

The Farming World

A Paper for Farmers and Stockmen

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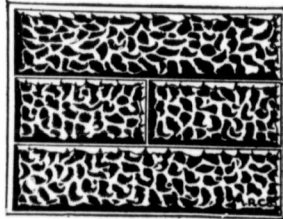
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should be used by every farmer, in fact by everyone who has a wagon.

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It produces flesh by compelling the system to do its best. It permits no food to pass off undigested. It wards off diseases.

It is called a food for want of a better name. It is not exactly a medicine, nor a substitute for hay and grain and other foods.

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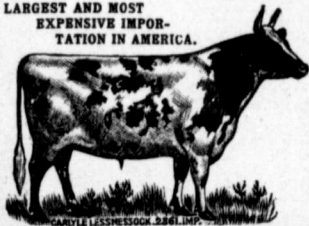
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22 Miles East of Toronto.

The Farming World

For Farmers and Stockmen

VOL. XVIII

JANUARY 15th, 1901

No. 20

Progressive Dairying

FOR over thirty years Canadian dairying has been one of the most progressive industries in this country. The first co-operative cheese factory was started in 1864, by the late Harvey Farrington, of Oxford County. From that day to this there has been advancement all along the line, and the beginning of the new century finds the industry at the zenith of its success. 1900 has been a remarkable year for our dairymen, especially those engaged in the manufacturing of cheese. Prices have been good and the make large, two factors that do not always come at the same time. But the past year has been the exception, with the result that the value of our cheese output, when the season's make is all disposed of, will stand higher than during any previous year. Butter-making, however, has not kept pace with this standard of progress, and there has been a falling off in the quantity made for obvious reasons. One gratifying feature, however, is that there has been no retrogression in point of quality. Canadian butter, as well as cheese, stands higher in point of quality than ever before.

But what of the future? It is always pleasant to reflect on past efforts, especially when they have been successful, and a reminiscent turn of mind would be quite in keeping with this transition period from the old to the new century. But we will leave that for others to deal with. The question that every dairyman should ask himself at the present time, when he has the leisure to plan for the future, is in what way improvement can be made?

Though matters have been running along most satisfactorily of late there is room for improvement. A perfect cheese or butter factory, with a perfect maker, who receives perfect milk and turns out a perfect quality of cheese or butter, is not to be found in the dawn of the century. Perhaps perfection in all of these particulars, may never be found. It ought, however, to be the ideal to which every dairyman should endeavor to reach.

There are two points among others in which our dairyman should endeavor to bring about an improvement the coming season. The first to be considered is quality. While marked advance-

ment in the quality of both our butter and cheese products has been characteristic of recent years, there is still room for improvement. A point in which our co-operative system is lacking is that it is so difficult to get at the man who supplies the milk, and who, in such a marked degree, is responsible for the quality of the finished article. If every patron could be depended upon to supply a pure, wholesome quality of milk, the rest of the process would be pretty clear sailing. It is comparatively easy to get at the maker and teach him his duty. Then a difficulty that bears strongly on this question of quality is factory buildings and equipment. As we pointed out last week too much cheese and butter is being made in old, half-decayed buildings, under such conditions, from a sanitary point of view, that make it practically impossible to turn out the finest quality of product. These phases of the quality question are points that should be considered at the annual meetings of factories during the next few weeks.

A second point of importance, and it more directly concerns the farmer, is the economic production of milk. How have we progressed in this particular? Have our dairymen a better class of cows than they had ten years ago? Are their cows returning any more than sufficient to maintain them in good, thrifty condition? If not, so much the worse for the man who keeps cows. While quality is important the farmer must realize that there is a good profit in supplying milk before he will give it much concern. But the finest quality and the largest profit must go hand in hand. As a rule the patron having the best cows supplies the best quality of milk. It will therefore pay the manufacturers of cheese and butter to go to a little trouble to educate their patrons in profitable cow-keeping. To get at the most profitable cow a careful test should be made of the quantity and quality of milk she gives, and how much it costs to keep her. These are facts that can be ascertained by any dairyman who exercises a little forethought. Then the patron should remember that the feeding and caring for the cow have a great deal to do with the quality of the product. Economic production and quality are closely associated together, and should receive the careful consideration of every dairyman.

Tuberculosis in England

By Stockman

Recently the Medical Office of Health of Manchester, England, has had all the cows from which milk was sent to Manchester, examined critically for tuberculosis. Professor Delepiere, with T. S. Lloyd, M.R.C.V.S., made a most careful examination and have submitted their report. The chief advantage of the results regarding the prevalence of the disease amongst milch cows is the per centage of cases in which re-acting animals were found to have diseases of the udder. In the city itself, amongst Manchester cow sheds of 603 animals re-acting and examined, 12 were found with diseased udders, and of these 12 only one was found to be tuberculous. Of those outside the city boundaries, 555 were examined, and of 39 affected udders only two were tuberculous. The final examination included 2,060 cows on 108 farms, the milk from which came by railway. Of the large number tested only 12 were found tuberculous in the udder. The significance of these figures is great. One may accept all that has been said about re-acting dairy cows, and see with it all how small a ground there is for any danger to the health of the general public from the milk supply. 3,218 cows carefully examined by experts gave 15 cows whose milk if used alone would be suspicious. The report has given great satisfaction to the general public in England.

BREED TYPE.

We hear a good deal about breed type at our fat stock shows and discussion as to whether the judges should place first the fattest animals or should in judging take into account breed type. Unless breed type and symmetry be studied the awards will not be of much use to breeders. Butcher judging will sometimes put forward very fat animals, lacking quality, and with humps and patches which indicate a very undesirable quality of meat. The animal with smooth lines will be found to have the greatest weight in the least bulk. We want now lean marbled meat and that upon the right places. The little points of breed type are those very useful to the feeder indicating valuable properties. A broad face usually gives good temper, and a short nose a kindly feeder. Light bone goes with aptitude to fatten quickly, while heavier bone is thought to give more lean meat with less fat. Quality of skin and hair indicate much to the breeder, and these and many other points altogether go to make up the ideal animal true to breed type.

GROUND HOG.

The ground hog, or woodchuck, as he is sometimes called, is quite common in most parts of Canada—taking the place, in a less aggressive degree, of the English rabbit. It burrows and lives usually in the hay fields, where it feeds on the grass and clover, and sometimes makes its home in a grain field. The ground hog is solitary in its habits, seldom more than one in a burrow, unless it be a mother and her young. He belongs to the soil and his body is thick, heavy and flabby. His legs are short and stout and made for digging, rather than running. For a short distance he can make quite a spurt, but he does not often venture far from the mouth of his burrow. When overtaken and cornered he will put up a good fight with a dog. Ground hogs hibernate during the winter. They make a

long burrow eight or ten feet from the outlet, first down then coming up and running nearly parallel with the surface of the ground, and in this they make a warm nest. They are usually very fat in the fall. During October and November they curl themselves up in their nest and sleep till March or April. Respiration is carried on very slowly and all the vital processes are nearly at a standstill. If dug out during this time they may be rolled about like a ball without awakening. Put before a fire they will gradually unroll, open their eyes, crawl feebly about and probably make for a dark corner, roll up again and go to sleep. They do not do a great deal of damage to the farmers. What they eat is not much missed, but the holes are annoying in the hay field. The flesh is said to be quite good, though seldom used by people in the country.

Eastern Dairymen Meet

Large Crowds, Splendid Addresses, Enthusiastic Gathering

The dairymen of Eastern Ontario did themselves proud last week. It was the occasion of the annual convention of the Dairymen's Association of Eastern Ontario, which took place at Smith's Falls. The attendance was so great as to tax the accommodation of the town to the utmost and sleeping room was at a premium. The annual gatherings of the Association have grown to such an extent of late years that only large size towns, with plenty of hotel accommodation and a large hall are sufficient to meet the needs of the dairymen. The local committee this year, led by Mr. M. K. Everetts, made a determined effort to make a success of the gathering, and this, coupled with the enthusiasm and energy of President Derbyshire and Secretary Murphy, would ensure the success of any gathering. Through the generosity of the Windsor Salt Co. the members of the Association were presented with an artistic medal and badge engraved to designate membership to the Association. This was greatly appreciated by the dairymen.

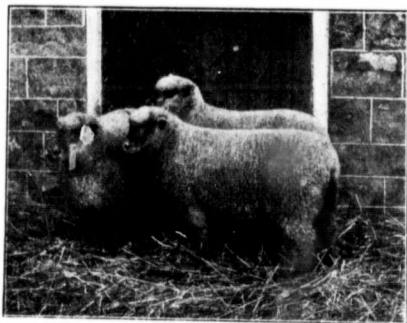
The great event of the occasion was the visit of His Excellency the Governor-General and his amiable consort Lady Minto. Their Excellencies arrived at 1 p.m. on Wednesday, and were presented with an address by the dairymen, to which Lord Minto replied in part as follows:

When he had visited Smith's Falls fifteen years ago with Lord Lansdowne, the place was but a small village; to-day it is an important divisional point on the C.P.R. The progress of dairying in Canada had kept pace with the progress of the town. At the Chicago Fair Canada won more awards than any other country. In 1890, continued his Excellency, our exports of cheese were valued at \$9,372,212; last year they were \$19,836,324, or an increase of upwards of ten million dollars in one decade. Our exports of butter, valued at \$340,131 in 1890, amounted to \$5,122,156 in 1899. For this progress much credit is due to the dairy conventions, which are bringing experts in cheesemaking in touch with progressive farmers. By this means much is being done to enable our farmers to meet the world-wide competition they are forced to face, but there is still room for progress in cheaper production, in extending and developing mar-

kets and in improving and cheapening transportation. More must be done, because the old world is studying our methods and adopting our improvements, and we must keep on improving in order to stay abreast with rivals. In improving we have the advantage in this new country of learning from the successes and failures of the old, where, after all, people are slower to adopt new methods than they are here.

PRESIDENT'S ADDRESS.

The convention opened with the annual address of the president, who emphasized the employment of only good makers and the necessity of every dairyman keeping good cows and feeding and caring for them in the very best way. Good milk is necessary in order to make the finest cheese. Fully one-third of those engaged in dairying are not making money, nor have they the facilities for doing the best work, nor do they seem to care. This was an appropriate time to turn over a new leaf. Not as



Trio of Southdown Ewe Lambs, winners of First Prize at Toronto as a pair, and 1st and 2nd single, and 1st for pen of three at the Provincial Winter Fair, Guelph, 1900. Bred and owned by John Jackson & Sons, Abingdon, Ont.

much milk was supplied in 1900 as in 1899. While our exports of cheese, from 1st of May to the 1st of November, were 2,077,000 boxes, and the stocks on hand, the make of 1900, were 323,000, making 2,400,000 available for export for the season, which will bring \$2,500,000 more than in 1899, still our exports of butter will be \$2,000,000 less than in 1899. This is only a gain of \$500,000 on the season's make, with the highest prices throughout the season on record. I am very sorry that we did not make more butter. There is more room for expansion in butter than in cheese. We have sixty per cent. of the cheese trade with the mother country, and only seven per cent. of the butter, which is nothing like a fair proportion. He estimated the make of cheese and butter for 1900 at about \$25,000,000, and hoped that in 1901 they would reach the grand total of \$30,000,000. Home consumption was increasing and will become a more important factor in regulating prices. We should not make winter cheese but winter butter from November to May. This would equalize our production. Better cars for transportation must be secured. Cheese should not be a couple of days on the way in open cars. He complimented the work of the instructors and expressed the gratitude of the dairymen to Hon. Mr. Fisher and Hon. Mr. Dryden for the excellent aid rendered by the departments over which they have charge both financially and otherwise.

WEDNESDAY AFTERNOON.

Dr. Saunders discussed the question of manures and experiments at the Central Experimental Farm. Among other things he said:

Ensilage was not a complete ration; grain should be added, but cattle fed with bran or grain return in manure a large part of the cost of the feed. Manure should be placed on the ground as soon as made. A loss of 40 to 60 per cent. in weight is sustained by rotting. Commercial fertilizers are a good addition to farmyard manure, but cannot take the place of the latter, which adds both to fertility and humus. A ton of ordinary barnyard manure contains 10 lbs. nitrogen, 6 lbs. potash. H. S. Foster, President of the Bedford Dairy Association, advocated co-operation among dairymen in buying as well as manufacturing. There was nothing in farming that would pay better than dairying with ensilage as the basis of production.

Arthur Hodgson, President of the Montreal Butter and Cheese Association, said the exporters and makers should come together more frequently. The cause of the high price of cheese last year was because no fall cheese was left over from 1899. Makers closed up at the end of October in 1899 and everybody in England was consequently hungry for cheese last May. Last fall 50,000 to 80,000 cheeses were made in November, and if this is followed by a big make in April, low prices will rule this year. There should, therefore, be no making in April.

HAND SEPARATORS

formed the subject of an exceedingly practical address by Prof. Dean. The hand-separator will enable the private dairyman to get more cream from the milk, thus increasing his make of butter. It also enables him to make better butter. In the home dairy the hand-separator is a great help. It also is an aid where a butter factory has a system of cream gathering and the distance for hauling is long. But if, with the introduction of hand-separators, comes the withdrawal of supplies from whole milk creameries and an increase of private dairying, the effect will be injurious, since our export butter trade absolutely depends on the maintenance of the factory system, with its uniformity of product.

One difficulty with the new hand-separator system was that the majority of farmers do not keep the separators clean. The cream is delivered only once or twice a week to the creamery, and under such conditions as the average farmer has, it is difficult to keep cream pure and sweet for so long a time. Then when fresh cream was dumped in with old cream without cooling the former, bad results followed. An Australian authority attributed the deterioration of Australian butter to the use of hand-separators and not delivering cream often enough.

EVOLUTION OF THE CANADIAN DAIRYMAN.

At Tuesday evening session Prof. Dean spoke again on this subject. Evolution meant change from a lower to a higher plane. Evolution is a process of education largely by experience and by observation. The dairy farmer had the most difficult part in our co-operative dairying to perform, and it was harder to work a change in his methods. He has many difficulties which the maker has not. The dairy farmer in the Western

part of Ontario had a harder time than the farmer in the Eastern part, owing to the severe summer drouths in the West, making more summer feeding necessary. Corn ensilage with bran is best for summer feeding. At the College 30 to 40 lbs. of silage and 4 to 6 lbs. of bran were fed to cows during the summer and did not injure the milk. In some cases the silo was more necessary for summer use than for winter use. For the full year 23 cows averaged over 7,000 lbs. of milk, many grade cows going as high as 8,000 to 10,000 lbs. Farmers must feed better. He gave an account of the experiments in feeding apples and apple pomace, particulars of which appeared in *The Farming World* of Oct. 30th last. The maker must read and experiment to succeed. Milk heated to 140 to 200 degrees and separated showed less loss of fat in skim-milk and butter milk than at 90 degrees, and the keeping qualities of the butter were improved. For export trade pasteurizing was necessary in winter to give better flavor. Not so necessary in summer. 185 degrees destroys creaming qualities by gravity-method. He did some work with moisture in butter. In England butter containing over 16 per cent. of water was considered adulterated. The more salt used the less moisture. A dry appearing butter may have more moisture. The more working the less moisture. Dry or wet salting had no effect on moisture. Butter made in large granules did not keep so well, as too much milk was incorporated with the butter, otherwise the kind of granule did not effect butter. The overrun was about 10 to 15 per cent., when larger there was something wrong. Three years' experiments in curing cheese showed that curing at 60 to 65 has saved 1 lb. in every 100 lbs. in 30 lb. to 40 lb. cheese, and 1-2 lb. in every 100 lbs. in 70 to 80 lbs. of cheese. Washing curds at 90 to 110 degrees improved flavor in bad flavored curds, but had no effect on good flavored curds. Loss of 1 lb. on 1,000 lbs. of milk by washing at 90 to 100 degrees. Aeration gave no increased yield of cheese. It did not improve quality of cheese from fine flavored milk. In many cases aeration does no good. With healthy cows, kept clean, well fed and care for, aeration is time and money wasted. Milk cooled in hot weather was better. Night's milk cooled to 62 degrees and 1 oz. to 1 lb. of starter used worked too fast for cheese-making. When cooled to 46 degrees and starter added, worked well and had pleasant flavor. If patrons would cool to below 50 degrees and if the maker understood the starter gas in curds could be controlled.

THE CENTURY'S PROGRESS.

This formed the topic of a most excellent address by C. C. James, Deputy Minister of Agriculture. A figure to represent Canada to-day would be a modern dairyman or dairymaid. There has been little written about the development of agriculture during the century. Modern agriculture showed the greatest development of all. 75 to 100 years ago farmers were busy making homes out of the wilderness with incomes derived largely from timber, ashes, grain and furs. 25 years later there was a step upward, when settlers came in, bringing cows and horses. There was a more marked step upwards 25 years later, when co-operative cheese and butter making was introduced. Dairying has made more progress than any other industry. Fruit-growing followed later, and to-day

the farmer has a bright future before him in the development of butter-making, the bacon trade, poultry, fruit and pure-bred stock. The people were now assisted by the Government as never before, which aided by giving information, helping conventions, farmers institutes, publishing reports, bulletins, etc. People must place themselves in proper relation to all these helps. People should not depend too much on outside help, should do all they can themselves. If towns, instead of bonusing factories, would create industries such as creameries to help farmers, there would be greater prosperity in the towns.

Many think agriculture the maximum of hard work. But this is not so. Many business men work much harder. If the attractiveness of agriculture is pointed out and kept to the front, more boys will be willing to remain on the farm. There are new features opening up every day which make it attractive. The future of Canada does not depend on her mines, her fisheries or her forests, but on her agriculture. What great possibilities are behind it all. The average milk output per cow in Ontario was 4,000 lbs. If this were increased to 7,000 lbs. the average of the herd at the College, it would increase the value of milk products in Ontario by \$12,000,000. Girls and boys should be properly trained and fitted for this great work of development.

Dr. Saunders followed with an address on the Experimental Farms, their origin and their work. The readers of *The Farming World* are familiar with this work for details of which see our Exhibition number of September last.

CREAMERY BUTTER-MAKER.

This was the first topic discussed on Thursday morning, the speaker being J. W. Hart, Supt. of Kingston Dairy School. He referred to the falling off in butter exports. Local demand is increasing. The process of making cheese and butter is a wasteful one. Cost of production should be kept down. Silage is a good summer feed. Silage does not injure flavor except by the cows inhaling odor in badly ventilated stables. At the Kingston school patrons were gradually changing from summer to winter dairying. Many winter creameries close up early because enough has not been expended to properly equip the factories for the work. Cement floors the best. Wooden floors do not last over four or five years, besides, machinery does not run well on wooden floors, as it sags and shakes. When cream is pasteurized up to near the boiling point and cooled quickly, good results followed. Better results from churning at a low temperature, but cream must be thick but not so thick as to cause loss by adhering to the sides of the can and not being churned. After pasteurizing have had as good results by cooling to 65 degrees, add starter and cool again. Cream should be thin enough not to stick to sides of churn. The higher temperature for skimming the better the skimming. In 4 per cent. milk got 1 lb. cream from 10 lbs. milk or 40 per cent. cream. Got 4 lbs. of butter from 10 lbs. of cream.

CHEESE-MAKING.

Mr. G. G. Publow, head instructor for the Eastern Association, gave some valuable hints to makers. The essentials to cheese-making are suitable buildings, milk in good condition and intelligent makers. A suitable building is one

in which temperature can be controlled, good drainage, etc., with best equipment. Milk should be sweet, from healthy cows well fed on good food, and should be brought to the factory in a condition so that curd can be brought to proper firmness in working. Should employ no maker who takes in bad milk. Cleanliness was the watchword for the patrons. If weather is warm milk should be cooled to 60, if cool weather aerate only. One great fault in the past season was shipping cheese too green. No better way of ruining trade. Makers ripened milk too much, causing it to work too fast, so as to get a cheese to cure in a couple of days. He mentioned cases where cheese made on Monday were shipped on Thursday. The market wants a silky texture and close-cutting cheese, which can't be made by over-ripening. To make a meaty cheese, should have sweeter milk and keep longer in whey. No cheese should leave the curing-room under two weeks old. Over ripening milk made a cheese that breaks down too quickly and will be a little sour. Such cheese will never be fine, and the longer they are kept the worse they are. Owners should put factories in proper condition, sanitary and otherwise. No use feeding cows and sending milk to a factory when there is not the proper facilities for making. Patrons should not feed turnips, and the maker should not be compelled to pay for bad flavored cheese that he is not responsible for. Makers should not be hired because they are cheap. In some of the smaller factories, one man handles more milk than he can make up properly.

DEFECTS IN OUR CHEESE.

Mr. J. A. Ruddick, of the Dairy Commissioner's staff, followed, pointing out some of the defects in Canadian cheese gathered from his work at Montreal during the past season. Mr. Ruddick, as our readers know, returned last year from New Zealand, and at this, his first appearance before a dairy gathering since returning, met with a fine reception. There was a great danger in thinking we were perfect in our dairy methods. We should aim to equal the best English and Scotch cheese in quality. A standard for our cheese would be clean in flavoring, fine in texture, even in color, and should fit the box snugly at all points. Hot weather or fodder cheese are not expected to have the flavor of September goods. The following are the chief defects given in the order of their prominence: Open cheese, due chiefly to lack of acidity, negligence in press-work, could be easily avoided. Open cheese are more noticeable in the East than in the West. Weak cheese or extreme openness, with excess of moisture. No more reliable way of testing when a curd is ready for the salt than by the hot iron test. Unclean flavors, which include all bad flavors not otherwise classified, such as those caused by bad feeding, sour whey, etc. Not many had taints from feeds, except turnips and such like foods. Off flavors, or what are known in the trade as stinkers, are caused mostly by excessive heat. When a cheese is cured at 60 to 65 degrees it will keep well, but at a higher temperature will be off flavor. Acidic cheese were quite numerous last September and October, due to warmer weather than usual, and the milk being too mature before setting. Fruity flavors, not definitely known, but supposed to be of bacteriological origin. It is more common

in the autumn. Pasty cheese, due to too much moisture. Makers should employ heat rather than too much stirring to get moisture out. If all the bad flavors are grouped together there is more complaint of them than any other fault. Flavor can be traced largely to the milk. Makers should reject all bad milk. Patrons lose more by bad milk than by tampering with milk. There have been serious complaints about the boxing. Very often 50 per cent. of the boxes are broken, and fully 10 per cent. are broken on all cheese. Boxes should be heavier and closer fitting. Damp boxes are too numerous in the fall, due to being used when new. All boxes should be thoroughly dry before cheese are put in.

CANADIAN "FILLED" CHEESE.

An interesting discussion took place on cheese and butter-making. Mr. James Alexander, cheese exporter, Montreal, backed up everything Mr. Ruddick had said about the defects in cheese. He believed the Canadian cheese had gone back five years in reputation. The factory-men were getting too cunning and selling whey instead of cheese. The English dealer is asking why our cheese will not keep as well as they formerly did. It was due to shipping too green. Make cheese to break down in 15 to 20 days. The trade does not want early or late cheese. There was more poor cheese shipped from small than large factories. Mr. Arthur Hodgson corroborated what Mr. Ruddick and Mr. Alexander had said. Cheese were finally disposed of three months after they were made, and therefore should be keepers. We had lost ground that it would take a long time to recover. Mr. Hodgson made the astounding statement that among several lots of cheese during the past season he had found cheese with old, rancid curd in the centre and colored curd in the centre of a white cheese, a most disgraceful practice. It developed in the discussion that some makers who had a batch of rancid cheese would grind it over and put a quantity in the centre of a number of good cheese. Makers should keep out culls or have them marked. Don't try to smuggle them through. All the cheese in a factory should be uniform in weight.

THE PATRON.

The Hon. John Dryden gave a most instructive and inspiring address, dealing chiefly with the man behind the cow. The farmer is the most important in the whole crowd, because he has the raw material to deal with. It is hard to reach delinquents. At the Farmers' Institutes and large conventions only the best farmers are reached. The instructors employed by the Association were devoting too much time to milk-testing. Their whole time should be taken up in instructing the maker and the patron. That is what the increased grant was given for. Farmers must be educated to be honest; cannot compel him to be so by law. Instructors should arrange for meetings of patrons and all factories should be visited as much as possible. There were parts of the provinces never reached by the dairy associations. He would like to see the next convention at Whitby. While looking to New Ontario it will not do to neglect Old Ontario. He expressed himself as being delighted that the Governor-General had graced the convention with his presence. Lord Minto had done himself credit by such an act.

CURING CHEESE.

At the opening of Thursday afternoon session there was some further discussion on making, in which it was shown that greasy curds were due largely to old milk. To remedy this raise temperature higher and handle the curd often after the whey is removed. A good plan is to wash curd at 94 degrees, just before adding salt. Should ripen with a starter rather than in the vat. Mr. Ruddick followed with a paper outlining a series of experiments carried on under Prof. Robertson's direction by Mr. Woodward at the Carp factory. Three cheeses were on the platform, one of which was cured in a room fitted up with a sub-earth duct, so that the temperature could be controlled. Another was cured in a room having fair conditions but no duct, and a third cured under such unfavorable conditions as prevail in too many of our factories to-day. We have secured a copy of Mr. Ruddick's paper which we will publish later. Suffice it to say that those cheeses were examined by a committee of experts in Montreal, who valued the first as being worth 10c. per lb., the second 9 1-2c and the third 9c per lb.

Prof. Robertson followed, enlarging somewhat on these experiments. He branched out, however, and gave an interesting address on some of the lessons of the past, and the encouragements for the future. One hundred years ago the United States had a smaller population than we have now, but had not half the power in resources that we have. One hundred years hence we would have 60,000,000 people, and their fortunes would depend upon the work of the next 20 years. A great power for good is education. There should be no competition with other nations excepting to excel. There was a large opportunity in dairying. The difficulties in dairying do not grow less, and it is not so easy to send good sweet milk to the factory as when the business was new, owing to the growth and accumulation of germ life around the dairies. Good management meant knowledge and ability. A practical putting into practice what one knows gains ability to practice. Something acquired for nothing was not always good. Do things rather than say things. Dairying improves man's intelligence and practical ability and co-operation make for progress. In 1880 we exported one-third of the cheese the United States did. In 1890 we were even with them, and in 1900 we exported three times as much. Taking the six leading food-stuffs our exports have increased from \$37,000,000 in 1846 to \$67,000,000 in 1900. He would like to see more makers' associations to discuss in detail the making of fine butter and cheese. The professor then dealt with the value of proper crop rotation and the selection of seeds. He exhibited two samples of peas. In one lot, raised by selecting the largest peas for three years, each pea was twice the size of the individual pea in the other lot, raised by selecting the smallest grains. There had been a gain of 25 per cent by selecting the long ears of corn for planting. Sunlight in the stables and white-washing would do much to drive out tuberculosis. Market value of cheese is largely controlled by the temperature of the curing-room.

In the experiments referred to the value on 900 cheeses kept in the room controlled by sub-earth duct, was \$405 more than the same number in the curing room where there was no duct and which was not fitted up to control temper-

ature. These extra fittings could be put in at a cost of \$335, and thus a factory would save fully \$70 above cost the first year by the investment. Two ducts were necessary, and there should be two ply of lumber and two ply of paper on the inside of the curing room besides double doors and windows.

COW CENSUS.

Ex-Gov. Hoard, of Wisconsin, followed with an address on the profit and loss of cows, basing his remarks on figures obtained by taking a census of all the cows supplying milk to creameries and cheese factories in certain townships in several States of the Union. Some remarkable figures were given. In a census taken of 100 herds in Wisconsin, containing in all 1,082 cows, the average cost of food was \$29.83 per cow, the earnings \$45.83 per cow. The highest earnings by 15 cows, high grade Jerseys, was \$61.41, and the lowest \$28.53 by 13 native cows. Out of the 100 herds 11 herds earned from \$30 to \$35; 17 from \$35 to \$40 per cow; 32 from \$40 to \$45; 8 from \$35 to \$60, and only one went over \$60. The 100 herds averaged 4,740 lbs. of milk per cow, and 251 lbs. of butter, 4 herds yielded from \$2 to \$2.08 for \$1 of food consumed. The best percentage of profit was made by 16 grade Jerseys which cost \$26 per cow, and earned \$52 per cow. Two herds only earned 96c. to 97c. for \$1 of food consumed. The dual purpose cow was away down in the list. In 100 Iowa herds, comprising 982 cows, 4 made from 2.11 to 2.30 for \$1 of food consumed. Of the lot 58 averaged over \$1 for each dollar of food consumed, and 32 less than \$1, losing from 2c. to 66c. per dollar of food consumed.

DAIRY BACTERIOLOGY.

This was the subject of an able paper by Dr. Connell, of Queen's University. He discussed its bearing on cleanliness and how patrons might prevent germs from contaminating the milk. Cleanliness was the balm for it all. Manure particles, dust, etc., getting into the milk were the chief sources of bacterial infection.

AN EDUCATIONAL EVENING.

The evening session of Thursday was given up largely to addresses on educational subjects by the inimitable Hoard, with his fund of humor and sound common sense, and Prof. Robertson, who dealt to some extent with the manual training movement, and stated that he had good reasons for predicting that instruction would be given in 100 rural schools in Ontario from small garden plots attached to the schools. Previous to these addresses Mr. Ruddick gave a talk on New Zealand.

OFFICERS FOR 1901.

The old officers of the Association were all re-elected and a new office created in that of 3rd Vice-president, which was filled by the election of Mr. John Ecklin, of Carleton Place. A Makers' Association was formed, to be affiliated with the main Association. Robert Livingstone, Smith's Falls, was appointed President, Johiel Buro, Cornwall, Vice-President, and Wm. Newman, Spencerville, Secretary.

The prizes for essays were awarded as follows: In butter,—1st, J. W. Newman, Brockville, Ont.; 2nd, J. M. Livingstone, Pembroke, Ont. In cheese—1st, R. W. Thompson, Springbrook, Ont.; 2nd, Anson Dunlop, Roebuck, Ont.

(To be continued.)

Beet Sugar Experiments

NEWMARKET.—On September 25th, a sample of ten beets taken from an average row as they came in a row, was pulled from every one of 45 plots of beets, each of which was grown upon a different farm lying about Newmarket, York County, within a radius of 6 miles of the town. The same day as pulled, the beets were sent to the Ontario Agricultural College, at which place they arrived at 10 o'clock the following day, in a perfectly fresh condition. Upon the day of their arrival, the average gross and net weights of the beets from every plot were determined, and the analysis made.

The process of analysis requires the roots to be made perfectly clean, reduced to a pulp, and the pulp expressed. The juice obtained therefrom contains from 14 to 18 per cent. solids held in solution, 75 to 90 per cent. of which solids are sugar. By the use of an instrument called a Brix hydrometer, the per cent. of total solids (sugar forming the greater part), and by the use of another instrument called a Saccharometer, the per cent. of pure sugar contained in the juice, are determined. Knowing therefore the per cent. of total solids in the juice expressed from the beet, and also the per cent. of pure sugar in this juice, by a simple process of calculation, the purity is determined; for example, should the per cent. of pure sugar in the juice be equal to the per cent. of total solids in the juice (which is never the case), it is perfectly clear that the total solids of the juice would be in such an instance entirely sugar, in which case the purity would be 100; but, since the total solids of the juice contain more or less nutrients, which are not sugar, the sugar forms less than 100 per cent. of the total solids of the juice. The term "purity" means, therefore, the per cent. which the sugar forms of the total solids in the juice expressed from the beets, and should not be less than 80, though it may vary all the way from 70 to 90.

In a similar manner samples were collected from the same plots upon the 9th October, 23rd October and 6th November. The table below gives a summary of the results for Newmarket:

No. of Samples.	Date.	Average Weight of Root.		Per Cent. Sugar in Juice.	Purity.
		Gross.	Net.		
		lb. oz.	lb. oz.		
45	Sept. 25	1 1 $\frac{1}{2}$	15 1	15.3	81.9
45	Oct. 9	1 1 $\frac{1}{2}$	15 $\frac{1}{2}$	14.7	83.1
45	Oct. 23	1 3 $\frac{3}{8}$	1 1 $\frac{1}{2}$	14.2	84
45	Nov. 6	1 3 $\frac{3}{8}$	15 $\frac{1}{2}$	15	84.1

Data are being collected in these experiments regarding cost of production and yield in tons per acre. Thirty-one of the Experimenters about Newmarket have reported cost of production which averages \$25.80 per acre. Seven have not yet reported cost of production. Thirty-six of the experimenters have reported yield per acre, which averages 16 tons 1,845 pounds of tared beets, that is to say, beets as taken to the factory, less the dirt and trimming, which are deducted as waste by the factory. Of the 36 yields reported, the highest was of 25 tons 913 pounds, net weight, and the lowest 8 tons 1,400 pounds.

AYLMER.—From Aylmer, samples of beets were pulled and forwarded to the Ontario Agricultural College in the same manner as above

from Newmarket. The following table summarizes the results of the experiments about Aylmer:

No. of Samples.	Date.	Average Weight of Root.		Per Cent. Sugar in Juice.	Purity.
		Gross.	Net.		
		lb. oz.	lb. oz.		
46	Sept. 20	1 1 $\frac{1}{2}$	14 $\frac{1}{2}$	14.8	84.2
47	Oct. 4	1 1 $\frac{1}{2}$	15 $\frac{1}{2}$	13.8	83.5
47	Oct. 18	1 1 $\frac{1}{2}$	15 $\frac{1}{2}$	14.4	85.9
45	Nov. 1	1 2 $\frac{1}{2}$	1 7 $\frac{1}{2}$	14.2	86.5
45	Nov. 15	1 4 $\frac{1}{2}$	1 1 $\frac{1}{2}$	13.0	86.8

Twenty-eight reports from Aylmer, regarding cost of production, give an average of \$28.35 per ton. Eighteen have not yet reported cost of production; consequently this figure may be somewhat altered when the other reports, which are expected daily, are included. Forty-five have reported yield in tons per acre, the average of which is 18 tons 772 pounds. The highest yield reported from Aylmer is 30 tons 531 pounds, and the lowest 10 tons 62 pounds.

WELLAND.—Similarly, samples were pulled and collected from the neighborhood of Welland, the results of which are summarized in the following table:

No. of Samples.	Date.	Average Weight of Root.		Per Cent. Sugar in Juice.	Purity.
		Gross.	Net.		
		lb. oz.	lb. oz.		
37	Sept. 20	1 15 $\frac{7}{8}$	13 $\frac{3}{8}$	15.1	82.5
36	Oct. 4	1 14 $\frac{1}{2}$	13.7	13.7	82.8
36	Oct. 18	1 3 $\frac{3}{8}$	1 1	14.2	85.9
39	Nov. 1	1 14	14	14.5	85.4
39	Nov. 15	1 14 $\frac{1}{2}$	14.4	14.4	84.9

From the Welland experimenters 26 reports, regarding cost, have been received, which average \$30.40 per acre. Reports regarding cost have yet to be received from 11 experimenters. Twenty-eight reports regarding yield in tons per acre show an average of 14 tons 415 pounds of tared beets. The highest yield in tons per acre of tared beets reported from Welland is 24 tons 83 pounds, and the lowest 4 tons 1,000 pounds.

The percentages of sugar, as given in the above tables, are not to be averaged for the entire season. They are to be taken simply to represent the average content of sugar in beets from a given number of plots upon given dates. The differences in these percentages of sugar upon the different dates are influenced largely by two factors, first, maturity of the beet; second, tendency of a second growth to start, caused usually by a rain followed by warmer weather.

In a few days all the reports will have been received regarding cost of production and yield in tons per acre, after which the entire experiment upon the cultivation of sugar beets in Ontario in all its details will be published.

A careful comparison of the figures under "Average Weight of Root" in the three tables, shows that the beets about Newmarket grew practically none after Oct. 23rd, while those about Aylmer grew steadily from October on till Nov. 15th, and those about Welland, like those at Newmarket, grew apparently none after Oct. 18th. These facts partly account for the percentages of sugar in Newmarket and Welland beets remaining fairly constant, while those in Aylmer beets tend to slightly decrease. It was particularly dry about Welland and

Aylmer during May, June and July, then fairly wet with high temperature during August and early autumn. Such weather conditions are not so favorable for a first-class sugar beet crop as warmth and moisture in spring and summer, followed by fair cool weather in autumn.

Had the beets been grown as mangolds are, in drills, 27 to 30 inches apart, and 9 to 12 inches apart in the drill, much lower percentages of sugar and a lower purity would certainly have resulted. Among our experimenters there were several who failed to cultivate according to directions, but who adhered to the methods long practised by farmers and encouraged by our exhibitions for growing large roots.

The following table shows the results of such cultivation in comparison with the results of right cultivation, which aims first for quality and second for size, instead of size only, regardless of quality:

		Cultivation.		Difference.
		As recommended for factory beets.	As commonly practised for feeding and exhibits.	
NEWMARKET.	No. of Samples ...	143	4	
	Per Cent. of Sugar in Juice	14.9	13.1	1.8
	Purity	83.5	79.4	4.1
WELLAND.	No. of Samples ...	144	33	
	Per Cent. of Sugar in Juice	14.8	12.2	2.6
	Purity	85.6	79.7	5.9
AYLMER.	No. of Samples ...	227	5	
	Per Cent. of Sugar in Juice	14.3	11.5	2.8
	Purity	85.5	78.6	6.9

Remembering that a sample contains nine to ten beets pulled from an average row, and not selected, but taken as they come in the row, it will be conceded readily that the figures above represent the sugar-producing quality of the two classes of beets, viz., those receiving cultivation as recommended for factory beets, and those receiving the cultivation commonly practised for feeding and exhibition beets. The former contain from 1.8 to 2.8 per cent. more sugar and from 4.1 to 6.9 higher purity than the latter.

It is the former class of beets and not the latter that sugar beet factories require. Such beets can be grown abundantly in Ontario, by the adoption of a right method of cultivation. If the farmers would give a guarantee that they would follow the right method, and that they would cultivate at least 4,000 acres in the vicinity of a proposed factory, capitalists would quickly erect factories in our province.

Farmers about Newmarket report the average cost of production to be \$25.80 per acre, those about Aylmer \$28.35, and those about Welland \$30.40; while the same farmers produced this year an average of 16 tons 1,845 pounds, 18 tons 772 pounds, and 14 tons 415 pounds per acre respectively.

A beet sugar factory could not expect to obtain beets at less than \$4 per ton. Taking an evidently moderate average yield of 12 tons per acre at \$4 per ton, the gross return would be

\$48 per acre; but our experiments of this year prove that this estimate is too low, that we can count, at least, on 15 tons net per acre, which, at the low price of \$4 per ton, would realize for the farmer \$60 gross or about \$30 net profits per acre. By the application of the most scientific and skillful methods of soil preparation, planting, cultivation and handling, the Ontario farmer, with his splendid soil and climate, could easily realize much more handsome profits than these.

A. E. Shuttleworth,
Ontario Agricultural College, Guelph.

Farm Implement Department

Owing to the pressure of other matter we have been compelled to hold the Farm Implement Department, which should have appeared this week, over till next issue. Look out for something pretty good in this line next week.

Horses' Feet

There is probably no characteristic more hereditary in the horse than the soundness, or unsoundness of the feet. Perhaps the shape of the feet are hardly taken into consideration enough by the majority of breeders, and the keeping of those organs in order is certainly neglected to a large extent by many people, especially they that shoe. Of course, a foot that has become contracted through bad shoeing could not possibly effect the progeny, but some feet are very much more susceptible to mistakes made in making and fitting the shoes. It is at once noticeable how wonderfully sound and well the feet of horses will keep when they are not worked on roads, and have not been shod, except, perhaps, for a few months in the summer, when the ground is especially hard. The frog is expanded, and the foot is generally healthy; while a horse constantly standing in the stables, always working on hard roads, and never without shoes on, possesses feet of quite another shape. Sample, in his remarkably able work on the horse, insists that the frog should be flush with the ground, so that it can, and does, come into constant use. This, he says, is the natural duty of that part of the foot, and if it be not allowed to thus do its work, it will become contracted, and affect the whole foot to a serious extent. Whether this is literally true has often been doubted, for, though it is natural for a horse to constantly use the frog of his foot, it is not natural for him to use it on a metal road. However, it can be nothing but injurious for the frog to be away up in his foot, contracted and small. On stations, horses are not running on roads, and when shod the frog should have the same play on the ground as when not shod. Either out of laziness or mistaken judgment, a large proportion of the smiths fail to take down horses' feet, and so the frog has no play at all. The meaning of a shoe upon a horse is to prevent the wearing down of the wall of the foot. It is not intended for it to be a piece of iron put there to throw the whole foot out of its natural working order. A horse with a contracted frog must necessarily always have an unhealthy foot. Besides, when the heel is so little taken down by the shoes as to keep the frog from touching the ground, the horse is thrown on to his toes, and all his weight comes to be supported by this part. Another

reason why horses that are constantly shod suffer so frequently from their feet is the effect on the soles, both of the shoe and of the shoer's knife. Neither sole nor frog should ever be cut, but should be allowed and encouraged to assume their natural size. Many horses that are stabled and shod suffer from corns, and these are caused from cutting the sole and from pressure on that part by the shoe. As before stated, the object in shoeing is to prevent undue wearing down of the wall of the foot, and the shoes should be made and fitted so that the wall of the foot and not the sole, may receive the weight. It is seldom that this is successfully carried out, for it is rather difficult of attainment. If the shoe be bevelled, it will be found that the desired object has been arrived at. The bevelling of a shoe will protect the sole, and, at the same time throw the weight on to the wall of the foot, and not on to the sole.

—Pastoralists Review.

CORRESPONDENCE

Distribution of Seed, Grain and Potatoes

Editor THE FARMING WORLD:

During the past 12 years samples of those varieties of grain, etc., which have succeeded best on the several Experimental Farms have been distributed on application in 3-lb. bags, free through the mail, to farmers in all parts of the Dominion. The object in view in this distribution has been to add to the productiveness and improve the quality of these important products throughout the country, by placing within reach of every farmer, pure seed of the most vigorous and productive sorts. This work has met with much appreciation, and a large measure of success.

Under instruction of the Hon. Minister of Agriculture another distribution will be made this season. Owing to the very large number of applications annually received, it is not practicable to send more than one sample to each applicant,—hence if an individual receives a sample of oats, he cannot also receive one of wheat, barley or potatoes. These applications for more than one sample for one household cannot be entertained. These samples will be sent only to those who apply personally, lists of names from societies or individuals cannot be considered. The distribution will consist as heretofore of samples of oats, spring wheat, field barley, field peas, Indian corn and potatoes.

Applications should be addressed to the Director of Experimental Farms, Ottawa, and may be sent any time before the 1st of March, 1901, after which date the lists will be closed, so that the samples asked for may all be sent out in good time for sowing. Parties writing will please mention the sort of sample they would prefer, naming two or three different varieties of their choice. Should the available stock of all the varieties named be exhausted, some other good sort will be sent instead.

The samples of grain will be sent early, but potatoes cannot be distributed until danger of injury in transit by frost is over. No provision

has been made for any general distribution of any other seeds than those named.

Letters may be sent to the Experimental Farm free of postage.

Wm. Saunders,

Director Experimental Farms.

Ottawa, December 27th, 1900.

Losses in Surface Tillage

Editor THE FARMING WORLD:

In advocating frequent shallow surface cultivation to increase crop production, caution is necessary lest too rigid and general conclusions are drawn. Surface tillage is emphasized because of two positive results—increasing the moisture holding capacity of the crop-producing surface and liberating the insoluble plant food. In getting the first result, however, the danger arises in cutting off the valuable action of the air necessary to enable the nitrifying germs of the surface soil to perform their crop-feeding work, because the soil spaces are filled with water. Heat and air, as well as water, are the three important physical conditions to be maintained in a proper balance during the growing season. Upon these three conditions depends the plant's power to assimilate the chemical constituents of the soil. Hence a richly fertilized soil may be apparently poor in crop results for the lack of above conditions.

Continuous cultivation is of greater importance in a dry season than in a wet season. For this reason summer fallowing in the experience and observation of the writer has given better crop results from the dry than from the wet season.

Experiments have recently been conducted to determine the effect of surface cultivation in increasing the amount of nitrogen in the soil. Cultivation continued from May 24th to August 22nd in periods of one and two weeks at a depth of three inches. On May 24th in the first four feet of soil the average amount of nitric acid was 111 lbs., on August 22nd there was 430 lbs. The soil cultivated three inches deep once a week gained 321 lbs., the soil cultivated once in two weeks 377 lbs., and the soil not cultivated 371 lbs. The experimenters, King and Jeffery, have drawn the following conclusions:

"It is clear in regard to the fallow plots under consideration that if the porosity of the soil on the plot not cultivated was such as to give the nitrifying germs all of the air they could use to advantage, then no amount of cultivation would have increased the rate of nitrification. Indeed, it might be true that frequent shallow cultivation in a wet season, especially on a heavy soil might so much reduce the amount of air which could enter the unstirred soil below the mulch as to act as a positive check, the excess of moisture retained acting to exclude the air and thus retard nitrification or even bring about the reverse process. Then, too, with the soil moisture held to a high point smaller amounts of rain would be able to produce leaching, and in this way cause a greater loss of the nitrates formed than would be the case in a less nearly saturated soil."

Nikopo.

Hamilton, Ont.

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.

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

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

BENEFITS OF MEMBERSHIP.

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

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

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

The name and address of each member, and the stock he has for sale, are published once a month. Over 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 are required to sign by letter on or before the 5th 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.

A. P. WESTERVELT, Secretary.
Parliament Buildings, Toronto, Ont.

FARM HELP EXCHANGE.

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

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

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

Help Wanted

Wanted, young man, unmarried, of temperate habits, and used to all kinds of farm work and the care of cows. Wages \$150 to \$165 a year and board. Good plowman preferred. No. 643. a

Wanted, by April 1, farm hand, who is well up in farm machinery. No. 644. a

Man wanted, by the year, to work on a farm. Good place for right man. Apply to L. F. Staples, Ida, Ont. a

First-class working foreman wanted on a large farm near Winnipeg. Must be married. Wages, \$35 a month. \$10 a month allowed for boarding other men, with fuel, potatoes, meat, etc., supplied. No. 645. a

Good working farm manager, married, with experience in stock-raising and fruit-growing, required on farm in the Niagara fruit district. Graduate O.A.C. preferred. To have share of proceeds instead of salary, or part salary and part share. Permanent situation to a satisfactory man. Also good, practical married gardener, sober, industrious, with no small children, wanted. Wife to do general housework, man to raise vegetables etc., for market and work owner's gar-

den. Liberal share in place of wages. Free house. References required. No. 646. a

Young man wanted on a 100-acre farm in Perth county. Must be used to general farm work, and understand horses and feeding and care of beef cattle. No milking. Wages, \$150 a year, board and washing. No. 647. a

Man and wife wanted on a large stock farm in Minnesota. Must be active and industrious. Give references and experiences. No. 648. b

Wanted, a single man about 35 or 40, one used to feeding cattle and to general farm work. Steady employment and good wages to suitable man. No. 638. b

Good, single man wanted at once on a farm in Muskoka where stock is kept. Wages, \$200 a year. No. 639. b

Married man wanted on a farm. No. 640. b

Wanted, man, a good plowman and handy with a team, who can do all kinds of farm work. Must have no bad habits. Permanent place for one who snits. Wages, \$225 a year and board. Farm is near Carberry, Man. No. 641. b

Trusty man, married or single, can get a good place in Michigan, with good wages and permanent employment. No. 642. b

Domestic Help Wanted.

General servant wanted. Must be good tempered, reliable, and fond of children. No milking. No. 649. a

Housekeeper wanted on a Manitoba farm, one who understands dairy and general housework. Steady employment to suitable person. Middle-aged woman preferred. Wages, \$12 a month. No. 650. a

Situations Wanted.

Man, aged 32, married, with family of two, with good experience of live stock and farm ma-

chinery, wishes to work a good farm on shares. Would go to Manitoba or the United States. No. 470. a

Man 23 years of age, sober and steady, with good experience with live stock and all kinds of farm work, and with good references, wants a place on a stock or dairy farm in the Rainy River District or in Manitoba. No. 471. a

Farmer's son, 22 years of age, strictly temperate and with no bad habits, wants a position on a farm by the year or month. Would work farm on shares or rent a stocked farm. No. 472. a

Young, unmarried man wishes place as manager of a farm, near Toronto or Belleville. Has had good experience in all lines. Or would rent farm if satisfactory terms were given. No. 473. a

Woman, about 30 years of age, wishes position to manage a poultry house for profit; or would run it on shares or for salary. Has had several years' experience in poultry raising at home. No. 474. a

Graduate of O.A.C., with good practical knowledge of dairying, wants a position on a dairy or other farm. No. 468. b

Wanted, situation as farm manager. State salary given. No. 469. b

N.B.—Where no name is mentioned in the advertisement, apply to A. P. Westervelt, Parliament Buildings, Toronto, giving number of advertisement.

Farmers' Institutes.

Under this head the Superintendent of Farmers' Institutes will each week publish matter relating to Institute work. This will include instruction to Secretaries and other officers, general information about Institutes and Institute work, suggestions to delegates, etc. He will also from time to time review some of the published results of experiments conducted at the various Agricultural Colleges and Experiment Stations of Canada and the United States. In this way he hopes to give Institute members some valuable agricultural information which they might not otherwise receive, on account of not having access to the original publications. If any member at any time desires further information along any of the lines discussed, by applying to the Superintendent he will be put in direct communication with the Institution that has carried on the work.

G. C. CHERLMAN,
Superintendent Farmers' Institutes.

Address to Farmers' Institute Workers by Hon. John Dryden.

The following is the Practical Address delivered to Farmers' Institute Workers by Hon. John Dryden, Minister of Agriculture for Ontario, during the Provincial Winter Fair, Dec. 12-15, 1900.

Years ago I sometimes said that there were two classes in the community that I felt were more important than any of the others. These were the teachers and the farmers. The teacher, who had charge of the children from three

to six hours per day, was more intimately connected with them, probably, than even their parents, and frequently had more to do with the formation of their characters. In a properly organized home that may not be so, but, as a matter of fact, I think I was right in that statement. The farmers occupy a similar position of importance because they are the builders of the material prosperity, without which we cannot expect to be a great people. If I was right in that conception, I want to show that the Institute Workers combine these two things. They are usually farmers, and they are also teachers. So that looking at it from this point of view, they are doing a great deal towards the formation of character in this country, and perhaps a great deal more towards advancing the material prosperity of the country.

Any of us who go about the country will recognize, I think, that we are making improvement. I go about a great deal and see improvement in various lines—in the cultivation of the soil, in the neatness of the home surroundings, and in the care of implements. I am sure we have made great improvement in the economical feeding of animals; and in this I think we are working along special lines with a definite purpose in view. What means have brought about these improvements? I have no hesitation in saying that all this is largely the result of the work of the Farmers' Institute. The human animal is in one sense like the animals of the field: he has a disposition to run in flocks. One farmer helps another; one farmer follows another. Let a farmer start to fix up his home surroundings—put up a respectable fence—and it looks so nice and pleasant that a thousand to one, if the farmer's neighbor does not do it, his wife and his daughters compel him to do it. So the influence extends. You teach one farmer's wife to make better butter and she becomes an educator in the community. Although the Farmers' Institute delegates may not be able to accomplish at once all they desire, even if they are able to influence a few men in a township, they have started the upward progress.

THE FAR-REACHING POWER OF THE PRESS.

While I am giving credit to the Farmers' Institute, I do not forget that the effect is lost to a certain extent unless we receive the aid and the benefit of our agricultural journals and the journalism of this country. You talk to a few, but the newspaper talks to hundreds and thousands. The travelling dairy did a good work, but the

work would not have been so beneficial had it not been for the assistance given by the newspapers of Ontario. It was pointed out to those in charge that the people would go and listen to what was said, but, if they never heard anything about it again, the tendency would be that they would forget, and that what they had heard would pass out of their minds. So what did we do? We sent to the leading newspapers an account of each meeting. We went to the editors and told them what we were trying to do. We said, "Will you help us?" They said, "Yes; send on your reports of addresses and we will put them in." The people read these accounts day after day and week after week and began talking about them in the stores, in the blacksmith's shop, in the homes. We took good care they should not forget them, and in that way we worked up public opinion all over the country.

Take the subject of better roads. We have been trying to cultivate public opinion along that line. We cannot do it without the press. Use the press and use them well. They deserve great credit. Do not hesitate sometimes to speak to a reporter and tell him you are delighted with the work he has done. Sometimes they do not realize how much service they are doing for their country. There is before me just now a gentleman who I think is doing as much good in this country as any of us. We have here a man who has the instinct for journalism, who will seize the salient point and give it to the people in such a way that they will "catch on." You should not fall as institute workers to use the press because it is a great aid in all educative work.

LET THE ADDRESSES BE IN LINE WITH THE NEEDS OF THE DISTRICTS.

As Farmers' Institute speakers and workers, I know how you feel and what your desires are. I have been there myself. If you are to do your best work, you must bring to bear the same principles that you employ in the industry of agriculture or in any other line of business. I am a great believer in having a definite purpose before me—in having an ideal towards which we are to reach. You cannot accomplish anything in Institute work without it. What do we want to accomplish? I should like if we had time to stop and ask each one, What are you trying to do? Unless we know that, we cannot tell what course to take. Say you are going into my county and are a stranger, and I ask that question. I am afraid you could not answer. You would need first to enquire, What are the particular needs of this district? All districts

are not alike. What would be suitable in the county of Essex would not be suitable in the county of York. The situation is different, the climate is somewhat different, and the management of the farm is perhaps different to what it is elsewhere. Unless you put yourself in communication with someone who can give you information, you are likely to be led entirely astray. If I go into a district where the land is wet, and talk about the cultivation of the soil, my argument is lost because those who are listening to me are not in a position to benefit from what I am saying. I ought to talk about drainage; that would be the need of the district. The Institute officers recognize that, and would help you and give you information.

Go into a district that is devoted to dairying and talk about beef production, and your usefulness is lost. Or you may go elsewhere and enter into a discussion of the sheep industry, and there may not be a sheep in the county. You are liable to make mistakes of this kind unless you take the trouble to understand what the needs of that particular section are. Of course there are general lines that are applicable everywhere, and some of us used to talk too often on these general lines. But the people have got beyond that. What they want is help, and they look to you to give it.

Supposing you have discovered the need of a particular section, let me suggest a few general principles. You ought to first recognize the intelligence of your audience. The men who make up your audience may be a little bent in form and have a shuffling walk, and not be dressed very stylishly. But do not make the mistake of supposing that these men are not intelligent. If I want an intelligent audience that will grasp the point I am trying to make, give me an audience in the country and not in the town. If you recognize the farmer's intelligence and give him something useful, he will stay there for hours in order to receive it. You have seen evidence of that at these meetings.

TACT AND PATIENCE NECESSARY.

You will also require to show a great deal of tact and to have a great deal of patience, and treat the people with kindness all the way through. A young man gets up and asks a question. The question to you appears a little silly. Do not play the smart politician and give him an answer that makes him ashamed he came. I have seen it done. I would rather go up and take him by the hand and try to help him out. He wants information, but he has not quite as much knowledge as you have,

and perhaps has not put his question exactly as he should have put it. It is the business of the Institute workers to help him out. We most not be too "stuck on ourselves." It is a bad thing to be egotistical; I would rather see a man excessively humble. When we know a thing, and know that we know it, we hold our ground; but do not let it appear that we want to spread ourselves.

You wish to make a success of your Institute work. But I should like to ask, "What is success?" Is it to have a nice entertainment—lots of music—funny stories? People go away and say, "We have had a good time." If that is success, you will have to move in a different direction to what I am suggesting. That is not what we are aiming at. If I felt that the Institute system could not accomplish anything more than that, I should feel that I had no excuse in asking the Legislature to vote money for the purpose.

THE SUCCESS OF A MEETING TO BE JUDGED BY RESULTS.

There are numerous other places where they can get this entertainment. While I am not averse to something in that line, I do not think that kind of an Institute meeting ought to be considered as a successful one. Even if you have an immense crowd, that does not always mean success. Success is making such an impression on the people there assembled, and giving them such information as will lead to change in methods resulting in a definite improvement that you can see when you go back again. If you have visited any section and have so labored that you can see improvement when you go back, you have made a success of your meeting. I do not care if there were only ten people there. Cling to the idea of helping the people and let them go elsewhere for their fun. There never was a time when the farmers were so eager for information to help them out of their difficulties.

What we are after in this country is better production—greater production—improved production. What we want is that all our farmers should be seized with the idea that it is to their interest and part of their duty to produce more than they are producing, and to produce it of a better quality. If you can do anything towards accomplishing that, you have done a great deal.

The Institute has already been of incalculable benefit to the farmers. I saw a man here who was at an Institute meeting I attended in Georgetown fourteen years ago. It was the worst meeting I ever addressed, and I thought I had made a failure of it. I could not

make any visible impression on the audience, and I said to myself, "You are the hardest crowd I ever tackled." But I kept at it and tried to do my duty, and I evidently succeeded in making some impression, as this man has not forgotten it to this day. We have all made impressions when we did not realize it; but we have not reached nearly all the people; there are still many who have never attended an Institute meeting, and who really want help and are away behind in their methods. There is a great deal of work yet to be done.

MORE HOME LIFE AND BENEFICIAL AMUSEMENTS NEEDED.

What are the influences we want to bring to bear, say, on our young men? Especially around some of the towns and villages the young men are what I should call a little too giddy—there is a lack of earnestness. I often say to my wife that half the people in our village are contriving some scheme for an entertainment out of which nothing good comes. There is no real home life. There is a great need of cultivating home life in this country. Farmers' Institute workers can do something in this direction. Let the city people go out to the theatre and the dance as much as they like. Let us see if we cannot keep our boys and girls some of the time in the home. If there is anything that has done service for the Scotch people, it is the fact that they have such a splendid home life. We need to have some time when we can do a little quiet thinking—when we can get away from the rest of the world; and we need to devote some time to the reading of the best books and periodicals. Any man who is going to be a farmer, and spends all his time down at the village, and never reads a particle, will be away behind in the race; he will not be prepared to do his duty.

By all means have a little music in the home. I have heard with indignation the statement that farmers would be as well off to-day as they were a generation ago if they did not spend so much money on pianos and organs. The farmer has as much right to these things as any other man, and no one needs it more. I do not want to force them to go into the town to get a little amusement of this kind, which is all very helpful. The farmer should be able to provide such amusements and entertainments in his home; otherwise the young people will be tempted to seek it elsewhere. As a result they are away from their homes all the time, and the spirit of giddiness gets possession of them. The drift of our people generally to-day is away from home life. I like to see

a young man ambitious, but I want to direct his ambition. The highest ambition for a young man in this country is not to be a millionaire, but to make a home, and to make a home for some decent, good-looking girl who lives in the neighborhood or elsewhere. When I have the young man on the right track, I would say to the young woman, "You should have an ambition, too, and it should be to keep the home after it is made." Some of our young women are getting away from this thought, and have other ideals which are not the correct ones. Unless this is checked it will lead us away from the track that will make of this people a great nation, although it may take a century to do it. Keep the home. I do not want to see any young lady going where she will be a slave. I have a great sympathy for the women on the farms of this country. I love the women. I think they are deserving of our respect and our help. You have no right, young man, to undertake to make a young woman your servant in your home. She is to be your helpmate. Take her into your councils; she is as much interested in the work and its proceeds as you are. You should recognize that marriage is a partnership.

INTELLIGENCE IN BUSINESS.

Then we ought to impress upon our people the need for intelligence in carrying on their business. You all heard Mr. Flavelle speaking the other evening. There is a business man who brings intelligence into every branch of his work. The farmer needs the same intelligence, and needs to give the same thought to his calling. I have known men who could not read or write but who could plan, and in that way made a success of their business. We should also impress, especially on our young men, the dignity of their calling. I am glad to find that Dr. Mills is doing this up at the college, and there is no better place to do it. There is no reason why a young man should hang his head in the presence of anybody because he is a farmer. My calling is just as good as that of the tradesman or manufacturer, and more important to the country. Why should we not hold up our heads with other people? Learn to respect yourself. That is the first step in making other people respect you.

Remember, too, the power and influence of integrity of character. I should like to see our farmers have greater power of influence all along the line in this country. They cannot have it unless we realize that character means power and influence. The man who takes his clover seed to the market mixed

with sand to make it weigh will be nobody in the community. We do not realize this sufficiently. The Farmers' Institute worker, talking in every county and almost every township, should impress this, especially, on our young men. Let us regard the rights of others, and realize that integrity means much of influence and power in the community among whom we live.

EXTEND THE HELPING HAND TO ONE ANOTHER.

Do not forget that there are men on the farm who are struggling with all their might, and yet are not getting the results they would like. They have not made a success of things. They started out with a good deal of pluck and courage. Reach out the hand and help them—it is one of your privileges. Do not forget to tell the farmers that they are linked together, and one should help the other. It is the silliest of silly things for a farmer to think that if he knows anything he ought not to give it to his neighbor. If there is anything I know which you want to know, you are welcome to it. I am quite willing to let the other fellow get ahead of me if he can. If a man can produce a better animal than I can, I will shake him by the hand; he is helping to improve the product out of which I am going to make money. If all our farmers were producing the right type of hogs, we should have no difficulty with these drovers. The average of our cattle is not good, and, therefore, we have to buy it on the average. When I am helping my neighbor I am helping myself; there is no doubt about it.

One of the advantages of this Winter Fair is the help it affords. We are searching for truth here, and in some of these lines we are still groping for it. When you have found it, do not let it go; take it home with you, and when you go out on your work again teach the same lessons to the people. We are getting at the truth about the bacon hog, and, if the Institute workers will all give it to the people, it will make a distinct impression on the country. Another advantage is that you meet together and talk over your work, and help one another in that way. The people who are managing the agricultural exhibitions in this country are going in the wrong direction. These shows are becoming of such a character that the best of our people feel that they are not warranted in taking their children there. The sporting characters of the country are getting hold of our exhibitions and undertaking to run them. They do not see any harm in a gambling device. When my boy goes along with a dollar in his pocket it is not ten

minutes before some fakir takes it out of him. That's what they are there for, and he pays the directors ten dollars for the privilege. That is all wrong.

INSTITUTE LECTURERS SHOW GREAT PUBLIC SPIRIT.

I sympathize with you most heartily in the work you are doing. I know how hard it is. I was never so tired in my life as after a week at Institute work. It is only public-spirited men who can take hold of it and keep at it. I know that your time would be of more value to you at home than what you get for it at this work. I am proud of men who, like my old friend, John McMillan, will go over this country year after year in order to accomplish something to help the people. We do not value them enough. I say, God bless such men. It is quiet, simple work, and, although it may not make a flashy impression, the day will come when we shall look back and see that we owe more to them than to any others. I cannot, perhaps, give you more pay, although I know you ought to have more. The time will come when you will have your reward—if not in a material way; then in a better way—in the esteem and respect of all those whose esteem and respect is worth having. Your children and grandchildren, looking back, will be proud of their country, and proud of the work that their fathers and grandfathers did for it.

THE TRANSPORTATION PROBLEM.

Mr. James McEwing: I am sure we have all listened with great pleasure to Mr. Dryden's practical and instructive address. I should like to make enquiry as to what subjects it is proper for Institute delegates to discuss at their meetings. Perhaps the most acute question now before the people of this country is the means to be taken to limit the cost of transporting farm produce. Are we to be allowed to discuss this question? It is a matter that interests the people both in the country and in the towns, and no more popular topic could be brought up for discussion at evening sessions of the Institute. We have been asked by the Minister to discuss the subject of cold storage, and the transportation problem is closely allied to it. I should like to ask if we may discuss the means to be taken to carry articles from their cold storage warehouse to their ultimate market at the lowest possible cost? This is a matter that has come up at my meetings more than once, and on one occasion I found it impossible to avoid discussing it. The people would not allow it to be side-tracked. All I could do on that occasion was to endeavor to turn the discussion into proper channels.

Hon. Mr. Dryden: All we insist upon is that political questions shall be eliminated from your discussions. If one party takes one side on a public question and the other party takes the other side, then it becomes a party issue. It is then outside the limit of the questions that should be discussed at institute meetings. What we want is to avoid the introduction of questions and discussions that would tend to break up the Farmers' Institute. The cold storage matter is really a part of the transportation problem, as Mr. McEwing suggests. We have been working at that for years, but we have not yet worked it out with complete success. I have always contended that if you can keep fruit on land in good condition, you can keep it on sea in good condition. This matter has not, however, received the attention from the authorities that it ought to have received. It has not been pushed hard enough or fast enough. Sir Charles Tupper told us five years ago that he had a cold storage system, but the system is not complete even yet. I think I may say that, in a general way, the transportation question is not in politics. That being so, I know of no reason why the question should not be discussed at your Institute meetings. All I ask is that you thoroughly understand your ground before you begin. Do not get tangled up in matters that you do not understand or you will lose your influence.

Mike Was Bad.

"Mrs. Murphy, do yez remember the time when that son Moike of yours toied the dure of our shanty one marnin', and Dinny had to go to worruk through the chimney?"

"Dade, and Oi do. Wasn't it mesil that whaled him fur't wid all the stringth Oi had in me hand?"

"An' do yez call to moind the time when that same Moike did be puttin' our baby in the coal bucket an hangin' av him up in the p'ach three in the front yarrud?"

"Arrah, now, an' wasn't it his own father that broke his cane to splinters over 'is boick fur that thrick?"

"An' have yez in mind the episode when he put the red piper on the parlor shtove, when me daughter Bridget married Patsy Rafferty?"

"Be aisy wid ye. It wor mesil shure as held the b'y while 'is father played 'St. Patrick's Day' an 'im wid a bid-shlat. Phwat do yez be comin' at?"

"Well, Oi've just found a soign over me dure which says on it 'Chinese Laundry; wid some baste of a haythen name on top, and Oi cem over in all nayborliness to ax yez if you couldn't kindly whate the devil out av Moike wid a crowbar.'—*Merchant Traveller*.

The Farm Home

A Century From Now.

If you and I should wake from sleep
A century from now,
Back to the grave we'd want to creep
A century from now.
We'd witness such a startling change,
Find everything so wondrous strange,
We'd hurry back across the range
A century from now.

The people all will fly on wings
A century from now,
(Not heavenly, but patent things),
A century from now.
They'll soar aloft, devoid of fear,
On pinions of a chainless gear,
And change their "fliers" every year
A century from now.

There'll be no restaurants at all
A century from now;
The home will have no dining hall
A century from now;
The chemists all our wants will fill
With food in tablets, and to still
Our thirst we'll simply take a pill,
A century from now.

—Pearson's Weekly.

Mr. Dooley on the Servant Girl Problem.

"Whin Congress gets through expellin' mimbres that believes so much in matrimony that they carry it into ivry relation iv life, an' opens th' dure iv Chiny so that an American can go in there as free as a Chinnymman can come into this refuge iv th' oppressed iv th' wurruled, I hope 'twil' turn its attention to th' gr-great question now confrontin' th' nation—th' question iv what we shall do with our hired help. Th' on'y problem in Ar-rchey r-road is how many times does round steak go into twelve an wan dollar-an-a-half a day. But east iv th' r-red bridge, Hinnessy, wan iv th' most crying issues iv th' hour is: What shall we do with our hired help? An' if Congress don't take hold iv it we ar-re a rooned people.

"I see be letters in th' pa-papers that servants is insolent, an' that they won't go to wurruk unless they like th' looks iv their employers, an' that they rayfuse to live in th' country. Why anny servant shud rayfuse to live in th' country is more thin I can see.

"All day long ye meet no wan as ye thrip over th' coal-scuttle, happy in ye'er tile, an' ye'er heart is enlivened be th' thought that th' childher in th' front iv th' house ar-re growin' strong on th' fr-fresh country air. At night ye can set be th' fire an' improve ye'er mind be r-reading half th' love story in th' part iv th' pa-paper that th' cheese come home in, an' whin ye're through with that, all ye have to do is to climb a ladder to th' roof an' fall through th' skylight an' ye're in bed.

"But wud ye believe it Hinnessy,

manny if these misguided women rayfuse fr to take a job that aint in a city.

"'Tis worse thin that, Hinnessy, fr whin they ar're in th' city they seem to dislike their wurruk, an' many iv them ar-re givin' up splindid jobs with good large families where they have no chanst to spind their salaries, if they dhraw them, an' takin' places in shops, an' gettin' marrid, an' adoptin' other devices that will give thim th' chanst fr to wear out their good clothes. 'Tis a horrible situation. Riley, th' contractor dhropped in here th' other day in his horse an' buggy on his way to th' dhrairage canal, an' he was all wurruled up over th' question. 'Why,' he says, 'tis scand'lous th' way servants act,' he says. 'Mrs. Riley has hystriks,' he says, 'an ivry two or three nights whin I come home,' he says, 'I have to win a fight again' a cook with a stove lid before I can move me family off th' fr-front stoop,' he says. 'We threat thim well, too,' he says. 'I gave th' las' wan we had fifty cints an' a cook book at Chris'mas an' th' next day she left before breakfast,' he says. 'What naytionalties do ye hire?' says I. 'I've thried thim all,' he says 'an,' he says, 'I'll say this in shame,' he says, 'that th' Irish ar-re th' worst,' he says. 'Well,' says I, 'ye need have no shame,' I says, 'fr 'tis on'y th' people that ar-re good servants that'll niver be masthers,' I says.

"No," says I, 'theyse no naytionality now livin' in this country that are nathral bor-rn servants,' I says. 'If ye want to save trouble,' I says, 'ye'll import ye'er help. Theyse a race iv people livin' in Cinthral Africa that'd be jus' r-right. They niver sleep, they can carry twice their weight on their backs, they have no frinds, they wear no clothes, they can't read, they can't dance, an' they don't dhrink. Th' fact is they're thoroughly oneddycated. If ye cud tache thim to cook an' take care iv childher they'd be th' best servants,' says I. 'An' what d'ye call thim?' says he. 'I f'tget,' says I. An' he went away mad."

"Th' more ye ought to be a servant ye'erself th' more difficult 'tis fr ye to get along with servants. I can holler to anny man fr'im th' top iv a buildin' an' make him tur-rn r-round, but if I come down to th' shreet where he can see I aint anny bigger thin he is, an' holler at him, 'tis twinty to wan if he tur-rns r-round he'll hit me in th' eye. We have a servant girl problem because, Hinnessy, it isn't many years since we first begun to have servant girls."

"Ah," said Mr. Hennessy, the simple democrat, "It wud be all r-right if women'd do their own cookin'."

"Well," said Mr. Dooley. "Twud be a return to Jacksonyan simplicity, an' 'twud be a gr-great thing fr th' restrant business."—From Mr. Dooley's Philosophy.

Seasonable Dishes.

Squash Pudding.—Mix one pint of stewed and sifted squash, one cup of soft white bread crumbs, one cup of sugar, one-half cup of butter, one teaspoon of salt, one teaspoon of cinnamon, one-half teaspoon of ginger and one-half cup of currents or seedless raisins. Beat three eggs till light, add one quart of milk, and stir this into the first mixture. Turn into a buttered pudding dish and bake in a moderate oven one hour, or bake in custard cups.

Hashed Raw Potatoes.—Wash and pare four or five potatoes, or enough to make a pint. Quarter and chop quite fine and soak ten minutes in cold water. Drain dry, put two tablespoons of butter or bacon fat in a spider, add the potatoes, sprinkle with salt and pepper, add one tablespoon of vinegar, cover closely and let them cook on the back of the stove until tender. Bring forward and let them brown, then fold over and turn out.

Potato Salad.—Boil potatoes without paring and only until barely done. Slice thin, and if large cut in quarters before slicing. Slice one small onion. To one quart potatoes mix one teaspoon salt, one saltspoon each paprika, mustard and white pepper, add ten tablespoons oil, pour it over the potatoes and mix thoroughly. Then add four tablespoons vinegar. Garnish with parsley or lettuce leaves.

Chicken Cheese.—Boil two chickens till tender, take out all the bones and chop the meat fine, season to taste with salt and pepper and butter, pour in enough of the liquor they were boiled in to make it moist, mould it in any shape you choose and when cold turn out, cut in slices. Nice for lunch when travelling.

Dandy Jack Pudding.—Four eggs, two tablespoonfuls flour, one quart milk, one cup sugar, beat sugar and flour and yolks together in one cup of milk, scald the remainder of the milk and put the above into it, flavor with lemon, beat the whites with sugar to make a stiff froth, spread on top pudding and brown lightly in oven.—*American Kitchen Magazine.*

Hints by May Manton.

Child's Apron, No. 3677.

The apron that is attractive at the same time that it protects the gown is a necessity to every well-dressed little girl. The pretty model shown is essentially useful at the same time that it is dainty and smart, and includes the bolero suggestion that is a feature of the season, and so becoming to childish figures. As shown, the material is nainsook, with trimming of beading, through which ribbon is run, the arm's eyes being finished with sleeve frills of needlework, but dimity,

lawn and all the range of familiar wash stuffs are equally appropriate.

The apron is shaped with front and back portions, and is fitted by means of shoulder and underarm seams. At the upper edge are laid tiny tucks, which give the bolero effect and are allowed for in the pattern, and below which the fulness falls in soft folds to



3677-Girl's Apron
4 to 8 years.

the hem of the skirt. The trimming is applied over the upper edge and the base of the tucks. The apron is closed at the back with buttons and button-holes. At the lower edge is a deep hem that can be hemstitched or simply trimmed, as preferred. At the arm's-eyes, forming an epaulette-like finish, are graduated frills that are wider at the shoulder and narrow beneath the arms.

To cut this apron for a girl of 6 years of age $2\frac{1}{4}$ yards of material 36 inches wide will be required, with 2 yards of beading, $1\frac{5}{8}$ yards of needlework 4 inches wide, and $3\frac{1}{2}$ yards of velvet ribbon to trim as illustrated.

The pattern No. 3677 is cut in sizes for girls of 4, 6 and 8 years of age.

The price of above pattern post-paid is only 10 cents. Send orders to "The Farming World," Confederation Life Building, Toronto, giving size wanted.

The Fly Family.

Harvey Sutherland in "Ainslee's,"

"Owing to the natural diffidence of flies, not much is known of their family arrangements or how long they live after they get to be old enough to vote. It is estimated, though, that if papa and mamma of the early spring could hold out to attend a family reunion of their offspring, held in the latter part of August, upwards of 2,000,000 of their own blood and kin would come to the picnic, not counting maggots in arms. Fortunately for them, papa and mamma do not live much more than a fortnight. Even a fly's perseverance would be unequal to

the task of keeping track of 2,000,000 of descendants. As Artemus Ward says, 'This is 2 mutch.'

"Fortunately for us, flies do not live much longer than a fortnight, for if they were long-lived and preserved their fecundity, man would soon be forced to look for some place where things were not quite so crowded and the real estate advertising columns would be full of 'Why Fight Flies? Secure a Planet of Your Own on Easy Monthly Payments.'

"However, it is well to point out that the saving clause, 'it is estimated,' corrects the 2,000,000. Scientific men are just like other people, and hate just as much to have to say: 'I don't know' to a plain question. They have learned that 'it is estimated' acts on the same principle as a boy's 'over the left,' and authorizes them to tell with impunity the most jaw dropping, eye-bulging whoppers, causing the public to wag heads and cluck, 'Tchk! Look at that now! There's learning for you.'

"There is a good deal of the 'it is estimated' about the life history of the fly, for the reason that the beast is hard to rear. Other insects will live, move and have their being in a box with a gauze over it and let in the air and light. All they ask is board and lodging, and, like the curios in a dime museum, they will answer any and all proper questions, photographs for sale for their own benefit. But fit up the most luxurious quarters for the fly, well aired and lighted, stocked with all the delicacies of the stable and the garbage box, and the inmates incontinently turn up their toes and die. While the entomologist wonders what for, a fly buzzes past his ear. He chases it away. It comes back. He slaps at it. It dodges, buzzing gleefully, and alights again. He flutters his hand and shoes it from him. He thinks it is simply another case of a fly's perseverance. He does not know, he cannot understand, that it is mocking his failure with the cry of 'A-a-a-ah! Did you ever get left?'"

Nature.

Of all the studies that have occupied the minds of men the study of Nature has been of the greatest benefit. It is the practical application of the results of these studies that has produced our present high standing in art, mechanics, and agriculture.

That further and greater discoveries will be made is certain, with the result that the condition of our people in the future will be materially improved and life made easier for us, so that more time will be given in which to contemplate the works of the great Designer of the wonders that surround us, and the marvellous infallibility of the laws which regulate the whole.

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An Inquiring Mind.

A little East End girl who had hash for breakfast the other morning looked at the last mouthful of her share long and earnestly as she poised it on her fork. Then she passed it out of sight. But the mystery still engrossed her mind. "Daddy," she said, "what was hash when it was alive?"

—Cleveland Plain Dealer.

More Hay.

A farmer was always boasting to his sons how folk used to work in his young days. One day he challenged his two sons to load a wagon of hay whilst they pitched it. The challenge was accepted. The wagon was drawn round, and the trial began. The old man held his own very well for some time, and kept shouting, "More hay! more hay!" But the hay was being loaded too quickly to be well arranged, and at last it began to slide, then to slip, until the whole lot fell off and the old gentleman with it.

"What are you doing down here?" cried the boys.

"Why, I have had to come down for more hay," answered the old gentleman, stoutly.

J.E.M.

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Canadian Fairs' Association.

The next annual meeting of the Canadian Fairs' Association will be held in Toronto on February 20 and 21 next. A good programme is being prepared and there should be a good attendance of parties interested in the improvement of our local fairs. Mr. Wm. McFarlane, Otterville, Ont., is secretary of the association.

Draught Horse Men Meet.

The fourteenth annual meeting of the Dominion Draught Horse Breeders' Society was held at Clinton on Dec. 19, with a good attendance of members and a keener interest than has been shown for some years past. The annual reports showed an improvement in the amount of work done, and no impairment of the excellent financial condition which has marked the society since its formation, the balance on deposit in the bank being over \$800.

The old officers and retiring members of the board were re-elected for 1901, and a large amount of routine business transacted. Among the matters of general interest discussed was that of obtaining the reduced transportation rates on stock shipped for breeding purposes; the committee on that behalf will continue their efforts. Messrs. Alex. Innes, Clinton, and James Henderson, Belton, were appointed delegates to the Canadian Horse Breeders' Association, and Messrs. D. McIntosh, Brucefield, J. E. Blackall, Clinton, and John McDiarmid, Lucknow, to the Western Fair, London.

Mr. Innes gave notice of motion at next annual meeting to raise the

standard for registration from four to five accepted registered crosses, and arrangements were made for the publication of a number of photographs of selected animals, showing the Clyde and Shire crosses, with accompanying reading matter on draft horse breeding. The executive officers of the society are:

Jno. McMillan, Constance, president; D. McIntosh, V.S., Brucefield, vice-president; P. McGregor, Brucefield, treasurer; James Mitchell, Goderich, secretary.

The Eastern Sale.

A meeting of the local sales committee was held at Ottawa on Dec. 31 last, when it was decided to hold the auction sale of pure-bred stock for the eastern part of this province in the Central Canada Exhibition buildings on March 6 next. It is the intention to make the sale inter-provincial, as a number of breeders in Quebec wish to take part.

Those present were, Messrs. F. W. Hodson, Canadian Live Stock Commissioner, Ottawa, and A. P. Westervelt, secretary of the Ontario Live Stock Association, Toronto, who represented the Dominion Cattle, Sheep and Swine Breeders' Association; Messrs. R. R. Sangster, Lancaster, Ont.; Alexander McLean, Carleton Place; J. H. Grisdale, *Dominion Agriculturist*, Central Canada Experimental Farm; J. A. Richardson, South March; John G. Clark, J. C. Smith and H. B. Cowan, editor *Ottawa Valley Journal*, and local secretary Eastern Ontario Auction Sales Committee, Ottawa; J. R. Reid, representing Ottawa Board of Trade; Wm. Hutchison and Ed. McMahon, representing the directors of the Central Canada Fair, and A. P. Mutchmore, Ottawa, representing the Eastern Ontario Poultry Association.

The rules and regulations governing the sales as published in last week's *Gazette* were adopted. The annual exhibition of the Eastern Ontario Poultry Association will be held at the same time, and it is possible a regular fat stock show may be conducted in connection with the sale.

Messrs. Wm. Hutchison, Ed. McMahon, J. A. Richardson, A. P. Mutchmore, R. W. Shannon, J. R. Reid and the Mayor and chairman of the Finance Committee of the Ottawa City Council for 1901 were added to the Eastern Sales Committee, together with the Hon. John Dryden, Mr. F. W. Hodson and Mr. A. P. Westervelt, representing the Ontario Live Stock Association.

Canadian Jersey Breeders.

The seventh annual meeting of the Canadian Jersey Breeders' Association was held in the Walker House, Toronto, Friday, December 28.

The attendance was the largest in the history of the Association and the enthusiasm and interest manifested bespeaks for this body an influence

for good among the dairymen of the Dominion.

The president, Mr. George Davies, Todmorden, took the chair, and in his opening address expressed pleasure in seeing such a large number present. The prospects for the Jersey breed were never better. The judging at the large exhibitions had of late tended to the establishment of a fixed type and breeders now had a guide in their work. The demand of well-to-do people for milk and cream rich in butter fat has caused many farmers to secure Jerseys so as to meet the increasing demand. After the reading of the minutes Mr. F. W. Hodson, live stock commissioner, gave a very interesting account of the work done to secure better accommodation and cheaper rates for the transportation of live stock to all points in our great West and throughout Ontario. The speaker urged the Association to become affiliated with the Dominion Cattle Breeders' Association showing the advantages to be derived therefrom. Mr. Hodson then outlined the preparations being made for holding a sale of thoroughbred stock under the auspices of the Government and Live Stock Breeders' Associations and he asked the Jersey Breeders to endorse the scheme and help to carry it out.

After some discussion it was moved by Mr. B. H. Bull and seconded by Capt. Rolph and carried unanimously that we endorse the scheme and regulations for the establishing of annual sales of live stock under the auspices of the Provincial Live Stock Associations. Messrs. R. Reid and Capt. Rolph were appointed representatives of the Jersey Breeders' Association on the Sales Board. Arrangements were also made for the affiliation of the Jersey Breeders' Association with that of the Dominion Cattle Breeders.

A vote of thanks was tendered Mr. Hodson for his valuable address, and on motion of Messrs. D. O. Bull and B. H. Bull, Mr. Hodson and Mr. V. E. Fuller were made honorary members.

It was decided that the Executive Committee revise the Constitution and arrange for a charter.

On motion of W. E. H. Massey and seconded by J. H. Smith, the secretary was instructed to write the Industrial Fair Board to provide a pavilion at the cattle ring for the accommodation of those interested in the judging of cattle, and that the co-operation of other cattle associations be secured.

Much dissatisfaction was expressed with the manner of conducting the dairy tests and the regulations governing the same at exhibitions and at the Provincial Winter Show. The Jersey breeders present felt that the true value of a dairy cow is the net profit in a year's work, not what she can do in two days or seven days. Mr. V. E. Fuller stated that the best regulations governing a dairy test for a short period were those of the Thring Agricultural Society of England. The secretary was therefore instructed to secure a copy of those regulations for

the next meeting, and Messrs. Clark and Rolph were appointed representatives of the Jersey Breeders' Association on the board of the Dominion Cattle Breeders' Association.

Mr. W. E. H. Massey introduced the subject of improving the quality of the milk supplied our large towns and cities. He contended that milk should be graded and paid for according to the percentage of butter fat. It is an injustice to the farmer who feeds his cows good wholesome food, keeps his stables in first-class sanitary condition and produces milk testing 5 per cent. butter fat, to be paid the same price per cent. as the farmer who keeps his cows in a filthy condition and produces milk testing barely 3 or 3.25 per cent. butter fat. Mr. Massey quoted prices paid for milk supplied some of the largest cities in the United States. The largest firms in New York, Chicago, Baltimore, Pittsburg, Detroit, Cincinnati, handle no milk testing less than 4 per cent. butter fat, for which they pay \$1 per cent., and 5 per cent. milk \$1.25 per cent. 6 per cent. milk \$1.50 per cent. The 1,600 cans of milk supplied Toronto annually averages barely 3.1 per cent., and for which \$1.40 is paid. Mr. Massey has two reasons for this: the poor class of dairy cattle and the unscientific care and method of feeding. He urged the members present to agitate for the payment of milk according to quality and be ready to meet the increased demand for cows rich in butter fat.

Mr. V. E. Fuller, Corresponding Secretary of the American Jersey Cattle Club, made some interesting remarks on the history of the Jersey cow in America. She is no longer the rich man's pet, but is to be found in every up-to-date dairy from the Pacific to the Atlantic and from the frozen regions in the North to the sunny slopes of Mexico. She has proved herself to be a producer of a large quantity of rich milk, is long lived and very hardy. Mr. Fuller expressed his pleasure at being present and wished the Jersey breeders every success.

In the afternoon the members were the guests of Mr. W. E. H. Massey at Dentonia Park Farm, where a very pleasant and instructive time was spent in inspecting the herd of high class Jerseys and Ayrshires and the method of handling the milk from the time it leaves the cow until bottled for delivery to the city customers. Everything in and around the buildings shows signs of being run on scientific principles, not for recreation only, but in order to make it a financial success. We would urge every farmer who can find it convenient to pay a visit to Dentonia, as lessons can be learned there which can be put in practice on any ordinary farm. While in the special car on the way back to the city Mr. Massey, on behalf of the Association, by Mr. T. Scott, Glenmorris, was tendered a vote of thanks for the very enjoyable outing. Impromptu speeches were made by Messrs. D. Duncan, R. Reid, Geo. Davies and others, all expressing pleasure with the visit to

Dentonia, and thus a very successful meeting was brought to a close by wishing each other a very Happy New Year.

OFFICERS FOR 1901.

President, Capt. Rolph, Markham; vice president, R. J. Fleming, Toronto; secretary-treasurer, R. Reid, Berlin; executive committee, Messrs. D. O. Bull, Geo. Davies, H. G. Clark, W. E. H. Massey and D. Duncan; representatives on Toronto Fair Board, B. H. Bull, and D. Duncan; representatives on Western Fair Board, John O'Brien and W. G. Laidlaw; representatives on Toronto Fair Board, Honroy and D. Duncan. The following were recommended as judges: Toronto, R. Reid, Berlin, J. C. Snell, London, as reserve; London, H. G. Clark, Norval; Ottawa, David Duncan, Don; Winnipeg, R. Reid. Representatives on Board of Provincial Auction Sales, R. Reid, Berlin, Capt. Wm. Rolph, Markham; directors representing Jerseys to Dominion Cattle Breeders' Association, Messrs. Clark and Rolph.

Manitoba Crop Report.

The final official crop report for Manitoba was issued at the close of last week. The wheat crop is placed at 8.9 bushels per acre, making a total of 13,000,000 in round numbers. While this is a heavy reduction in the wheat crop, it is pleasing to note that a large increase in the production of live stock, poultry, dairy products, etc., is apparent. The production of dairy produce is placed at 2,083,000 pounds of dairy butter, as compared with 1,354,000 pounds last year; and creamery at 1,254,000 pounds, compared with 1,002,500 pounds last year. Cheese, 1,021,000 pounds, compared with 848,587 last year. Beef cattle exported, 10,000, compared with 12,000 last year. The number of live animals held by farmers show a good increase in all lines except in sheep, of which latter there is a decrease from 33,000 head last year to 25,800 this year. The decline in the sheep industry is no doubt due mainly to the trouble from wolves, which has rendered sheep raising unprofitable to many farmers. There is a fair increase in the area of land prepared for crop in the spring, the figures standing at 1,558,800 acres, compared with 1,492,000 acres last year.

About New Ontario.

Mr. Victor Cartier, Poste Restante, Troyes, France, writes this office of date Dec. 11, 1900, as follows: "As I intend settling down in the Port Arthur district, I should be very thankful to you if you give me the following particulars about that district: (1) Would gardening and truck farming be a good job near Port Arthur? (2) Are there any good markets for all that can be raised?"



No crop can be grown without Potash. Supply enough Potash and your profits will be large; without Potash your crop will be "scrubby."

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IDEAL COOKER

The advantages are so great and the price so low that it pays for its own use many times over.

By its use you will have no steam in the house, no offensive odors, no frosted windows, no damp walls, no crowded stove, no tough meat, no heavy kettles, no burned food.

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PURE-BRED STOCK

NOTES AND NEWS FROM THE BREEDERS

These columns are set apart exclusively for the use of breeders of pure-bred stock and poultry. Any information as to importations made, the sale and purchase of stock and the condition of herds and flocks that is not in the nature of an advertisement, will be welcomed. Our desire is to make this the medium for conveying information as to the transfer of pure-bred animals and the condition of live stock throughout the country. The co-operation of all breeders is earnestly solicited in making this department as useful and as interesting as possible. The editor reserves the right to eliminate any matter that he may consider better suited to our advertising columns.

Horses.

The *Live Stock Journal Almanac* for 1901 contains fifty special articles and numerous illustrations of noted specimens of the leading varieties of domesticated animals. There are also carefully compiled breeders' tables, lists of societies, fairs, statistics, &c., so that the book appeals strongly to all who are engaged in country pursuits. The volume, including the attractively arranged breeders' announcements and breeders' directory, extends to over 350 pages. The opening article, with accompanying engraving, relates to a famous Hackney mare, which established great celebrity for trotting towards the close of the last century. Mr. W. T. Trench, in a readable paper, advocates the claims of "Hunter Sires for Breeding Light Horses." Under the title "Army Horses Abroad" Sir Walter Gibley, Bart., gives an interesting account of the types of military horses shown at the International Show at Paris and proves how successfully foreign breeders have introduced English blood in order to secure the objects they have had in view. Mr. P. A. Muntz, M.P., has a sensible and pithy article on the "Demand for Heavy Horses and How to Meet It." "The Rate of Growth in the Horse" is a subject dealt with in a most informing manner by Professor Coszar Ewart, and his elaborate paper is sure to be read with interest. Mr. C. Stein offers many valuable hints as to "Military Stables and Stable Management." Sir Richard D. Green Price, Bart., also touches on a question of the day in his contribution on "The Pony: Its Breeding for Army Purposes." "The Value of Local and County Shows" is ably handled by Lord Middleton. Mr. W. B. Tegetmeier discusses the question of "The Supposed Influence of a First Sire," and gives another blow to the belief in telephony.

Messrs. Dalgety Brothers, Dundee, shipped last week from Glasgow to Canada a consignment of eight big, massive, well-bred Clydesdale stallions, six of which were selected from the stud of Mr. Peter Crawford, Dargavel. The horses were—Diamond King, bred by Mr. Lockhart, Mains of Airies, sire Hand-some Prince; Big Heart, bred at Rosehaugh, sire Prince Albert; Knight of Drumlanrig, by Prince of Drumlanrig; Gay Montrose, bred at Drummuir, sire Lord Montrose; County Fashion, bred at Kirkmabreck and sired by Mains of Airies; and Belmontic Sage, sire Prince of Caruchan. From Mr. James Drummond, Pitcorhie, the Messrs. Dalgety acquired a good horse in Stylish Sandy, by Duke of Britain and from Mr. McIntyre, Dunallan, they bought a promising colt named Hector Macdonald, sired by a grandson of Macgregor.—*North British Agriculturist.*

Cattle

Official records of Holstein-Friesian cows for November and December, 1900, have been sent out by the society of the American Holstein Friesian Association. This class of records are made uniformly under supervision of State Experiment Stations at the homes of the owners of the cows. They are for seven consecutive days and the fat is determined by the Babcock test. The equivalents of butter are calculated by the Superintendent of Advanced Registry from reports sent to him from these stations. Eight reports were received in November and eighteen in December. The largest record of butter fat is 18 441 lbs., equivalent to 23 lbs. 0.8 oz. butter at 80 per cent. or 21 lbs. 8.2 oz. at 85.7 per cent. fat to the pound. Summarized, these tests show the following results: Nine full-age cows average 7 years 8 months to days, 32 days after calving, butter fat 14.033, equivalent

butter 80 per cent. fat 17 lbs. 8.6 oz., equivalent 85.7 per cent. fat 16 lbs. 5.9 oz.; five four-year olds average 4 years 5 months 14 days, 17 days after calving, butter fat 12.938 lbs., equivalent butter 80 per cent. fat 16 lbs. 2.8 oz., equivalent 85.7 per cent. fat 15 lbs. 1.5 oz.; four three-year olds average 3 years 4 months 15 days, 28 days after calving, milk 349 lbs., butter fat 11.678 lbs., equivalent butter 80 per cent. fat 14 lbs. 9.6 oz.; equivalent 85.7 per cent. fat 13 lbs. 10 oz.; eight classed as two-year olds average 2 years 5 months 4 days, 41 days after calving, milk 273.1 lbs., butter fat 8.674 lbs., equivalent butter 80 per cent. fat 10 lbs. 15.5 oz., equivalent 85.7 per cent. fat 10 lbs. 1.9 oz.

Messrs. W. G. Pettit & Son, Freeman Ont., Can., write: "There is an excellent demand for both imported and home-bred Scotch-topped Shorthorns. Mr. E. W. Bowen, Delphi, Ind., selected the following animals: Imp. Blossom, of the Cruickshank Orange Blossom family, by Star of Morning; imp. Cinderella 2nd, one of the Uppermill Roan Lady family, a young cow, a grand breeder, and we are retaining her calf of this year got by Scottish Prince, of the popular Princess Royal family, for use in our own herd; imported Daisy 2nd, by Prince Horace, a beautiful roan yearling of the low down, thick kind. Mr. Bowen also selected four home-bred heifers coming three years old and all carrying their first calves by imp. Blue Ribbon, viz., Blooming Heather, by imp. Royal George, grandam imp. Cressida 2nd and Junemount 2nd with imp. Royal George Charlotte by Gravesend, tracing back to the Cecilia family; and imp. Warfare as the two top crosses in their pedigrees. Many of our readers will remember Mr. Bowen's determination to have the best, when the royal winner Mayflower 3rd was knocked down to him at Mr. Flatt's sale at Chicago, for \$2,050. To Mr. Manson Campbell, Chatham, Ont., we sold imp. Scottish Clansman, by Clan Alpine.

The power of correct observation is one of the most valuable faculties a man can be possessed of, no matter what his position in life may be, and in no way can this be acquired more readily than by training the eye to see truly, and the mind to comprehend quickly the various forms of life we have about us and their relation to each other.

Importing Seed Wheat.

The grain dealers and millers' association of Kansas have issued a circular to the farmers of that State recommending that a lot of fresh seed wheat of the Russian Turkey variety, which is so well adapted for the Kansas climate, be imported from South Russia and supplied to farmers at cost. It is estimated that the stock will cost about \$2.25 per bushel delivered at the railroad stations in the State. This seems a reasonable figure for new seed calculated to improve so much the quality of Kansas wheat.

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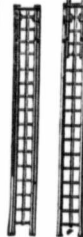


will work a permanent cure for Spavin, Ringbones, Splints, Curbs, etc., and all forms of Lameness. It cures thousands of cases annually. Such endorsements as the one following are a guarantee of merit.

Kilnspurge, Penn., Aug. 18, 1898.
Dear Sir: After using your Spavin Cure for Cuts, Splints, Splains, etc., I found one of my horses had a Splint. I thought I would try a Cure, which cured it. Since that time I have cured one other Splint and two Spavins. Now I am best afraid to recommend it to all. I remain,
Yours truly,
H. A. LAWRENCE

Price, \$1.50 per \$5. As a limitation for family use it has no equal. Ask your druggist for Kendall's Spavin Cure, also "A Treatise on the Horse," the book free, or address,
DR. B. J. KENDALL CO., Enosburg Falls, Vt.

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Light, Strong, Convenient and Cheap.

Port Colborne, April 10, 1900.
Dear Sir—Have you an agent down here for your goods? The ladder I got from you seems to take with the public, and I wish you would send agents' prices so if I can do anything I will take it up or let them know who your agent is.
L. TURNBULL.

(See our ad. in last and next week's issues.)

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Market Review and Forecast

Office of THE FARMING WORLD,
Confederation Life Building,
Toronto, Jan. 14, 1901.

Prospects for general business continue bright because of the larger ingress of outside capital into Canada for investment. Wholesale trade, though usually quiet, shows a slight gain over a year ago at this time. Remittances continue good. Money is firm at 5 to 5½ per cent. on call, and discounts keep steady at 6 to 7 per cent.

Wheat.

Wheat has been more attractive as a speculative investment during the past week or so and induced a lot of buying, which has strengthened the market considerably. Should the European buyers join in, prices may go still higher. There are rumors of the American fall wheat crop being injured while some pessimistic reports of the Argentine crop, if they are correct, will diminish the supply considerably from that quarter, and prove another incentive to higher prices. Farmers in the Northwest are inclined to hold. The local markets have advanced a couple of cents during the week, and at Ontario points No. 2 red and white winter wheat has sold at 67 to 68c. The English cable keeps strong, with a good demand for Manitoba wheat. The market here is quieter, with red and white quoted at 65 to 65½c. middle freights, and goose 63½c. Spring wheat is firm at 68 to 69c. east. On Toronto farmers' market red and white bring 70 to 70½c., spring fine 70c., and goose wheat 66c per bushel.

Oats and Barley.

Canadian oats seem to be in good demand in England. The market on this side is firmer, with sales in a large way ½c. better than a week ago. Oats are quoted here at 28c. for No. 1 white west, and 27c. for No. 2. On farmers' market oats bring 31 to 32½c. per bushel.

There seems to be little doing in barley. Prices here range from 38½ to 40c. as to quality. On Toronto farmers' market barley brings 43 to 46½c. per bushel.

Peas and Corn.

Peas are firmer and higher with sales a bit at several points. There is a good export demand. Peas here are quoted at 62½c. east, 61½c. middle freights and 60½c. north and west. On farmers' market they bring 62½c. for white and 59½c. per bushel for blue.

Corn is higher and Montreal quotations are 46 to 47c. in car lots in store. No. 3 American is quoted here at 44½c. Toronto.

Bran and Shorts.

The market for these keeps firm. Montreal quotations are \$16 to \$16.50 for bran and \$18 to \$19 for shorts. City mills here sell bran at \$14.50 and shorts at \$15.50 f.o.b. Toronto. Cars of shorts which are easier are quoted at points west of here at \$13.50 and bran at \$13 in large lots.

Eggs and Poultry.

Though cable reports for eggs are weaker and shipments have fallen off the market on this side keeps firm and holders have been able to get 1 to 2c. better figures on the week. Fresh gathered stock is quoted at Montreal at 21 to 22c. as they arrive. The egg market here is somewhat dull with prices steady for new laid at 23 to 26c. and 20 to 21c. for selections. On Toronto farmers' market boiling stock is quoted at 25 to 30c. and fresh stock at 20 to 23c. per dozen.

Potatoes.

The market keeps steady. At Montreal car lots are selling at 45 to 47c. on track. The demand here is quiet and trade light.

Prices are unchanged at 30 to 34c. for car lots on track. On farmers' market potatoes bring 35 to 40c. per bag.

Hay and Straw.

Another order has been received for hay for South Africa. Many farmers are holding their hay for higher prices. It is reported that one farmer east has 500 tons of hay, some of it held from 1897 for which he wants \$10 per ton. At Montreal prices are firm at \$10 to \$11.50 for No. 1 and \$9 to \$9.50 for No. 2 in car lots on track. The market here keeps steady at \$10 to \$10.50 for No. 1 baled hay and \$9 to \$9.50 for No. 2 in car lots on track. Baled straw in car lots brings \$5 to \$6. On Toronto farmers' market hay brings \$12 to \$13, sheaf straw \$8 to \$9 and loose straw \$6 to \$7 per ton.

Seeds.

Seeds keep rather dull at Montreal where quotations are \$5.50 to \$6.50 for red clover, \$5.50 to \$6.50 for alsike and \$1.50 to \$1.75 per bushel for timothy. On Toronto farmers' market alsike brings \$5.50 to \$6.00; red clover \$6 to \$6.50 and timothy \$1.40 to \$1.80 per bushel.

Cheese.

Some reputed to be reliable authority give the world's stock of cheese on hand now at over 50,000 boxes more than a year ago. The market on this side is a waiting one and reports from the other side indicate a somewhat scarcity of goods in retailers' hands, which may mean more active buying shortly. Dealers on both sides have been playing a waiting game. There are better cable inquiries and an improved feeling. Montreal quotations are 10½ to 10¾c. for finest and 9¾ to 10½c. for undergrades. Winter cheese is not wanted.

Butter.

Choice creamery butter is selling now at 1c. to 1½c. over prices a year ago at this time. The Trade Bulletin sums up last week's business as follows:

The market remains firm, with sales of real choice creamery to the local trade at 23c. to 23½c., and we have just heard of sales of between 300 and 400 packages of very fine creamery, but just a shade below choice at 22½c. to 22¾c. Less desirable qualities have sold at 21c. to 22c. Dairy butter is scarce and firm, a lot of 10 packages of very fine Eastern Township selling at 22c., and a lot of 20 packages of choice Western dairy packed at 20¼. There is considerable difference of opinion as to the quantity of butter held in store here. It is thought there is a fairly liberal supply, as the small receipts show that stocks in store have to be drawn upon considerably to meet current requirements.

Creamery is steady and unchanged here at 22c. to 23c. for prints and 20c. to 22c. for solids. Dairy is firm and there is a good demand at 18c. to 20c. for lb. rolls and 18c. to 19c. for large rolls in a wholesale way. On Toronto farmers' market lb. rolls bring 19c. to 22c. each.

Cattle.

The cattle markets eased off a little towards the end of the week though prices did not recede any. New York cables on Friday reported the English live cattle market as firm at 11 to 12½c., tops 13¼c. Receipts were moderate at the Toronto cattle market on Friday, composed of 839 cattle, 1,963 hogs, 515 sheep and 15 calves. The quality was not the best, especially in the butcher classes. Trade in fat cattle was not so good as earlier in the week and except for choice picked lots was easier. Many drovers complained of having to sell for less than they paid in the country.

Export Cattle.—Choice loads of these are worth from \$4.50 to \$5 per cwt. and light

ones \$4.25 to \$4.50 per cwt. Heavy export bull-sold at \$3.85 to \$4.35 and light ones at \$3.40 to \$3.60 per cwt. Loads of good butchers' and exporters' mixed sold at \$4.25 to \$4.40 per cwt.

Butchers' Cattle.—Choice picked lots of these, equal in quality to the best exporters', weighing 1,000 to 1,100 lbs. each, sold at \$4.25 to \$4.50 per cwt., good cattle at \$3.85 to \$4.10, medium \$3.30 to \$3.60, and inferior to common at \$2.50 to \$3.10 per cwt.

Feeders.—Heavy, well-bred steers, from 1,000 to 1,150 lbs. each, sold at \$3.60 to \$3.90 and other quality at \$3.40 to \$3.60 per cwt. Short-keep steers, 1,000 to 1,200 in weight, in good condition, sold at \$4 to \$4.25 per cwt. Light steers, weighing 800 to 900 lbs., sold at \$3 to \$3.30 per cwt. Feeding bulls for the byres, 1,100 to 1,600 each, sold at \$2.75 to \$3.25 per cwt.

Stockers.—Yearling steers, 500 to 600 lbs. each, sold at \$2.25 to \$3 and off colors and inferior quality at \$1.75 to \$2 per cwt. Yearling bulls, 600 to 900 lbs. each, sold at \$2 to \$2.25 per cwt.

Calves.—These are in a fair demand at Buffalo, choice to extra bringing \$7.75 to \$8 per cwt. At Toronto market calves bring \$3 to \$10 each.

Milch cows.—These sell at from \$30 to \$46 each.

Sheep and Lambs.

Prices for sheep and lambs were better on Friday. Sheep sold at \$3.25 to \$3.50 per cwt. for ewes, and \$2.50 to \$3 for wethers. Spring lambs sold at \$4 to \$4.50 each and \$3.75 to \$4.80 per cwt. There was a fair clearance at Buffalo on Friday, and the close rather slow with a few loads left over.

Hogs.

Hogs are on the up grade, and the demand for select bacon hogs is keen. Two reasons are assigned for this condition of things: hogs are scarce, or there are too many buyers for the hogs there are in the country. Our packers could take double the quantity they are now getting. The export trade is in fine condition, and higher prices are looked for. On Friday select bacon hogs, 160 to 200 lbs. each, unfed and unwatered off cars, sold at \$6.80, and light and thick fats at \$6.25 per cwt. Uncured car lots sold at \$6.50 to 6.75 per cwt.

Montreal market has ruled firm and higher, with light receipts. Quotations are \$6.50 to \$6.75 per cwt., one lot selling at \$7 per cwt.

The Trade Bulletin's London cable of January 10 reads thus: There is a much firmer market for Canadian bacon, which is in good demand at an advance of 2s. Stocks are light, and the prospects favor a firm market for some time. No. 1 Canadian is quoted at 58s. to 60s.; No. 2, 56s. to 58s.; fat and stout, 55s. to 57s.

The Wm. Davies Co., Toronto, will pay \$6.80 per cwt. this week for select bacon hogs, and \$6.25 for light and thick fats.

Dressed hogs on Toronto farmers' market bring \$8 to \$8.35 per cwt.

World Wide.

As many of the ablest writers are now engaged in journalism, much writing of the highest quality in matter and style is fugitive, seen only by the readers of each particular newspaper, and by them often lost before it is read. Much of such writing is only of local and very transient importance,

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For the Cow Stable.

"Line upon line" is a precept as applicable to the dairy business and to farming in general as to morals. Here follow, for example, some rules for the cow stable which are far from novel, but none the less important. *Hoard's Dairyman*, in arranging and enforcing them, calls them "commandments":

1. Thoroughly clean the stable every day, and sprinkle the gutters and all wet spots on the floor with land plaster (gypsum) or road dust.

2. Give each cow a liberal supply of dry bedding at all times.

3. Use the card and brush daily on each animal. Such attention is as important for the cow as for the horse.

4. Feed, water, and milk with regularity, always at the same hours and in the same order.

5. (a) Before commencing to milk, brush the udder and flanks carefully, and wash the teats if necessary. (b) Never milk with wet hands, but use a few drops of clean, sweet oil if teats are dry and rough. (c) Draw the milk as rapidly as possible, but always gently. (d) Get all the milk each time and then stop. Do not "strip" with thumb and finger.

6. Weigh each mess of milk accurately, and record it.

7. Keep the proprietor or superintendent fully and promptly advised of everything—particularly if any cow refuses her feed or fails to give her accustomed flow of milk, or otherwise departs from her usual routine.

8. Never leave cows out of doors in a storm, or when it is so cold that a

man out with them would be uncomfortable.

9. Loud or angry words cannot be tolerated, and blows are strictly forbidden. Never forget that a cow is a mother; everything which approaches unkindness—not to say brutality—must be scrupulously avoided.

10. Keep these commandments, not only to the letter, but in their spirit also.

The Hog Louse.

Bulletin 100 of the Department of Agriculture, Washington, D.C., says: The hog louse is the only insect which causes much trouble in raising hogs, and when once it becomes established in a drove it is not easily exterminated. Fortunately, the lice are so large that they can be seen easily, and their presence may therefore be known before they become abundant. They are likely to appear at any season of the year, and they thrive on hogs of any age or condition. They are found in and behind ears, back of the shoulders and in the creases in the lower part of the ham more frequently than elsewhere. If those places are free from them there is little danger that they exist on other parts of the animal.

Coal oil is sure death to every louse it touches but does not always kill the eggs, and must be used with caution to prevent blistering the skin of the hog. When a large drove is treated the work can be done quickly by using a spray pump having an attachment for mixing the oil and water, and the pump should be adjusted so that it will use about five parts of water to one part oil.

When such a mixture is thrown over the hogs in a fine spray, only a little of the oil is used to cover the whole animal, and if the spraying is done in the evening nearly all of the oil will have evaporated by morning, and there will be no blistering of the skin when the hogs are exposed to the hot sun on the following day. So little oil is used in the spraying that few of the eggs will be killed, and the work should be repeated at the end of a week, and again at the end of the second week. If the work is thoroughly done, three sprayings will be sufficient.—*Ex.*

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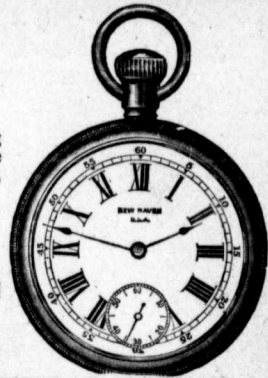
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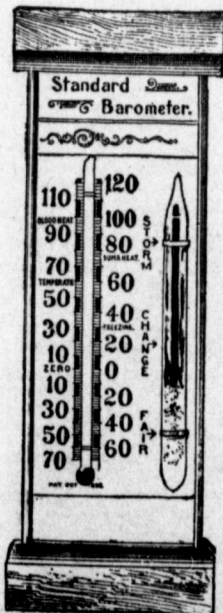
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