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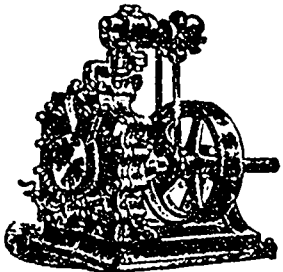
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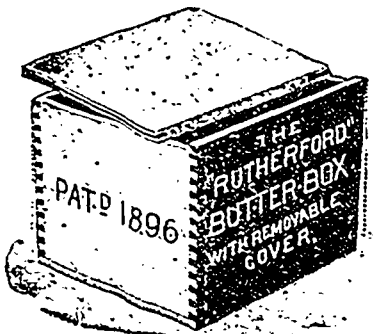
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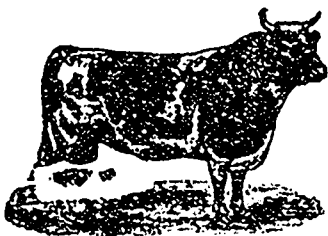
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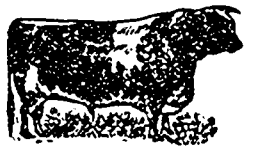
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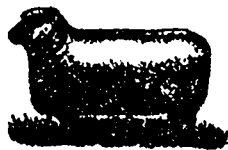


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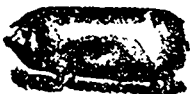
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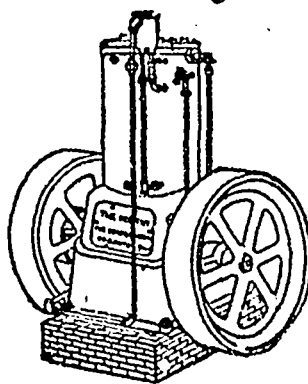
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FARMING

VOL. XV.

JULY 26th, 1898.

No. 47

FARMING

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

Published every Tuesday by

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TOPICS FOR THE WEEK

Agricultural News and Comments.

The toad is beneficial to the farmer and gardener. Eleven per cent. of its food is composed of insects and spiders, beneficial or indirectly helpful to man, and eighty per cent. of insects and other animals directly injurious to cultivated crops, or in other ways obnoxious to man. The enemies of the toad are hawks, owls and, worst of all, small boys, who stone and kill many of them. There have been excellent laws enacted to protect insectivorous birds. Why should there not be as stringent legislation against the destruction of toads?

There will be three great farm exhibits at the Omaha Exposition. The first will be the model two-acre farm illustrating the Campbell system of soil culture, to which reference was made in these columns a few weeks ago. Then there will be an eighty-acre tract of land devoted to demonstrations of different methods of irrigation—perhaps the most elaborate exhibit ever attempted. The third will be an exhibit in forestry, conducted by the U.S. Government. These three exhibits, if properly conducted, will be of great value to the Western farmers.

Mr. H. B. Gurler, of Illinois, who attended the Western Dairymen's meeting at London last January, says that he cannot afford to keep a cow that does not produce above 200 pounds of butter a year. He puts it this way: Feed, \$30; care, \$10; interest, \$2 50; total, \$42 50. Deduct \$10 for skim milk and we have \$32 50. This will require 203 pounds of butter at 16 cents per pound before profit begins. How many farmers get an average of 200 pounds of butter from their cows and get 16 cents per pound for the butter they make?

In 1897 32,520,076 acres of land were under crop and grass in Great Britain. Nearly 200,000 more acres of wheat were grown in 1897 than in 1896, but there were decreases in the amount of barley, oats, beans and peas. The total number of cattle was practically the same as in 1896, namely, 6½ million head. The total sheep in 1897 numbered 26,340,000, as compared with 26,705,000 in 1896, whilst the total pigs in 1897 amounted to 2,342,000, as against 2,878,000 in 1896.

It is estimated that there are 11,000,000 cows in the United States devoted to butter-making, and that their average yield is 125 pounds of butter a year, or a total of 1,375,000,000 pounds, or about eighteen pounds for each one of the population of the United States. It is estimated that the normal consumption of butter in the family, that the means of supplying its wants and gratifying its tastes, is fifty pounds a year for each member. If this estimate is correct, it will require a large percentage over the present production to supply the home demand alone. These figures emphasize the fact that it is not over production of dairy products which the American has to fear, but that there is an enormously restricted consumptive ability which makes prices unsatisfactory.

Argentine is improving the quality of her flocks by the introduction of pure bred rams from Europe. In 1888 Argentine exported no first class wool, and 11,000,000 pounds of third class, valued at \$1,178,000, in 1897 the exports were 20,000,000 pounds of first class wool, valued at \$3,000,000, and 14,000,000 pounds of third class. The Argentine Republic is a country of about one third the area of the United States, and produces on an average one third more wool than the latter country.

Breeders and dealers say that high class horses are as high now as they have ever been because of their scarcity. The American Government pays \$125 for cavalry and artillery horses, and exporters pay about the same price. Choice to fancy coachers and drivers sell in the United States for \$200 to \$500 and extra drafters up to \$300, but common, small horses are cheaper than ever before. Thus, while the poorer horses are cheaper than ever before, the horse of superior quality commands a high price. Breed good horses and the price will be good.

The results of the examinations in the first and second years at the Ontario Agricultural College have been published. Twenty six candidates succeeded in passing the first year's examination and thirty the second year, making a total of fifty six in all. The college has had a very successful year, and will enter upon the season of 1898-99 better equipped than ever to give a thoroughly practical training in agriculture.

A subscriber from Lambton County, who called at the office last week, reports the crops in that section as being very good. The fall wheat is all harvested, and some early varieties of oats will be cut this week. The country, as a whole, needs rain, in fact, in the district west of London there has been a scarcity of rain for several weeks past. Even during harvest a good shower or two every week does no harm, and will freshen the root crops immensely.

All animals suffer from flies, and some of them very severely. All domestic animals should be protected against these pests. At bottom most of the remedies for flies consist of grease or oil of some kind. An American exchange recommends train oil, three quarts, crude petroleum, one quart, and carbolic acid, one ounce, for protecting cattle. These, if mixed and applied with a sponge, will keep cattle fairly free from flies for about a week, when the application must be renewed.

British Letter.

AGRICULTURE AT THE PARIS EXPOSITION IN 1900 — THE ROYAL SHOW AT BIRMINGHAM.

(From Our Special Correspondent.)

London, Eng., July 11th, 1898

I have just received an early copy of the regulations, etc., under which British and Colonial goods will be exhibited at the Paris Exhibition of 1900. This exhibition is of quite as great importance to the colonies and dependencies of Great Britain as it is to Great Britain itself, and in giving my readers a few particulars in regard to it they have the very earliest possible reliable information.

So far as Great Britain and her colonies are concerned their action is to be regulated by a Royal Commission, and I am pleased to see that, so far as Canada is dealt with, the Dominion is represented on the commission by, to use official phraseology, "Our right trusty and well beloved Donald Alexander, Baron Strathcona and Mount Royal, Knight Grand Cross of Our Most Distinguished Order of Saint Michael and Saint George, High Commissioner in London for Our Dominion of Canada." Agriculture will be found at the exhibition in what is designated "group 7," and this group is to consist of "classes 35 to 42," in which may be shown (a) implements and processes used in rural cultivation, (b) appliances and processes used in vine culture; (c) ditto used in agricultural industries; (d) agronomy (theory of agriculture), agricultural statistics; (e) vegetable food products; (f) animal food products; (g) non edible agricultural products, and (h) useful insects and their products, and destructive insects and parasitic plants.

Concerning "horticulture and arboriculture" group 8 will be set apart for these, and in this group there will be six classes, for (1) appliances and processes used in horticulture and arboriculture, (2) kitchen garden plants, (3) fruit and fruit trees, (4) trees, shrubs, ornamental plants and flowers, (5) greenhouse and hothouse plants, (6) horticultural and nursery seeds and stock.

In group 9, to which it is not necessary perhaps to more than merely allude, will be devoted six classes for matters connected with "Forests, sport, fishing, gathering wild crops." Those desiring fuller details as to the exhibition will be able to obtain them, I assume, from the Dominion authorities either now or very shortly. At any rate, the foregoing will give a general idea what the exhibition is to consist of from the agriculturist's and horticulturist's point of view. I will only further add that in the class (f) for animal food products exhibitors will be enabled to show "(1) edible fatty substances and oils, (2) fresh or preserved milk, (3) fresh, salt, or highly salt butter, (4) cheese, (5) eggs." It seems to me that this is an opportunity which should not be lost by the Canadian farmer—either individually or through the Government—to show his butter and cheese; for it must not be forgotten that, although a large market may not be possible in France, buyers from all countries will be at the exhibition and not least from Great Britain itself. Much business is sometimes done during the excitement and enthusiasm of an ordinary agricultural show. Much more may be expected at Paris in 1900.

Readers will doubtless be aware by this time that our great annual agricultural exhibition, viz.,

that of our Royal Agricultural Society—with its 11,000 or 12,000 subscribing members of the highest class—has been held and is over. I do not propose to refer to it in general, as it is much like the ordinary agricultural exhibitions of other countries, except that it is much larger and, perhaps, has the very best live stock which is ever seen. I desire, however, to refer to one or two new inventions which up-to-date Canadians should know about. In the first place, two new cream separators were shown for the first time. One is named the "Melotte," and it is claimed that it is the best in the market. As it was not entered for any of the silver medals given for "new implements, etc.," I prefer to say nothing about it. Possibly it will compete with older makes at coming shows, and then I shall see what it can and can not do. The other cream separator is named the "Centrator" and, unlike the Melotte, it entered for one of the medals referred to and, what is more, won it. It is claimed by the makers (and, having inspected the machine, I see no reason to doubt the claim) that the Centrator is easily worked by a boy (in the smallest sizes); that it is moderate in price; and that it can be easily cleaned. The makers, however, say that it separates the cream so perfectly that in the separated milk there remains only .05 to .09 per cent. of fat. If this is the fact then the machine has a future, and older ones will have to look to their laurels. Professors Robertson, Dean, etc., would do well to enquire into the matter. The British agents are Messrs. Vipan & Headly, of Leicester, England; but it emanates primarily from, I understand, Sweden, the home of another first class separator.

Another useful, small, and inexpensive article for the dairy farmer was a milk strainer. This is priced at 14s., and I was informed that the sediment, which is arrested, cannot be forced through, whilst the finest dirt is stopped. The makers in this case are the Dairy Supply Company, of London, and, as the strainer received a medal from the judges, the farmer and dairy-bacteriologist may assume that it possesses exceptional merit.

Three other medals were also awarded, viz., to Messrs. R. Boby, Keyworth, and to the Monorail Portable Railway Company. These firms showed respectively: (1) A machine which separates plantain, or rib, grass from clover seeds—a most useful invention; (2) a harrow seed-drill for broadcast sowing, and which users of such might find it advantageous to enquire further about; and (3) a very cheap form of railway plant, in which the power required is extremely small.

By the middle of August the British Parliament will be prorogued until next January or February, the usual date for opening. Nothing has been done this session, so far, for the agriculturist, and little or nothing is expected. Ireland, however, as usual, will, by August, be placed on the same footing as the rest of the United Kingdom in the matter of local government. Agriculturally speaking, the Irish farmers have advantages and privileges not possessed by any other tenant farmers under the face of the sun; and if the political agitators would leave them alone they would be happy. But in all countries there are agitators who make discontent, and who fatten on it.

Agricultural Illustration Stations in France.

There are about four thousand "example" or "illustration" plots of land in France which are used for agricultural experiments. It costs about \$60 a year to operate one of these plots. The land is usually given free of cost either by a private farmer, who is glad enough to have it tilled for him according to the best methods, or by the local agricultural association. Manufacturers of agricultural implements lend the newest machines free, and in this way the illustration plot becomes a sort of trial station for testing the productions of rival manufacturers. The local farmers give the labor free for the cultivation of these plots, and the state, the county councils and the agricultural

associations contribute between them towards the cost of the best seeds and manures, which the professor or instructor in charge may approve.

The field furnishes, as it were, a lecture ground for the professor, who is able to use it as an illustration and proof of his theories at each stage of the seasons. The children of the local primary schools and those of the upper primary schools are also brought to the illustration plots in connection with their course in agricultural teaching. The plots are usually placed on the most accessible spot available—generally by the side of the most frequented road—and on a notice board is displayed a written description of the various kinds of crops which are being tried, or the special methods of feeding which are being adopted for the stock which may be kept in connection with the plot.

As will be seen the French plan for conducting illustration plots is not unlike Professor Robertson's scheme for establishing "illustration stations" in Canada. In his proposed plan the Government is to assume the responsibility of their maintenance and operation, while in the French system individual farmers and local organizations assume a share if not all the responsibility, the Government, or some central authority, perhaps, overseeing the work. Though it may be necessary in the successful carrying out of the scheme to have some central authority assume complete control, we are inclined to the opinion that the French plan of securing the co-operation of individual farmers and local organizations would help to make it more popular and more effective. In fact we took this view when discussing Prof. Robertson's scheme a month or two ago, and pointed out that in carrying out the scheme for illustration stations in Canada the Government should secure the assistance of and utilize the various local and provincial organizations already existing for the benefit of the farmer.

The plan of utilizing the stations as is done in France, in connection with the study of agriculture in the Public Schools, should commend itself to those who are interested in the advancement of agricultural education in this country. If there were a place of this kind in every county or electoral district to which the classes taking up agriculture in the Public Schools could be taken, say once a month, for a practical demonstration of what can be done by better methods of farming, a distinct advantage would be gained for agricultural education in the rural schools.

The Farmer Should Count the Cost.

In conversation with an intelligent farmer from Western Ontario recently, he stated that some years ago he had an opportunity of renting his farm and going into some other line of business. Before deciding definitely in the matter he concluded to experiment a little while and find out what he was really making out of his farm. He accordingly kept track of every item that was spent upon the household and what it cost to live, with the result that his farm was not rented, and he has had no desire to leave it since. Though offered a good rental, and in addition a good salary to travel in the agricultural implement line, this farmer concluded that he would make more money to remain on the farm.

There is a valuable lesson in this for every farmer in the country. A great many, who leave the farm to engage in other pursuits, never stop to compare the cost of living on the farm and away from it. As a rule the farmer does not miss what he and his family eat, as the bulk of it is grown on the farm; but, if cash had to be paid out for every item of food as well as clothing, many a farmer would be more contented with his lot than he is at the present time. The man living in the city, even on a fair salary, is not as well off as the average farmer if everything is taken into account. Rent, heat, water, light, food, etc., have all to be paid for in the city, while the farmer can get the larger share of these without any cash outlay. It would be well, therefore, if everyone who contem-

plates leaving the farm would stop a moment and count the cost.

The World's Wheat Yield per Acre.

The following tabulated statement of the yield of the world's wheat crop, taken from the *Mark Lane Express Almanac* for 1898, opens up a wide field for thought:

	Bushels per acre.
Great Britain	30
New Zealand	26½
Manitoba	19½
Ontario	18½
Tasmania	18
France	17
New South Wales	15
Victoria	12½
United States	12½
Queensland	11½
West Australia	11½
Italy	10½
Germany	10½
India	9½
Russia	8
South Australia	7

The most striking feature of this table is that it is not the newest and most virgin soils which give the largest yields per acre. With the exception of New Zealand, Great Britain is far in advance of any of the other great wheat-growing countries. This is the more surprising when we consider that, in Britain, the same land has been under constant and intensive cultivation for centuries almost and before some of the wheat-growing countries of to-day were even thought of. People have been accustomed to talk so hopefully of the virgin prairie and fertile lands of the West as the place where big wheat yields are produced. Referring to the above table, we find that the yield per acre for Manitoba is only 19½ bushels per acre, as compared with 30 bushels for Great Britain. Even Russia and India, two of the world's greatest wheat producers, do not produce within one-third of what is produced in Great Britain per acre.

But let us come to Ontario. Comparatively speaking she stands up pretty well on the list, but is still 11½ bushels per acre less than Great Britain. Is there not food for thought in this comparison, and may we not well ask the reason for it? The time was, when Ontario averaged as much per acre as Great Britain does to-day. Why does she not do so now? The answer evidently is that the Ontario soil is not as productive as it once was, and that there is not sufficient nourishment and fertility in the land to enable it to produce as formerly. The system of farming carried on in this province is not such that serves to conserve and restore the fertility in the land.

If the same system of farming were followed in Great Britain as is followed here and in other countries the above list would soon be changed, and instead of finding Great Britain at the top of the list we would soon find her at the very bottom. It is because the British farmer practises *intense cultivation, a regular rotation of crops and purchases largely of artificial fertilizers* that he is able to keep up and restore the fertility on his farm, and produce more bushels of grain per acre than any other land in the world. Farmers in this country frequently say that it does not pay to buy manures for the land. But we fail to see why it would not pay the farmer here as well if not better than the farmer of Great Britain, who has to pay high rent and compete with the whole world in his own market.

The Cattle Trade in the Western States.

Mr. W. P. Dickenson, a prominent cattle drover of Fairbury, Nebraska, was in Toronto last week visiting friends. He reports the live stock interests in the Western States as having been very brisk during the past year or two. Kansas City, San Jose, and Omaha, are the chief shipping centres for Nebraska drovers. The business is done on a somewhat different basis from what it is here. The representatives of the great packing houses,

or exporters, never buy direct from the drovers. They do their business through the commission men located at the various live stock centres. The drover forwards his cattle to the stock yards and notifies his commission man that he has done so. The commission man, or his representative, visits the yards and negotiates for the sale of the cattle, making the best bargain possible for his client. It would seem as if it were unnecessary to have so many middlemen coming between the producer and the consumer and increasing the cost of the animal. But the plan has several advantages. The commission man becomes the responsible party, so far as the exporter and packer is concerned, and makes good any losses that may result from stolen or mortgaged cattle being put upon the market. The commission man, who is always on hand, has a better knowledge of the markets and prices than a drover would have, who only visits the market once every two or three weeks, and if he is reliable will do much better for the drover than he can do himself.

The farmers in the west feed cattle on a much larger scale than is done here. The staple food is corn, and the cattle, especially in Southern Nebraska, are never tied up, but run loose in a small enclosure. The corn is usually fed with millet. It is only ground when there are no hogs to follow the cows. When there are plenty of hogs to put in the yard with the cows the corn is fed whole. The age at which steers will fatten more readily is from three to four years. Three-year-olds are bought in the fall and fed in the way described above till the next spring. Last fall farmers had to pay about four cents per pound for feeders, and did not get much more than that price when sold in the spring. The profit in the business was in converting the corn and millet into beef. Herefords are a very popular cattle in the west, and are becoming more so every year. Some very high prices have been paid recently for representatives of this breed to become the heads of herds. The Shorthorns make a very good cross with the regular western cattle for feeding purposes. The western cattle are wild in their nature, and a little difficult to fatten on that account. A cross with the Shorthorns helps to modify this quality, and produces an animal that is easier to handle and to fatten.

Large, fat hogs have been in more demand lately in the west, because of the high price and great demand for lard. When the price of lard becomes low the demand is for lighter hogs. At present hogs weighing 300 lbs. sell better than those weighing 200 lbs. The Poland-China is the leading hog in Nebraska. One of its good qualities is that it can be turned into a fat hog on very short notice, if the price should go up. Such a type, however, does not suit for the Canadian bacon trade.

Insufficient Cold Storage Facilities.

There are complaints in certain quarters that the cold storage facilities both by rail and ocean steamers are very much lacking. If such be true, the difficulty should be remedied at once. One of the complaints is that so-called ice cars have arrived in Montreal of late with the butter in a melting condition, due to the faulty method of icing the cars by throwing lumps of ice in a box, which is all melted by the time the car arrives at Montreal, and the temperature is up to 60 or 70 degrees. It is recommended that the refrigerator cars should be run on the same plan as in the United States, where butter from the far West arrives in New York in perfect condition in cars containing cylinders with crushed ice and salt.

Some exporters are also complaining of the lack of refrigerator space on ocean vessels and the poor accommodation at that. It is stated that other goods have been put in along with the butter in the cold storage compartments on board the vessels, and that the temperature during the ocean transit has risen from 25 to 45 degrees, and has then gone back to 25. The result has been that receivers on the other side have complained

of the butter being inferior when it arrived. Then there is not sufficient refrigerator space provided to meet the demand.

If there is any ground for these complaints there should be no delay in having the cause removed. To go on advocating the making of fine creamery butter at the creameries for the export trade and to have it injured on the way to the consumer is a very foolish policy indeed. The authorities should insist and, if need be, make adequate provision for the transportation of all perishable food products destined for the British markets in as perfect a condition as possible. Every cause for complaint in regard to cold storage facilities both by rail and ocean vessel should be removed and means provided for forwarding every pound of butter or any other perishable food product to the British consumer in the same condition as when it left the factory or the producer. Unless this is done all efforts to develop our export butter trade or any other similar trade will prove fruitless. We have facilities in Canada for making, and, in fact, many of our creameries are now making as fine a quality of butter as is made in any other country in the world, and it would be a great misfortune indeed if progress along this line were hampered in any way by incomplete and insufficient means of getting the product to the consumer in the best possible condition.

The British Butter Market.

According to mail advices from several old-established London, England, firms, dated July 1st, 1898, to *The Montreal Trade Bulletin*, the prices paid for creamery butter on this side have been much too high as compared with spot prices in the English market for butter from Denmark, Holland, France, Ireland, and the home make. The last winter in England was a very mild one, with scarcely any frost. Though there was considerable cold weather in April with a prospect of dry weather, there were copious showers during May which continued all through June, producing magnificent pastures and a heavy make of English butter, which, together with a market gorged with foreign makes, caused prices to rule remarkably low. In London on July 1st Danish butter was quoted at 8s. per cwt. cheaper than in 1897 at the same date, 16s. cheaper than in 1896, and 10s. cheaper than in 1895.

The reason for the low prices at present ruling, according to the above, is that this year the export orders for Danish tanners are practically nil, and consequently a much larger proportion of the Danish make than usual has been thrown on the British market. Large supplies of finest Dutch creameries have sold at 82s. to 84s. per cwt., while Danish sold at 89s. As the grass in England was still abundant, at the beginning of this month the supply of English home made butter continues to be large, so that unless a period of hot, dry weather sets in there seems to be nothing to warrant the expectation of higher prices. There is great difficulty reported in getting 80s. per cwt. for choice Canadian creamery.

Wool-Eating Sheep.

A writer in *The National Wool Growers' Bulletin* for July discusses this question. He points out that the disease is produced by two causes—one is the product of imitation, arguing that when one lamb starts the wool-eating habit others follow suit. Another cause is that of malnutrition, either from an insufficiency of food or lack of some required chemical ingredient.

In sheep it is most often seen in winter, when food is scarce or lacks variety. In lambs it begins ordinarily when the milk-giving ewes are fed too sparingly, and when there is a deficiency of milk or if its chemical composition is poor. In such cases the trouble has been cured by furnishing the lambs with cow's milk; while in spring it disappears under the influence of a change of diet or green grass. The habit may be formed by the lamb first getting wool locks into its mouth when

suckling an udder that has not been denuded of its wool tags by the shepherd. Lambs may suck the wool just as young calves may suck each other's ears, and learn to eat wool in this way, and later on may develop wool balls in the stomach from which they may not recover. When lambs become confirmed wool eaters digestive troubles appear; they lose flesh, their growth is retarded; they become constipated, and may die of inflammation.

Treatment for the disease is largely preventive. Strip the udder of all wool before allowing the lambs to suck. Change the food of all sheep or lambs showing the habit and separate the wool eaters from the rest of the flock. See that all are properly nourished and that the rations are well balanced. Supply the flock with salt or a mixture of salt, bicarbonate of soda, powdered wood charcoal and ginger root. According to German authorities extraordinary results have been obtained through subcutaneous administration of chlorhydrate of apomorphine. The dose should be from 0.1 to 0.2 gramme.

Free Rural Postal Delivery.

The United States Government has been experimenting with this for the past two years. In 1896 the appropriation for the purpose of experimenting in this line was \$10,000; in 1897, \$50,000, and this year the appropriation has been increased to \$150,000. This increased appropriation will enable the Department to make a more extended trial than heretofore. The United States postal authorities seem to have every confidence in the scheme, and hope to make a permanent success of the venture. One of the difficulties the authorities have had to contend with in prosecuting the scheme is the bad roads, and it may be possible that a successful rural postal delivery cannot be fully carried out till all the highways throughout the country are in a good condition.

If all the roads throughout the country were in good condition, a free rural postal delivery should prove a practical venture in the more thickly populated country districts. The cost of travel is the most important item to be considered, and if the roads are bad this will be largely increased. If the roads were all in good shape for wheeling, or if a bicycle path were made, it might be possible for the farmer to have the "boon" of a free postal delivery at comparatively little cost. With good roads and a good bicycle a postman could cover a large section of territory every day.

The Cure of Tuberculosis.

Everybody is interested in this, and if a permanent cure for tuberculosis in animals can be secured its discoverer will confer an inestimable "boon" upon all mankind, for if a permanent cure of consumption in animals is secured it will be only a question of time when the human family would get the better of the same plague. Professor Behring, the discoverer of vaccination against diphtheria, it is reported, has brought to light a method by which it is claimed tuberculosis in animals is cured. Behring has succeeded in producing from tubercle bacilli a poison about twenty times as strong as that found by Koch, and has produced an antitoxin, or counter-poison, from eighty to one hundred times as effective as Koch's tuberculin. Animals injected by degrees with the poison were gradually rendered immune, or resistant to the disease, and from the blood of such animals there was extracted an antitoxin, which is capable of rendering other animals altogether incapable of "taking" the disease. Experiments now in progress at the Royal Veterinary College, Berlin, are aimed to render the discovery useful and available to stock-breeders and cattle-owners throughout the world. Should the results expected from these experiments be realized the vexed question of tuberculosis will be forever solved.

WITH A FARMERS' EXCURSION TO THE ONTARIO AGRICULTURAL COLLEGE.

WRITTEN FOR FARMING BY G. F. MARSH, B.S.A.,
Thornbury, Ont.

On June 28th last, just as the bell on the tower on the old city hall was ringing the hour of noon, we steamed into the Royal city of Guelph. The city looked familiar after an absence of several years. The most noticeable change is the electric car system which is now extended to the college, a distance of a mile and a half from town. This must be a great accommodation to the public and also to the boys; but at the same time must be quite an effectual means of extracting the nickels from their pockets, especially when they take their lady friends up to see the college sights.

After a while we managed to get a place where we could hang on to the outside of one of the cars which was vainly trying to handle the enormous crowds. We noticed many fine buildings which have been built of late years. Evidently the college has been an aid to the increase of land values in the vicinity. On nearing the city we had noticed the prevalence of blue weed, one field especially was completely covered with it. A few years ago, when there was only an occasional plant to be seen, we remember how the late Prof. Pantou, who was an enthusiast in the destruction of weeds, used to warn us as well as the neighboring farmers against this pest; but his advice has evidently not been taken in this vicinity as is shown by appearances.

On arrival at the grounds our first stop was made at the gymnasium, where a lunch was served. This is an improvement on the old days, when we had to obtain our physical education in the fields, and the excursionists had to be content with the blue dome of heaven as a protection from the sun and wind. Dr. Mills was there to welcome the strangers to the college with all his old-time vigor. Indeed, time seems to have dealt kindly with him, and he still greets the student with the same warm grasp of the hand, and is as interested in his welfare as of yore. Afterwards we were taken in charge by Mr. Zavitz, one of the old boys of the college and head of the experimental work of the college, and also of the Experimental Union, an organization of ex-students and leading farmers who carry on a system of co-operative experiments all over Canada with the varieties which have proved of most value on the experimental plots at the college. By this means new varieties are distributed, and reliable data obtained of the value on the varying soils and conditions of the different varieties. This department alone has been of incalculable value to the country, as many of the standard varieties of farm crops now generally grown were imported and distributed in this way.

We were first shown the potato plots. The experiments here show that medium whole potatoes give the best results; also that the best method of cultivation is to plant them on the flat five inches deep. Last year, being a very wet season, those planted at a depth of two inches gave the best results, while the year before that being exceedingly dry, those planted at a depth of seven inches gave the best results. The plots of barley next

claimed our attention. Here, among a large number of varieties, it was easy to see the superiority of a variety lately imported from Russia—the Mandschuuri. This variety has given a much larger yield than any other, both in the farm experiments and also through the Union experiments all over the country. We were informed that a twenty acre field of barley which we had noticed on the way up, and which was ahead of anything that we had seen this year, had been sown with this variety. In oats another Russian variety, the Siberian, has for a number of years given much better results than any of the other varieties. In spring wheat the Herisons, bearded, a variety recently imported from France, has not only come out ahead, but has a stiff straw, free from rust, and is a remarkably heavy wheat, being two or three pounds over the standard weight. It was selected by a committee of millers as one of the best milling wheats grown in Ontario.

Fifty-three varieties of fall wheat were formerly grown, but by seeding out the poorer varieties they have been reduced to seventeen. Of these, one alone had been able to withstand the recent severe storms of wind and rain; for, while all were more or less lodged, the Dawson's Golden Chaff stood up stiff and straight. In addition to this advantage, Dawson's Golden Chaff has headed the list by several bushels to the acre both at the college and in the Union experiments all over Ontario. The early Genesee Giant is a variety which has given very satisfactory results, especially on poor land, but on rich land it is apt to produce straw of a very coarse nature, and is not so likely to fill as well as if the straw had not grown so abundantly in the plots; on College plot this variety was badly lodged.

After a hurried look over the other plots we followed Mr. Rennie, the Farm Superintendent, into the barn to view the six or seven different breeds of cattle which are kept on the farm for educational purposes, and to listen to his lecture on the "cropping" of the farm, which is that of a four course rotation. Two years' grass, plowed shallow in the fall for roots, corn and peas, followed by fall wheat on the peaground and barley or oats on the root or corn ground, the mixture used for seeding.

Seeding down consists of seven pounds red clover, three of alsike and four of timothy. Mr. Rennie is a firm believer in shallow plowing, thorough cultivation afterwards, so as to keep the plant food near the surface. In his experiments in fattening steers he has found that where they have been dehorned and allowed to run loose in box stalls they have made an average gain of over seventy pounds per head for the winter season over those that were tied up in the ordinary way. The most satisfactory application for the horn fly he has found to be a mixture of one gallon of seal oil and an ounce of crude carbolic acid, applied once a week. Mr. Rennie has made a number of improvements on the farm. Among others he has taken down the cross fences and divided the farm into four sections of ninety acres each. The farm proper, after making allowance for all expenses due to educational purposes, is managed on a paying basis, as an ordinary farm should

be. This is something that I do not think has been attempted by any other government experiment station. The experimental department cannot, of course, be expected to give a cash return, as it has an educational purpose to serve; but I consider that all experimental stations should have a farm attached, upon the working of which a dividend can be shown on the right side of the balance sheet. This would give the farmers confidence in the institution, and also act as a good object lesson. For, if with the best men that can be obtained, and with the many advantages which the ordinary farmer must do without, a profit cannot be shown, of what use are all the experiment stations? This was Mr. Rennie's contention before going to the farm, and I am glad to see that he is carrying it to a successful finish.

We next went across the street to where the dairy buildings are located. We first visited the building devoted to the creamery department of the dairy school. Here can be seen all the different cream separators, together with other improved machinery for the practical illustration of creamery management. In the cheese room one of the things which caught our attention were two cheeses made from 300 pounds of milk, of three per cent. and four and two-tenths per cent. milk respectively. The one from the richer milk was nearly one-third larger; thus practically showing the value of rich milk for cheese making, and also the justice of paying for milk for cheese making by the butter-fat test. In the curing room a strong stream of cold air was coming in through the sub air duct, and although it was a very hot day the temperature of the room was down considerably below sixty. In the other part of the building is conducted what is called the home dairy. In this room are seen a number of the different hand separators, together with the other apparatus suitable for farm buttermaking. Here the faculty have made a pleasing innovation by the employment of a lady instructor in dairying. The fruits of this venture were seen in the increased number of ladies; there being no less than twenty in attendance at last year's dairy class. Miss Rose, the instructor, was busily engaged in giving a lecture to a crowd of delighted excursionists and at the same time giving a practical demonstration of the same by churning, working the butter, and putting it up ready for market. In the stables connected with the dairy we saw the Thistle milking machine in operation. This machine seems to do its work thoroughly and to be agreeable to the cow, as we noticed several chewing their cud while the operation was being proceeded with; but we would consider it too cumbersome and expensive for practical use, except perhaps in very large dairies.

We then discovered to our surprise that the afternoon was nearly gone, and that if we would reach home that night we would merely have time for a hurried glance through the other departments and the several new buildings which have been recently erected. On the way home many and varied were the comments which we heard made regarding the college and farm, but we were agreeably surprised to find that with very few exceptions they were of the most favorable kind, very differ-

ent from what you would have heard a few years ago. In this respect the excursions are doing much good by advertising the college, and by bringing the farmers to the college for a day's sight-seeing it becomes more favorably known throughout the country.

FEEDING AND HANDLING HOGS.

A few weeks ago we summarized an interview with Mr. J. W. Flavelle, manager of the Wm. Davies Packing Company, in which he stated that there were too many corn and clover-fed hogs coming to market, and that the export bacon trade was likely to be seriously injured by the soft and inferior quality of meat which this line of feeding produced. The following letter to *The Globe* of July 22nd bears directly upon this question and contains information of special value to every farmer:

To the Editor of *The Globe*.—We have had endless trouble this spring with soft fed and bruised hogs. The former is accounted for by the feeding of corn and grass, the latter on account of rough handling and poking the hogs with sticks, whips, etc.

Now these complaints are more serious than farmers think, and will revert back to their detriment in the long run, and we wish to appeal to their better judgment and have them see the matter in the right light.

It is quality that is wanted, and Canada's reputation sustained on the bacon markets of the world. This cannot be done otherwise than by the most approved methods. We can assure the farmers that it is to their benefit in every way, as the better quality they turn out the better price they will get. This quality can only be obtained by much care in every detail as to feeding, breeding, and handling.

Now, in the first place, as to feeding. We would advise farmers to use peas, etc., but to avoid corn and grass; secondly, as to breeding. The Yorkshire and Tamworth breeds are acknowledged the exact thing by all experts, as they do not carry too much fat and are long and lean, even at 200 pounds' weight. In the third place, we mention the matter of handling. The hogs, when coming to market, should not be poked, whipped, or abused in any way. They should be handled with every care. We consider a broom the best thing to drive hogs with. Bear in mind that every time you hit a hog you bruise him, and, upon being killed, it shows up, so that the hog's value is reduced, at least, one cent per pound, no matter how slight the bruise is.

This is a fact, and can be easily avoided, and not cost the farmer a cent, but, indirectly, bring him more money for his year's output, because packers now figure on buying hogs with a proportion of bruises, and, if there were no bruises, hogs generally would bring more money, whereas to-day a lower price must be paid to cover the loss on these bruised hogs. "The least punch bruises a hog, and it is not necessary."

We would also advocate spaying young sows, as it is another vital step towards gaining a high standard of quality and should not be forgotten.

Farmers and drovers should see that railway companies have suitable yards at each station, so hogs will not fight or get bruised, and we believe that instead of the large yards now in use that a great improvement would be made by having a number of small yards, large enough to hold each farmer's hogs separately before loading into the cars, as this would avoid strange hogs getting together and fighting.

Again, we must request farmers, for their benefit, the country's benefit and all concerned, to avoid corn and grass and follow out these ideas, and in a year or two they will see enormously good results.

We might here say that Ireland gets ten shillings per 112 pounds, or about two-and-a-half cents per pound more for bacon than Canada. Why? Simply because they follow out the principles we mention above. Canada can get there if she tries, and each farmer individually should make a strong effort. If hogs were right in this country they would be worth one cent per pound more, as they are in Ireland.

Take the Irish principle and watch results.

Feeding corn is penny wise and pound foolish, as the United States has already found out to their sorrow.

LAWRY AND SON, Limited.
Hamilton, July 20.

THE COST OF NOISE IN THE DAIRY.

Many dairymen fail to realize the effect that a noise or irritation has upon the quantity or quality of the milk his cows give. This is one of the many little things in connection with the dairy which, if overlooked, may mean the difference between success and failure in the dairy business. The actual loss sustained by unnecessary noise or irritation by dogs is clearly shown by a writer in a recent issue of *The Mass. Ploughman*, in which he gives the following experience:

"The cost of noise in the dairy can be figured to a certainty; and the man who doubts this may gain some valuable information by making a few experiments on his own account. A neighbor of mine has been doing this, and the result is decidedly startling. This man has a dairy of about twenty cows, mostly grade Jerseys. A quiet man by nature, his cows were accustomed to receive only the kindest treatment. A few years ago this neighbor bought a Babcock test for use in his own dairy.

One day he directed the hired man to shut the cows in the yard, and to let the dog in with them. The hired man thought his employer must be going daft, but he obeyed instructions. The two men took sticks in their hands and went into the yard with the cows and began to shout, the dog barked, and pandemonium reigned for a few minutes, although not a blow was struck nor a cow bitten. The herd was then brought into the barn and milked.

The falling off in yield was quite noticeable, but the test, when applied, showed a loss of forty per cent. in butter fat on the basis of the week previous. Think of that, ye men who yourselves shout, kick, thump, and bang your cows, and permit the hired help to do the same.

Suppose these cows gave at a milking three hundred pounds of five per cent. milk when treated kindly. The loss in weight, placed at a low figure, must have been at least five per cent., or fifteen pounds. While the loss in butter fat, forty per cent. would bring the test down to three per cent.

What does this really mean? At twenty cents per pound my neighbor's three hundred pounds of milk, testing five per cent., would have been worth to him \$3. As a matter of fact it brought him only \$1.74, a loss on one milking of \$1.26. After such a result who can wonder if this dairyman laid down some laws and insisted on their rigid enforcement?"

SHEEP.

IMPROVEMENT OF THE FLEECE BY FEEDING.

In feeding sheep for the fleece, experience has found that by far the best method is to employ plenty of nitrogenous foods if the best results are to be obtained. An analysis of the flesh shows that it contains no sulphur, twice as much ash as the wool which contains two-parts of sulphur, and yet we are not clear as to whether there is really any gain in feeding sulphur or ash other than as a medicine.

For the consideration of the wants of wools, let us for the present look at both wool and flesh and see their needs. We call attention to the fact that flesh has 75 per cent. of water and wool has but 15 per cent. in their composition, which will be seen in the following table:

	Carbon.	Hydrogen.	Nitrogen.
Wool.....	49.65	6.93	17.31
Flesh.....	51.83	7.57	15.01
	Oxygen.	Ash.	Sulphur.
Wool.....	22.11	2.0	2.0
Flesh.....	21.37	4.26	0.

It will be seen that there is little difference, except as in a matter of ash and sulphur, between the composition of dry matter of flesh and wool, the flesh having a little more carbon and hydrogen, less nitrogen and oxygen, over twice the amount of ash, and no sulphur. Wool having but one-fifth as much water it will be readily seen that it requires about five times as much digestible matter for 1 lb. of wool production as for 1 lb. of flesh. This, however, must be regarded as dressed meat, and not live weight, although the parts discarded may have very much similar component parts as that of the flesh. Inasmuch as nature looks well after the parts of the body essential to maintain life, she will sustain the body if the wool has to go—that is, if there is only sufficient food for the needs and wants of the body, the fleece would only feed upon such portions of the sustenance not assimilated or turned to account in the body. If there is a surplus, and the body has been supplied, the wool will grasp the residue to a certain extent; if this is excessive, it will pass off, and is wasted. The healthier the animal, the better the assimilation; the better the assimilation, when proper food is supplied in right quantities, the more blood and red meat. Nitrogenous foods are best for both mutton and wool, and if digestion is not impaired by too great quantities, and given with too much irregularity, there will be plenty for both flesh and wool. In addition to the general food of the average pasture, oats, bran, clover, hay, corn fodder are all excellent feeds for sheep, and these will give sheep power, health and strength, and they will grow a good staple. Exercise is conducive to wool formation, and quietude promotes fat. The staple of the fat sheep is better than that of the poor one, but there is a happy medium that can be brought under the right kind of management. It will be well to remember that breed and other conditions have a great deal of influence over the improvement and general sound characteristics of wool. The Merino sheep is a wool sheep just as the Jersey is a milk cow. The wants of the body are not so great as in the Cotswold or the Shorthorn, hence there is much stored up in the guise of wool and milk. The Merino sheep has been bred for so long with nothing else in view but wool, until these characteristics have become well fixed. Keeping the skin in perfect health is also conducive to improvement of the fleece. I am not selling any kind of dips, neither am I agent for any of them, but I do advise dipping in a good maker's dip, and one who has a reputation to lose, as dipping undoubtedly keeps the skin and fleece in a good condition.

The modern sheep breeder is just beginning to learn that the sheep, like any other animal, will pay for the feed it consumes if it is given in the right quantity, at the right time and in the right manner. The time has long since gone into oblivion when the profitable sheep is to be the scavenger of the farm, intended to eat what nothing else will eat; to live on what is left of the various feeds on the farm; and, if there is nothing left, there is nothing for it. The present low prices for wool demand strict attention to wool production as much as to mutton production, and it stands the breeder to-day

not to lose sight of the fact that the fleece should be fed as well as the other constituent parts of the sheep if any profit is to result.—S. B. Hollings, in *Scottish Farmer*.

CARE OF CHICKS IN SUMMER.

The breeder who neglects the growing chicks during July and August is neither wise nor humane. The stock does not require better care this month than it does during other months, but it does require constant attention. It has been stated in previous letters in this department not how best, perhaps, to care for the chicks, but how to care for them in a way that has proven for twenty-five years at Le Bocage. We have pretty well covered the ground as to feed and manner of feeding. The brood coops now require our careful attention. The sanitary conditions of the poultry yard, and especially brood coops, is very important, and a matter which should receive our best thought. Keep the brood coops absolutely clean and free from all accumulations of filth. This is easily done. I keep a sharp hoe and a broom handy by, and every evening when I visit each coop to see that everything is all right—I like to know that everything is all right—all accumulated filth is removed. This is placed in a basket, and, when the rounds are completed, it is placed at the base of the fruit trees and spaded in. These droppings removed from the brood coops is very rich and valuable as a fertilizer and should not be wasted. The trees make a better growth because of the application. There are so many seemingly little matters in the poultry yard that are really important, and taken together they make up the whole measure of success. See to it, also, that the stock has plenty of fresh water during these hot days. Disease lurks in water which is allowed to become contaminated. Having in detail outlined the manner of caring for the chicks and aged stock during the summer months, we can briefly summarize it here, as follows: Give the growing chicks as much range as possible. Supply them with shade. Feed liberally, avoiding sloppy, sour feed. Keep a supply of grit constantly within their reach. Supply them animal food in the way of green cut bone or blood meal if they be on short range. Keep lice down by the best method at your command. This covers the field in the poultry yards. How to do these things has been, as stated, heretofore set forth in this department. Remember that with the average breeder May, June, July, and August are the months in which the chicks make the growth that really counts the most. The breeder of standard bred poultry must put his goods upon the market in September. It is then the fall trade opens. If the chicks have not made a good growth during the summer they will not be saleable to the customers who want "large, strong" birds for the fall fairs, and to come on later for the winter shows. In fact, stock which does not make good growth in summer is at a discount always in the hands of the fancier. The men who succeed in business are the men who have the best goods for sale. They are the men who "make the price." It is folly to plod along and, simply com-

pete with the fellows who are "doing fairly well." The money in the standard-bred poultry business is in getting beyond this condition and raising specimens that are sought at prices at a premium. In the lower ranks there is a world of competition. In the advanced rank the demand for stock is greater than the supply. Get out of the field where every man to your right and left is your competitor.—*Farmers' Tribune*.

BUTTERMILK FOR SWINE.

Buttermilk, if handled promptly, is one of the very best feeds for swine. The mild lactic acid at churning time, or shortly after, probably improves buttermilk as a feed for pigs, for only a little of the sugar is broken up to form the acid. The lactic acid in the milk renders it palatable, and seems to have a favorable action on the digestive tract. Since buttermilk is rich in protein, corn is a supplementary food, and probably the most economical substance to feed with it. Shorts or middlings are likewise satisfactory, but hardly as economical. Since these two are rich in protein, the feeder is supplying rather too much of that costly element for the most economical returns. Bran is bulky, chaff like food that is not satisfactory for young pigs, but which may be used with older animals, especially where the feed is not heavy and it is desirable to give volume to the feed. In some cases buttermilk is held in filthy vessels at the creameries, and in those still worse at the farm. When this product undergoes a putrefactive fermentation, it should not be used even for pig-feeding.

PROF. W. A. HENRY.

QUESTIONS AND ANSWERS.

WEEDS IDENTIFIED.

Editor of FARMING:

Please answer through your valuable paper the names and description of the two plants I send you by to-day's mail. I found them growing among the root crops and am at a loss to know what they are. I find your paper a valuable help in agricultural pursuits.

J. H. KEFFER,
July 13th, 1898. Sherwood, Ont.

The weed No. 1 is the Halbert Caved Orache (*Atriplex patula var. hastata*), a native annual, which is found on sands along the seashore, and is abundant on the margins of saline lakes in the prairie region. It occurs in small numbers around almost every village and town in Ontario, but is not likely to become an aggressive weed in cultivated land.

The weed No. 2 is the rib grass (*Plantago lanceolata*), which is certainly to be considered a weed, and, among clover grown for seed, is a bad one, because it reduces very much the selling value of the seed, owing to the difficulty of separating the rib grass seed from the clover seed. The plant itself is eaten readily by stock; in fact, is sown in some countries as a fodder plant. It disappears when the clover soil is plowed.

J. A. GUIGNARD,
Ass't Entomologist and Botanist,
Central Experimental Farm, Ottawa.

NOTE.—These questions are answered by Mr. Guignard, in the absence of Dr. Fletcher, who is in British Columbia, and will not return till August 15th.—Ed.

Poultry in small runs can get but few insects and should be fed considerable meat. There are more eggs in meat than any other food, but too much must not be fed.

The Ontario Agricultural Gazette

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

NOTES ON THE AGRICULTURAL COLLEGE, GUELPH.

The interest of the farming community in the college at Guelph seems to grow from year to year. Over 30,000 people, from different parts of the province, visited the college in the month of June. These visitors went on excursions run by Farmers' Institutes, and the great majority of them were outspoken in their praise of the treatment which they received, and of the work done at the college. And the peculiar thing about these excursions is that the same people go from year to year and always seem well pleased with their visit—always learn something, and return better fitted for work and life on the farm.

STUDENTS IN ATTENDANCE.

There is no doubt that of late years there has been a marked increase of confidence in the work of the college. The attendance of students in 1897-98 was considerably larger than at any time in the past. Every room was occupied, and about thirty had to lodge outside during part of the year and the character of the students has improved. The great majority of those now in attendance are farmers' sons of the best type.

THE FARM.

The farm proper is in a much better condition than it was in days gone by. It is no longer necessary to refer students to the United States, Great Britain or Germany for object lessons illustrative of what is taught in the class-room. They have all they need right there on their own farms. The farm has at length become a source of strength to the college.

THE EXPERIMENTAL DEPARTMENT.

This department has grown and developed till it has become one of the most extensive and useful stations on the continent, especially in the line of field experiments. The results of the work of this department, published from year to year in the annual reports of the college, are of inestimable value to the farmers of Ontario. It is a matter of great importance to farmers to know which are the best varieties of grain to sow, and to have the latest and most reliable information as to the selection of seed, dates of seeding, methods of cultivation, mixtures of clovers and grasses, the growing of green fodders, the feeding of animals, and other matters which bear directly upon their work throughout the year.

And the co-operative tests, made at over 2,000 different places throughout the province, chiefly by the students and ex-students of the college, under the direction of the college experimentalist, check the results obtained at the college, and add greatly to the value of the work done by the institution.

THE DAIRY SCHOOL.

The Dairy School in connection with the college opens on the 4th of Jan-

uary, and continues its work for twelve weeks. Last session there were 110 students in this special three months' course, most of them now employed in the cheese and butter factories of Ontario. During the remaining nine months of the year two men of the department devote their time to experimental work—one in cheese and the other in butter endeavoring to solve problems which arise in the factories and creameries of the province; and one point especially should be noticed, that is, that any man or woman, boy or girl, can go at any time of the year to the *Home Dairy Department* and receive instruction in butter-making free of charge no examination to pass, no fee to pay. They have simply to go and stay as long as they wish—three days, a week, or a longer period. What more liberal terms could be offered to those who wish to increase their knowledge of this important branch of agriculture?

THE HORTICULTURAL DEPARTMENT.

In the Horticultural Department there is much to interest farmers, fruit growers, market gardeners, and florists—five or six greenhouses furnishing plants and flowers for lectures and practical work in botany and horticulture, a good-sized orchard, a considerable plantation of small fruits, a large vegetable garden, a beautifully arranged arboretum, and several very interesting clumps of forest trees; and a considerable amount of experimental work is being done in the department, especially in testing varieties of fruit, flowers, and trees.

BACTERIOLOGY.

Under this head the college is instructing its students in the life history and characteristics of some of the innumerable foes of man and beast known by the general name of *bacteria*; it is likewise investigating the question of foul brood in bees, and manufacturing tuberculin, or the substance which is used to test animals for *tuberculosis*. This substance is sent free to farmers to test their own cattle; and to others who want it at ten cents per dose. It is given to farmers without charge on condition that they report the results of their tests confidentially to the college bacteriologist for the private information of the department.

POULTRY.

In the poultry department, also, we find much to interest farmers—a complete set of houses with suitable yards, coops, drinking fountains, etc., twenty-five odd varieties of hens, of fifteen or sixteen breeds; and four or five hundred chickens, which will be in good shape for sale in October or November.

Add to all this the special college equipment, not only the ordinary school-room appliances, but well-equipped laboratories for practical work in chemistry, physics, biology, bacteriology, horticulture, etc., and we have no ordinary institution.

The general verdict is that the college is a credit to the province and is doing excellent work, directly for the farming community and indirectly for other classes.

A DAIRY EDUCATION.

By H. H. DRYAN, Professor of Dairy Husbandry, O. A. C., Guelph, Ont.

"Just experience proves, in every soil,
That those who think will govern those who toil."

The world to-day needs *thinkers* as well as workers. Some are content to work, and allow others to do the thinking for them. Some think, and compel others to do the work. In Canada we need those who combine thinking and working. The dairy industry, especially, needs such persons. He or she who deals with animal life and animal products needs a more liberal education and more skill than the person who deals with vegetable life and products. The lower form of life is utilized to sustain the higher. The dairy cow is a highly organized form of animal life. She is also a form of artificial animal life, made so by man, and, in consequence, needs a superior person to attend her and supply her wants. Natural conditions are no longer consistent with her acquired habits. The cowherd who exposes his charge to snow, sleet, and cold rain, hot sun, flies, scanty food, or gives her cruel treatment, fails in the essentials of successful treatment of the dairy cow.

In the handling of cow products great strides have been made in recent years. The selling of milk in "six penny" or "shilling" crocks has been superseded by the modern creamer, and this again by the cream separator. Each step in advance requires more skill and forethought, but if these are lacking the modern methods become a hindrance rather than a help to the dairyman.

The markets of the world are more exacting each year. None but goods of the finest quality will pay for exporting, and the home markets are each year more critical. More intelligent and more skilful makers of dairy goods are asked for now than formerly. In addition to being able to make good butter and cheese, men who manage factories are supposed to be able to make out invoices of goods shipped, to keep accounts, to figure fat due patrons from weight of milk and test, to test milk, cream, etc., with the various testers, and above all to keep things in and around the factory in the most cleanly and orderly condition.

The farm dairy also requires a certain amount of attention. We all trust that the creamery system of butter-making will soon become as general as the cheese factory system, but for some time to come there will be considerable butter made in private dairies. These home dairy products should be of the finest quality, especially for the farmer's table. Good butter supplies the oil which makes the family carriage run smoothly, while bad butter clogs the wheels, causing

family jolts and jars. As a lubricator of the brain nothing equals fine cream and butter. As a muscle builder, what is equal to good ripe cheddar cheese?

The more brain power put into the manufacture of good butter and cheese the more brain power will be produced in the world. The more milk, cheese and butter consumed by all classes the more energy and muscle will there be to expend upon the world's progress. For the production of energy to do work, nothing equals the products of the dairy for economy.

In order that readers may have the information most generally asked for in reference to the dairy school in connection with the Ontario Agricultural College, where a dairy education is given to all who attend and apply themselves, a few of the more commonly asked questions are appended, together with their answers.

Q. When does the next course open?

A. Jan. 4th, 1899, and it will continue twelve weeks.

Q. What does it cost to take a full dairy course?

A. Your railway fare to and from Guelph. Board at \$2.50 to \$3 per week; two suits of white clothes, \$2.50; laundry, \$2; incidental expenses, \$5. Total, \$40 to \$50, not including railway fare.

Q. What books are required?

A. A note book for taking down lectures and discussions. The dairy library contains all the latest works on dairying, and the books are for the free use of students. In addition, all the leading agricultural and dairy journals are kept in the reading-room. A few of the best works on dairying should be purchased by students who wish to be especially well up in the business.

Q. What benefit will it be to take a dairy course?

A. If you are a cheesemaker, you will pick up many useful hints on your work, as the instructors are the best practical men available. The instruction in milk-testing is very helpful, while a knowledge of buttermaking is an essential part of a cheesemaker's training in these days of winter creameries in cheese factories. If you are a buttermaker, you will receive instruction in the running of the leading cream separators, pasteurization of milk and cream, making starters, ripening cream, churning and preparing butter for export and local markets. If you are making butter in the home dairy, you will receive lessons in setting and skimming milk, operating hand cream-separators, churning and printing butter. A week or more could be profitably spent by many farmers' wives and daughters. A lady instructor gives special attention to ladies. The lectures on poultry are valuable to the home dairy student. If you are simply going to farm, and never expect to make any cheese or butter yourself, the course will broaden your views. The lectures on feeding, breeds of cattle, swine, and poultry

cultivation of the soil, best varieties of grains, grasses, clovers, corns, roots, etc., horticulture, veterinary, and the various agricultural sciences will be a great help to any one on, or interested in, a farm.

Q. What experience is required?

A. No experience is absolutely necessary, but, if you intend taking the factory course, it would be better to spend, at least, one season in a creamery or cheese factory before taking the course. For the home dairy course a factory experience will be of no special advantage.

Q. What work will be required during the term?

A. Each student is expected to do his or her share of all the work in the dairy, including the washing of all utensils, scrubbing floors, and keeping the dairy in a tidy manner. It is the duty of the instructors to see that all work is done in the best manner possible.

Q. Are students paid for their work?

A. No. As practically no fees are charged, the work done by students is a very small return for the expense of conducting the school. Regular college students who work upon the farm are credited on board for work done, but dairy students board outside the college in private houses or hotels and are not paid for any work which they may do as it is a part of their instruction.

Q. What are the chances for obtaining a situation after taking the course?

A. All our experienced students obtain places each year and most of those who have had no experience obtain positions as helpers in factories and creameries. We always have a demand for more men competent to manage factories than we are able to supply. If young men and women will qualify themselves there is ample room in the great growing dairy industry of Canada.

Q. Where may circulars giving full information, and forms of application be obtained?

A. From Prof. H. H. Dean, Dairy Department, O.A.C., Guelph, Ont.

THE WINNIPEG INDUSTRIAL FAIR.

As we pointed out in last week's issue, the Winnipeg Industrial Fair this year was a decided success. This annual summer fair has become an important feature in the affairs of the people of Manitoba. Not only is it looked forward to with interest by the citizens of the Prairie Province, but by many in other parts of Canada. The number of visitors outside of Manitoba who annually visit the Winnipeg Fair is becoming larger every year. Many people in the other provinces take advantage of this opportunity of visiting the metropolis of Western Canada, in order to get, as it were, a bird's-eye view of the people and products of the province, gathered in one representative exposition. In addition to this, a large number of visitors annually visit the fair from the Western States, so that the Winnipeg Industrial has become a very important avenue for imparting information to outsiders regarding the possibilities and wonderful resources of Western Canada.

While there is always a large exhibit of machinery, fine arts, etc., it is the purely agricultural feature of the show which arouses most interest among visitors from a distance, and in this sense they are never disappointed. Of the agricultural features of the show the live stock exhibits arouse more interest in the older provinces, for the reason that nearly every breeder of purebred live stock, whether of cattle, sheep or swine, has a representative of his herd in Manitoba. For several years back large numbers of purebred stock have gone from Ontario and a portion of Quebec to become the heads of herds in the west, and

these animals or their offsprings comprise the chief live stock exhibits at the western fairs. Therefore, in giving a report of the show, we will confine ourselves more particularly to the live-stock department.

HORSES.

In Clyde stallions there was rather a short list. John Ewan, of Morden, showed his twice champion *Prince of Wales*, winner of the sweepstakes at Brandon in 1896. W. H. Galbraith, Hartney, showed his imp. *Black Hero*, and A. K. McFaggart, Hartney, his imp. *St. Kilda*. A very good 3-year-old was *Burnbrae*, of the St. Cloud stud, and shown by McMillan, of Brandon. J. McLeod, Ninga, also showed a fine 3-year-old in *Pat McGregor*. Mr. James McKenzie, M.P.P., exhibited two fine mares.

The Shire classes were not so well filled. *Blacksmith*, owned by the Rothwell syndicate, was at the top in this class, and Munroe's Ringmaster was also to the front.

The class of general agricultural horses shown was not good. Thoroughbreds were divided into two classes—that of the heavier stallions more suitable for farm mares, and the lighter horses for racing purposes. Three years ago scarcely a thoroughbred could be found in the province; but the Boyd ranch, and one or two other breeding studs, have caused rapid strides to be made with this breed. There were over twenty well-bred young mares exhibited this year. The chief exhibitors in this class were the Boyd ranch, R. M. Power with his imp. stallion, *Hard Lines*, Mr. Goggin with his King *Colman*, Mr. Fowler, Dr. Shaw and others.

CATTLE.

Shorthorns are rapidly coming to the front in the west, and the number and quality on exhibition this year was in excess of any previous year. One of the most attractive herds was that of the Hon. Thos. Greenway, consisting of twenty-three head. Among these were the well-known bulls, *Caithness* and *Hilary*, the two-year-old bull, *Judge*, the aged cows, *Missie* and *Village Flower*, and the handsome three-year-olds, *Roan*, *Mary*, and *Mina Lass*. Mr. Greenway's herd is one of the best in the province, and is made up from the best strains in the east. Another prominent exhibitor was *Walter Lynch*, of Westbourne, with a herd of nine animals, including the aged bull, *Village Hero*, and the two-year-old, "What for No." Mr. W. S. Lister, of Middlechurch, exhibited the year-old bull, *Indian Nobleman*, bred by Arthur Johnston, Greenwood, and a number of young heifers of the *Rosabell* strain. Andrew Graham, of Pomeroy, exhibited, among others, the bulls, *Robin O'Day* and *Sam Johnson*, sired by *Manitoba Chief*. Other exhibitors in this class were Geo. Allison, W. Chalmers, D. Fraser & Sons, and J. S. Robson.

POLLED ANGUS.

There were about twice as many animals in this class as last year. Besides the old exhibitors there were many new ones. One of the large exhibitors was A. B. Fleming, of Brandon, with a herd of seventeen, headed by *Royal Souter*. Other exhibitors were John Traquair, of Welwya, Geo. S. Stock, of Austin, and A. Cummings, Lone Tree, who exhibited nine fine animals from his herd.

GALLOWAYS.

Though this class was very small it was nearly double the size of last year. Only two breeders exhibited in the persons of J. A. Simpson, of Poplar Point, and A. V. Dasselhaar, of Winnipeg.

HERRFORDS.

One of the greatest increases throughout the whole fair was that of the exhibits of this breed, a strong evidence of the growing popularity of this breed in the West. They seem to be well adapted for fattening on the ranges. As formerly, Mr. Wm. Sharman, of Souris, was the largest exhibitor, with a herd of fourteen. J. E. Marples, of Deleau, exhibited ten head; J. A. Chapman, of Beresford, seven; and John Baird, of Winnipeg, five, chiefly from *Baron Strathcona's* herd. Other exhibitors were: John Carm, Pilot Mound, and James Robertson, Glendale. The sight of this large exhibit of *Herrfords* was one of the attractions at the fair, and the fact that there was such a large increase over last year aroused continual comment.

HOLSTEINS.

The numbers in this class were about the same as last year, though the exhibits were divided among more exhibitors, which is a sign that this breed is growing in popularity in the West. The largest exhibitors in this class

were James Glennie, of Orange Ridge, and T. Hutchinson, of Hayfield. Both showed thirteen animals each, the former of the famous *Teake* strains. A. B. Potter, of Montgomery, exhibited six animals, and James Oughton, of Crystal City, six. There were other exhibitors, and a keen rivalry existed.

PERSIANS.

This class showed a large increase over other years, which is the more remarkable as there were no exhibitors outside of the province. Last year several Ontario herds were shown. This shows how rapidly Manitoba is taking hold of this breed. The Munroe Creamery Co., Winnipeg, showed a herd of nine. The *Linda* strains were brought out in this herd. Henry Byers, of McGregor, showed seven; Wm. Murray, of Dugald, seven, headed by the bull, *Belvidere*, bred by Mrs. Jones, of Brockville, Ont.; other exhibitors were W. V. Edwards, Souris; John Walsham, Portage; John Webster, Portage, and W. J. Buxton, Moosomin.

AYRSHIRE.

This class was well represented. Shaw Bros., of Glenboro, always large exhibitors, showed a herd of sixteen, which were in fine condition. Premier Greenway exhibited nine animals in this class, including a number of the *Rockton* strain. Some of the younger animals are by the noted bull, *Jock Morton*. Andrew Mutter, Brandon, showed four head, including the two-year-old bull, *Sir Paerk*, and the three-year-old cow, *Isabel*, both bred by John Douglas, of Warkworth. W. D. Lawrence, of Greta, was also an exhibitor.

PIGS AND SHEEP.

The swine classes were very largely filled, and the judges had to decide some very fine points in making the awards. Good importations have been coming into Manitoba of late from the best Ontario herds. Many of these imported animals, which were prize winners at the larger Eastern shows, were on hand, as well as their offsprings.

The sheep exhibit was not large and the judges in this class had a comparatively easy task. The sheep pens were not more than half-filled.

NOTES.

Mr. G. W. Clemons, St. George, Ont., secretary of the Canadian Holstein Friesian Association, was sole judge on dairy cattle, and it is needless to say that he did his duty well and gave good satisfaction to exhibitors. In the beef breeds the judge was Mr. Thos. Russell, of Exeter, Ont. He did his work very satisfactorily, which is to say a great deal, considering the extent and character of the exhibits which competed for the awards.

CANADA CENTRAL FAIR.

In every way the directors of the Ottawa Fair are endeavoring to meet the wishes of farmers and stockbreeders. The premiums of the Fair this year include fifty special prizes, nearly all of which are offered in the departments which farmers and stockbreeders are exhibitors. There are specials for Shropshire sheep, for "bacon" hogs, for the best herd of cattle in the various classes, for Holstein-Friesian cows, for the best animal in each and every class of horses, and for choice poultry. There are also special prizes for a milk test, for creamery and dairy butter, and for factory cheese. The aim of the management is to make the fair the leading one of Canada. They have made wonderful strides since the inaugural exhibition in 1888, and with the hearty co-operation of the farmers of Ontario and Quebec—which they confidently look for and doubtless will receive, in view of the many inducements held out to that class of the community—expect to accomplish their desired object this year. In any event the Fair deserves well at the hands of the agricultural classes. Those who have not exhibited at the Ottawa Fair cannot do better than pay the Capital a visit this year.

THE TORONTO EXHIBITION.

Prospects this year favor not only a more than ordinary numerous exhibit in all the live stock and dairy classes at the Toronto Exhibition, to be held from August 29th to September 10th, but also a more varied, that is, a greater individual display. Dr. A. W. Bell, the assistant manager, has already received promises of entry along these lines. But, what pleases the worthy doctor more than anything else, is the fact that the poultry show will this year be especially interesting,

he enjoying national fame as a fancier of barnyard fowls. Readers would be well advised to make liberal entries in all classes, for, owing to the present good feeling existing between all sections of the Anglo-Saxon race, there is sure to be an exceptionally large gathering of foreigners. In fact, Manager Hill has already received information that excursions will be promoted from many cities in the United States for the first time. Again, the novelties promised are better and greater than ever, while special exhibits are to be made by both Great Britain and France. The main attraction in the ring will be illustrative of occurrences in the Spanish-American war and the incidents that led up to it. In brief, it is proposed to illustrate war in its every phase, and to make a great display of warlike weapons. But, what we would most impress upon intending exhibitors is, that entries must all be in with Manager Hill, 82 King street east, Toronto, by Monday, August 6th.

Publishers' Desk.

It will cure Fistula every time.—Dale, Tyler Co., W. Va., Sept. 16, 1897. Lawrence-Williams Co., Cleveland, Ohio: I have used Gombault's Caustic Balsam for fistula with good success. It will cure fistula every time if properly applied, before breaking, without any bad effects. For enlarged joints and sprains it has no equal. Every horse owner should keep it constantly on hand. A. L. McINFYRE.

Lump Jaw Cured.—The following is a sample of the many orders and letters being continually received re our Lump Jaw Cure, which we have now got established in Canada and the United States, having offices in New York, Chicago, Winnipeg, Man., and St. George, Ontario. FARMING is doing us some good service in distributing a knowledge of our cure through its advertising columns.


FIRMING BROS.

Okotoks, N. W. T., July 5, 1898. DEAR SIRS.—Please send me two bottles of your Lump Jaw medicine. I have used most of the bottle that I got from you some time ago and think it will make a cure by one more application. I believe it is the *pure thing for lump jaw*. Enclosed you will find \$4. Send right away. I remain yours, ROBERT HAMILTON.

LIST OF PRINCIPAL CANADIAN FAIRS FOR 1898

Industrial Fair, Toronto	August 29th to Sept. 10th
Winnipeg Exhibition, Winnipeg, Man.	July 11th to 16th
Western Manitoba, Brandon, Man.	July 19th to 22nd
Starstead Live Stock Assn, Stanstead, P.Q.
.....	Aug. 31st and 21st
Eastern Exhibition, Sherbrooke, P.Q.	Sept. 5th to 10th
Western Fair, London, Ont.	Sept. 8th to 17th
Quebec Exposition Co., Quebec, P.Q.
.....	Sept. 12th to 21st
New Brunswick Exhibition Co., St. John, N.B.
Bay of Quinte District Fair, Belleville, Ont.
.....	Sept. 11th and 15th
Central Canada Fair, Ottawa	Sept. 16th to 21st
Southern Fair, Brantford.	Sept. 17th to 22nd
Provincial Exhibition, Halifax, N.S.
.....	Sept. 22nd to 29th
Markham Fair	October 3th to 7th

BUY



THE BEST

For Dairy or Table Use

IT IS UNEQUALLED.

Salt on the Farm

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

TRY IT.

R. & J. Ransford,
CLINTON ONT

MARKET REVIEW AND FORECAST.

Office of FARMING,

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

General trade conditions are about the same as last week. A hopeful feeling pervades all trade circles, and dealers in nearly every line are looking forward to a big business during the next six months. The bank clearings show substantial increases over former years. The usual dullness of this season of the year prevails, and gives merchants a chance to take a brief holiday. The same thing is characteristic of United States trade also, though several lines of trade show an improvement each week. The dry weather is having an injurious effect upon the spring grains in some quarters, and it is reported that oats will be very short in the straw.

Wheat.

Already estimates of the total yield of the world's wheat crop for 1898 are being compiled. Beerbohm's, London, has submitted an estimate of the wheat production for this year for the leading countries outside of Russia and Argentina, and shows an excess of 344,000,000 bushels over 1897. It is suggested that if these conditions are borne out the year's world's wheat production will be 120,000,000 bushels in excess of requirements. However, the quick shrinkage of the world's wheat supply in sight continues to be the striking feature in the statistical position of the market. It has run down from 63,569,000 to 39,341,000 bushels during the past four weeks, showing one of the most remarkable declensions on record—namely, 24,228,000 bushels, being a decrease of nearly 5,000,000 bushels per week.

On the other hand, the world's supply in sight is 10,407,000 bushels greater than last year at this time, and when we take into account that the United States and Canada will have one of the greatest crops on record the prospects of any great advance in price are not overly hopeful. However, the invisible reserves of wheat the world over have been drawn upon to an extent that has not been experienced for many years, and the spot supplies in Europe are low, so that large drafts will have to be made on the new crop at an early date, which may enliven the market for a time.

The London market shows a good demand for spot wheat, and nearly stuff at higher values. Some Manitoba wheat has realized 3d. to 6d. per quarter more money during the week. There has also been more business on the Baltic. There has been a little advance in Chicago for future wheat. The market here has been easy during the week with comparatively little doing. Old red winter wheat sells at from 75c. to 78c. north and west; new from 70c. to 72c. west, though one lot was reported sold early in the week at 75c. Exporters will not give any more than 68c. for new wheat, though millers will pay 70c. Manitoba wheat continues easy at \$1.02 to \$1.03 for No. 1 hard Toronto and west.

Oats and Barley.

The London market for oats is firm, and with light stocks holders are not inclined to sell, though offered 3d. to 6d. more money. Reports from the western portion of the province indicate a very short crop of straw, and if rain does not come soon the yield may be less than expected. The Montreal market is quiet at 31½c. for No. 2 white alfalfa. The market here is steady at 25 to 26c. for white west.

Barley is more or less nominal, with quotations at 36 to 38c. for feed, and 48 to 50c. for malting at Montreal. It is hoped in some circles that the Quebec conference will bring about a rearrangement of the tariff that will help the sale of barley.

Peas and Corn.

There is a decidedly healthier market in London for peas at fully 1s. per quarter advance. The Montreal market is strong at 62½ to 63c. alfalfa, with some holders asking 64c. At Toronto the market advanced from 52 to 53c. during the week.

Reports from some sections of the Western States are not favorable for the corn crop. Rain is badly needed in some sections. The Montreal market is quiet but steady at 38c to 39c. for No. 2 Chicago mixed alfalfa. The market here has been fairly steady at 34c. to 35c. for Canadian yellow west, and 42c. for American.

Bran and Shorts.

Ontario bran is firmer at Montreal at \$12 25 to \$12 50 in bulk. Shorts are higher, at \$15 and \$16. Shorts here are merely nominal, and bran is quoted at \$9 west.

Eggs and Poultry.

The London market is firm, and Canadian eggs have sold during the week at 6s. 9d. per 120, but quotations range from 6s. to 6s. 6d. In Liverpool sales of fresh Canadian have been made at 6s. to 6s. 3d. Some Quebec eggs of small size sold in Liverpool at 5s. 9d. Receipts at Montreal show signs of injury owing to the hot weather. The market is quiet but steady at 10c. to 10½c. for fresh candled; 9½c. for ordinary quality, and 8½c. to 9c. for seconds. Fresh new stock, suitable for boiling or shipping, will bring 12½c. to 13c. The demand here is steady, and fine candled eggs will bring 11c. to 12c.

Poultry receipts are not large, and last week's quotations hold good.

Potatoes.

Old potatoes are pretty well out of the market here, and are quoted at 50c. to 60c. per bag. New potatoes are getting more plentiful, and are lower at 60c. to 75c. per bushel.

Hay and Straw.

There is an immense hay crop all over the country, which is having a depressing effect upon the markets. Old hay is quoted at Montreal at \$9 to \$9.50. No. 2 is quoted at \$7 to \$8. Choice new hay, loose, is selling at \$6.50 to \$7.50 per 1,500 lbs. It is reported that farmers are selling new hay in Quebec at as low as \$2.50 per load in the field, and in Western Ontario at \$4 per load in the field. Cars of old hay on track here bring \$8 to \$8.25. Baled straw is quoted at \$4 on track.

Fruit.

Fruit continues to arrive here in good quantities. The quotations for red raspberries are 5½c. to 6½c. per box; black raspberries, 4½c. to 5½c.; black currants, 65c. to 75c. per basket; red currants, 40c. to 60c.; gooseberries, 40c. to 60c.; cherries, 50c. to \$1 per basket. Canadian peaches are coming in, and are bringing 75c. to \$1 per basket.

Cheese.

The cheese situation has brightened considerably during the week. At London the market is firmer and higher, and there is a good demand at 1s. to 1s. 6d. advance, finest Canadian selling at 39s. to 40s. 6d. The Liverpool market is also 2s. higher. Sales of finest Canadian have been made at 38s. to 39s., though the public cable quotes 37s. 6d. Shipments from this side continue to show large decreases. Up to July 16th, total shipments from Montreal show a decrease of 185,466 boxes, as against the same period last year, and the total from Montreal and New York for the same period, a decrease of 314,637 boxes, as compared with the same period last year. This, together with the reported falling off in make at local points owing to the drought, may serve to bring higher prices. English dealers seem to be more confident of a rise than those on this side. Finest western colored cheese is quoted at Montreal at 7½c. to 8c., and finest western white at 7½c. to 7¾c. Undergrades bring 7c. to 7½c. Prices at country points show a wide range, and run from 7½c. to 7½c., the bulk of the sales being made at about 7½c.

Butter.

The creamery butter market continues easy and unsatisfactory. Stocks are accumulating very fast and export shipments are falling off. The total shipments from Montreal for the season to July 16th were 47,644 packages, as compared with 31,005 packages for the same period last year, showing an increase of 16,639 packages against an increase of about 20,000 packages a few weeks ago. However, the recent decline in prices has caused more enquiry for export, and, if the factorymen are only willing to sell at present values, our export trade will largely increase. Some are inclined to hold, which is not at all wise, as other countries will take the place we have already gained in the British market. The consumer must have butter, whether it is high or low, and, if we withdraw when the price drops a little, the consumer will get supplies elsewhere. Besides, to ship regularly will pay the factorymen better than to hold. Montreal quotations are from 16c. to 16½c. for choice, fresh, creamery, with 16c. the out-

side figure. Some cold storage butter has sold at 15½c. to 15¾c. In dairy butter, offerings have been made costing 12½c. laid down in Montreal, but sales have been made at 13½c. to 14½c. There is no American butter coming in, as dealers can do better there than here. The Toronto market for fine creamery continues at 17c. to 18c. for prints and 16c. to 17c. for tubs. Offerings of dairy tub are fair and the market is steady at 12c. to 13c. for choice to 11½c. for medium to good.

Wool.

The Boston market continues dull and uninteresting. Buyers are of the opinion that they can buy wool cheaper at the large eastern centres than in the country. This condition of things existed here for a time. The offerings here are fair, but the demand is slow and the market is dull and unchanging at last week's quotations.

Cattle.

The western cattle markets were, if anything, a little easier last week. The Buffalo market has, however, shown considerable activity of late, and prices for most grades fully 10c. higher. The London market is firm and higher with a good enquiry at 1d. per stone in advance. The market here has been fairly active with supplies good for this season of the year.

Export Cattle.—Sales of fine quality have been made during the week at \$4.80 per cwt., but the ruling prices have been from \$4.40 to \$4.70. Medium and bulls sell at 4c. to 4½c. per lb.

Butchers' Cattle.—The top prices for these are from 4c. to 4½c. per lb., but the quality must be choice, and for this the demand is good. The demand for medium quality is quiet at 3½c. to 3¾c. per lb.

Stocks and Feeders.—The market for these is easier, chiefly because of the falling off in the demand from Buffalo. Prices rule at about 3½c. per lb. The range for light stockers is from 3c. to 3½c. Feeders bring from \$3.40 to \$3.60. It is reported that drovers are paying too much for their cattle in the country, and that some of them have lost money.

Calves.—These bring from \$3 to \$6 each. Choice veals would bring more. There are too many poor calves coming forward.

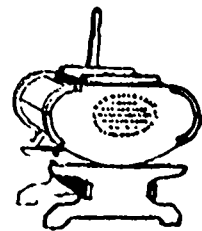
Milk Cows and Springers.—There is a good demand for these, and choice newly-calved milkers bring from \$40 to \$50. Common cows bring from \$20 to \$25.

Sheep and Lambs.

According to late cable reports the London market for sheep is completely demoralized, and prices are declining. The Buffalo market is lower for lambs of all kinds. Good, handy sheep are reported scarce, but yearlings are lower. Though the supply here has been large, the demand has been fair. Choice ewes and wethers sell for from 3½c. to 3¾c. per lb., and ordinary at 3c. to 3½c. Lamb fetch from \$3 to \$4 each.

Hogs.

Hog killings in the west have been most liberal during the week and the total killings large for this season of the year. Prices, however, have been well sustained and the average is fully up to a week ago. The only advance in the stock line here during the week was in hogs. Choice pig-fed bacon hogs were selling for from \$5.80 to \$5.85 on Friday's market, weighed off the cars. Corn-fed hogs are not wanted. Light fat hogs sell for from \$5.15 to \$5.25, heavy \$5.10 to \$5.15, sows \$3.25 to \$3.50 and stags \$2 to \$2.25 per cwt.



The Maple Leaf Churn
EASIEST AND BEST
Ask your dealer for it, or send direct to the manufacturers,
WILSON BROS.
COLLINGWOOD, ONT.

Horses.

The London market is quiet. Receipts of Canadian animals are liberal, but there is a good demand for light driving horses. The demand at Chicago has been only fair though supplies have been liberal. At Buffalo receipts have been light and the market active for a good class of horses.

CHEESE AND BUTTERMAKERS' CONVENTION.

The new Cheese and Buttermakers' Association of Western Ontario seems to be a thoroughly active and up-to-date institution. Already the time for holding their first annual convention has been arranged for and the outlook is good for a big gathering.

The Board of Directors of the association met in Stratford, Ont., on July 16th, and decided to hold this the first annual convention of makers ever held in the province at Listowel, Ont., on February 1st and 2nd, 1899. There were present at this meeting: T. B. Millar, president; G. H. Barr, vice president; and directors John Brodie, G. E. Goodhand, T. D. Barry, and James Morrison; and the secretary, W. W. Brown, Attercliffe Station. In addition to making arrangements for the annual convention the directors decided to prepare a form of agreement for use between cheese and butter-makers and factorymen.

City poultry keepers will find lawn mowings a good green food.

DO YOU KNOW

What your cows are doing?
Every factory should have

DILLON'S

Milk Paste Book.

Secretaries of cheese and butter factories will find that

Dillon's Improved Milk Factor Combined
Dillon's Milk Sheets
Dillon's Paste Books

ARE THE BEST AND CHEAPEST

For sale by all Dealers in Dairy Supplies, or

Thos. J. Dillon

Charlottetown, P.E.I.

BINDER TWINE

SISAL TWINE
SELECTED MANILLA
HIGH GRADE MANILLA
CENTRAL PRISON PURE MANILLA

Owing to a large demand, we can offer only limited quantities of our own brands. Plymouth and other brands in stock.

THE INDEPENDENT CORDAGE CO., Limited
TORONTO

OUR SILVER JUBILEE

ESTABLISHED 1808
INCORPORATED 1887

THE 25TH ANNUAL WESTERN FAIR
BESIDES 5 PROVINCIAL FAIRS

The Western Fair

London, Ont. - Sept. 8th to 17th, 1898

The Oldest and Most Successful Fair in Canada.
As a Live Stock and Agricultural Exhibition we are second to None.

This Year's Improvements

79 Box Stalls added in the Horse Barns.
Hospitals for Sick Animals. Several Important Additions in the Prize List. Fine New Art Annex, latest design. 5,000 square feet built to Carriage Building

SPECIAL EXCURSION TRAINS ON ALL LINES OF RAILWAY



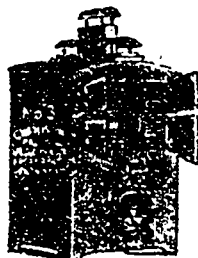
Entries positively close in all classes Sept. 7th..

Stabling and space allotted as entries are received. Prize Lists now ready, free.

LT.-COL. W. M. GARTSHORE,
PRESIDENT

THOS. A. BROWNE,
SECRETARY

CHAMPION FRUIT EVAPORATOR



Drys all kinds of Fruits and Vegetables, producing a superior quality of clean white fruit. It is made of Galvanized Iron, is fire proof and portable. Used at Central Experimental Farm, Ottawa.

THE G. H. GRIMM MFG. CO.
84 Wellington Street, - MONTREAL, Que.

Advertisers can best reach 100,000 farmers in the Maritime Provinces by advertising in the

Co-Operative Farmer

Sussex, N.B.
a neatly printed, sixteen-page semi-monthly, and the only exclusively agricultural paper in that part of the Dominion. Write to the publishers for sample copy and adv. rates. Address

CO-OPERATIVE FARMER, SUSSEX, N.B.

ALL PEDIGREE STOCK-BREEDERS

Should keep in touch with Herd, Flock and Stud movements by reading the

FARMER AND STOCK-BREEDER

The best, most complete and attractive Agricultural and Live Stock newspaper. Enlarged to 36 pages weekly; frequent special issues 40 to 48 pages. Illustrations are a specialty, each number containing many of the leading prize-winners, etc. Brilliant and practical articles on the Farm, Dairy, Horses, Cattle, Sheep, Pigs, Poultry, Veterinary, etc. Unequaled as a medium for advertisements intended to reach the best class of breeders and farmers throughout Europe.

Subscription, postpaid for one year, \$2.50
Intending purchasers of British Purebred Stock should send us particulars of their requirements, large shipments and extensive connections having given our staff of expert buyers that experience which is indispensable in live stock transactions.
Enquiries welcomed. Address—
FARMER AND STOCK-BREEDER, London, Eng

Metal Roofing

Our Patent Safe-Lock Shingles are cheap, easily laid, handsome in appearance, and practically indestructible.



Patent Safe-Lock Shingle.

They are absolutely weather-proof, fire-proof, lightning-proof, and will last a lifetime. Perfect satisfaction guaranteed.

Samples and Price List Free on Application.

The Metal Shingle and Siding Co., Limited
PRESTON, ONT.

Gem Butter Packages



Anti-septic

Odorless

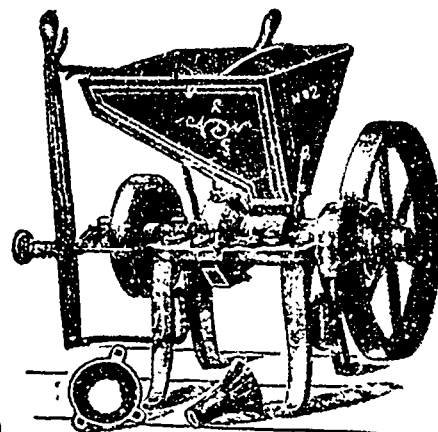
Cheap

Durable

Have you seen the "Gem" packages? The latest thing used by farmers for shipping butter to cities and towns. Sizes 1 to 10 lbs. each. Send for sample and price list free.

LICK PACKAGE CO.
155 George Street, Toronto, Ont.

Grinding Mill



This is our Grinder to run with a tread power or other light motive power. Notice the two balance wheels to hold the speed steady. It will crush and grind shucked corn as well as all sorts of small grain. Notice the conical grinding plates. We make two sizes larger also. SEND FOR CATALOGUE.

We manufacture also

TREAD POWERS, THRESHERS,
FEED CUTTERS, HAY PRESSES,
CIRCULAR SAW MACHINES, Etc.

MATTHEW MOODY & SONS
TERREBONNE, QUE.

AGRICULTURAL COLLEGE

GUELPH, Ont.

Will re-open on the
26th September of this Year

Full courses of lectures with practical instruction in subjects needed by young men who intend to be farmers. Send for circular giving information as to course of study, cost, etc.

JAMES HILLS, M.A., President.
Guelph, July, 1898.

One Cent Is all it will cost you

FOR

Complete . . . information about **The Joliette Grinder**

Send us a postal and we shall be pleased to send you a Catalogue and price list.

S. VESSOT & CO.

Joliette, P.Q.

Every Boy

CAN GET A HANDSOME WATCH FREE

FOR 3 NEW YEARLY SUBSCRIBERS AT \$1 EACH

Who has natural ambition desires before almost anything else to own a genuine watch. To him it is the insignia of manhood, and its very possession gives him an importance which no other personal belonging can bestow. Every boy who reads FARMING by doing a little work for us among his friends. Fancy a genuine nickel, open face, stem-wind, pendant set, up-to-date Watch, a perfect time-keeper, and equal in appearance to the best watches made. It is so easily done that no boy need want a watch this year. More than a score of boys have already accomplished the object of their desires. Others may do the same if they once make up their minds to do it. Why not try to-day? It will only take a couple of hours' pleasant work to secure this valuable prize. Upon receipt of the names of three new subscribers with \$3 to pay for their yearly subscription to FARMING we will send you a watch securely packed, carriage paid, free of all other expense. Take advantage of this opportunity while you can.

Two Dollars For One

Dr. Carlin's Universal Receipt Book and Household Physician. A complete collection of Receipts on every known subject as selected from the manuscript of Dr. Wm. Carlin, of Bedford, England, together with additions adapted to the needs of the Canadian and American reader, including a department for the household of most thoroughly tried recipes, treatises on bees and poultry, and full information on the care and management of horses, cattle, swine, sheep, birds and dogs in health and disease, comprising in all more than 6,000 of the latest and most reliable recipes for the farm, the household, the sick room and the kitchen. Neatly and strongly bound in cloth with stiff covers. FREE WITH FARMING UNTIL 1ST JANUARY, 1899, FOR ONLY \$1.00.

Other premiums will be found fully enumerated in our issue of May 17. If you have not got one, send for a copy.

44-46 Richmond Street West.

FARMING,
TORONTO, ONT.

THE Prize=Winners

ARE THE

Massey-Harris Implements

They have achieved the highest honors in competition the world over, and are used by the most successful agriculturists.

MASSEY-HARRIS CO., LIMITED
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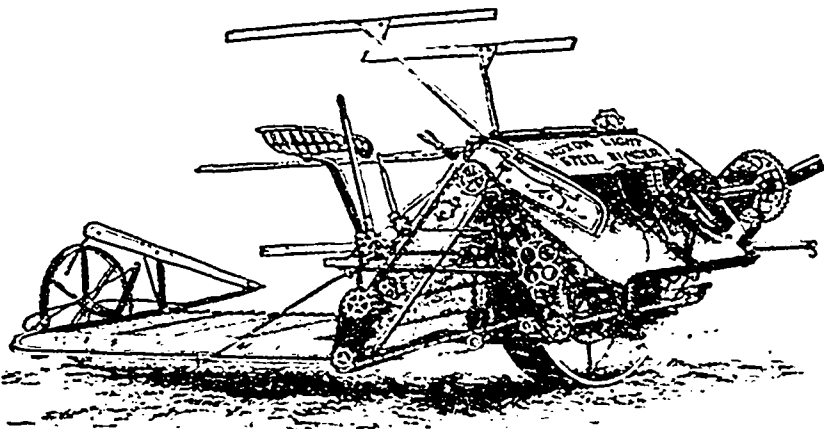
Binder Twine

SISAL TWINE PURE MANILLA MIXED MANILLA

Owing to a large demand, we can offer only limited quantities of our own brands. Write for prices.

Ontario Binder Twine Co., Toronto

Noxon Steel Binder



The Binder THAT DOES IT ALL AND DOES IT RIGHT

Noxon Bros. Mfg. Co., Limited
INGERSOLL, ONTARIO.

W. C. EDWARDS & CO. Breeders and Importers

PINE GROVE STOCK FARM.

Rockland, Ont.
On the C.P.R. and G.T.R. Railways.
Special bargains on young bulls of superior merit and select Scotch breeding. Also thick young heifers at the right prices.

Ayrshires, Jerseys, Shropshire Sheep, and Clydesdale Horses.

Post Office, Telegraph Office, and Steamboat Landing, Rockland, Ont., on the C.P.R.

JOS. W. BARNETT,
Manager.



LAURENTIAN STOCK and DAIRY FARM,

North Nation Mills, Quo.

Ayrshires, imported and homebred here headed by Imported Tam Glen 2nd, No. 1310 D. A. H. B. Jerseys all of the celebrated St. Lambert family, herd headed by Lagar Pogle of St. Anne's 25704 A.J.C.C. Berkshire Pigs. Young stock of all the above breeds for sale.

Post Office, Telegraph Office, and Railway Station, North Nation Mills, P.Q., on the C.P.R.

A. E. SOHRYER,
Manager.

SALT IN CHEESE-MAKING

Why will your Cheese be better every way by using Windsor Fine Salt?

It seasons as you want it seasoned. It is PURE SALT and nothing more.

Your grocer sells it—or will get it for you.

Windsor Salt

The Windsor Salt Co. Limited,
Windsor, Ont.



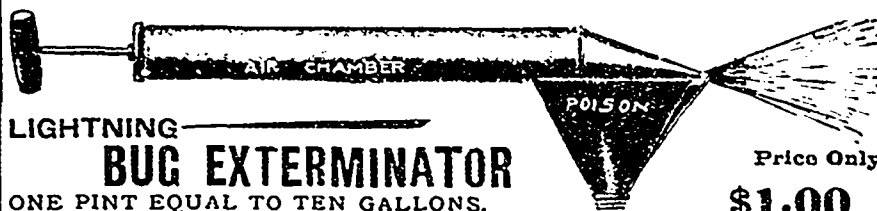
Harvie's "Arctic" Butter Shipping Box

Made of spruce lumber, with galvanized iron ice tank, malleable iron hinges, handles, hasps, and corner plates, almost indestructible. Made in sizes to hold

45 lbs. in Summer, or 45 lbs. in Winter	—\$3.00.
75 " " " " " "	—\$3.50.
85 " " " " " "	—\$4.00.
100 " " " " " "	—\$4.50.

HARVIE & CO.

223 QUFEN ST. EAST. TORONTO.



LIGHTNING BUG EXTERMINATOR

ONE PINT EQUAL TO TEN GALLONS.

We mean that a teaspoonful of poison and a pint of water will treat as many potatoes or other plants as ten gallons of liquid applied in any other way. This is a strong statement, but it is a fact, and the work done with this machine is better than when you flood the plants; besides, there is no danger of injuring the plant.

CHARLES E. BISHOP, Seedsman, Belleville, Ont.

Price Only

\$1.00

ALBERTS'

Thomas - Phosphate Powder

Puts strength into meadows and pastures, and doubles their production in feeding power. Give the soil the "Bone Earth" required for the proper production of hard wheat. All by the liberal use of

Alberts' Thomas-Phosphate Powder
(REGISTERED)

THE CHEAPEST AND SUREST PHOSPHATIC MANURE KNOWN.

WALLACE & FRASER

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Canada Life Bldg., TORONTO