that the average import value of bacon was only 36s. 2d. per cwt., and at such a price British and Irish producers cannot compete.

The London, England, *Live Stock Journal*, in referring to this statement, says:

"But we find by examining the details that the declared value of the Danish contribution works out at 53s. 1d. per cwt., that of Canada being 37s. 2d., and that of the United States only 21s. 9d. This great difference explains how Denmark can keep on increasing her supply. But why does Danish bacon command more than double the price of American? Mainly because the Danes for years past have been breeding pigs of the Large and Middle White Yorkshire strains, but also partly because they cure their bacon in the English fashion. The Canadians are following the same example, we believe, and they can already

command nearly 70 per cent. more for their produce than the Americans obtain. In the United States the prevailing breed is still the Poland-China, which is better suited for lard than for bacon."

What strikes us very forcibly in looking into this matter, if the figures given by the *Journal* are correct, is the very wide difference in the prices obtained for Danish and Canadian bacon. While it is very gratifying to know that the price obtained for our bacon in 1898 is fully 70 per cent. more than that obtained for American, still it is a matter of some surprise to us to learn that Canadian bacon is nearly 16s. per cwt. behind the Danish article. There is surely something in this that every Canadian hog-raiser should consider and endeavor to remedy. We appear to have started on the right track and to have outdistanced our competitors to the south of the line very considerably; but there is a very long stretch yet before we reach the top and obtain the prices for our bacon which the Danish article commands. According to the above, we are pursuing a middle course and have several strides to make before securing the place which our European competitor now occupies.

While the breed has a great deal to do with the quality of the bacon produced, yet we cannot wholly agree with the explanation given by the *Journal* for this difference in quality. Experiments have shown that the quality of bacon, in a very large measure, depends upon the care and feeding of the hogs, and we have reason to believe that a great many of our farmers have not yet fully learned the real secret of feeding and fitting hogs for making the highest quality of bacon. However, we shall know more on this matter by the end of the year, when the results of the experiments along this line that are now being conducted at the Central Experimental Farm, the Ontario Agricultural College and under the auspices of the Dominion Swine Breeders' Association at various farms in this province, are made known. In the meantime there should be no backward movement, and every farmer should do his best to supply the market with the kind of hog best suited for the export bacon trade.

The following tables, taken from Hodgson Brothers' Liverpool provision market report of July 1st, show the stocks of bacon hams and shoulders on hand at Liverpool, and the prices on June 30th for the last seven years:

ESTIMATED STOCKS IN LIVERPOOL.

	BACON. Boxes.	HAMS. Boxes.	SHOULDERS. Boxes.
1899.....	16,338	1,630	1,202
1898.....	25,514	10,678	4,039
1897.....	20,939	6,316	1,897
1896.....	13,281	1,117	1,323
1895.....	17,182	2,698	1,241
1894.....	9,707	1,315	1,033
1893.....	5,288	3,685	1,989

COMPARATIVE HIGHEST PRICES PER CWT. ON JUNE 30TH AT LIVERPOOL.

	BACON. Long Clear.	HAMS.	SHOULDERS.
1899.....	30/	50/	33/6
1898.....	32 6	39/	29/6
1897.....	26/6	47/	29/
1896.....	26/	50/	25/
1895.....	33/6	49/	31/
1894.....	37/	57/	37/
1893.....	53/	64/	45/

Fences Along the Roadways

In the discussion on the farm fence that has taken place in these columns during the past few weeks the opinion generally expressed by correspondents has been that it would be a difficult matter to do without fences along the roadways, the chief reason being that farmers have frequently to drive stock along the highway, and it would be difficult to do so if there were no fences along the sides of the road. Several correspondents, however, admit that it would be the ideal system if it could be successfully carried out, the generally expressed opinion being that this country is not yet ready for such a change.

While the arguments that have been advanced against doing away with the road fences have considerable weight, and make such a plan seem impracticable, yet the fact remains that such a system has been successfully tried, though we are not aware of its being tried in this province. In Carleton county, New Brunswick, there are said to be very few roadside fences, the farmers either herding their stock or fencing in their pastures. Some years ago, when in the lower provinces, we drove through one section in Nova Scotia, where not a fence was to be seen along the roadways. In these districts a general system of farming is carried on similar to that in this province, and yet the farmers seem to get along without roadside fences. It may be that they have not as much stock to drive along the roadways, but still they have some, and if the plan is feasible for a few head why would it not be workable where larger numbers are raised?

If such a system could be carried out it would undoubtedly give better roads in this country during the winter months. If all the roadside fences were removed there would be no piling up of snow five and six feet high on the roadways during our winter months. And it seems reasonable to suppose that if on the western prairies, where considerable stock is now raised, the farmers can get along without a roadside fence the farmers in this province could get along without one too. But be that as it may, the plan in our mind seems to be worth considering, especially in those northern counties where immense quantities of snow fall every winter. If every farmer had some kind of a movable fence along the roadway that could be removed before winter sets in and returned in the spring it would be a great help, and would supply all that is needed in the way of a fence during the summer, and leave the road clear during the winter.

Mr. James Smith, in his letter in this issue, touches on an important point when he states that the municipalities should at least pay one-half the cost of the roadside fences. This is a matter that we would like to see further discussion upon. As he very aptly points out, the farmer has to build a fence along the roadway as much for the public benefit as for his own. If this contention is correct, and some very good reasons are advanced in support of it, it seems only reasonable that the municipality should bear its share of fencing the roadway. It does seem a hardship, at least, for a farmer who owns a corner lot to have to build all the road fence about his farm when the general public is so much benefited by having it there.

The Live Stock Trade at the English Royal Show

At the English Royal Show, as is the case at the leading fairs in this country, considerable trading is done each year in purebred live stock. This year's Royal Show, a short report of which was given in last week's issue, was no exception to the rule. There appears to have been more demand for sheep, or at least more business seems to have been done in this line than in other lines of live stock. There was a larger attendance of buyers from Canada and the United States than has been seen for a few years. In addition, there was a large number of buyers of sheep from

France and Germany, while the Argentine and Australia were well represented.

The demand for Leicesters was better than former years. Inquiries were made from Canada, the United States, and Argentine. There was a first-class enquiry for Cotswolds, mainly from the States and Canada. There seems to have been more inquiry than actual sales for Lincolns. One thing was apparent, that there was a much stronger demand for this breed from Canada and the United States, more particularly from the former. For Oxford Downs there was a great inquiry from Canada, the United States, and Argentine, and some very high prices were paid. There was a very large demand for Shropshires, Canada, the States, and Argentine being the chief countries for which these sheep are required, the enquiries from the last country showing a large increase over former years. The best customer for Southdowns was France. Canada and the United States also took a large number of this breed. The demand for Hampshire Downs was good and several sales were made to go to the United States and Canada. For Dorset Horns the enquiry was not so great, though the sales reported were all for Canada. From this summary it will be seen that there is a good demand for sheep from many sources, and it is gratifying to know that so many high class animals of nearly all the leading breeds have been purchased for Canadian breeders.

A large demand was reported for Shorthorn and Aberdeen-Angus bulls, but business was difficult to carry through owing to the high prices asked. Five hundred pounds was refused for a bull and £200 for a heifer in the Shorthorn classes. Argentine and French buyers were out in strong force. There was also a good demand for pigs and quite a number of sales are reported at high prices.

One of the special features in the horse section was the large exhibit of polo ponies. The breeding and training of these ponies in Great Britain is growing very fast and breeders realize good profits for well-trained animals of the right type. There is a growing demand for these ponies in the United States, and breeding them might be a profitable undertaking for some of our Canadian horse fanciers to take up.

Separators and Their Management

A Paper Read by Mark Sprague at the Cheese and Butter-Makers' Convention

One of the common properties of matter is its indisposition to move. This is manifested in a body by the opposition it offers to any change in its motion. Any such change must be effected by force. In all the older methods creaming was effected through the influence of gravity which is practically always the same. It is quite different, however, creaming milk with a separator, for in this method the aim is to separate the fat by centrifugal action, which is much more powerful than the force of gravity.

The natural force of gravity, which is universally and at all times available and which was exclusively used in cream-raising, acts with uniformity and requires a certain time in which to obtain the best possible results, but even under the most favorable conditions it fails to obtain complete separation of the fat with varied or mixed milk. More perfect separation and a shortening of the time necessary for creaming milk can only be effected by the application of a force which will impart to the fat globules a celerity far exceeding that given by gravity.

This force is centrifugal force, and it is from this the machines for creaming milk are named centrifugal separators, and it can be applied in such a manner that its power exceeds that of gravity more than a thousand times. It is only necessary to subject the milk to a rapid rotary motion in a suitable vessel to produce this force. Having suitable arrangement that when at work a continuous stream of milk can be admitted and give out in return separated

cream and skim-milk to be termed a separator. That portion of a separator which is to hold the milk, and is called the bowl, forms the essential part of every separator and revolves around a vertical axis and must always be a rotating body of necessity made of good material to withstand the lateral pressure to which it is subjected.

The milk when put into the separator bowl may be said to have much the same conditions and action as when it stands quietly at rest in a pan or can. Just as milk when it is poured in a steady stream into a can finds at once the lowest part of the can, which is the bottom, and spreads itself over the bottom in a horizontal layer and gradually fills the vessel from bottom to top, so does milk allowed to flow into a separator bowl when at speed find its way with lightning rapidity to the most distant part of the bowl, spreading out into a cylindrical surface until the bowl is gradually filled from the outside to the inside. Just as milk standing in a milk pan at rest exercises pressure on the bottom and sides of the pan, due to the force of gravity, so precisely milk, in a separator bowl in motion, exercises a pressure on the sides of the bowl, which is due to centrifugal force and is in proportion to the speed and diameter of the bowl. As the fat globules move upward in the pan, in a direction opposite to that in which the gravity acts, so the fat globules in a separator bowl filled with milk and in motion travel in a direction opposite to that of the centrifugal force or inward or from the outside to the inside of the bowl.

Separator bowls are so constructed that the milk flowing in is delivered into them near the circumference or at a point outside of the perpendicular layers of cream to avoid the milk passing with force through these layers and displacing them and thus interfering with perfect separation. The outflow of cream and skim-milk from a separator bowl takes place with considerable force or energy and is proportionately equal to the speed at which the bowl is driven and the distance from the axis at which it delivers in order to reduce the force as much as possible to avoid whipping the cream. The exit for the outflow of cream is placed as near the axis as can be. The outflow of cream and milk together equal the amount of milk which flows into the bowl in a given time. The proportion of the weight of cream to skim-milk is determined by the rapidity at which the milk flows into the bowl, and in all separators the thickness of cream can be regulated at will by this means when the separator is at speed. For the winter season in almost all separators there are arrangements whereby it is possible to regulate the quantity of cream with a uniform inflow of milk and to adjust the separator to skim milk successfully of different percentages of fat and maintain a normal capacity. The three main points to be observed in operating a separator are—feed, speed, and temperature of the milk.

The greater the feed of milk entering a separator, the shorter the time it can remain in the bowl exposed to the centrifugal force, and if the feeding be carried beyond a certain limit there must be more or less imperfect separation of the fat from the milk. This can be determined by the flow of cream; as has been stated the quantity entering the bowl equals the cream and skim milk from it. And the thickness of cream is regulated by the feed, consequently if the cream be too thin, it is an evidence of its not having been retained in the bowl sufficient time to complete the separation. The feed should be even and regular, as nearly as can be.

There is to every separator a safe and proper speed at which the best results are obtained. This is usually stamped on the bowl and is as high a rate as the manufacturer feels secure in recommending and this should never be exceeded to any great extent as it might result in injury to the separator or the operator, or perhaps both. It is essential, however, that the desired speed be maintained regularly and evenly while separating, remembering that any cause that might demand higher speed can be met by reducing the feed.

Temperature of the milk to be separated is important. The mode and time of tempering before it passes into the separator are all important facts in successful and exhaus-

tive skimming. Higher temperatures increase the difference in specific gravity between the fats and other parts of the milk, provided time is allowed for expansion of the fat to take place before it passes into the separator, which is about three to five minutes. It also reduces the viscosity of milk, making it more fluid, when it will flow faster and offer less assistance to the transit of the fat through it toward the centre of the bowl, thereby increasing the capacity and effectiveness of any separator.

Large amounts of milk should not be heated to a temperature suitable for separation in any case, as the formation of lactic acid and the coagulation of the albumens go on so rapidly that the milk is in a condition to leave the residue which adheres to the sides of the bowl clogging the skim milk outlet and making it necessary to stop oftener than would have been the case if smaller amounts were heated as required by the best separator.

In my opinion, there is no such thing as no one separator contains points superior in every respect to all others; and, again, a separator for one may not be suitable for another. It is not in accordance with the eternal fitness of things and the patent laws that it should. The value of a separator is determined chiefly though not exclusively by its capacity for work. This is best measured by the quantity of milk which it can be made to cream in an economical manner at a fixed cost.

It is also very questionable whether circumstances may not exist in which, where very slight differences in their capacities exist, the less capable of two separators may not be preferable. Since it may possess certain advantages which appear to be of little importance yet have a material value in the circumstances in which they are used.

A New Fruit Car

The *Winnipeg Free Press* reports the arrival in that city of a novelty in the way of refrigerator cars from the East. This new car is intended to keep fruit in good condition while in transit. In the instance referred to the fruit in this new car was in far better condition than fruit that arrived in the same shipment in ordinary cars.

The car is provided with a slatted bottom, above the ordinary car floor. Passageways are located underneath the false bottom and extending from end to end. The passageways communicate directly with the ventilating pipes, which are provided at their upper ends with a revolvable cowl, having a vane extending from the side opposite the opening. By this means the car, in passing along, will always throw the open side to the front of the car. The rush of air caused by the onward impetus of the car passes down through the cowls, down and through the passageways, and passing up between the cases, where the heated air passes outwardly at the top, through the side-opening, or the windows. Heretofore in the ventilation of cars the air was practically unchanged, although two openings were provided, but by this invention the air continually changes and the fruit is consequently subjected to a complete change, as it would be if growing in the open fields.

Will it Pay to Grind Grain for Poultry?

The New York State Experiment Station has recently reported upon some experiments made to determine whether it will pay to grind grain for poultry. The following is a summary of the conclusions reached: The first experiments were begun with two lots of twenty-two chicks each, one lot being fed all its grain finely ground, the basis of the ration being mixed of two parts by weight of corn-meal, two parts wheat bran, and one each of wheat middlings, old process, linseed meal, and ground oats. This was supplemented by skim-milk, dried blood, and additional amounts daily of corn, meal and ground oats. The grain

fed (the other lot) was either whole or cracked, and consisted of oats, wheat, corn and barley. Skim-milk, fresh-cut bone, and dried blood were fed in addition. At the end of twelve weeks the cockerels among these chicks were caponized and fed these contrasted rations during the winter, twelve capons in each lot being fed for four months and eight continued nearly seven months. . . . Two other lots of capons, from chicks raised by hens and treated alike until caponized, were fed these contrasted rations for about five months. The ground grain ration proved considerably more profitable than the whole ground ration with the growing chicks; and the same was true of capons of equal weight from these chicks, and from others of equal weight and age fed alike before caponizing. No difference was noticed in health or vigor of chicks or capons fed either rations; but all made good gains, and returned a fair margin of profit at the ordinary prices.

Confederation of Canadian Poultry Associations Proposed

A movement is on foot towards forming a confederation of poultry associations throughout Canada, whose object shall be to foster the poultry industry of this country. All local poultry associations shall be admitted to membership, and where there is a membership of twenty five or more the local association shall be entitled to be represented by one delegate. The movement originated with the Toronto Association and the secretary of that organization has sent a letter to all the local associations in Canada asking for their co-operation in forming this new association, for which purpose delegates are to meet at the Toronto Industrial Exhibition in September.

This strikes us as being a very good move. In unity there is strength, and an organization such as we have outlined properly managed and having for its object the furthering of the poultry industry of Canada should meet with the support of all poultry raisers. One of the difficulties, that frequently arises under existing conditions, is that the dates on which poultry shows are held clash, causing great inconvenience and expense to shippers. The advantage of a representative organization in preventing such clashing is very well put by the secretary of the Toronto Association in the circular referred to. He says: "It will, by fixing show dates, prevent clashing of shows, and, by forming circuits, will greatly lessen the expense of exhibitors attending them, and will enable the smaller associations to hold shows without fear of failure from want of exhibits, as they will be in the line of circuit—the number of shows will be increased thereby."

The Curing of Cheese

The Effect Lactic Acid Bacteria Have Upon It

The real cause of the ripening or curing of cheese is receiving considerable attention at the present time from leading scientists. In a recent series of articles in the *Milch Zeitung* Prof. Weigmann, a German scientist, discusses pretty fully the part played by the lactic acid bacteria in this regard and draws the following conclusions, which will be interesting to Canadian cheese-makers:

1. The specific lactic acid bacteria are not cheese ripening bacteria, the form used by von Fraudenreich in his experiments being only facultative, or, more probably, degenerate, lactic acid bacteria.

2. Lactic acid bacteria have an important role in cheese-ripening—not in actually taking part in the ripening, but by directing the process in the right direction.

3. This function consists in eliminating certain forms of bacteria and fungi by the lactic acid formed, and providing

an acid nutrient medium upon which only such bacteria and fungi can thrive as can withstand the acid or consume it. The micro-organisms which consume the acid prevent its accumulation in too strong a degree, take part in the peptonizing and flavor-producing processes, and enable other bacteria or fungi, whose activity was weakened by the acid, to continue their work.

4. The specific character of a particular kind of cheese depends upon the predominating form of micro organism which the manner of preparation and the handling of the cheese have brought about."

Tests of Holstein-Friesian Cows

At the annual meeting of the American Holstein-Friesian Association held at Buffalo early in June, Mr. S. Hoxie, superintendent of Advanced Registry, made a full report of this work, from which we take the following:

"Since the last annual meeting two hundred and forty-eight entries have been made in Advanced Registry—eleven bulls, two hundred and seventeen cows tested by experiment stations and twenty cows tested by owners. Of those tested by experiment stations, two hundred compete for prizes at the present meeting, two are disqualified for competition by three hours over time of testing and fifteen by too late completion. Twenty compete in economic production.

"In class 1, for cows five years old or over, fifty-five cows of an average age of six years, nine months and six days, yielded 18 lbs. 13.2 ozs. of butter, 80 per cent. fat in seven days.

"In class 2, nine cows of an average age of four years, eight months and six days, yielded an average product of 17 lbs. 2.1 ozs. of butter in seven days.

"In class 3, thirteen cows of an average age of four years, three months and ten days, yielded an average product of 16 lbs. 15.8 ozs. of butter in seven days.

"In class 4, fourteen cows of an average age of three years, nine months and sixteen days, yielded an average product of 16 lbs. 1.8 ozs. of butter in seven days.

"In class 5, twenty seven cows of an average age of three years, two months and five days, yielded an average product of 15 lbs. 9.3 ozs. of butter in seven days.

"In class 6, thirteen cows of an average age of two years, nine months and eighteen days, yielded an average product of 13 lbs. 2.7 ozs. of butter in seven days.

"In class 7, sixty nine cows of an average age of two years, one month and fourteen days, yielded an average product of 11 lbs. 6.8 ozs. of butter in seven days.

"The sweepstakes herd of five cows that would have taken the most money, but for limitations, was owned by Gillett & Son, of Rosendale, Wis. The above tests like the economic tests are officially authenticated by officials of State experiment stations.

"The results of the economic test to determine the cost of a pound of butter and per hundred pounds of milk were most gratifying and determined that the Holstein-Friesian cow is the most economical producer of any breed.

"In class 1, cows five years old and over, the average yield per cow was 18 lbs. 2 ozs. of butter in seven days, at an average cost per pound of 6.43 cents. Cost of milk per hundred pounds, 28.19 cents.

"In class 2, cows four years old and under five, the average yield per cow was 17 lbs. 2.8 ozs. of butter at an average cost of 6.19 cents per pound. Cost of milk per hundred pounds, 28.57 cents.

"In class 3, cows three years old and under four, the average yield per cow was 16 lbs. 6.9 ozs. at an average cost of 6.65 cents per pound. Cost of milk, 30.97 cents per hundred pounds.

"In class 4, cows under three years old, the average yield per cow was 13 lbs. 3 ozs. at an average cost of 7.34 cents per pound. Cost of milk per hundred pounds, 32.64 cents."

An Experiment in Liming Pastures

The Effect on the Quality of the Cheese Produced from Such Pastures

The following, taken from the last issue of the *Dairy*, London, England, shows the effect of lime on the quality of the cheese where cows were pastured on land on which this material was used :

"It is generally believed that land which has been stocked with sheep is injurious for cheese-making, and can be materially improved by liming. Two fields, which had in the past been heavily stocked with sheep, were selected for an experiment on liming. The orchard (in which the cows were milked) was also limed, so that the cattle could be both kept and brought home to milk on land which had all been limed.

from both the limed and unlimed land that no definite conclusion could be drawn therefrom. Bacteriological examinations of the milks and curds were equally negative in their results, which was to be expected, as the curd showed no more liability to taints from the limed land than from the unlimed. Hence, the only results actually obtained were a slightly increased acidity of the milk, probably accompanied with a slight increase in casein, and consequently a firmer and better curd.

"Considering how important it is to have a firm curd, and in view of the improvement in the herbage on the limed land, there can be no doubt that the liming was beneficial, and would have an effect lasting much longer than for the period of the experiments. Moreover, the exceptionally dry season was not calculated to produce the best results which ordinarily accrue from liming. It also necessitates the removal of the cows from pasture to pasture frequently, so that the experiment came to a close at the end of May."



A HARVESTING SCENE.

"The method of experimenting was to keep the cattle for a certain length of time on the limed land, Fields 1 and 2, and then for a similar period on the unlimed land, Fields 3, 4, and 5, and subsequently on the unlimed land.

"The lime was considered to have produced a marked improvement in the herbage. Its effect was also noticeable in the cheese tub, inasmuch as the curd seemed firmer and better than it was when the animals were on the unlimed land. But neither chemical nor bacteriological examination showed much difference in the curd. The quantity of the milk was not appreciably affected, nor was its composition affected to any extent. The acidity of the milk appeared, however, to be affected to some slight extent, the milk, when the cows grazed on the limed land, showing a slightly higher acidity.

"Analyses were made to determine whether there was more lime in the milk or curd from limed land than from unlimed land. The results showed such great variations

The Value of Ensilage

Some time ago a Royal Commission was instituted in England to investigate the merits claimed for the ensilage system of preserving green fodder. The following extract from the report should convince every one that the silo is one of the most valuable adjuncts a stock raiser can have :

"We have received the strongest evidence of the unbounded advantage of the system for the feeding of dairy stock. The effect of dry winter food given to such stock has always been to reduce in quantity, and to deteriorate in quality, milk, cream, and butter, as compared with the same products resulting from green summer food. Although the degree of perfection attainable in summer has not been reached, it has been at least much more nearly approached by ensilage than by the use of hay and other dry foods, while, at the same time, the objections inseparable from the employment of roots for this purpose have been over-

come. A sensible improvement in the color of butter has been especially noticed. Green fodder preserved by ensilage has been successfully employed in feeding sheep and cattle at the time of breeding, and as it has been shown to increase the flow of milk, it will undoubtedly be found useful for this purpose, although the proportion of its admixture with other kinds of food must always require care and judgment. It forms a complete and wholesome food for store stock, and in fattening, and its value is widely demonstrated in the case of dairy produce; it enables farmers to use profitably straw-chaff, rough hay, and other hay materials."

Duck Raising on the Farm

Though every farmer keeps chickens, and the large majority of them turkeys and geese, perhaps on not one-half of the farms in this country are ducks found. The duck in many ways is just as valuable a fowl on the average farm as any of the others we have mentioned. Some of the advantages to be derived from raising ducks are very well set forth by a Nebraska farmer's wife in a recent issue of *Turf, Farm and Home*, as follows:

"Many farmers' wives have found a fair profit in a small flock of hens, without the use of incubators, brooders or other accessories. There is a fairer profit at a less expense in a small flock of ducks, no expensive building being necessary, for we are assuming that the ducks may have the range of the farm, or at least, the breeding stock may. Our chicks have had the freedom of our vegetable garden, and while we have sometimes regretted the nips taken, yet on the whole as a destroyer of insects they have more than compensated for the damage they did. We generally plant enough that they may destroy some, but it is surprising how little it will be.

"Our first duck house was an old shed, we had good luck that year. The succeeding houses have been just anything that is fit for nothing else, but the ducks thrive well. There are no lice to contend with as with chickens, only on the young ones if hatched under hens. Grease their heads when they are taken from the nest and again in two days, and all danger of lice is past for all time.

"We find it easiest and safest to raise the ducklings until some weeks old in small pens. Twelve-inch boards are set on edge and staked in place, that we may move them at will. A pen 12x12 feet will accommodate fifty ducklings four weeks, if sand, water and green food are supplied. They will not hop over the foot-high pen either. After this if you wish they can take care of themselves. We would advise feeding at night and shutting in boxes away from vermin. Have openings in the ends of the boxes and for greater safety, tack over them screen wire. Rats are very fond of young ducks. We put shed roofs on these boxes to shed water so they may be set out in the orchard or anywhere we desire. The openings are that the ducklings may have plenty of air. They smother more quickly than chickens. We arrange for our young chicks in the same way, for nothing is safe from rats, with us, unless in tight boxes or houses.

"If you choose to yard the ducklings you can do so cheaply, as an 18-inch fence will hold them when they are grown, provided they are never allowed their liberty, when it might. In some instances they require a 24-inch fence. While in confinement your waste vegetables will go a long way towards feeding them. Meat scraps and cornmeal are necessary for rapid growth. We grow Giant Southern Mustard for green food for poultry in confinement. As fine ducklings as we ever raised were not fed after they were three weeks of age, and were given their liberty at that time. The flock saved our garden from destruction from grasshoppers. Our neighbors all lost theirs. The only damage done our garden by the ducks that year was to destroy a small bed of onions. Our onions have not been meddled with since.

"To avoid having horse troughs fouled we keep a low

broad trough made of galvanized iron in the small enclosure, where our breeding stock is every morning confined until after nine o'clock, that we may secure all their eggs. This little pen they know as home and they make frequent excursions to the trough, leaving the horse troughs, which are higher and less convenient, unmolested.

"If you desire feathers begin plucking in August. You can pluck twice while the ducks are alive, fatten them and take the third crop of feathers when you dress them for market or for the table. You will be surprised to find how quickly the marriageable daughters may be provided with pillows, etc., and they will want a nice pair of ducks to take to the new home."

CORRESPONDENCE

Fences Still a Necessity

To the Editor of FARMING:

In response to your enquiry re farm fencing I would say that in this section of the country woven wire is coming very generally into use.

On this farm consisting of 785 acres we have adopted a system of this sort of fencing. It is known as the "Gem" fence. It is a field-made fence, and can be constructed by the farmer or his hired help. Any number or size of wire may be used. Ours consists of ten No. 9 wires for horizontal wires, and is woven together with No. 12 for stay or cross-wires. We have upwards of twenty miles now in use on this farm.

As to the question of dispensing with fences along the highway would say that we quite agree with some of your other correspondents, in expressing the opinion that the plan is not yet practicable. How is the farmer to pasture his fields adjoining the highway, providing he has no fence, to say nothing of the damage likely to result from stray animals, or others being driven to and fro? We believe that fences are still a necessity.

Yours respectfully,

A. LAFRAMBOISE,
Farm Superintendent.

Sandwich, Ont., July 3rd, 1899.

Municipality Should Bear the Cost of One-Half the Road Fence

To the Editor of FARMING:

I have been much interested in reading replies to questions re "The Farm Fence" in your issues of June 27th and July 4th. As there are a few points which I consider of importance, which have not been mentioned, I take the liberty of adding a few thoughts to those already given:

1. The old crooked rail fence is being replaced by various straightrail fences, some built with posts and some with stakes. Some of these give good satisfaction. By utilizing material already on the ground expense is saved.

2. A great many kinds of wire fence have also been built within the last five or six years. The Page and the Gem seem to best meet the requirements. I like a barbed wire at the top of a fence, but nowhere else. Let the barbed wire be not less than five feet from the ground. An animal will seldom jump a fence of that height without putting its head over to try it, and the barbed wire not only prevents the animal from leaning too heavily on the fence, but it will seldom try to jump after trying its height. All wire fences should be built of hard coiled steel wires (horizontal wires), woven together with a soft wire which will not keep horizontal wires bent should an animal run against it. No. 12 soft wire is heavy enough for this purpose, while the

horizontal wires should be heavier. The object of using hard coiled steel wire is that the tension is always right, and posts are not injured.

3. Yes. The roads are kept free from snow blockades, but the track is apt to get too high and the sleigh then cuts off. To avoid this, occasionally use a snow-plough shaped like the letter A. Fasten this to your front bob, then fasten your hind bob to snow-plough. Very little trouble in this way will give good winter roads.

4. This is undoubtedly the ideal plan but we are not ready for it yet. But just here is a thought which is generally overlooked: We are forced to build fences along the public highway as much for the benefit of the public as for our own. This is a great injustice, especially to these owning corner lots. I maintain that the municipality should bear the half of the expense of building all fences along the public highway because it is a joint benefit, on the same principle as a line fence between neighbors. Were this done the municipality could easily regulate the building of snow fences.

JAMES SMITH.

Inglis Falls, Ont., July 4th, 1899.

Commercial Fertilizers

Grass Manuring and Meat Production

To the Editor of FARMING:

One of the most remarkable manurial effects that I have ever seen was in the famous Rothamstead Park last year. Plot 5 had been treated annually for forty-two years with a dressing of ammonia salts; the effect had been to reduce the species of plants to half a dozen poor grasses. In the autumn of 1897 one half of this plot was treated with a mixture of Thomas-phosphate and sulphate of potash; last summer, on the portion where the Thomas-phosphate and potash had been applied, there were twenty-seven species of plants to be counted, while on the untreated moiety there was but a little poor wiry grass.

At Cockle Park in Northumberland the hay from the original herbage contained only 0.3 per cent. of white clover, but on applying 5 cwt. per acre of Thomas-phosphate the white clover was increased to 15.6 per cent. in the bulk of hay. And what is very singular in this case is that a dressing of 7 cwt. per acre of superphosphate had the effect of reducing the already deficient clover to 0.1 per cent. This special action of the Thomas-phosphate on the clover plant was confirmed in the red clover, as, from 0.1 per cent. originally, the basic or Thomas-phosphate increased it to 2.0 per cent., while again the superphosphate only induced a growth of 0.3 per cent. Many different manures were being tried in this series of experiments, but no other fertilizer exerted any marked influence on the clovers; yet a duplicate plot treated with Thomas-phosphate produced 13.8 per cent. of white clover.

Why the clovers should evince such a preference for this slag form of phosphate is difficult of explanation, but they undoubtedly do, and this accounts for the increasing popularity of the Thomas phosphate with the practical farmers; as also it accounts for those remarkable feeding results achieved by Professor Somerville, to which I have referred in a former letter. Dr. Somerville's report said: "The Thomas-phosphate has increased the yield of mutton by 175 per cent., whereas the hay was only increased by 50 per cent.; the inference being clear that the phosphate has had more influence on the quality than on the quantity of the produce, and that the leguminous herbage has been a better measure of the meat-producing power of the pasture than the weight of hay." We all know that a puffed off gross weight of meat is often obtained at the sacrifice of quality, but it is a singular and remarkable thing that in this case quality and quantity went together. Where the Thomas-phosphate was applied not only was there considerably the greatest gross increase in the weight of mutton, but the mutton was also decidedly the best in quality of any in the series. The animals were carefully examined by an expert butcher, both before and after slaughtering,

and he reported: "Plot 3 (the Thomas-phosphate plot)—sheep show good bloom and are in a thriving condition. In my opinion these sheep are the best of the series, both in condition when alive and in quality when slaughtered. They cut up thick in the loins, and would give satisfaction to purchasers."

This reminds me that a year ago I received an account of a Shropshire farmer—Mr. Woolley—having had a yield of seventy-seven bushels of wheat per acre. I visited the gentleman and was surprised to learn that on a 340-acre farm he had for some years been using from 50 to 70 tons of Thomas-phosphate annually. On the following day, while visiting one of the county live-stock markets, I chanced upon some sheep from this farm; two butchers stood by the pen, one of them having purchased the sheep; the other butcher remarked that his friend had given a big price. "Yes," said the purchaser, "but Woolley's sheep always *die well!*"

I was considerably impressed by this remark at the time, but its significance has been greatly intensified by these Northumberland and other results which have since transpired, and I was greatly pleased to see in FARMING of May 30th that, in the article on tuberculosis, Mr. T. C. Wallace very ably sets forward the influence a good phosphatic heart in the soil may ultimately exert on the animal life the land is required to support.

Lincoln, England.

FRANK WALLIS.

Growing Feed for Cows and Hogs

To the Editor of FARMING:

My earliest pasture crop this spring was peas, oats and vetches. This crop was ready for the hogs in six weeks from date of sowing, and it is pleasant to watch the sows and their litters revelling in this pasture. I do not think a winter pasture is at all necessary—such as rye—for early spring feeding where a crop of oats and vetches can be grown ready for the hogs in six weeks. I do not think I shall sow any peas in this mixture next year at all. I think they are quite unnecessary. From my observation this year, as to the requirements of an early swine pasture, I do not think peas are at all seeded. Peas do not make the best plant for pasturing as the trampling of the hogs injures them; not so vetches, the trampling of the hogs does not injure them in the least, and they grow up so quickly again after being eaten. Under these conditions, also, oats make a good partner for the vetch. Next year I will eliminate the peas and supply their place by more vetches. They say rape does not come on so fast as the peas, oats or vetches. Neither does the early flat turnips. For an early crop, and one so well liked by the pigs, peas, oats and vetches are ahead. My brood sows, pasturing on this crop, look for very little extra feed, and it is amusing to see the young sucklings, what a feast they too are having!

\$40 per acre. I mentioned in FARMING, when writing early this spring, exhorting all readers to sow these pasture crops and assuring them, at usual prices of feed, was worth \$40 per acre. Readers who have taken my advice and sowed these crops will, I feel assured, agree with me that I have not overestimated the value of these crops. Therefore, FARMING readers, if they have not sown these crops this spring, have not lived up to the great privilege they enjoy in being readers of Canada's only weekly agricultural paper.

Pasture crops for summer and roots for winter. Dairy-men readily admit that a silo of good corn ensilage is the cheapest and best bulk or roughage food for winter feeding. *Contra*, a cellar of roots, as turnips and mangels, is the best and cheapest "bulk or roughage" food for swine in winter. By the aid of the silo on the one hand, and the root cellar on the other, fully fifty per cent. more stock may be kept, and kept better. These truths are hard to impress on the average farmer, and because they are, the conditions of the Canadian farmer are but average. Feeding

cows on timothy hay and straw never made profit in the dairy; neither did feeding swine on purchased mill feed and home grown grain make profit in the pig pen. Then, the great necessity with cows and hogs is to supply, first of all, a cheap, succulent bulk or roughage, and this, of course, to be supplemented by more or less ground feed. This "roughage," then, is supplied by corn ensilage on the one hand, and turnips and mangels on the other. If live hogs were always to remain at \$5 per cwt. there would be no money in growing them on the grains grown on the farm, or on purchased mill-feed alone. To make a profit on hogs the requisites are lots of pasture crops such as oats and vetches, or peas, rape, alfalfa, etc., in summer, and plenty of roots, as mangels and turnips, in winter, supplemented by ground feed grown on the farm and purchased according as it is the most economical.

Some people never purchase any feed while they have grain of their own growing on hand, with no eye to the market value of either. Oftentimes it pays to exchange the grain grown on the farm for bran, shorts, etc., but to do this is "rubbing against the grain" of the average farmer. Barley is, of course, a good feeding grain, but at times it becomes too valuable to feed to swine. This spring barley was worth, here, 70c. per bushel, and bran and cornmeal about \$20 a ton. A large swine-raiser whom I know had a large quantity of barley on hand, but refused to sell it at 70c. —\$30 per ton, asserting that he wanted it to feed his hogs. He could exchange one ton of his barley for one and one-half tons of bran, shorts and cornmeal; but could not see how.

A pointer. With an early sowing of peas, oats, and vetches, a winter crop, as rye, does not become so necessary. Yet it is well to have some rye growing. It will make a good late fall pasture anyway, and afford a green bite early in spring, when a green bite is of greatest value. Therefore I am planning, and I advise my readers also to follow my example, to sow a patch of winter rye in the latter part of August, at the rate of two bushels per acre, and with it sow ten or fifteen pounds crimson clover. The clover may or may not amount to much, but the added trouble and expense will be small. I expect also, others might too, to sow with the rye some winter vetch, *vicia villosa*. While I shall sow crimson clover with all the rye, I shall risk but a few pounds of the vetch, for I consider it wise to "go slow on new things." This winter crop will make the very best preparation for a crop of late rape next spring.

J. A. MACDONALD

Prince Edward Island, July 7th, 1899.

The San Jose Scale

How Eastern Fruit Growers View It: The Pest Should be Stamped Out

To the Editor of FARMING:

During the past few weeks, while I have been spending my time in the eastern part of the province, giving instructions in the spraying of fruit trees, plants, etc., and endeavoring to induce the growers to better care for their plantations in other ways, I have been greatly interested in and also somewhat amused at the controversy that has been carried on through the columns of the different publications over the San José Scale, and the actions that are being taken by the owners of large plantations in the Niagara Peninsula. I find that the people in the eastern part of Ontario are greatly interested in what many of them term the "Scale Fight," and they are watching very closely the actions of the Government, and everyone expresses the hope that the past methods for stamping out the much-dreaded pest will be continued. The growers in the East have sufficient reason to be greatly interested, for as yet little, if any, of the scale has been detected in their terri-

tory and they do not wish to have it introduced through carelessness of the western growers.

During the past three or four years we have been educated to the belief that this is the most injurious insect that has ever infested the fruit trees of America, and that, although its work is slow, it is, nevertheless, most certain. The subject has been discussed at great length at all the meetings of the fruit growers' associations of the different provinces and of the states in the American Union. But one conclusion has been arrived at, and that is that it is a most dangerous pest and that it must be stamped out at any cost. The Governments of our land passed acts toward that end, and the work of freeing ourselves of the dreaded pest was begun. Everything seemed to be moving along smoothly until someone made a decided "kick," and, as a result, the present unpleasant state of affairs has been brought about.

We are extremely sorry that the present excitement has been created and that the Provincial Government appears to be at a standstill in the matter and has appointed the much-talked-about San José Scale Commission to ascertain if the Scale Act was too hard on those so unfortunate as to have the pest in their orchards. Far better would it have been had the inspectors gone on with the destruction of the infested trees in accordance with the law. It may be that a few growers might not get what they think sufficient reward, but it must be remembered that a great industry of a country is at stake and that the least carelessness may allow the pest to become widely distributed and cause the financial ruin of hundreds of growers. We cannot understand why a grower should demand high reward for a tree infested with the San José Scale when, if what we have been taught be true, the tree will die in two or three years at most, and also that there is no practical treatment for such infested trees. We should view the situation as of consequence to the nation, and because one or two feel they have not been justly dealt with, it is no reason why the Act should be repealed and the whole of the country suffer as a consequence.

"Pro Bono Publico" tells us that the scale is a comparatively harmless affair. Why did he not at the same time let us know who he was and whether he had made a close study of the habits of this particular insect? Is he an entomologist of note? Are we to accept his statement as a correct one when many men who have devoted their lives to insect study, men from all nations where this insect is known, give contrary evidence and declare that it is to be dreaded above all other pests? Has this gentleman lost a few trees for which he thinks he has not received sufficient compensation?

During the past few years the people of this country have been putting out extensive plantations of fruit trees, entertaining the hope and expectation that a market would be found in foreign lands for the products of such plantings. At present our fruits are doing well on the British market. If these and other markets should be closed to the growers of this country, and they certainly will be if the report goes abroad that the San José Scale is widely distributed and little or nothing is being done to rid ourselves of it, there will be no sale for the fruits that must soon be the consequence of such heavy plantings. Now is the time to fight the pest while it is located in but few districts and in those districts affects but few trees. Even in the eastern part of Ontario the people are afraid to purchase fruits and nursery stock from western growers lest they may carry the scale with it. Thus we may see how the knowledge that the scale exists will affect our trade.

Governments have in the past spent, and are at present spending large sums of money annually to educate the public as to how to fight the ravages of insects and fungi. This is money well spent, and the fruit industry will soon reap benefits therefrom. While the Government is doing this we trust it will not fail to exercise every precaution to eradicate what we believe to be the most terrible insect pest — the San José Scale.

Fruitland, Ontario.

JOHN B. PETTIT.

The Farm Home

Domestic Economy.

BY MRS. S. T. KOREK.

In our educational institutions it is high time that all teachers were imbued with the idea that each has a responsibility to one's self; that our bodies are given to us to religiously care for, and unless we do this in the best manner we certainly must pay God's penalty. In the education of women many things have been taught to make her exceedingly attractive, such as playing the piano, painting, etc.; these are all well enough, they teach her to use her hands; but let her also learn to use them in things for practical every-day life, such things as affect us vitally. Domestic economy is not a single subject, but a collection of many of our most interesting studies. In large cities the masses must watch health most carefully. The lack of fresh air, and as a rule, good water, make it doubly necessary. But watch the brawny, muscular fellow picking up that trunk, placing it on his shoulder and carrying it for several blocks without the least sign of fatigue, it is a toy in his hand—why? Nitrogen foods are handy and he uses them freely. Stop off at a small place where nitrogenous foods are scarce with your heavy trunk and watch *that* man carry your trunk across the platform; several times he tries before he succeeds in lifting it to his shoulder; why? Because his tissues are worn out, and have not been repaired, nor has he used the proper sort of force and fuel foods—the first, no doubt, uses beef and porridge—or pork and beans; the second, pork and potatoes, or white bread and butter. In most countries the ordinary day laborer should combine at each meal proportions of one-fourth nitrogenous food to three-fourths carbonaceous or heat foods: the carbonaceous division may be divided again so that, in the winter, it will be composed more largely of fatty foods, and in the summer starches, such as potatoes, rice, with a small amount of sugar. If he is rich he will get his nitrogen from the red meats, beef and mutton; if his purse, however, is of a smaller size he can get it equally well from whole wheat bread and old peas and beans. If the latter be cooked carefully and in a toothsome manner they are by no means inferior foods. The man who depends upon tenderloin stake does not find his muscles in any better condition than the brawny workman of the north who uses oatmeal and beans. The exercise of the latter increases his circulation, thereby he takes in more oxygen and is able to digest with greater ease these rather complicated foods. It may be remembered that last night I canvassed the audience

and found that even here, among college people, few of the housewives knew the composition of potatoes, which they probably see and eat three times a day. If one does not know the composition of material, and its nature, how can they cook it well, and we do feel sometimes that the cooking of the potatoes is a lost art. Potatoes, by the way, are heat and force food, lacking nitrogen. In Ireland, where they are the chief diet, they are balanced by buttermilk. One quart of buttermilk with ten pounds of potatoes, three pounds for breakfast, four for dinner and three for supper is the usual allowance for a laboring man who lives solely upon these simple foods.

Pansies.

When pansies are firmly established one will be surprised at the growth that they will make. They are gross feeders and require frequent stimulants; liquid manure carefully applied at the roots increases the size of the blossom. Once a week is not too often to apply this fertilizer and they must be constantly supplied with water. Cut every flower as soon as withered, pick off the dead leaves, peg down the straggling branches and you will have a pansy bed of marvelous beauty. In midsummer it is a good plan to cut back the plants that came from fall sowing and that blossomed all spring and summer and let them gather strength for plentiful and fine autumn blooming. Remember that the three necessary elements of a success are: rich soil, a shaded situation and careful watering.

Summer Aids to Feminine Beauty.

Cucumber peelings, boiled in water, will be found good for the skin. A slice of cucumber may be rubbed on the face, instead of soap. Lemon juice will remove sunburn. Dill-water is as good for the complexion as rose-water, though it makes the skin paler.

Elderflower-water is famous for its cooling properties, as is also lavender-water.

Never go out in blustery weather without a veil, unless you wish a tanned skin or freckles.

Do not forget, when drying the face after washing, to rub upward toward the nose. This will prevent wrinkles, and will help to smooth out to a great extent the crease alongside the nose.

Use neither hot nor cold water exclusively for bathing. A good rule to follow is a hot bath at night and a cold one in the morning, but be sure to take a bath daily if you wish to keep your skin in good condition.

Do not wear tight shoes if you desire a graceful carriage; no woman can walk comfortably or well in shoes that are too small for her feet. Do not wear too small gloves.

Avoid tight lacing and any form of dressing which compresses any organ of the body.—*Mrs. Humphry, in the July Ladies' Home Journal.*

Rules to Observe in Gardening.

Keep your flower pots washed clean. If old ones, paint them. Small wooden boxes, if no pots can be had, are much better, especially if painted, than tin cans. A little box, with clean sand, always comes in nice for sticking cuttings in. Pick off all flowers as fast as they fade. Do not let plants bear seed unless you need it. Plants that have grown in the same pot for a long time should be re-potted. If not convenient to do so, give them a good top dressing of manure. Straggling plants should be cut back. Tall ones need strong but slim stakes. At this season of the year pot plants should not be exposed too long to the fierce rays of the sun. Liquid manure may be applied once a week to all vigorous growing plants, and will increase the size of the flowers.

Ventilating the House in Summer.

Admit sunlight at least a part of the day in as many of the rooms as is possible, especially in the sitting-room, dining-room and kitchen. Every room should be aired daily and given the benefit of the sunlight, if not of the sunshine directly. Should you close the house or a part of it during the day, do not do it so completely as to shut out the moving air, but invite it in through the open windows at the bottom, and after its mission of purification is accomplished give it free egress through the windows opened at the top. The dust may find its way in also, but better some dust and some air than no dust and no air. Bear in mind that a cool room in summer is not desirable nor healthful if the coolness has been purchased at the expense of fresh air and sunshine. Do not fail to have every window of every living-room lowered from the top, if only a few inches.

A man was in prison. Admission was granted only to relatives. A man seeking to enter was asked, "What relation are you to the prisoner?" He answered, "Brothers and sisters have I none. Yet that man's father was my father's son." Who was he?

Summer Care of House Plants.

A very satisfactory shelter for house plants may be made by setting up four posts in a square, to which strips of lath or boards can be nailed about an inch apart. Make a roof of the same material, and put on in the same way as the strips on the sides, which should be in a sort of lattice. Such a shelter will admit all the air that is stirring and all the sunshine that the plants will need, and will not prevent any one of them from getting the benefit of dews and showers, while it will break the force of strong winds.—*Ladies' Home Journal.*

Best Way to Make Ice Cream

Where cream alone is used in making ice cream one half or one third of the quantity used should be scalded, the sugar dissolved in the scalded portion, and when cool added to the remaining quantity of cream. Where cream is not obtainable milk may be used enriched by the yolks of eggs, allowing four to each quart of milk. Scald the milk in a double boiler; beat the eggs and sugar together; add to the hot milk, cook for a moment, then strain into the ice cream mould and freeze.—*Ladies' Home Journal.*

Watering House Plants.

Much care should be exercised in watering house plants. Most persons follow the practice of soaking the soil once a day or less, and then letting it dry out until it becomes hard. This stiff, hard and unyielding character of the soil in pots is not usually conducive to the growth of plants. The earth should be kept loose by a liberal addition of vegetable mould, such as can be obtained under the leaves of an old forest or in many neglected fence rows. For most plants a third or a half of the soil may be mould, which must be well mixed with the heavier earth, then give good drainage by employing unglazed pots with holes in the bottom, by placing a handful of broken bricks or crockery in the bottom, and over it lay sphagnum or other moss or peat. Do not water heavily. The soil should not be cold or soggy. Apply water frequently, but avoid soaking; the leaves of a plant should also be frequently sprayed, especially if evaporation goes on rapidly.

When a Woman Faints.

To care for a person who has fainted, lay the person down, keep the head low, loosen the clothing, give plenty of fresh air and dash cold water in the face. Smelling-salts and stimulants should only be used when consciousness has returned.—*Ladies' Home Journal.*

Farming.

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Questions and Answers.

CRIPPLED PIGS.

Mr. L. Rogers, Cooksville, Ont., asks us to re-publish the answer to a question regarding crippled pigs. The item referred to appeared in **FARMING** for Feb. 7th last, and contains an answer by Professor Day to a question submitted to him on this subject. It is as follows:

"The pen may be warm but damp, with insufficient ventilation. Stone or cement floors have proved very unsatisfactory with us and have given trouble similar to that described. The only remedy in such a case is to remove to a dry pen. Walls and floors of wood are safer for cold weather. Possibly the pigs have been overfed. The food should be restricted in quantity. Charcoal is a good thing for the pig's stomach. It is impossible, however, to answer satisfactorily without knowing all the details of surroundings, feeding, and management.

Too high feeding is frequently the cause of such a condition as is here described. Pigs are liable to a kind of rheumatism if kept in a cold, damp place. They should have plenty of bedding and pure air. It is a good plan to change the food. Some roots such as raw turnips or green foods are good for young pigs. A little raw linseed oil given as a laxative in the food would be helpful where pigs are overfed. A little scant feeding for a few days might help matters."

In addition to the above, the following remedy for rheumatism in pigs, which often produces a condition similar to that described by enquirer, is given in "Pigs, Breeds and Management," by Sanders Spencer: "In commencing to combat this troublesome affection it is of the first importance that the patient be placed in a fairly warm and dry apartment, free from draught, with an abundant supply of clean bedding. The bowels are then to be freely opened by a full dose

of Epsom salts, and this must be repeated in four or five days' time, and again after a similar period if no abatement in the symptoms is brought about. A dose of iodide of potassium in the morning, and of bicarbonate of potash in the evening, may then be given from day to day until some perceptible improvement is observed.

INSURING STALLIONS.

Mr. W. E. Butler, Dereham Centre, Ont., writes: "Please answer through the columns of your paper if there are any insurance companies which insure stallions in shipping or for the season and what rate they charge."

We have made several inquiries regarding this matter, but as yet have been unable to locate an insurance company that will take risks of this nature. One company to which we applied, and which at one time considered the advisability of taking up this line of insurance, writes us as follows: "We do not insure stallions, as we consider them a very undesirable class of risk." If any readers know of an insurance company that takes such risks we would be glad to know of it.

Central Canada Fair.

The Ottawa Fair this year is to be a two weeks' show. The directors are sparing no expense to make it a big success and the exhibition promises to eclipse any ever seen in Canada. The lacrosse grounds of the Capitals are being converted into a lake, and from this lake each evening the grandest display of fireworks ever attempted in Canada will be given. Another feature of the show will be log-rolling contests every day on the lake between expert river men from Ontario and Quebec. The Fair will open on September 11th and close on the 23rd.

There will be several innovations in connection with the horticultural exhibit at the Central Canada Fair in September, and these promise to make the display one alone worth seeing. In the new hall, now being erected, there will be a running fountain, surrounded by mossy banks and neat approaches, while colored electric light effects on the falling spray from the fountain will make a sight beautiful to behold. The new building will be octagonal in shape.

"The Bombardment of Peking" will be the night spectacular at the Central Fair at Ottawa, commencing September 11th. It is a thrilling land and sea piece, and will be staged in a most complete manner. A special lake is being built to properly present the spectacular, and from this lake, which will be 200 by 50 feet, a magnificent display of fireworks will be given every evening at the close of the spectacular. The usual programme of specialties will be presented during an intermission in the siege.

The special prizes for the Central Canada Fair number over 50, includ

ing 32 gold medals. A special of \$10 will be given for factory cheese, and gold medals for creamery and dairy butter. As usual, there will be a milk test.

Toronto Fair Exhibits.

It would be well for intending exhibitors at the Toronto Fair, which this year will be held from August 28th to September 9th, to remember that from now until the opening is little time enough to get stock in order and to have them in show condition. Entries for live stock, dairy products, ladies' work, fine arts, honey and manufactures close less than three weeks from date, namely, on Saturday, August 5th; grain, field roots and horticultural products coming a week later, and poultry and dogs yet a week still further on. It is customary to leave the making of entries to the last moment, but it is unwise to do so. In the first place it is running a chance of forgetting altogether, and in the next, it frequently inconveniences the Exhibition staff, who become rushed and overwhelmed with work. A notice in the prize list, which can be had on application to Manager Hill, at the Exhibition offices, 82 King street east Toronto, requests exhibitors to observe "that it is absolutely required that the entries be made on or before the dates mentioned, in order to afford sufficient time to examine the entry papers, forward the entry tickets and to correspond with parties when necessary, for the correction of errors and omissions, and to prepare the Exhibition Catalogue." Last year the issuing of the catalogue, owing to the withholding of entries, was considerably delayed, and this year it is hoped, by the co-operation of exhibitors, to avoid the trouble. It would also be well if intending entry-makers would carefully read the printed conditions, for the noting thereof would frequently save a deal of correspondence. The directors express the hope that a greater number of individual entries will be made this year than previously. If the enhanced value not only of their stock, but also of the reputation of the farm resulting from the winning of a prize at Toronto were better understood the individual entries would undoubtedly be more numerous. This year, notably in the Shorthorn classes, the prizes are greatly increased both in value and in number, and there are many comparatively small farm-owners who might profit greatly by being represented at Canada's principal fair. We would specially direct attention to the new classes, such as those for export bacon hogs, for which \$200 is offered in premiums, and the butter-making competition, which should be at once one of the most interesting and most useful features of the agricultural portion of the Fair.

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A man and wife to work on farm in Manitoba. Man to team or tend stock; woman to have full management of house and cook for three men. Splendid location, good buildings, and near town and church. For further information write to
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FITS.

BOYS FOR FARM HELP.

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PRYCE W. BAILEY
Expert, Seneca Falls N. Y.

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Lay your plans for spending a term in the

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THE INCREASE IN YIELD and improvement in quality will astonish you.

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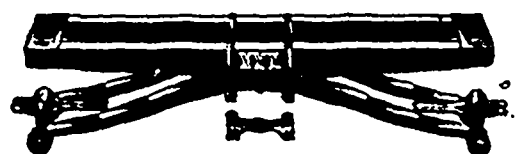
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They are the only perfect spring made in comparison with these all others are unequalled. Address **J. H. MORROW,**

General Sales Agent, Brighton, Ont. Special inducements to introduce where we have no agent.



Books and Bulletins Reviewed.

The Southdown Flock Book, Volume VIII., published by the English Southdown Sheep Society, the secretary of which is W. J. Wickison, 12 Hanover Square, London W., England.

Thirty-Second Annual Report of the Secretary of the State Board of Agriculture for Connecticut.

Improvement in Crop Growing, a bulletin containing the evidence of Prof. J. W. Robertson, Commissioner of Agriculture and Dairying before the Committee on Agriculture, House of Commons, Ottawa. A copy of this bulletin will be sent to anyone making application for it to the Commissioner of Agriculture, Ottawa.

Fattening Chickens: Bulletin containing the evidence on this subject of Prof. J. W. Robertson, Commissioner of Agriculture, before the Agricultural Committee.

Raising Sheep for Mutton: By Prof. C. F. Curtiss, issued by the United States Department of Agriculture.

Three Insect Enemies of Shade Trees: Bulletin issued by the U. S. Department of Agriculture.

Experiment Station Work: Bulletin by the U. S. Department of Agriculture.

Northern Districts of Ontario: Pamphlet prepared under instructions from the Commissioner of Crown Lands for Ontario.

Guernsey Breeders' Year Book: By the American Guernsey Cattle Club, Wm. H. Caldwell, Secretary, Peterborough, N. H.

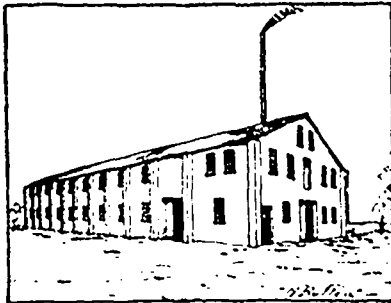
Stock Notes.

SOUTHDOWN IMPORTATIONS.—Messrs. John Jackson & Sons, Abingdon, Ont., are making a valuable importation of Southdown sheep this season, which are expected to arrive about the end of the month. These importations are all prize winners at the famous Royal Show, and will form valuable additions to Messrs. Jackson's already celebrated flock of Southdowns. The importation consists of a ram and a ram lamb, from the flock of C. K. W. Adeane. The former was winner of fourth prize at the Royal in June last, and the latter was one of a pen of lambs that won second place. A pair of shearing ewes from the flock of Earl Bathurst, winners of first prize at the Royal and the championship at the Royal Countess Show. A pair of ewe lambs from W. Toop, winners of second prize at the Royal.

Though Messrs. Jackson & Sons have frequently made importations of prize winners, they have never brought out a lot in which all the animals were winners of such high honors at England's great show. This firm intends making a large exhibition of Southdowns at the fall exhibition, and from what we can learn will be decidedly "in it" in the competitions. The firm reports an active demand from the United States for Southdowns, and the demand in this province is equal to, if not better than, former years.

MORE IMPORTATIONS.—Messrs. Hanmer Bros., of Barford, Ont., who have been in England making purchases of purebred stock for their own herd and for those of other Ontario breeders, write us from London, England, on July 1st as follows: "We leave England to-morrow with a shipment of 106 sheep—Shropshire, Oxfords, Hampshires, Cotswolds, Southdowns, and Dorsets—over half of which are Shropshire, selected from the best flocks in England. We are taking nothing home with us but what is first-class in quality in every respect. The ewes are a particularly select lot, with exceptionally well-covered faces and legs, while the rams are very choice and remarkably well covered. They are by Royal winning and champion sires. Our shipment includes over twenty Royal winners, fifteen of which are first winners."

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Size of walls 45 x 100 x 24 feet. Built with Thorold Cement and gravel, from the bottom of foundation to the roof. All this concrete work was done in 14 days, under the direction of our traveller, Norval B. Hagar.

Mr. Vandyke states that he effected a saving of from \$1,000 to \$1,200 by building concrete walls instead of stone or brick.

GRIMSBY, ONT., Dec. 12, 1898.

ESTATE OF JOHN BATTLE,

GENTLEMEN.—It gives me great pleasure to testify to the good qualities of your Thorold Cement. During the past season I built an Evaporator under the supervision of your traveller, Norval B. Hagar, the size of which is 45 x 100 x 24 feet to plate from bottom of foundation, and gables 12 feet high, making top of it all 36 feet high to gables. The first storey is 13 feet high and 12 inches thick, the second 8 feet high and 10 inches thick, gables 8 inches thick. I have a concrete floor in first storey, and the second storey is held up by trusses. There is not a post in the first storey to hold the second.

I also built a barn under the supervision of your Robert G. Hagar, size 36 x 70 x 14 feet from bottom of foundation to plate, and I consider I have a 1 building both in strength and workmanship, for the walls are straight and plumb as any building could be, and they are far cheaper than either stone or brick.

Yours, etc., J. W. VANDYKE.


ESTATE OF JOHN BATTLE

THOROLD, ONT.

Mention this paper.

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The Agricultural Gazette

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

No. 40

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

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders', \$1; Swine Breeders', 25c.

BENEFITS OF MEMBERSHIP.

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

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

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

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

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

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

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

THE DOMINION CATTLE BREEDERS' ASSOCIATION.

Shorthorns.

Bonnycastle, F. Campbellford 5 bull calves, 2 to 8 months; cows, heifers and heifer calves.
Douglas, J. Caledonia 14 bulls, 3 to 19 months; young cows.
Fairbairn, H. K. Thedford 8 young cows; 2 bulls, 9 months.
Grainger, Wm. & Son Londonboro 4 bulls, 3 to 8 months; females, all ages.
Hawthorn, W. S. & Son. Glanworth Bull, 39 months.
Jeffs, E. & Sons Bond Head Yearling bull, 6 bull calves; young cows and heifer calves.
Pettit, W. G. & Son Freeman 15 bulls, 6 to 18 months; 20 young cows.
Sibbald, F. C. Sutton West 3 bulls, 8 yearling heifers; 19 cows with calves at foot.
Diamond, S. Barrie 2 yearling bulls, bull, 5 years.

Ayrshires.

Yuill, J. & Sons. Carleton Place 7 bull calves and 23 heifer calves, under 10 months; females all ages.

Galloways.

McCrae, D. Guelph 13 young bulls; 20 young heifers and cows.

Jerseys.

Willis, Wm. New Market 2 bulls, cow, 5 years; heifers.
Diamond, S. Barrie. 3 bulls; bull calf.

Herefords.

Stone, Alfred Guelph 5 bulls, 13 to 20 months; cows, heifers and calves.

THE DOMINION SHEEP BREEDERS' ASSOCIATION.

Shropshires.

Pettit, W. G. & Son Freeman 12 shearling rams; 10 shearling ewes; 15 ram lambs.
Yuill, J. & Sons Carleton Place Ewes and ewe lambs; ram lambs.

Leicesters.

Armstrong, G. B., Box 3 Teeswater Rams, all ages.
Douglas, Jas. Caledonia 20 ram lambs; 20 ewe lambs; yearling ewes.
Gardhouse, J. M. Highfield 2 rams, 2 bears; 10 shearling rams; number of breeding ewes and lambs.
Jeffs, E. & Sons Bond Head Aged ram; 2 shearling rams; 3 ram lambs, aged and shearling ewes, ewe lambs.

Southdowns.

Jeffs, E. & Sons. Bond Head Aged ram; 3 shearling rams; 6 ram lambs; aged and shearling ewes; ewe lambs.

Cotswolds.

Bonnycastle, F. Campbellford 15 ram lambs; ewes and ewe lambs.
McCrae, D. Guelph. 30 shearling ewes.

Dorset Horns.

Hunter, John Wyoming 16 yearling rams and ram lambs; ewes.

THE DOMINION SWINE BREEDERS' ASSOCIATION.

Berkshires.

Bonnycastle, F. & Son. Campbellford 35 head, 6 weeks to 8 months.
Cowl, Bro. Newcastle 3 sows, 3 months; 3 sows, 6 months.
Gibson, D. J. Bowmanville Boar, 8 months; sows and bears, 6 weeks.
Harris, G. N. Lynden. 2 sows, 15 and 18 months; 15 pigs, 7 to 10 weeks.
Jeffs, E. & Sons Bond Head Aged boar; 3 young boars; 5 young sows; spring pigs.
McCrae, D. Guelph 2 sows; 3 boars.
Ross, A. W. Douglas. 3 boars and 3 sows, 4 months.
Russell, Jas. A. Precious Corners 2 bears and 3 sows, 3 months.
Yuill, J. & Sons. Carleton Place Boar, 12 months; 9 pigs, 4 months; 11 pigs, 2 months.
Diamond, S. Barrie Stock all ages.

Yorkshires.

Colwill Bros. Newcastle Both sexes, 2 to 3 months.
Hood, G. B. Guelph 30 pigs, 2 to 8 weeks, both sexes.
Rogers, L. Cookville Boars and sows, all ages.
Ross, A. W. Douglas Both sexes, 6 weeks to 12 months.
Russell, Jas. A. Precious Corners 25 boars and sows, all ages.

Tamworths.

Colwill Bros. Newcastle Boar, 4 months; 4 boars and 1 sow, 3 months.
Gibson, D. J. Bowmanville Boar, 4 months; sows.
Hawthorn, W. S. & Son Glanworth. 23 boars, 2 to 10 months; 15 sows, 2 to 4 months.

Chester Whites

Heron, Henry Avon Both sexes, 5 weeks to 12 months.

Duroc Jerseys.

Frazer, I. O. & Son Fellows 2 boars, 9 and 15 months; 2 boars, 3 months; 20 sows, 3 months.

Poland Chinas.

Morrill, F. H. Way's Mills Que. 2 sows, 11 months.

Institute Memberships.

The following list of members have been received since last issue:

Algoma East.	4
Hastings North	2
Middlesex East.	2
Ontario North.	10
Peel.	2
Russell.	8
Simcoe West.	8
Victoria East.	1

Special Prizes for the Provincial Fat Stock and Dairy Show.

At this show, which will be held at London, Ontario, on December 12th, 13th, 14th and 15th next, there will be offered \$1,000 in special prizes alone in the various departments. Following are a number of the contributors: Dominion Shorthorn Breeders' Association, \$200 for Shorthorns in dairy department; \$120 to duplicate prizes for Shorthorns in fat cattle department; \$20 for Shorthorn grade steer; and \$100 for best cow in the dairy department, if a registered Shorthorn. American Shropshire Association offers prizes similar to last year. Canadian and American Holstein-Friesian Associations duplicate prizes offered last year, and the American Polled-Angus Association offer to increase first prizes won by Polled-Angus in class 2 by 75 per cent. The Ayrshire Breeders' Association offer the same prizes as last year, also the Hereford Breeders' Association, and Mr. H. D. Smith.

The Cheese and Butter Association of Eastern Ontario donate their usual \$50 towards the prize list in the dairy department. Individual contributors are as follows: B. Bell & Son, St. George, Ensilage Cutter, \$45; Ripley Hardware Co., Grafton, Ill., Feed Cooker, \$45; R. A. Lister & Co., Montreal, Que., Melotte Separator, \$100; Gould Shapley & Muir Co., Brantford, Grain Grinder, \$45; Estate of John Battle, Thorold, Cement, \$50; Frost & Wood, Smith's Falls, Disc Harrow, \$26; Gurney Scale Co., Hamilton, Scale, \$30; Wallace & Fraser, Toronto, Thomas Phosphate Powder, \$100; I. Usher & Son, Queenston, Cement, \$50; Spramotor Co., London, Spramotor, \$15; Thom's Implement Works, Watford, Scuffler, \$10; Windsor Salt Co., Windsor, 10 barrels salt, \$10; Sherwin-Williams Co., Montreal, Que., 10 gallons paint, \$10; P. J. Laughrin, Toronto, Two tons Tobiqye Gypsum Powder, \$20; J. E. Meyers, Kossuth, Incubator and Brooder, \$20; J. S. Pearce, London, Incubator and Brooder, \$20; J. Fleury's Sons, Aurora, Plow, \$15; Massey-Harris Co., Toronto, Combined Corn and Field Cultivator, \$40; Robt. Essex, Toronto, Pen of Fowl, \$10.

Legislative Grant for Farmers' Institutes.

Requisitions for the Legislative Grant for local Farmers' Institutes have now been made, and secretaries will receive the grant at an early date.

The following Institutes this year have not complied with the regulations: North Essex, South Lanark, Lennox and West Manitoulin.

The Western Fair.

LONDON, SEPTEMBER 7TH TO 16TH, 1899.

The directors of this ever-progressive institution find themselves facing their annual difficulty, that of providing sufficient accommodation for exhibitors and visitors at the great Live Stock and Agricultural Show of Western Canada, but now as in the past they are equal to the occasion, having plenty of money and hard-earned experience. An extensive addition is in course of construction to the Machinery Hall, nearly doubling its capacity.

The Agricultural, Horticultural and Dairy Buildings have been moved and reset, so as to form one immense exhibition hall, and one hundred and fifty feet of an addition has been built thereto.

Also a new permanent public office building over one hundred and fifty feet long is being erected at the King street entrance, for express, telephone, telegraph, barber shop, parcel room and press offices, and, to crown all, two large open stands, 340 feet by 40 feet—up to date in every particular for the comfort of the public—with additional refreshment booths and dining halls underneath.

The Queen's Park fair grounds have been greatly beautified by the above alterations and additions.

The prizes offered have been increased by a little over \$1,500, one thousand of the amount going to the live stock classes.

The prize list book itself is greatly improved, being very much condensed in size, but containing more information, put up in better form than any other we have yet seen. The entry forms are most complete and labor-saving, a separate form being provided for each department, the exhibitors having only to make a mark or cross opposite the section they may wish to enter in, all details and necessary information being fully set forth on each, and depriving even the most procrastinating individual from any excuse of lack of time, as any entry paper can be filled out in less than two minutes.

The special attractions are being arranged for, and it is safe to say that only the very best will be engaged, and plenty of them.

A new secretary, Mr. Jno. A. Nelles, has been appointed to fill the position vacated by Mr. Browne, after ten years of service, and as the adage goes, "new brooms sweep clean," great things may be looked forward to. We wish the incoming officer every success.

Agricultural College

The Ontario Agricultural College will reopen on September 26, 1899

Full courses of Lectures, with practical instruction in Agriculture, Live Stock, Dairying, Poultry, Beekeeping, Horticulture, Veterinary Science, Chemistry, Geology, Botany, Entomology, Bacteriology, English, Mathematics, Bookkeeping, and Political Economy. Year shortened to suit farmers' sons.

Send for circular, giving terms of admission, course of study, etc.

JAMES MILLS, M.A., President, GUELPH, ONTARIO

BUTTER WRAPPERS.

THE SENTINEL-REVIEW
WOODSTOCK, ONT., imports Genuine VEGETABLE PARCHMENT for butter wrappers. It is the largest house in Canada selling and printing butter wrappers. This paper is not an imitation. It is the GENUINE VEGETABLE PARCHMENT, made to order in Germany, especially for the Canadian market, and its purity and sanitary qualities are guaranteed. It is very strong, has a nice, silky finish, fine fibers, and will not taint the butter like cheap imitations. Highest testimonials from dairymen all over Canada. We sell these butter wrappers, 7 1/2 x 11 inches, cheaper than any house in Canada, and large dealers who have wrappers printed should get our samples and quotations. Free samples sent anywhere. Address, **SENTINEL-REVIEW, WOODSTOCK, ONT.**

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CREDIT FONCIER F. C.

This Company has a large amount of money to lend on improved farms at low rates.

Correspondence is invited from farmers who wish to buy more land, to improve their properties, or to save money by reducing interest.

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28 Wellington St. East.
TORONTO.

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IS THE STANDARD
STEAM PUMPS AIR LIFTS
GASOLINE ENGINES
WRITE FOR CIRCULAR
THE AMERICAN WELL WORKS
AURORA, ILL. - CHICAGO - DALLAS TEX.



ROCK SALT for horses and cattle, 100 lbs., 70c., 500 lbs., \$3.00, Toronto.
Cash with the order. Also in car lots.
Toronto Salt Works, TORONTO

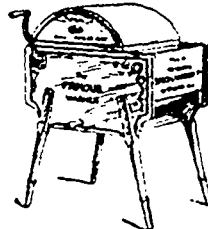
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J. A. GOWANS, Proprietor.
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Windsor Salt...

FIRST PRIZES

Were awarded to 8 exhibitors at the Industrial Fair, Toronto, and Western Fair, London, 1897, who used Windsor Special Cheese Salt in curing cheese exhibited, and to 9 exhibitors at the same exhibitions who used Windsor Special Butter Salt in salting butter exhibited.

GOLD MEDALS

Awarded for the best exhibits of Creamery and Dairy Butter at both exhibitions were won by exhibitors using Windsor Butter Salt.

No stipulation was made as to the use of Windsor Salt.

The Windsor Salt Co., Limited
Windsor, Ont.

COMMON SENSE KILLS Roaches, Bed Bugs, Rats and Mice. Sold by all Druggists, or 361 Queen W. Toronto.
BEWARE OF IMITATIONS.

Market Review and Forecast

Office of FARMING,
Confederation Life Building,
Toronto, July 17th, 1899.

A healthy feature in wholesale circles just now is the improvement in remittances as compared with this time a year ago. The money market continues firm, and indications are that it will keep so till well on in the fall. Call loans are firm at 5 per cent. Discounts on mercantile paper are quoted steady at Montreal at 6 to 7 per cent. as to name and nature of account.

Wheat.

The wheat situation shows no very material change since a week ago. The visible supply of wheat in the United States and Canada is now 34,016,000, or nearly three times larger than at this time last year. The world's total supply in sight is 67,856,000, as compared with 43,796,000 bushels at this time last year, an increase of 24,060,000 bushels. A New York report estimates that the United States will have about 225,000,000 bushels to export, which is less than the estimate for last year's crop. This week fall wheat cutting will be pretty general in this province. It is early to predict regarding the Manitoba crop. A much larger average is under crop, and if the yield is an average one the output will be a very large one. A report from London, Eng., declares that Russia is face to face with the worst crop failure and probable famine in its history.

English markets have been dull, and prices have ruled in favor of buyers. Large deliveries of wheat are reported at some Western markets. The Montreal market has been quieter during the past few days and orders for Manitoban have fallen off. The offerings on this market are small, but the demand is fair at 69 to 70c. north and west for red and white, and 66 to 67c. for goose. On the Toronto farmers' market red and white are quoted at 71½c., spring life at 67 to 69c., and goose at 69 to 70½c. per bushel.

Oats and Barley.

The oat market is easier and the outlook is not nearly as bright as it was a month ago. Crop reports both in Europe and the United States are favorable and the English markets have declined and the markets are dull at the decline. An increase in ocean freights during the week has also lowered values on this side. Prices at Montreal are 33 to 34c. for oat. The Ontario crop is likely to be a very good one. Oats are quoted here at 29c. west, and on the Toronto farmers' market they bring 36½c. per bushel.

There is a good demand at Montreal for feed barley, which is scarce, and which sells at 43 to 45c. per bushel.

Peas and Corn.

The market for peas keeps steady, though the demand is slow. The old crop is now about exhausted. At Montreal prices are 76 to 76½c. for oat. The market here is nominal at about 67c. west in carlots.

The outlook for the American corn crop continues bright, and good progress is being made. No. 2 Chicago is quoted at Montreal at 39 to 40c. in cargo lots. American corn is quoted here at 41 to 42c. in carlots on track.

Bran and Shorts.

There is a better enquiry for these at Montreal and the market is steady at \$13 to \$13.50 for Ontario bran; \$12 to \$12.50 for Manitoba bran; \$15 to \$15.50 for shorts, and \$16 to \$17 for middlings. City mills here sell bran at \$13 and shorts at \$16 per ton in car lots f.o.b. Toronto.

Eggs and Poultry.

It is now pretty clear that Canada will export fewer eggs this season than last. Eggs have been a scarce article and prices have ruled higher than picklers could afford to pay. Quite a few, however, have been pickled at these high figures. The Liverpool and London markets are steady at last week's advance, and stocks are light. There has been a fair

business in choice candled stock at Montreal, with sales at 14c., but quotations are 12 to 13c. per dozen. Offerings here are small, the demand is good and prices firmer at 13½ to 14c. wholesale for choice selected stock. On the Toronto farmers' market new-laid eggs bring 15 to 17c. per dozen.

On the farmers' market here chickens fetch 50 to 90c.; ducks, 50c. to \$1 per pair; and turkeys, 10 to 11c. per lb.

Potatoes.

Recent rains have increased the supply of new potatoes, and prices for these are lower. Montreal quotations are \$1.50 to \$1.75 per barrel. There seems to be a fair demand here, and cars of old potatoes are quoted at 90c. on track, and \$1.00 for new. New potatoes bring \$1.10 per bushel, or 30 to 35c. per basket.

Fruit.

There has been a better business in fruit at Montreal during the week. Raspberries have been more plentiful at Montreal at 7 to 9c. per box. Cherries bring 90c. to \$1.25 per basket. Trade continues brisk on Toronto fruit market and receipts have been large. Raspberries are quoted at 7 to 9c.; black raspberries at 5 to 6c. per box; gooseberries 30 to 40c. per basket and 70c. for large; red currants, 30 to 45c.; cherries, common, 75c. and English \$1.25, and black currants 70 to 90c. per basket. Somewhat discouraging reports have come to hand from some of the States regarding the apple crop. In many sections of Ontario the crop is about a failure or very near it, though this is not altogether general.

Hay and Straw.

The hay situation continues strong. In Quebec farmers are now getting 33 per cent. more for their hay than a couple of months ago, and Americans are large operators there, taking all they can get for the Eastern States markets. Baled hay is quoted at Montreal at \$6 to \$6.50 in car lots on track, and \$8 to \$8.50 for No. 1 quality. The Quebec crop is likely to be below an average one. The Ontario crop is a somewhat uneven one, but may be a good average. The demand here is fair, and cars on track are quoted at \$7.50 to \$8.75, and baled straw at \$4 to \$4.50 per ton. On the Toronto farmers' market old hay brings \$11 to \$13, new \$8.00 to \$9.00, sheaf straw \$5 to \$6, and loose straw \$4 to \$5 per ton.

Cheese.

The cheese situation continues healthy and strong. Some in the trade are afraid that this season's business will end disastrously for the shipper as it did in 1897, when high prices were maintained till fall, when there came a collapse that took all the profits away. But the conditions of trade so far this season are different. In 1897 a great lot of summer

goods were stored on this side, while this year the make has gone forward regularly, there being less inclination to hold. If this continues there will be no danger of a glut at the end of the season. The exports from Montreal so far show an increase of about 90,000 boxes as compared with the same period last year. But notwithstanding these increased shipments there appears to be no great accumulation of stocks in Great Britain and the consumption continues good. The English make is not as large as was expected and holders are not anxious to unload. The outlook there is a healthy one and unless something unforeseen takes place prices are likely to be good the rest of the season.

There are indications of a little excitement in the cheese market on this side. The local markets towards the end of the week went from 18 to 18½ more than a week ago, sales being made at Brockville on Thursday at 8¾ to 8½c. and it looks as if 9c. would be reached this week. Salesmen in the west were not inclined to sell early in the week, though some sales are reported off the market at a little over 8½c. early in the week for the last half of June. The Prince Edward Island June make which, owing to the drought, is 50 per cent. less than last year has been sold at from 8 to 8½c. per lb.

Butter.

The creamery butter market has recovered from the easier feeling reported last week, and the situation now is strong and the market active. Shipments from Montreal so far this season show an increase of nearly 40,000 packages, as against the same period last year, while those from New York show a decrease of nearly 22,000 packages, making a net increase of about 18,000 packages. Though receipts of Canadian have been quite large the English market has advanced 1s. to 2s. per cwt. with a fair volume of business at 88s. to 90s. and the market is firm at the advance. The quality of Canadian creamery this year is reported to be satisfactory. The Montreal market has been active in response to better cable enquiries, and sales are reported of creamery on spot and in the country at 17¾ to 18c. for finest and 17 to 17½c. for good to fine. One of the features in the butter market is the demand for western dairy for export, for which 13½ to 14c. and 14½ to 14¾c. for choice selection has been paid. This is a new feature in the export trade, and is caused by the continued high price for creamery, there being a demand for a cheaper grade.

The market here for creamery is steady at 17½c. for prints and 16½ to 17c. for boxes and tubs. The demand for choice dairy is good and the market firm at 13 to 14c. for choice lots of pails and tubs, and 10 to 11c. for com-

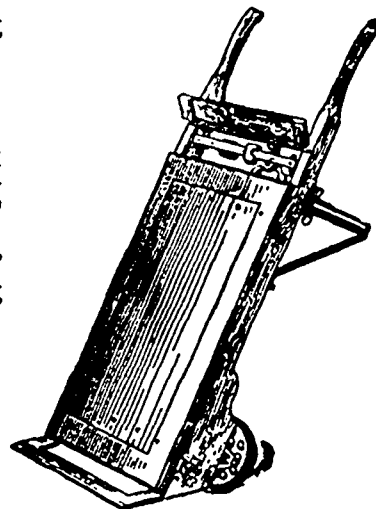
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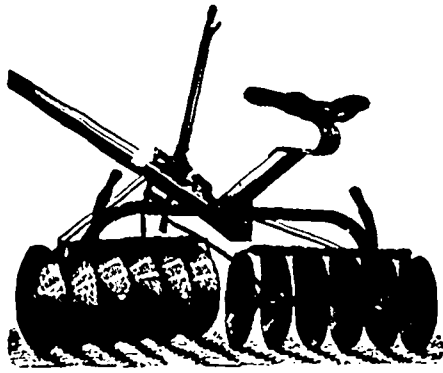
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Is especially adapted for Summer-fallow cultivation, preparing seed bed for wheat, working stubble fields after harvest.

Successfully works hard ground where other Harrows fail.

The Leading Disc Harrow

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mon. On the Toronto farmers' market lb. rolls bring 15 to 18c. and large rolls 12 to 13c. per lb.

Wool.

The wool market in so far as Ontario is concerned continues dull and inactive. There is estimated to be 50 or 60 per cent. of last year's clip in dealers' hands, so that they are very slow in taking large quantities of this year's clip, receipts of which have been more liberal of late. It is claimed that Canadian wool cannot be exported except at a loss of two cents per lb. The ruling prices for fleeces are 13 to 14c, 8c. for unwashed, and 15 to 16½c. for pulled wool super. While this is the condition of the market here, the American wool market is intensely active and increasing in strength. A feature of the market has been the increased activity in fleeces, prices for which are strong. A report from Montreal shows a marked advance in foreign wools, prices having jumped from 14 and 14½c. for greasy Cape a short time ago to 19c., and 21 to 22c. for better grades. Canadian pulled wool has also advanced on that market.

Cattle.

Cattle markets as a rule have been fairly steady. At some of the western markets an easier tendency was manifest, though prices did not go back any except for the lower grades, prices for good quality being well maintained. The deliveries on the Toronto market have been light, but the quality of the fat cattle has been fairly good. On Friday trade was good for best butchers' and exporters', the lower grades of butchers' cows being slow of sale, though prices early in the week were well maintained.

Export Cattle.—Choice heavy exporters were firm on Friday at \$4.90 to \$5.25, with light ones at \$4.70 to \$4.80 per cwt. Export bulls are scarce, with prices firmer at \$3.80 to \$4.50 per cwt.

Butchers' Cattle.—Choice picked lots of these equal in quality to the best exporters, and weighing 1,000 to 1,100 lbs each, sold at \$4.37½ to \$4.50 per cwt. Good butchers' cattle brought \$3.90 to \$4.25, and medium \$3.55 to \$3.90 per cwt. Common to inferior bring \$2.60 to \$3.60 per cwt.

Stokers and Feeders.—Buffalo stockers were more plentiful on Friday, and in better demand, with prices a little firmer at \$3.25 to \$3.75, with 10c. extra per cwt. for choice picked lots of well-bred steers. Few feeders are being offered, but choice, well bred steers, weighing from 900 to 1,000 lbs., are worth from \$3.70 to \$3.80 per cwt.

Calves.—Calves have been in light supply at Buffalo. On this market calves were firm on Friday at \$4 to \$5 each.

Milk Cows.—Cows of medium to good quality bring \$25 to \$45 each.

Sheep and Lambs.

These have ruled fairly steady during the week, though heavy sheep have been easier on some of the American markets. There has been a good demand at Buffalo for good quality. In this market sheep and lambs sell for \$3.25 to \$3.50 for ewes and \$2.50 to \$3 per cwt. for bucks. Spring lambs are firm at \$3.50 to \$4.50 each, or \$4.75 to \$5.50 per cwt.

Hogs.

The hog market remains steady with prices unchanged at \$5 per cwt. for choice select

bacon hogs weighing not less than 160 nor more than 200 lbs. each off car, and \$4.25 for thick and light fats. Packers are complaining very strongly of too many soft bacon hogs being sold on the market of late, and are urging drovers to be more careful about buying this class of hogs. Some western corn fed hogs sold on Friday at \$4.25 per cwt. for the best and \$3.75 for the very thick ones, thus making the price at least 75c. per cwt less than for choice bacon hogs. It is reported that during the past month or two Canadian shippers have lost heavily on bacon exported, but the English market is more reassuring, as the *Trade Bulletin's* cable of July 13th shows: "The weak, depressed and declining market cabled by r. during the past two or three weeks has undergone a favorable change. The low prices ruling seem to have effected a clearing of the large surplus stocks of Danish and Irish, and the market is now

firmer and higher, and at the advance of 2s. for Canadian there is a good demand."

Horses

The demand for horses has fallen off considerably during the past two weeks. At Grand's Repository there were about forty-eight animals sold at the Tuesday and Friday sales, prices ranging from \$21 to \$140 each. A pair of gray geldings were sold for \$160. A black gelding sold for \$120; a bay for \$109.50 and a pair of chestnut geldings for \$160 each.

A young lady whose lover wrote that he was doing duty on the tented field has now discovered that instead of fighting Aguinaldo he has been driving a team for a circus.

ALEXANDRA AND MÉLOTTE CREAM SEPARATORS

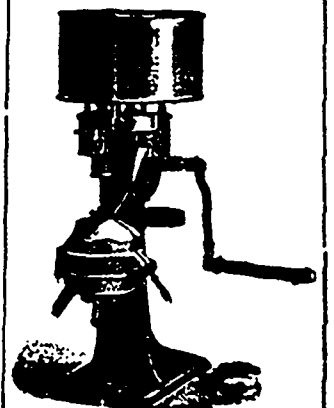
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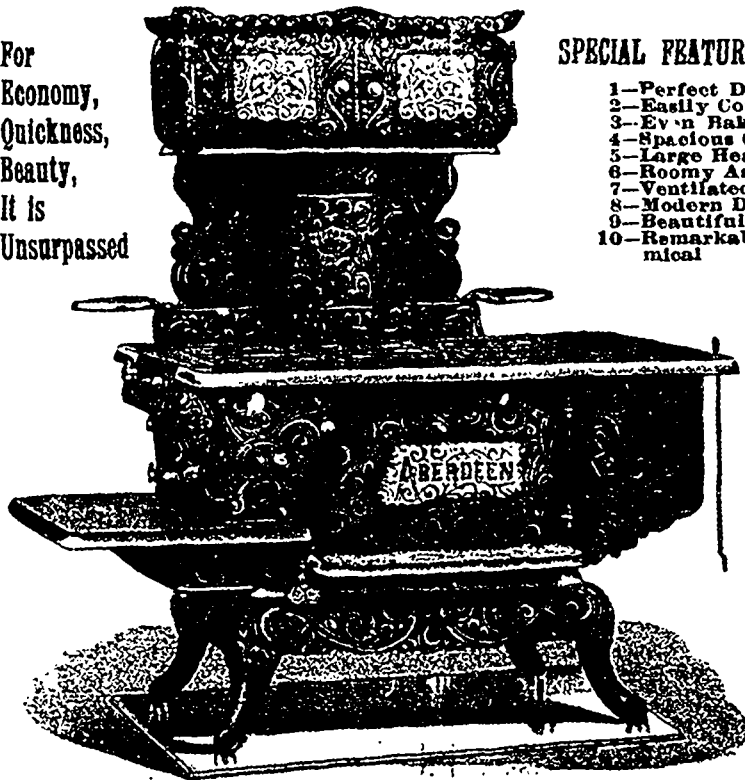
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For Economy, Quickness, Beauty, It is Unsurpassed



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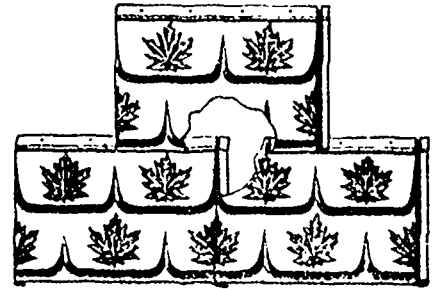
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interlock each other on all four sides—leaving no openings for snow or rain to get in. They are easily put on by anyone—are practically fire and lightning proof and give a building a neat, finished appearance. We can tell you more. Ask for free catalogue and samples.

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Space allotted as entries are received.

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Our machines have filled more silos, twice over, than has been filled by all the other combined families of imitation machines.

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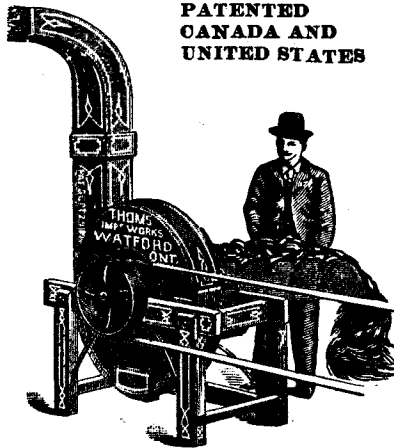
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Wherever our Plows are not already known, special prices to introduce them. Once on the farm, they prove a comfort.



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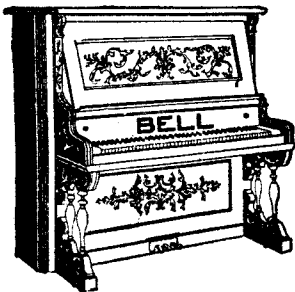
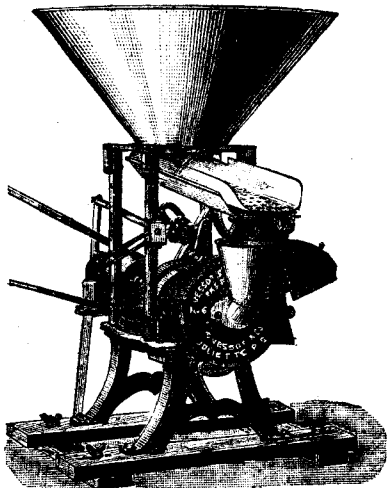
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October 20th, 1898.

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Yours truly,
(Signed) F. W. HODSON

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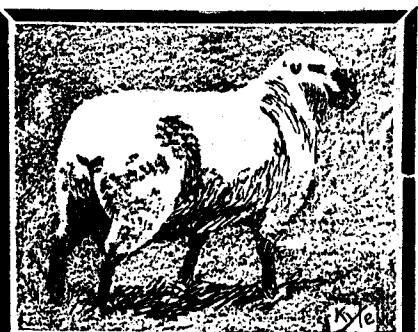
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