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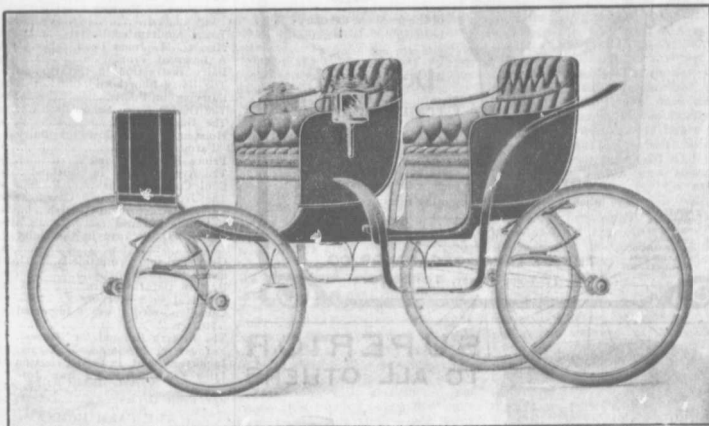
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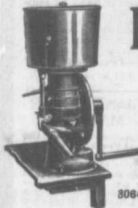
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The Farming World

And Canadian Farm and Home

Vol. XXII.

TORONTO, APRIL 15, 1903

No. 6

This Issue
 HIS is our annual dairy number. We trust you will like it. It's special features are a series of articles descriptive of the breeds of dairy cows used in Canada and how to build up a dairy herd. These have been prepared by experts and will be found of very great value to dairy farmers. Owing to a rush of advertising copy at the last moment, we were not able to insert as much matter dealing with the cheese and butter making side of dairying as we would have liked. But our readers have had considerable matter bearing on this phase of dairying during the past few months and will perhaps appreciate the cow side of the business. The other matter in this issue is well worth reading.

The Movement West

The movement of people to the West which began some weeks ago continues. From Great Britain, from the United States, and from older Canada, chiefly Ontario, thousands of desirable settlers are making their way to the prairies and fertile plains of Manitoba and the Territories. May they keep going. Though farming operations in older Canada may be hampered because of a scarcity of labor, easterners will rejoice in the prosperity and growth of Western Canada.

Eastern farmers, however, should not sit idly by while this western movement is in progress. Every new settler means a greater demand for live stock, and an enlarged market for fruit and many of the products that eastern Canada produces. Of these, live stock needs the most attention at the present time. While a great deal has been done to develop the market for Ontario pure bred stock in the West there is yet much to be done.

The article in our last issue, on stallion syndicates in the West would seem to indicate that Ontario horse breeders had not given as much attention to the West as a market for stallions as they should have done. The Americans have evidently got in on the ground floor and are supplying a class of breeding animals that will work lasting injury to the horse breeding industry in many parts of the West. This movement should be supplanted by Ontario breeders, who are in a position to supply the kind of stallions wanted in the West. What have our horse breeders' associations done? What are they doing at the present time to win this trade and hold it for Eastern Can-

nada? Horse shows, and dress parade affairs, while most excellent in their place, will not accomplish much against the aggressive and personal canvass of Americans' right on the spot. It may not be too late yet to do something towards turning this demand for breeding horses in the West in this direction.

More on Farm Help

There is nothing new to offer in regard to farm help. The number required for this season is about a far from being supplied as it was a month ago. Gradually a few emigrants, who are not snapped up for work in the city, are being picked up. But many of these do not fill the bill and the farmer finds it difficult to keep a good man when he gets him. A week ago a party of forty English immigrants arrived in Toronto. They were, with a couple of exceptions, without experience in farm work. This has been characteristic of nearly all the immigrants who have arrived in Toronto this spring, very few have any experience in farm work. What they will do in the West when left to manage a 160 acre farm is hard to say. Chinamen would do almost as well, being said to be among the best growers of vegetables to be found anywhere.

So far the Ontario bureau of farm help has had over 4,000 applications for help. Consequently no difficulty is experienced in placing these arrivals so long as they are single, no matter how inexperienced they are. With married men there is more trouble especially if they do not understand farming. The highest offer received from anyone of the several thousand applications for help was \$25 a month and board and lodging for eight months for an experienced man. But very few of those coming to Ontario are experienced men. Some of the wages paid for inexperienced men may be gathered from the following: Two lads, about 19 years, one a finisher, one a turner, placed at \$10 a month for the year; a grocer, placed at \$15 for eight months; a saddler, placed at \$15 a month for eight months. Fifteen to eighteen dollars a month for inexperienced men appears to be about the figure and for boys around \$10 a month. This always includes board, of course.

Unless these inexperienced hands are desirous of learning something about Canadian farming, they are not likely to be much attracted by these figures, and farmers may have to advance their prices in order to get the best men.

The Cheese and Butter Outlook

Never, perhaps, in the history of Canadian dairying has the outlook for cheese been as bright, at the beginning of the season, as at the present time. Old stocks are practically nil, prices are high and the demand for new goods excellent. At Montreal on April 1st there were only 987 boxes of cheese in store as compared with 53,034 boxes on April 1st 1902. Fodder cheese made in March has sold at from 13c. to 13½c. per lb. as compared with 10½c. to 10c. for the same class of goods a year ago. Many contracts for April cheese have been made at 12½c. to 12c. The cheese season is therefore opening up well and unless unforeseen conditions arise good prices are likely to obtain during the season. There will be a large make of early cheese and every prospect of a big make the balance of the season, which may have a weakening effect on prices later. But a drop of even a couple of cents will leave a good margin of profit to the dairyman.

As regards butter the outlook is not so bright though a little improved over what it was a few weeks ago. Stocks of butter in England as well as in Canada are not large. At Montreal on April 1st the total stock of creamery and dairy butter was 4,608 pkgs. as compared with 5,142 pkgs. on the same date of last year. Fresh creamery sold during the early part of April at 24c. to 24½c. per lb. as compared with 21½c. to 22c. during the same period of 1902. This shows an advance of 2c. over last year. Present prices are a little high for profitable export.

Such in brief is the situation as we are able to estimate it at the present time. The dairyman, however, must see to it that the quality is kept up to the mark. This is just as necessary with butter as with cheese. Canada's dairy products for 1902 were generally of a high character in point of quality. Aim not only to maintain this high standard in 1903 but to improve upon it.

United States Animal Census

The total number and value of farm animals in the United States on January 1, 1902 and 1903 is given by the Department of Agriculture at Washington as follows:

Year	Number	Value
Horses	1902 16,597,700	\$8,025,500
1903 16,333,294	\$8,611,900	
Mules	1902 5,728,000	\$2,007,000
1903 5,757,017	\$2,161,704	
Milk	1902 17,100,000	\$1,211,000
1903 18,086,802	\$88,130,384	
Cows	1902 44,620,200	\$4,400,000
1903 45,722,000	\$5,200,000	
Other	1902 63,994,876	\$2,108,215,760
1903 65,000,000	\$2,144,000,000	
Swine	1902 68,982,034	\$1,000,000,000
1903 68,000,000	\$1,120,700,000	

An Agricultural College for Manitoba

The Report of the Agricultural Commission Outlined and Discussed

By Ou: Western Correspondent

Manitoba is to have an Agricultural College. The commission appointed for the purpose has reported favorably. The Legislature has passed an Act authorizing the establishment of such an institution and has provided funds for purchasing the site and erecting the buildings. Everything now rests with the Minister of Agriculture.

Such is the outcome of several years of agitation by all manner of institutions, associations and private parties interested in the agricultural advancement of the province. It must not be understood from this that any opposition was encountered either from the Government or the people. The present Minister of Agriculture and his predecessor have been equally strong in the expression of their belief in the importance and necessity of such an institution. The only opposition, if such it can be called, has been the lukewarm support of many influential persons who believed that sooner or later Manitoba must have an Agricultural College but feared that the people were not ready for it. Such persons pointed warningly to the early record of the Ontario Agricultural College. The population of Manitoba is smaller than that of Ontario was when the Guelph College was established, and the inevitable moral was deduced from this fact. But the unanimity of feeling which has been shown by the discussions of Farmers' Institutes and other Agricultural Associations has removed this spectre of failure. The evident interest shown by farmers and farmers' sons is a guarantee of a full attendance of students. If a large attendance of students is an index of success, we may consider the success of the Manitoba Agricultural College as already assured.

The Commission's report contains the following recommendations:

First—That the instruction given in the public schools include the elements of Agriculture, that this be continued in the Collegiate Institutes (which correspond to the Ontario High Schools), and that teachers be required to qualify for teaching such subjects by a course of study in agriculture.

Second—That an agricultural college be established. The following is a quotation from their report:

"Our Commissioners are unanimously of opinion that the time is ripe for the establishment of an agricultural college in the province. The most emphatic testimony on this point has reached them from every quarter and from representatives of every type of opinion. It is evident that the whole body of citizens, more particularly the farmers, will welcome the setting up of such an institution with enthusiasm."

The report of the Commission outlines the constitution of the college with considerable attention to details. It is evident that they have considered the matter very carefully and profited greatly from the visits made to the Agricultural Colleges of Minnesota, North Dakota, Iowa, Wisconsin, Michigan and Ontario. Their recommendations are too lengthy to be presented verbatim, but are substantially as follows:

AGRICULTURE AND DOMESTIC SCIENCE

They recommend that the college should consist of two principal departments—Agriculture and Domestic Science, the former chiefly for male students, the latter exclusively for female students.

The sessions should be of four or five months duration and be held during winter months only. The importance of this latter point needs no explanation.

There should be three principal branches of instruction with professors in each, viz., agriculture, animal husbandry and dairying, and if funds permit, horticulture should be made a fourth. Instructors should also be employed for engineering and blacksmithing, carpentry, and English and mathematics. This would make a teaching staff of three or four professors, and three instructors. The department of domestic economy would be in charge of a fifth professor, a woman, who, it will seem from the report, will be further expected to take full charge of the building used by female students.

The college should be kept quite distinct from any other educational institution being affiliated with the University of Manitoba for the conferring of degrees only. It should have a farm of from 100 to 200 acres with all appliances, stock, machinery, etc., for properly working same.

The governing body of the college should consist of nine persons, four elected by the farmers of the province through their agricultural societies, three appointed by the Government and two by the University of Manitoba.

COST \$100,000

The commissioners' estimate the initial cost at \$75,000 or \$100,000. They estimate a yearly expenditure for salaries alone of \$14,000.

There are three courses recommended corresponding to those of the Ontario Agricultural College, as follows—short courses of two to six weeks; a two years' course entitling the student to a diploma, and a four years' course leading to the degree of B. Agr.

The course in Domestic Science should include instruction in general cookery; the properties and use of different kinds of food, their pre-

paration and preservation; the principles and proper methods of laundry work; home nursing and emergencies, hygiene, sanitation, etc.; household art and design, dressmaking, sewing, etc., household management, physical training and the natural sciences bearing upon such subjects, and a normal course for school teachers.

Such in brief is the report of the commission and the act passed by the legislature at the session just ended does little more than give effect to the report by authorizing the government to establish a college along the lines indicated therein. It adds to the governing body as above outlined a tenth member—the Minister of Agriculture—and vests their powers in the Government until the directors can be duly elected as suggested by the commissioners' report.

Beside passing this act the Legislature voted the sum of \$75,000 for land and buildings and authorized the government to proceed with their erection.

It may be thought that the sum provided is not equal to the requirements of the case; and this view will probably be justified by the event. But should a further expenditure be necessary to bring the institution into proper working shape there is no doubt that the funds will be provided by the Legislature. At the same time it must be remembered that the agricultural population of Manitoba is probably not above 200,000 and that the revenues of the province are limited. For a "starter" the sum of \$75,000 may be considered fairly liberal. The sum of \$14,000 for salaries of the institution should be sufficient, in the words of the commissioners, "to secure the most enthusiastic and competent teachers and professors," which is enjoined by their report as a prime necessity.

TO BE PATTERNED AFTER GUELPH

Altogether the college will be largely patterned after that pioneer institution, the Ontario Agricultural College. It will follow this model in the arrangement of its courses of study. The ideal, including in the college a department for young women is borrowed from the Minnesota School of Agriculture where it has been for several years in satisfactory operation.

The commissioners and the Legislature have done their duty, and now as we said before it all rests with the Minister of Agriculture.



Important Shorthorn Sale

Another important combination sale of Shorthorns will be held at Hamilton, Ont., early in June. The Hon. John Dryden, Brooklin, W. C. Edwards & Co., Rockland, Ont., and several other breeders will contribute some of their best animals to this sale. The date and full particulars regarding the sale will appear next issue.



Expert Judges and Institute Workers attending the Special Course in Live Stock Judging at Guelph, March 17-27, 1903. The new live stock pavilion at the College is shown in the rear.

Breeding and Feeding the Bacon Hog

During the recent live stock judging course at Guelph, for Institute workers, several important discussions took place. None, however, were of more practical value than that on the breeding and feeding of bacon hogs, led by J. E. Brethour. He stated that there was a tendency at the present time to feed too much. A grain feed night and morning and a feed of roots, vegetables or green food in the middle of the day were sufficient. Young pigs just from the sow should be fed oftener than this, say 4 times a day until 3 months old. Dairy by-products form a good ration for young pigs, though to feed too much milk is as bad as too little, 6 to 8 lbs. of milk to 1 of middlings was about right.

Young pigs should have plenty of exercise in cold weather. The majority of pigs do not get enough exercise in winter. It is a good plan to scatter wheat, corn, etc., among the chaff in the pen to induce them to take exercise. The more pigs lie in the nest the greater tendency there is to put on fat. There would be less trouble with young pigs if they had more exercise.

As a rule March is early enough to have sows farrow. This will enable the pigs to strike the best market. There is a tendency, however, for farmers to have pigs for market at all times. Corn fed with plenty of green or vegetable food and skim milk with plenty of exercise are all right for summer feeding.

THE BROOD SOW

should be kept in the open air as much as possible. Don't feed her too heavily, but feed roots regularly. Too many roots and too little

grain are not good in winter as they will not nourish the animal and consequently her offspring will be weak. A reasonable amount of roots is always advisable. About two weeks before farrowing feed less liquid food and more solid. The first day after farrowing the sow should get little if any food. Hot water with a little bran sprinkled in it is all that is necessary. Over-feeding at this time is apt to scour the pigs. When the young pigs are feeding well begin to feed the sow well, giving the young ones plenty of exercise. Black teeth in young pigs are usually caused by too much feeding. Constipation and scours are frequently brought about by over feeding the brood sow. A little Epsom salts (2 table-spoonsful for each 100 lbs. of pig) once a week are good for pigs not getting enough exercise. Sulphur, salt and charcoal mixed are good.

TREATING SICK PIGS

The discussion then turned generally to the feeding and treatment of pigs and a number of questions were asked and the following is a summary of the answers given: Tankage from the packing house is good, especially for hogs penned up. It is worth 2 cts. a lb. Don't give as regular food but give in trough between meals. Don't give large quantities of salt, a little is good. Copperas is good for diarrhoea. To drench a sick pig put a rope on upper jaw, draw this over something high until pig's head is elevated. Then put a piece of $\frac{1}{2}$ inch hose down the throat past the wind pipe and pour the liquid through this. Ground flax seed is good for young pigs just weaned. Wood charcoal, and rotten wood are good for indigestion in pigs. Fresh earth

thrown in the pen every day in winter, is good for young pigs. Mangels or sugar beets can be fed whole to sows, but should be pulled and steamed for young pigs. Clover chaff is good for hogs in winter. Basiilage is a slow but cheap food for hogs. It is not profitable to feed all grain to hogs.

THE KIND TO BREED FROM

Returning to the breeding of hogs, Mr. Brethour said that it is best to keep young sows for breeding and if they turn out well keep them at it. Some sows will breed till nine years old, but the majority less. A good brood sow should have strong development of the body and should be well nourished. A sow should not be bred until she is 12 or 14 months old. Sows with 12 or 13 teats are better than those with more, and these should start well to the breast with equal development for each. It is hard to successfully nourish and raise large litters. Have smooth hard bone and quality in the sow. When eyes are wide apart sow will be more docile. They should be well placed in the head and prominent. Have good bone so that animal will be inclined to walk on her own accord. A boar with crooked bone will generally get pigs with crooked legs. Can't have too much hair if it is of good quality. A rough wrinkled skin is objectionable.

CORNS ON FEET

The discussion again turned to the treatment of pigs, when it was shown that corns on hogs' feet are usually caused by keeping them on a hard floor. Iodine rubbed on the pad of the foot will cure these. As corns will often make pigs go on their knees, they are often mistaken for founder. Concrete floors are good but not for young pigs to lie on in winter or summer. The sleeping berth should be 1 foot or 18 inches above the floor with a runway for pigs to go up on. A metal or cement trough is best, as it can be kept sweeter. Salts are good fed to a sow a day or two before she farrows.

A Big Dairy Farm

A company has been organized at Winnipeg to conduct, what will, it is said, be one of the largest dairy farms in America. 1,750 acres of land on the south bank of the river just one-half mile from the city limits have been secured. This land is one solid block and is well adapted for the purposes of a dairy farm. It is the purpose of this new company to keep 600 cows, a large percentage of which will be Holsteins. The next largest farm to this is said to be in New Jersey where 500 cows are kept.

The Care of Milk

The greatest difficulty the cheese maker has to contend with is gassy or tainted milk. The patron should aim to supply only pure sweet flavored milk.

The following are some of the causes of gassy and tainted milk—

Allowing the cows to drink impure water from dirty watering troughs, stagnant ponds, soakage from barnyards.

Feeding rye, rape, turnips, turnip tops, ragweed, leeks, or apples.

Not wiping cow's flanks, udders and teats before milking.

Milking with dirty hands.

Using wooden pails for milk.

Not straining the milk immediately after milking.

Stirring or aerating (exposing to the air), close to a swill barrel, hog pen, hog trough, hogs, barn yard, or milking yard.

A rusty old milk can.

Milking the cow, dumping the milk into the milk can and leaving it over night without either straining, aerating or cooling.

Sour milk is caused by leaving or keeping it at too high a temperature.

Milk should always be strained, and aerated (exposed to pure air) by running through an aerator, dipping and stirring, immediately after milking.

In warm weather the milk should be cooled by setting the pails or can in cold water while it is being aerated. Cool to 65 degrees.

Saturday night's and Sunday morning's milk should be cooled to 60 degrees, set in a cool cellar and covered with a clean robe or blanket, and let alone till Monday morning.

Milk cans and pails should be washed with a brush and luke warm water in which a little soda is dissolved, then scald and place on their sides in the sun. Cans and pails should be scoured with salt occasionally.

A rusty can should never be used to send milk to the factory.

Successful Dairying can be summed up in two words—Be Clean.

Sheep Grown on Grass

Data obtained in sheep feeding experiments at the Iowa station indicate—

First—That sheep will make practically as large gains on grass alone as on grain and grass.

Second—That in economy of gain grass alone gave the best results.

Third—That corn at 33 cents per bushel is a more economical grain to feed sheep on grass than oats at 23 cents or barley at 40 cents.

Fourth—That mutton can be produced much more economically during the summer months on grass alone or grain and grass than it can be produced by feeding grain and hay during the fall and winter months.

Fifth—That the feeder can often-times purchase half fat lambs during the latter part of April or the first part of May and by grazing them for from forty to sixty days

realize a good profit, due to the advance in market prices during the latter part of June and the first of July over those ruling in April and the first part of May.—W. J. Kennedy, Iowa Station.

Why Farmers Should Keep Bees

There are many reasons why farmers should keep bees, and none of importance to the contrary. In the first place, there is the honey—the most wholesome sweet in existence. Physicians all agree that, with few exceptions in individual cases, honey is the most easily digested of any kind of sweet. In the candied form it is almost what might be termed predigested. Then besides its value as a food, it has great medicinal properties. It is a laxative and will give relief in lung and throat troubles. The base of a great many cough remedies and cough syrups is extracted honey, and the remainder of the prescription so cheap and simple that any mother could prepare the whole thing herself.

Nor is the production of honey the only reason why bees should be kept on the farm. They gather here and there a valuable food and medicine for the human race, which but for their industry would be entirely wasted, and while doing this they perform another service which is almost, if not quite as important. As the botanist and horticulturist well know, every flower of seed or fruit must be fertilized before the plant will bear. The clover must be fertilized, or the seed will not grow, and in a like manner all kinds of fruit, berries, apples, plums, etc., need fertilization. Now, not all of these things absolutely have to have some outside agent to assist in this work, for some are self-fertilizing, but in the majority of cases, plants cannot fully fertilize themselves. As the bees pass from flower to flower gathering nectar and pollen, they carry on their fuzzy little bodies the tiny grains of pollen needed to produce the best fruit and seed. If the farmer had bees it is pretty sure that his fruit and clover-seed will "see" if the weather allows the bees to fly. Of course, if one's neighbor has a large number of bees, there will be no need of buying for this purpose, or, in fact, for any purpose, for it is better to buy honey from your neighbor than to overstock the field.—Ellie Brown.

Favors Government Ownership

I am in favor of government ownership of railroads. The government should own at least one line from the Atlantic to the Pacific. All the profits arising from the operation of railroads come from the people, why, therefore, should not the government secure this profit for the good of the people instead of making millionaires of a few? I am also in favor of rural free mail delivery and think we should have as cheap postage as possible.

R. W. McNealy, P.E.I.

Raising the Dairy Calf.

In the Maritime Farmer of Jan. 29, there appears over the signature of Mr. P. J. Milne, an interesting and well-written article under the heading "Raising the Dairy Calf," and we hope you will not take it amiss if we take the liberty of giving you our ideas on the same subject.

We contend, as does the dairyman quoted, that Separated Milk contains the important elements for the formation of bone, muscle and flesh, but we differ from him when he says that fat is an essential food for the young calf.

We believe that there is a certain chemical balance in the whole milk that is destroyed by the separating process, and we doubt very much if that chemical balance when once broken can be again obtained by uniting the skim milk with fat in any form.

Our theory is that this chemical balance enables the calf to thoroughly assimilate and digest the whole milk and thus obtain from it all the growth-stimulating elements. Furthermore, we think he is on the wrong track when he says that "some substitute rich in fat must be given with skim milk to replace the fat removed in the cream." All the substitutes he mentions are difficult of assimilation, and unless fed very carefully will bring on scours. We do not believe that fat is the element required. We believe that a chemical balance of milk must and can be restored by adding a properly-constituted condiment of a purely aromatic nature, rather than by the addition of indigestible fat containing no nutriment.

This was our opinion eighteen years ago, when we first began the manufacture of Herbageum, and results obtained in practice have proven that we were right.

In practice a calf may safely be fed skim milk from the beginning if Herbageum be added in the proportion of four lbs. to a ton and a quarter of skim milk.

We do not ask you to accept our statement in this matter, but we herewith append letters from practical Canadian farmers who have tested the matter.

Last spring we used Herbageum with our calves with skim milk, a teaspoonful to a gallon of milk, and they were equally fine as if they had had the pure new milk.—Cyrus Stone, New Paris, P.E.I.

I have raised better calves since I have begun the use of Herbageum than I ever did before, and I do not think I can overstate the value of the item. It is good with either skim milk or sour milk, and I have never better results with either than with Herbageum secured better results with Herbageum than with deacidulated milk and at less cost. It keeps them regular, prevents constipation, and keeps them free from scours, and there is no trouble with lice when it is used. Have also had the best of results on other stock.—Alice A. Taylor, Margate Harbor, N.S.

I cannot speak too highly in praise of Herbageum for calves. Skim milk is not so good for them as milk; in fact, it is better; for I think they do better in bone and muscle and best with skim milk without it. There is also profit in feeding it to young pigs.—Jas. S. Fancy, New Germany, N.S.

I have used Herbageum with young calves with skim milk. I found it a great benefit in preventing scours.—Samuel Walden, New Brunswick, N.S.

We tested Herbageum thoroughly on poultry and got remarkably good results. We also fed it with skim milk to calves, and ever been troubled with that feed when we ever had calves do so new milk. It prevents all scours in calves.—Edgar McLean, Mgr. Tarrington Stock and Dairy Farm, North Head, N.S.

I began feeding Herbageum to calves when they were three days old with (skim milk) from the creamery. They have ever been troubled with any disorders, and we have at present an exceptionally fine calf, and it is the best we ever raised. We also whole milk, and it received only skim milk and Herbageum. Results are better than in the last year when we raised some.—Charles Myers, Cape Vaud, P.E.I.

We think that you will agree with us that our case is clearly proven. Yours sincerely,

THE BRAVER MFG. CO., GALT, ONT.

The Forward Movement in Dairying

The past two or three years have witnessed a distinctly forward movement in dairying in Canada. This has shown itself in two ways: in the cool curing of cheese and greater attention to the fellow who supplies the milk.

The demonstrations conducted at the four cool curing stations last year by the Dominion Department of Agriculture, served to show the need of a complete change in our methods of curing. They have shown that cheese cured at a low temperature are better in quality, do not lose so much in the shrinkage and thus return more to the producer. When all our cheese are cured under similar methods the danger of any competitor arising to replace Canadian cheese in the British markets will be farther away than ever.

The Ontario Department of Agriculture also carried on special work last year, but on an entirely different line. The two syndicates conducted, one in Eastern Ontario under Mr. Publow, and the other in Western Ontario, under Mr. Bari, showed the value of giving special attention to the patron's side of the business. So successful were these syndicates that over twenty-five will be operated in Ontario the present season. These two movements, the one directed towards improving the quality of the raw material and the other toward improving the quality of the manufactured article have done much toward advancing the cause of Canadian dairying both at home and abroad.

While special attention has been directed to Ontario in these two lines of work the other provinces have not been standing still. Prince Edward Island will likely have two instructors for her fifty factories this season. Nova Scotia is pushing forward, and through the travelling dairy operated for two seasons back has done much to improve the quality of the dairy butter down by the sea. A well equipped dairy instruction scheme will be continued in New Brunswick and made more effective. In Quebec, the pioneer in dairy syndicate work, more will be done towards improving the quality of the product and extending this work. In the West there will be no lagging behind and a large increase in the butter output is expected.

The high price of cheese and the more recent work for the improvement of this branch of dairying has rather thrown butter-making in the shade. This should not be. Taking one season with another there is no more profitable branch of dairying than that of making butter. Canada's exports of butter should be quadrupled and instead of sending forward annually \$5,000,000 worth we should be exporting \$20,000,000 worth or as much butter as cheese. The British market will stand it and we can stand it without injuring our splendid trade

in cheese one whit. Let our dairymen keep up both ends of the stick and put butter production on a par with cheese both in quality and quantity.

To be Adulterated Butter

A bill has been passed in the British House of Commons which provides that all butter containing more than sixteen per cent. of water shall be labelled adulterated, no matter how pure. It is stated that this bill is really aimed at dry colonial butters now bought and blended with milk by English dealers. This butter though perfectly pure, often contains about twenty per cent. of water. Of all the butters imported by England,

Mrs. E. M. Jones Dead

There died at Gananoque, Ont., on April 7th, one of Canada's greatest dairymen. Mrs. E. M. Jones was well and favorably known both in Canada and the United States. For many years her herd of Jerseys had been among the noted herds in America. Jersey breeders everywhere, anxious to secure some of her breeding, were willing to pay high prices for her stock. Not only was Mrs. Jones known as a breeder of high-class Jerseys but as a pioneer in dairy teaching in Canada she rendered valuable services. The feed and care of the dairy cow, the care of her milk, and the making of it into good butter, were topics upon which she was well informed and able to give valuable information to dairymen. In 1892 Mrs. Jones published "Dairying for Profit, or the Poor Man's Cow," a book that had an enormous sale, both in this country and in the United States. The practical teachings of that book and the principles of good dairying set forth therein did much to arouse a greater interest in good dairying in many parts of Canada. Mrs. Jones will be long remembered as one of America's greatest dairymen.

Irish is said to contain the most moisture and will perhaps be more affected by this new regulation than any other.

To what extent Canadian butter is used in England for blending purposes we cannot say, though we hardly think any large quantity is used for this purpose. The general average quality of our butter is so high that there is no need to blend it with other ingredients to secure a market for it. It might be well, however, if the government were to make enquiries regarding this matter and if it is sold, after being so blended, as Canadian butter.

In so far as the general working of this new legislation and its effect upon our export butter trade Canadians need have little fear.

Last summer Mr. Frank T. Shutt, chemist, Dominion Experimental Farms, made a close examination of 105 different lots of butter received from creameries all the way from Alberta to Prince Edward Island. Out of these 105 samples examined only two showed more than 15 p.c. water and only one exceeded 16 per cent. and ninety-two fell below 14 per cent. The average for the 105 samples was 12.31 per cent. The sample running over 16 per cent. was churned at 60 degrees F. and the washing temperature was 64 degrees F., unusually high temperatures in Canadian creamery practice.

With this evidence of the dryness of our butter before them Canadians need not hesitate about pushing the export trade for all it is worth. Instead of sending \$5,000,000 worth of butter annually to Great Britain we should be sending \$20,000,000 worth. England is every year increasing her imports of butter and Canada should have a larger share of this trade than she has. During the past year or two, Australian butter exports have fallen off very materially owing to the severe drought in that country. But Russia is pushing her trade in England in butter very rapidly and is fast coming to the front in point of quality. Travellers from Russia tell us that there are in that country some of the very best creamery plants in the world, built upon scientific and up-to-date lines. After the farmers of that country are trained to handle and look after the milk properly, Russia will be Canada's most formidable competitor in the English butter market.

A Deserved Promotion

That sturdy politician and friend of the farmer, Mr. W. C. Edwards, M.P., has been elevated to the Senate. We take this opportunity of extending to him our hearty congratulations.

Mr. Edwards is well known to the farmers and breeders of Canada. His herd of Shorthorns at Rockland, Ont., is one of the largest and best in the Dominion. The purchase of the Missis cow two years ago by Mr. Edwards for \$6,000 brought his already well-known herd into greater prominence. He is also a breeder of high-class Ayrshire cattle.

When the tuberculosis and the tuberculin test agitation was at its height a few years ago, Mr. Edwards instituted a series of experiments at Rockland with a view to determine what could be done by complete isolation and careful treatment of re-acting animals. This work was successful in establishing the utter fallacy of the slaughter method of dealing with this disease and that if proper isolation and care were exercised calves from re-acting cows could be raised free from any trace of the disease.

Dairy Instruction Work in Ontario

WESTERN ONTARIO

The plans for dairy instruction in Western Ontario are fully completed, and are briefly as follows:—For cheesemaking, four groups of syndicates have been formed including from twenty to twenty-five factories in each, and an instructor appointed for each group. These are in the following sections:—Simcoe, W. G. Mead, instructor; Brantford and Canboro, Jas. Burgess; Ingersoll, S. P. Brown; Stratford, and Lambton, Alex McKay. The fee for each factory in these groups will be \$10, and the instructor will



Mr. G. H. Barr

visit each factory at least five times, and often if at all possible during the season. He will carry an outfit for making the alkaline test for acidity, and the curd test for locating gassy and tainted milk, and will direct his efforts largely to instructing, and helping the patrons to produce first-class milk.

For any factories outside of the groups named with instruction, provision has been made by engaging Mr. Frank Burgess as instructor, and I will also do as much instructing in the factories outside of the groups as possible. An effort will be made to visit every factory in Western Ontario during the season, either by myself or one of the in-

structors and thus we hope to get in touch with them all. Those factories outside of the groups making application for instruction, will pay a fee of \$3 for one visit, and for two or more visits \$2 per visit. Messrs. J. A. McFactors and J. C. Bell have been appointed instructors in creameries. Every creamery in Western Ontario will be visited. The creameries paying a fee of \$5 will receive four or five visits from the instructor during the season, and I trust the creamery men will keep these instructors busy, and make Western Ontario butter second to none.

I think we have been fortunate in securing the services of the seven men named. At the present time they are all taking the instructors' course at the Dairy School, Guelph, and I am highly pleased with the work which is being taken up, it is certainly a step in the right direction to get uniform methods of instruction.

Geo. H. Barr,
Supt. of Instruction for Western Ontario.

EASTERN ONTARIO

We expected to have had full particulars regarding dairy instruction work in Eastern Ontario for this issue, but up to the time of going to press they had not arrived. We learn from a reliable source, however, that the demand for factory syndicates in this part of the province is far greater than the most enthusiastic ever anticipated. Twenty-one groups have been formed of about 25 factories each, with an instructor over each group. Each of these factories will contribute \$15.00, making a total of about \$9,500 to be collected from the factories for instruction work this season. These twenty-one syndicates will practically cover all the dairy districts of Eastern Ontario, leaving a comparatively small number of factories without instruction. The very great success of this movement is due in large measure to Mr. C. G. Pulblow, who will have charge of this corps of instructors during the season.



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When the Dairy alphabet is written, the letter S will stand for the best—Simple, Healthy, Satisfaction, No. 1.

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Gentlemen—I have used your Spavin Cure on my horses for the past fourteen years and it has always given me good results in every particular. I also have one of your books that I have found very useful. If you have any later edition of the "Treatise on the Horse and his Diseases," will you kindly send me one.

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Manitoba Lands

I have a few Choice Sections of Land in the finest wheat-belt in Manitoba. Two sections, each one mile square, contain 640 acres apiece. These are at Hamiota, a town on the line of the C.P.R., with two chartered Banks and 7 grain elevators. The description of the sections are

- Sec. To. Rag.
17. 15. 24. A beautiful piece of land. Fine wheat soil.
20. 14. 22. Very fine land with the Oak River running through it. Particularly good for mixed farming.

Enquiry can be made as to the value of these lands through the Bank of Hamilton, or the Union Bank which have branches in Hamiota. If disposed of within 30 days, \$7.25 per acre will be accepted. Unoccupied lands are scarce in this locality.

I have also a quarter section midway between Bertie and Ellice, which is the finest quarter section in the district. No. N. E. ¼ 3 17. 25. Price for next 30 days is \$5.00 per acre (160 acres).

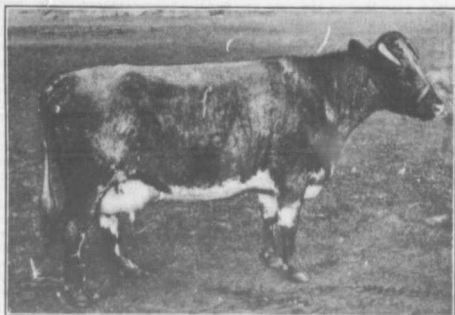
If you are thinking of going out West you cannot go to a more fertile district, or a nicer locality in every way than either of the above.

Write at once to

EDWARD O'CONNOR

46 Beaver Hall Hill,

Montreal, P. Q.



Fourteenth Princess of Thule in her 12 year-old form, giving 48 pounds of 4.2 per cent. milk per day. Owned by A. W. Smith, Maple Lodge, Ont.

The Dairy Shorthorn

By A. W. SMITH, Maple Lodge, Ont.

Notwithstanding the oft repeated assertion, that we cannot have a cow that can be considered excellent, both in the dairy and as a beef producer, a very large majority of the farmers of Canada, continue to call for just such an animal, and many are prepared to be satisfied, even if they have something only reasonably good in both conditions, and believe it would add to their profits. This longing is not confined to those who have been depending more upon the returns from feeding for beef for profits in their live stock operations, with returns from the milk as a secondary consideration. But we find this kind of cow even more largely asked for amongst those who are strictly called dairymen, who in turning over the male portion of their herd's increase, as well as the females not kept for cows, and the cows themselves when they fail to breed, or when it becomes convenient to dispose of them to the butcher, see a very considerable profit in having a better beef form, and fleshing qualities than they get in the strictly dairy cattle, furnished with the ultra "dairy form."

FOR BOTH BEEF AND MILK

But I would like to assert that my observation and experience convince me that in the Shorthorn we can come very nearly, if not quite up to the highest standard of excellence in both conditions in the same animal. And in saying this I am not decrying any other breed in any way, because there is room for all, and I admire all breeds in their place. I want to hold out the assurance to the vast army of farmers and dairymen who want a herd of cows, that are truly dual purpose, that will average up well with the dairy cows, they have been using as milk producers, or fill the bill satisfactorily when

they are to be turned over to the block, in fact, to all those who realize that it may be more profitable not to have "all their eggs in one basket," so far as their cattle are concerned, that in the Shorthorns with good milking qualities inherited from their ancestors, immediate as well as remote, they have within reach just what they require.

I believe Prof. Dean is very much right when he asserts that a dairy cow should be judged by her performances, and it is by breeding to this standard the best results will be attained, by those who wish to build up the beefing qualities of their herd, while still retaining their best milking qualities.

Failure in making sure of this necessary milking quality may bring disappointment to the dairyman who makes the trial, hoping to add to his profits from the additional value of his surplus stock.

SELECTING THE BULL

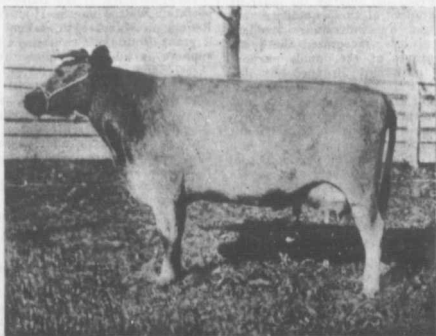
Select a bull of good Shorthorn character, and of good beef type, whose maternal ancestors have proven themselves good milkers, and success is very easy. I would select a bull from a cow with a decidedly feminine appearance in preference to one of more masculine type, and expect better results in the dairy, and I would do the very same if I had beef in view as the most important object. We do not want a beef cow with a big thick neck, coarse made and heavy shoulders, that is not a good beef type. Shapely smooth shoulders with lots of room for the heart and lungs, good, deep, well sprung ribs, long, deep, shapely quarters, nice soft hair and a mellow skin, that is all, and the fact that a cow will fill in smoothly and readily over the crops, back, and loin, when you wish her to do so, and that with nice mellow, firm flesh, retaining good lines and a handsome appearance, will not detract from her milking qualities.

These good motherly looking cows, that usually are our best milkers in Shorthorns as any other, as a rule produce our best calves, from the standpoint from which they are judged at our largest shows. This I have heard asserted by many of our best breeders of Shorthorns.

Then if the dairyman selects a bull from such type of cow, whose performance is good, and that of her dam and grand dam also, if possible, why can he not hold the dairy qualities of this herd, while working towards better beef type, and so enhance the profits from his work. There is a big and a growing demand from feeders for steers that are produced in this way. And I am quite certain a bull of good beef form, can and will transmit good dairying qualities if he has inherited them.

A CASE IN POINT

From many cases that have come under my personal observation. I



The Shorthorn Cow, "College Moon," First Prize in Dairy Test, Chicago International, 1902. Fourteen years old, made 471 lbs. of butter in 13 months, net profit \$60.47. Shown by Iowa Agricultural College.

will mention two. Several years ago we used in our herd an imported Scotch bull, of genuine Aberdeenshire type, bred by W. S. Marr, from his Apricot family, and selected by that adept producer of prize winning bullocks, the late Mr. J. S. Armstrong. We bred this bull to the cows in our own herd of purebreds, as well as to many of our neighbors' cows, which were principally grade Shorthorns, and of all the heifers sired by him in our own and our neighbors' herds, that came to maturity as cows, there was not one that I could trace, that did not give over 50 lbs. of milk per day, and some as high as 70 lbs. But I ascertained that his maternal ancestors had been excellent milkers. Then, a few years ago, we received an order from Mr. J. Sampson, British Columbia, for a young Shorthorn bull of good beef type, and from a good milking strain of cows (by the way, Mr. Sampson is I believe credited with the best grade dairy herd in that province) We sent him a young bull of exceptionally good beef form, low down, thick, and deep, and whose dam and grand dams, for four generations in our herd, had been among our very best milkers. When Mr. Sampson received the bull, he expressed his appreciation of his appearance very strongly, but feared for the milking qualities of his heifers. When those heifers were old enough to breed, he sold the bull and bought another. But when the heifers came into milk, so delighted was he with them that he went and bought the old bull back again, declaring that so long as he had a dozen cows he could use him on, he would keep him.

Bulls of the type described are such as I would recommend for the dairyman only be sure they are from good milking families.

NO CONCERNED ACTION

has prevailed unfortunately among Shorthorn breeders in America to advance the dairying qualities of the breed, and only by the inherent persistence of these qualities encouraged by individual breeders who always recognized the great advantages of the double purpose they have not dropped out of a place as a first class dairy cow. In too many instances just such treatment has been given as to discourage any tendency to abundant production of milk, and it is a grand tribute to the persistency of the trait, that there is such a large number of first class dairy Shorthorns, as can be found.

SHORTHORNS IN MILKING TESTS

Whenever a National or International test is on, the Shorthorns bob up always and take a place in the front row, and always with out any prearranged selection. At the Columbian test a Shorthorn was one of the six best cows, dairy exclusively, all breeds competing. At the Pan American they were among the highest. At our winter

fair they are close to the top, at Ottawa a Shorthorn clearly led. In the contest for farmer's cow at Chicago International, the Shorthorn, "College Moon" was placed at the top, and at the recent tests conducted by Mr. Grisdale at the Experimental Farm, Ottawa, I understand the Shorthorns took the first place.

But the best tribute to the Shorthorn as a dairy cow, perhaps, comes from the farmers and dairymen of Great Britain, where they repeatedly carry off the first prizes in tests when competition is had with all breeds, and where you will find so many magnificent herds of those dairy Shorthorns. These farmers are very close calculators, necessarily so from the fact that their farming operations are carried on at so much greater cost than that of their competitors. Their taxes would frighten an Ontario farmer. The rental of their land and value of feed is very much higher, and labor nearly as high, so we can easily understand it is not sentiment nor prejudice that induces them to use Shorthorns as rent payers.

Dairying in P.E.I.

The majority of our P. E. Island farmers send their milk to the factories. Very little butter is made at home. A few energetic women, who are fond of butter making and money, still continue to supply their good customers every week with prime butter. They affirm that this pays much better than selling the milk (or sending it to the factory). Certainly the pigs, calves and hens fare better, and thrive better, where there is no scarcity of skim and butter milk. The whey when brought from the cheese factories, is fed to the hogs, but it is very little better than water. It contains very little nourishment. Creamery butter sells readily.

TOO MANY SMALL FACTORIES

The Executive of the Dairy Association waited on the Hon. Mr. Rogers on March 25th, asking for a grant from the Government to support an additional inspector of cheese and butter factories, in view of the increasing number of plants. There are now 56 stations or factories in the Province. One man is at present doing the work of instructor and inspector combined. Of late up almost like mushrooms, and as many of them are not properly equipped they are doing much injury to the industry.

The factories will re-open on the 1st of May.

THE SUCCESSFUL FARMER'S WAY

The thoughtful up-to-date farmer arranges to have his cows calve on or before the 1st of April, so that the calves will be sold or weaned before the factory re-opens. He doesn't waste his time and fodder on scrubs, but keeps only well-

bred, heavy milkers. He feeds them during the winter on good hay, mangels, and cracked grain or bran. In the spring his cattle are in fine condition all ready to fill his milk buckets to the brim. They are let out every day for water, and exercise. He keeps them well bedded, clean, and comfortable. He is kind to them, and animals as well as humans, always appreciate kindness. If the spring opens early, the cattle go to pasture about the 15th of May. The pasture is divided into two fields. The cattle are changed from one field to the other every few weeks. They have free access to water, and shade. When fly-time comes, this wise successful farmer does not allow his cattle to suffer from those tormenters, for he knows it will not pay. He applies fly killer regularly, and the little blood sucker flies away in search of fresh victims. Every month the farmer's heart is gladdened by the arrival of large milk checks, showing that good management as well as virtue, hath its reward. A. E.

Guelph Dairy School Examinations

The final examinations of the Dairy School, in connection with the Ontario Agricultural College, were held March 24th, 25th, and 26th. Forty one students took the finals of whom forty passed successfully. Of these 35 were in the factory class, 8 were specialists in butter making, 1 was a specialist in cheesemaking, and six were in the farm dairy.

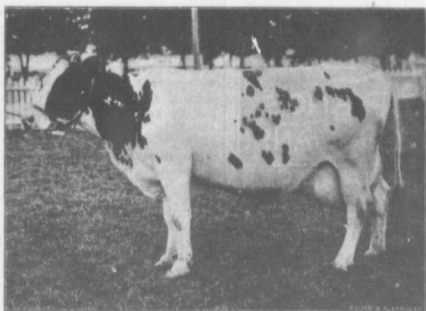
Since Dec. 1st, 1902, 162 students have registered at the dairy, including 46 in domestic science. Many of these were able to remain but for a short time, especially among those who came to the farm dairy. However, much good is accomplished for student, who by reason of home duties can stay for but a week or two.

The Guernseys

We fully expected to have had for this issue an special article showing the value of the Guernsey as a dairy animal, but at the time of going to press it had not arrived. We shall reserve this for a later date. The Guernsey is often put in the same class as the Jersey. In many respects they are similar though the former is larger in size. As to quality and quantity of milk, disposition, etc., they are very much the same.

A Correction

In our stock gossip column in April 1st issue it was stated that Mr. F. W. Hodson, Live Stock Commissioner had assisted Mr. Hubbard in selecting stock for the Shorthorn sale at Woodstock, N. B., fully reported elsewhere in this issue. Since then we learn that Mr. Hodson had nothing to do with either the sale or the selection of the stock and take this opportunity of making the correction.



Isoco's Pride, 2596, Champion Holstein Cow, Toronto, 1901, and 1st at Pan-American. Owned by Geo. Rice, Curries, Ont.

Holstein-Friesian Cow for Dairy Farmers

By PERCY F. CLEMONS, St. George, Ont.

A brief sketch of the history and characteristics of the Holstein-Friesian breed will be sufficient to show that it is eminently suited to meet the requirements of the average dairy farmer of the present day. For two thousand years these cattle have been used and developed for dairy purposes by the thrifty farmers of Holland. In the words of Prof. Roberts of Cornell, "Here are a people, occupying lands which are seldom sold for less than five hundred dollars per acre, frequently for a thousand and upwards, producing butter and cheese and placing it on the European market in successful competition with that produced on lands of less than a tenth of their value." What then is the secret of the Hollander's success. Simply the old principle—Breed—Feed—Weed—carried out with Dutch persistency through all the centuries of the Christian era. Prof. Roberts puts the matter in a nutshell when he says: "In the first place few bulls are kept . . . and these are selected with the utmost care, invariably being the calves of the choicest milkers. All other bull calves with scarce an exception are sold as veals. In like manner the heifer calves are sold, except about twenty per cent., which are also selected with care and raised on skimmed milk." This is the sort of pedigree that speaks for itself. The black-and-white cow is a worker by right of inheritance.

The extent to which a breed spreads throughout the world and the ease with which it adapts itself to the varying conditions of soil and climate are fairly good tests of its intrinsic worth. Particularly is this true with dairy breeds, which are found only in civilized countries and on valuable lands. It has been said that the Holstein is found in more countries, occupying more territory, and probably producing more milk, more butter and more cheese than

all other dairy breeds combined. Whether or not this statement is true, the fact remains that the phlegmatic Dutchman's calm-eyed spotted cow is very much in evidence in all parts of the world. The United States from Maine to California and from Texas to Minnesota, are thickly dotted with herds of Holsteins that take second place to no other dairy breed, and in Canada, where the breed has only been introduced for twenty years, it is rapidly taking as good a place as it occupies in the United States. May we not, then, conclude that this breed has a remarkable aggressiveness and power of adapting itself to circumstances.

THE PREVAILING TYPE

of the breed is known as the milk and beef form, such as is shown in the accompanying illustrations of typical animals. Many good performers, however, are of what is known as the milk form with the characteristic angularity of appearance. Cows of the latter type may be equally good producers, but they are not so pleas-

ing to the eye as those of the milk and beef form, and there is always a danger of weak constitution with the extreme milk form. As a general rule the medium type of any breed is best, whether the question be one of size or form. Judging the breed therefore, by the prevailing type, as we must necessarily do, it will be found wonderfully endowed with constitutional vigor or vital force, the most important of all characteristics of a dairy cow. Without this qualification a milch cow cannot endure the strain of enormous milk production for a long term of years. It is this abundance of vital force which makes the Holstein calf grown and thrive like a weed, if given any sort of fair treatment. It is this vital force, backed up by centuries of breeding for a definite purpose which renders the Holstein bull such a prepotent sire, whether used on common cows or those of other established breeds.

HAS GREAT FEEDING CAPACITY

The Holstein has great feeding capacity with remarkable digestive and assimilative powers. A very foolish idea is prevalent in some quarters that a dairy cow must be a small eater in order to be profitable. There can be no profit from animals that consume only the feed necessary to keep them alive. The more they consume, digest and assimilate above the required food of support, the greater will be the profit. The Holsteins are by no means dainty in their appetite and freely consume the rougher and cheaper fodders of our farms and turn them into the valuable finished products, whether milk, butter or cheese, at a good profit to the farmer. The cows not only give a large quantity of milk, but they are as a rule persistent milkers and keep up their flow of milk through a long period of years, a very desirable characteristic. They are generally easy milkers and of quiet dispositions, so that they may be milked rapidly and without trouble, an important item in these days when labor is so difficult to procure.



Floretta Teake, First Prize Holstein Cow at Winnipeg, 1902. Shown by James Glennie. Purchased by G. W. Clemons, St. George, Ont. Note udder and milk veins.

THE CHIEF OBJECTION

made to the Holstein as a dairy cow is that she does not give a high quality of milk. People who make this objection do not appreciate the fact that the nutritive value of milk is largely derived from its solids, not fat, and that a milk abnormally rich in butter fat is not the best for general use. Milk testing from 3.5 to 4 per cent. fat is, I believe, a better all round milk than one showing a higher percentage of fat. The richer milk is no better for cheese-making, as cheese-makers are unable to extract all the fat from milk to test over 4 per cent. For direct consumption, especially by children and invalids, a properly balanced or normal milk is invariably recommended by leading physicians. Probably milk containing not more than 3.4 per cent. will be found best for infants, as the human mother's milk seldom exceeds that figure, and often falls below 3 per cent. In the words of Prof. Carlyle of Wisconsin, "The vitality of milk is closely associated with the vitality of the animal producing it. Strong, vigorous cows, such as Holsteins and milking Shorthorns and some few families of the Jersey and Guernsey breeds are animals that are bound to be required for this purpose. The physicians recognize the importance of a strong vital temperament in the human mother and I do not see why it does not apply with equal force to cows." In this connection it is worthy of note that it has just been decided to equip all the state institutions of Minnesota with pure bred Holstein herds to supply milk for direct consumption. This, too, on the advice of Prof. Haecker, who has never been considered partial to the Holsteins.

EFFORTS TO IMPROVE QUALITY

Admirers of the breed do not hesitate to admit that their milk contains a lower percentage of fat than that of some other breeds, but they claim that with their enormous production of milk they average more butter and more profit per cow than any other. The chief business of the Friesian dairymen, the originators of the breed, is butter-making. It is not possible to ascertain when this was not their chief occupation, so long and so continuously have they pursued it. In America special attention has of late years been given to developing the butter-making qualities of the breed. The establishment of an elaborate system of official testing for butter fat, under which every test is conducted by a representative of an agricultural college or experiment station, has had a very beneficial effect in this direction. During the last three official years, 1216 of these official tests were accepted by the Superintendent of Advanced Registry in the United States, and the number is increasing largely every

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year. Of the above 1216 tests, 383 were of mature cows, and the average of all these shows a yield of 14.50 lbs. of butter fat per week, equivalent to 17.17 lbs. of butter 85 per cent. fat. Many of these records run over 20 lbs. of butter per week, and one has just been completed of 24 lbs. 8 ozs. of fat equal to 28 lbs. 9 ozs. butter 85 per cent. fat. To show the unimpeachable accuracy of these tests I quote a few lines from a letter from Mr. Hoxie, the superintendent. He says: "I have had many retests made in order to put all the larger records beyond dispute. In the case of the test just mentioned I had a retest by representatives of Cornell University Experiment Station, who not only watched the cow night and day, but required the milk to be carefully striped so that he could by no means have anything in his possession to increase the amount of fat while milking." The Record of Merit established a couple of years ago by the Canadian Holstein-Friesian Association is doing similar work for this country, but with a still higher standard of admission.

Prince Edward Island

The snow is rapidly disappearing and carriages are running on the streets. There was a small attendance at the market on March 17th on account of bad roads. Very little beef was offered. Good fowl and chickens sold for \$1 a pair. Butter has advanced to 25c. per lb. Eggs, 14 to 15c. per doz. Turkeys, \$2 each. A number of wild geese were offered. Very little produce moving. Fodder is plentiful. Good demand for fat cattle.

The Prince Edward Island Dairymen held their annual convention at Kensington on March 12th. Reports showed a decrease in milk supply. There was a fair attendance at convention.

The joyful news was received on St. Patrick's Day that the Stanley and Minto were both safe in Picton. The Minto has been disabled through the loss of her propeller blades in the same ice pan as the Stanley. Merchants and shippers have experienced much loss and inconvenience through the detention of the steamers. Large quantities of meat, smelts, chickens, etc., have been awaiting shipment at Georgetown, and had to be disposed of at a sacrifice. The loss to the island cannot be estimated at present. The Government have been accused of careless mismanagement.

A. R.

"Do you enjoy reading Dickens?" "Very much," answered Miss Cayenne. "His works contain so many odd and villainous characters to whom it is a pleasure to compare those we dislike."—Washington Star.



"Mary," 1st prize Ayrshire Cow at Kilmarnock, 1st at Ayr, 2nd at the Royal at Cardiff, 1st and champion for best female at Glasgow. Sold last autumn at £100 to go to Australia. Owned by A. Mitchell, Barcheskie, Scotland.

The Ayrshire Cow in Scotland

The Ayrshire cow is the dairy cow of the South-West of Scotland. The history of the breed does not take us back quite 100 years, nor can it be certain how the type was established, but it may be taken as certain that the Ayrshire breed of cattle either had their origin in Ayrshire, or in its immediate vicinity, possibly Lanarkshire. These two counties still have the greatest number of Ayrshire cattle and from them they have spread over all the district north, south, and west, suitable for dairying. There are no records of the breed as show stock till between 1830 and 1840, when a few leading sires took prizes at the Highland Society and other shows. A history of famous sires compiled by Mr. McNeillage, of the Scottish Farmer appeared in the Highland Society's publication 1902. From the report, and from portraits published it is evident that there has been considerable change in type, and also in color.

THE AYRSHIRES OF 60 YEARS AGO were generally red with white markings with the red greatly predominating—not a few were black and white, or all black—due doubtless to a mixture of Gallo-way blood—for at that time Gallo-way were largely used for stock-raising and dairying combined, and black and white animals are still not uncommon and are popular. The change to lighter colors amongst Ayrshires is not easily accounted for, but, at the present day, by far the greater number of Ayrshires seen in the show ring are white with very scanty red markings.

It has been found that the white colored cattle have longer and more profuse coats of hair than the other colors and so lend themselves better to getting up of show yard form by the expert exhibitor.

Of course red cows are still met with, and red and white are common, but there is undoubtedly a greater proportion of white in Ayrshires than there used to be, and while for hardiness and usefulness many prefer the red colored cattle the lighter shades have the run of the show yards.

THE CHANGE OF TYPE

has been brought about by a constant striving after one idea, viz., an animal with a clean bony head, a thin light neck, thin lorequarters, but well developed loins, deep and wide belly, thighs thin but deep and well set apart and above all a roomy and capacious udder filling well up between the thighs behind

and stretching well forward on the belly.

In short, the effort has been to secure an animal capable of assimilating as large a quantity as possible of bulky food, as grain, fodder and roots, and converting the same into milk.

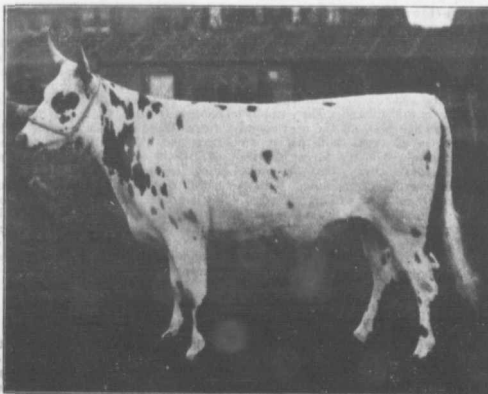
EFFECTS OF THE SHOW YARD

From a show yard point of view the shape and set of the udder and teats have been made of paramount importance, so much so that in striving for this end, animals with small teats, and difficult for the milker have become far too common. The disadvantage of this has become so obvious that for commercial purposes animals with small teats are at a great discount and these with good sized teats at a corresponding premium. The breeding and showing of Ayrshire cattle has had many votaries, and in no class of stock do exhibitors show greater enthusiasm or take greater pains to achieve success. It would be impossible to give a full list of the prominent exhibitors of the present day, but we may mention Sir Mark Stewart, Andrew Mitchell, Lindsay, Slater, Murray, Osborne, Wardrop, Cross, Wilson, McIntyre, Wallace, Howie, McAllister, Kerr, Duncan, Allan, Barr, MacFarlane, Steel and Gilmour.

While the great bulk of Ayrshires are reared in the south-west of Scotland, their value as dairy cattle is well understood, and large numbers are sent to other districts for dairy purposes. Many have gone abroad, notably to Sweden, Norway, Russia, Canada, New Zealand, South Africa and Japan.

AN ECONOMICAL COW

The value of the Ayrshire cow is due to her hardiness, ability to live and thrive on second class pasture, and to be a useful dairy cow at moderate expense. Ayrshires are bred and reared on many poor high



"Alleen Aroon" at 15 months old. Unheaten as a one-year-old heifer, winning first at all the chief shows in Scotland. She is the popular type of show Ayrshire.

farms and reared in the most economical way. They get comparatively little milk. In many cases two or more heifer calves are reared per cow, and they get a very small supplementary allowance of calf meal.

On large dairy farms where 50 to 60 cows are milked, from 10 to 15 heifer calves may be kept every year and reared to take the place of cows that must be annually weeded out. This method has very much to recommend it, as it permits of calves being kept from cows of the best milking qualities, and by constant selection the best milking types are developed. On many farms, however, no calves are reared, the farmer preferring to buy in heifers coming to calve at 3 years old which have been reared on smaller farms and on cheaper pasture than his own.

THE SELLING PRICE

of such heifers runs from \$55 to \$70 and this is a fairly remunerative price on second class land, but many who rear this class of stock give great attention to selection and there is considerable emulation as to who shall have the highest average at the public sales.

When dairy produce is in good demand prices for suitable cattle advance, and within the present week several sellers have averaged \$80 to \$90 for lots of 10 or 12, individual animals making up to \$120 and \$125. These animals are not bought for show or fancy breeding but by farmers who thoroughly know their business, who have to get all their money back from the pail and who find it profitable to keep a select dairy herd of the highest possible excellence.

PROFITS FROM THE AYRSHIRE

The produce of the Ayrshire cow is sold in various forms; 40 years ago cheesemaking was the staple industry on all farms which, were not within easy driving distance of large towns, but since better railway service was obtained milk is often sent 100 to 150 miles to the cities. This has led to increased consumption of milk and now new milk is delivered daily from the farmers' cart to inhabitants of every rural village. The smaller farmers sell milk all the year round either retail or to milk dealers or creameries, but the larger dairies of 60 to 80 cows that are some distance from consuming centres only sell milk in winter and continue to make cheese from April till October.

The cost of keeping an Ayrshire cow for 12 months may be roughly taken as follows:

Summer grazing say 2 acres land	at \$6.25.....	\$12.50
Winter fodder.....	7.50	
Turnips.....	7.50	
Purchased food say bran meal	5.00	
2½ cwt.....	5.00	

Total.....\$32.50
To this of course must be added loss by death and depreciation, say \$7.50 to \$8.75 per head.

FIELD OF MILK

The average yield of milk per cow on fair land may be taken at 500 gallons per annum on first class pasture and with more liberal feeding this can of course be exceeded, but on the other hand there are dairies where a smaller yield is obtained.

THE BEST TYPE

The most profitable type of Ayrshire cow for dairy purposes is undoubtedly that which will give the best return in produce, but it is not easy to give directions for selection. One thing is certain it is not safe to select on mere show yard form. The most orthodox type of udder may not prove well at the pail. And even those that do give a copious flow of milk may not maintain it for any length of time, or it may be poor in butter fat. It is only by close observation by testing the yield and the quality of milk and by careful selection, weeding out of cows that prove unsatisfactory that the best result can be obtained from a herd of Ayrshires or any other breed.

SOME FAMOUS AYRSHIRES

To mention all the noted animals in show yard fame would be a large order, but I would specially refer to "Colley Hill" a famous cow that passed into the hands of the Duke of Atholl about 1861 or 1862, and whose portrait by Goulay St. Ives is one of the finest in the hall of the Highland Society. In business Cock O'bendie, "Hover O'blink," Traveller, Son of a Gun, may be mentioned, or in cows, Betty of Southwick, Madeline of Barchesie, Princess May, Mary, Aileen, etc. Old Betty, of Southwick, was a good proof of sound constitution as she attained the age of 23 years, and left a long list of descendants.

"Thistledown."

Cool Curing Rooms

A most valuable bulletin on this topic has just been issued from Ottawa. It gives plans and specifications covering the building of the government cool cheese curing room at Brockville, prepared by J. A. Ruddick, chief of the Dairy Division. The bulletin is designed to give helpful information to factory owners who may desire to build or remodel curing rooms with a view to securing the cool curing of cheese. Complete information is given on this subject and parties desiring to build or remodel their factories should secure a copy of the bulletin.

Ontario Veterinary College

The closing exercises of the Ontario Veterinary College were held on March 26th. The graduating class numbered over 100. Dr. Rutherford, Chief Veterinary Inspector, Ottawa, was present and gave an address.

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LIST		CHURNS
No.	GAL.	to 3 gal.
1	6 gal.	1 to 3 gal.
2	10 "	1 to 3 "
3	15 "	2 to 6 "
4	20 "	3 to 6 "
5	25 "	4 to 10 "
6	30 "	6 to 14 "
7	40 "	8 to 20 "

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Sultana's Rosette, 149740. Taken when thirteen years old. Dam of Flying Fox, P. 2729, H.C.; Forfarshire, P. 2914, H.C.; Alicante, P. 3880, H.C. (Dam of The Owl, P. 2195, H.C.). All Champion Winners, and the blood that wins at the churn and in the show ring.

The Jersey as a Dairy Cow

By R. REID, Secretary Canadian Jersey Cattle Club

The Jersey has always been my particular favorite as an all-round dairy cow, whether for butter, cream, milk, or cheese. In order to get 8,000 lbs. of 4½ per cent. milk from a mature cow in her best year and 75,000 lbs. in her lifetime (this is my standard of production for a herd of pure bred Jerseys), she must possess a vigorous constitution. Of the 20,000 head of Jerseys tested at quarantine by the United States and Canadian Governments for tuberculosis, not one responded to the test, and such a thing as tuberculosis on the Island of Jersey has never been known.

LONG LIVERS

The Jersey is very tenacious of life. In the spring of 1894 I saw on the farm of Geo. Smith, Grimsby, Ont., two cows, "Nettle of St. Lambert" and her half sister—the one 21 the other 22 years of age, both heavy with calf at the time. Old "Marjoram 2nd" bred until she was the same age. "Massena" in her 16th year gave 650 lbs. butter for her owner Mrs. Jones, Brockville, and that famous sire "Pedro" walked off with the coveted first prize at the World's Fair in Chicago in his seventeenth year and was then and for some years afterward, as vigorous as a two-year old. I have seen many pure bred Jersey cows hale and hearty at sixteen years of age. The accompanying cut of "Sultana's Rosette" shows a fine type of a dairy cow at 13 years and I am pleased to state that she is still a regular breeder and worker in her 15th year. She is famous as being the dam of four illustrious sons, whose daughters have caused quite a sensation over two continents both in the show-ring and at the pail. One of her sons "Flying Fox" is the

sire of the sweepstake's female at Toronto last year—a phenomenal heifer—owned by Mrs. Massey.

A PROFITABLE DAIRY COW

must have a large well balanced udder, with teats of average length well set, and properly placed. I firmly believe in the saying of "no udder no cow." I know of no dairy breed that can show as large a percentage of almost perfect udders as you find amongst the Jerseys. The island breeders are adepts at breeding so as to produce magnificent udders on their heifers.

The Jersey owing to her gentle and tractive disposition is almost invariably an "easy milker"—a valuable consideration when a suc-

cessful milking machine has not yet been invented.

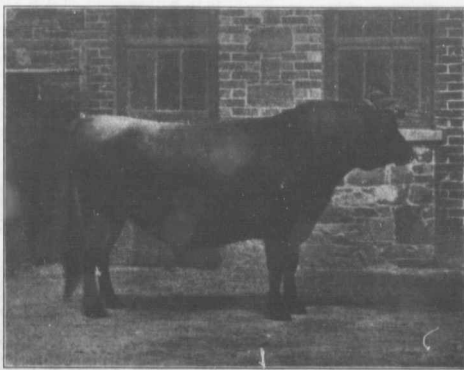
PERSISTENCY IN MILKING

One of the most essential qualities of a dairy cow is that she produces a large quantity of rich milk in a year. The two, seven or thirty-day tests are not true tests of the value of a dairy cow as a performer. There are many horses that can trot a mile in 2.10, that cannot pull a buggy over a country road at the rate of 8 miles an hour. Persistency in the milking habit is a most valuable quality. Many cows give a great flow of milk for three months after calving then dwindle down to almost nothing for two months, shortly after go dry, and remain so for three or four months. Give me the steady plodder in man or beast in order to produce great results. The Jersey cow is an all year round worker. I never had one dry longer than six weeks except from some accident to the udder and the average resting time is 3½ weeks. I had a cow "Esther 2d of St. Lambert" drop her first calf July 4, 1894, and one each succeeding year until March 1, 1898 and was not dry a day in all these four years.

As facts are the best argument I append a table of a year's work of 22 cows from Hood Farm:

	lbs. oz.	Butter	lbs. oz.
1 Oneida.....	12791.11	848.78	
2 Sophie Hudson.....	11496.02	710.89	
3 Duke's Signal Queen 2nd.....	11829.06	611.02	
4 Kathleen's Fancy.....	11784.02	678.78	
5 Miss Helen Blyden.....	10629.19	642.16	
6 Costa Rica.....	10747.14	740.25	
7 Ovee.....	10508.00	666.97	
8 Merry Maiden.....	10487.12	686.60	
9 Koffie's Winkle.....	10485.05	677.23	
10 Lois Emerson.....	10373.00	550.11	
11 Oneida 2nd.....	10171.09	656.50	
12 Bliss Foggie.....	9794.14	541.85	
13 Tormentor's Lass.....	9553.08	600.50	
14 Tommie's Lillian.....	9448.00	628.88	
15 Salslette 2nd.....	9221.15	558.12	
16 Sophonia.....	9066.17	630.88	
17 Sophie Tib of H.....	8940.04	635.84	
18 Sophie 2nd of H.....	8834.96	597.89	
19 Duke's Jessie 2nd.....	8814.00	523.71	
20 Ooman 4th.....	8424.07	528.27	
21 Blossie's Fanny Foggie.....	8267.11	607.24	
22 Elphie May.....	8063.00	602.11	

*In 10 months. In 9 months 185 days.
 †The milk record for a year's yield by a Gertie of Glynlyns, '06, 79 lbs. 1 oz.



Flying Fox, P. 2729, H.C. Champion Winner over the Island, 1899. From a picture taken on the Island, as a yearling.

This goes to show that the Jersey is capable of giving more than the average amount of milk in a year. The average for Ontario is only 4,000 lbs. per cow.

RICHNESS IN BUTTER FAT

It is also a well-known fact that in richness in butter fat the Jersey is unsurpassed. This quality with the large milk flow make the Jersey an ideal dairy cow whether for profitable production of butter, cheese, or milk; as a family cow in our towns and cities she has no superior, combining beauty and gentleness with utility. The majority of the high class city milk dairies use Jersey milk exclusively. I shipped lately two car loads of grade Jerseys, all "excellent dairy cows, one to the finest dairy farm in Canada, the other to the farm supplying the bon ton of Ottawa with high class milk and cream. No other dairy breed has brought such high prices at public auction during the past two years as the Jersey. The bull "Flying Fox" sold at auction for \$7,500 in May 1902, and I am convinced this is far below his value, judging from his heifers I have seen. Such a sire will exert a mighty influence for good on the dairy interests of this continent.

THE QUESTION OF SIZE

In the dairy cow has always been a disputed point. It seems to me that the cow that gives the best returns for the food consumed and can keep it up for ten or twelve years, regardless of size, is the cow we want. There is no doubt in my mind that a cow weighing 1,400 lbs. or over, generally speaking, can not stand the strain of milk production as long as a cow of 1,000 lbs. weight. It depends greatly on her conformation—a large framed rough boned cow is not as long lived as a neat, compact, well proportioned cow. The larger the cow the more likely you will get a disproportional frame. The result will therefore be that one part will wear out before the others and then the whole "milking machine" will collapse. The larger the frame the more food required to sustain life. True a large cow will make more beef where her usefulness in the dairy is at an end, but the question of beef production should have no place in a strictly dairy animal. The first Jersey cows introduced into America averaged about 800 lbs. The shrewd American was quick to perceive her value as a butter maker and at once commenced to breed so as to increase the size and consequently, as he thought, the milk production. The result has been, as I have already stated, that a disproportioned animal was produced that could not stand the pressure, and the quality of beauty was also lacking. The tendency now is to strike a happy medium, retain the heavy milking qualities combined with longevity and extreme beauty.

IT IS PROFIT THAT TELLS

But neither large production nor

size is what we are after but profit. A cow weighing 1,400 lbs. may give 15,000 lbs. of 3 per cent. milk in a year at a cost of \$60 and still would not be as profitable as a 1,000 lb. cow that gives 9,000 lbs. of 5 per cent. milk at a cost of \$35, and I am quite safe in saying the latter would be a profitable worker long after the former would be converted into meat.

In conclusion I claim for the Jersey:

(1) That she produces the finest quality of milk, cream, and butter at the lowest cost per lb.

(2) That she commences milking on an average at 20 months, and continues on an average for 12 years.

(3) That she possesses extreme beauty.

(4) That she is very docile, and easily milked.

(5) That she has a hardy constitution, she thrives equally well in Mexico, New Zealand, Texas or any part of Canada.

Dairy Instructors at Guelph

From March 31st to April 10th, the instructors to be employed by the Western Dairyman's Association were in attendance at the Provincial Dairy School at Guelph, preparatory to engaging in work the coming season. This special course was given with a view to securing uniform methods of instruction through the western district.

Dr. Mills Returns

Dr. James Mills, President of the Ontario Agricultural College, returned on Mch. 28, from a three weeks' stay at Asheville, North Carolina, where he went for a little rest after a long strain of hard work at the college. He has quite improved in health and is in good shape for the heavy spring and summer work at the college. Near Asheville is the Biltmore estate containing 280,000 acres, belonging to G. W. Vanderbilt, of New York. There are three large departments to this farm, the farm proper, including live stock, etc., the horticultural department and the forestry department. The horticultural and landscape department is in charge of Mr. Beadle, of St. Catharines, an ex-student of the O.A.C., and the assistant manager of the farm department is Mr. S. Ross, B.S.A., a recent graduate. At a recent sale of Berkshires, at Biltmore, 100 animals sold averaged \$225 each, some going as high as \$1,000. Dr. Mills made a special study of the forestry work at Biltmore with a view to obtaining information that might be helpful in the establishment of a school of forestry in Ontario.

Dr. Mills also spent a day with A. M. Soule, B.S.A., professor of Agriculture and director of the experimental station at Knoxville, Tenn., another distinguished graduate of the Ontario Agricultural College.

The Best and Newest Rural Books

Books on leading topics connected with agricultural and rural life are here mentioned. Each book is the work of a specialist, under the editorial supervision of Prof. L. H. Bailey, of Cornell University, or by Professor Bailey himself, and is readable, clear-cut and practical.

The Rural Science Series

The Soil. By F. H. KING, of the University of Wis-consin. 75 cents.

The Fertility of the Land. By L. P. ROBERTS, of Cornell University. \$1.25

The Spraying of Plants. By E. G. LOEBMAN, late of Cornell University. \$1.00.

Milk and Its Products. By H. H. WING, of Cornell University. \$1.00.

The Principles of Fruit-Growing. By L. H. BAILEY. \$1.25.

Bush Fruits. By F. W. CARD, of Rhode Island College of Agriculture and Mechanic Arts. \$1.50.

Fertilizers. By E. B. VOORHIES, of New Jersey Experiment Station. \$1.00.

The Principles of Agriculture. By L. H. BAILEY. \$1.25.

Irrigation and Drainage. By F. H. KING, University of Wisconsin. \$1.50.

The Farmstead. By I. P. ROBERTS, of Cornell University. \$1.25.

Rural Wealth and Welfare. By GEO. T. FAIRCHILD, Ex-President of the Agricultural College of Kansas. \$1.25.

The Principles of Vegetable Gardening. By L. H. BAILEY. \$1.25.

The Feeding of Animals. By W. H. JORDAN, of New York State Experiment Station. \$1.25 net.

Farm Poultry. By GEORGE C. WATSON, of Pennsylvania State College. \$1.25 net.

The Garden Craft Series

The Horticulturist's Rule Book. By L. H. BAILEY. 75 cents.

The Nursery-Book. By L. H. BAILEY. \$1.00

Plant Breeding. By L. H. BAILEY. \$1.00.

The Forcing-Book. By L. H. BAILEY. \$1.00.

The Pruning-Book. By L. H. BAILEY. \$1.50.

The Practical Garden Book. By C. E. HUNN and L. H. BAILEY. \$1.00.

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Publishers, TORONTO

Form vs. Perform in the Dairy Cow

By Prof. H. H. Dean, O. A. College, Guelph, Ont.

For a number of years we have heard considerable about the "dairy form" in cows. Men have deluded themselves into thinking that they can tell what a cow will do at the pail by looking on the outside. This belief doubtless arose from the fact that it is possible by outside appearances to tell quite closely what the carcass of an animal is likely to be. In the case of the dairy cow, however, we have a much more complicated problem, as the secretion of milk is a hidden process, which the eye of man may not see, nor can his understanding comprehend all of the secrets of nature, regarding the manufacture of this life-giving fluid. It is a product of life, it is associated with the bringing into life of a new being, it sustains life as no other food can, and it is as mysterious as life. How vain the efforts of man, who thinks he can by merely looking at and feeling of a cow, tell whether she is likely or not to prove a large producer of milk. Thy efforts are vain, O man! Nature does

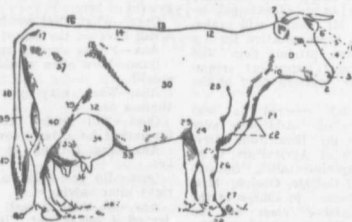
development of the heart and lung region as shown in the accompanying diagram by numbers 21, 22, 29. Good-sized nostrils (3), easy, regular breathing, a mellow skin and fine hair also indicate good circulation of the blood and a healthy constitution.

2. A good-sized barrel (30 and 31) with large firm lips (2) and strong jaw (9) indicate capacity for using food, which is an important point in dairy cows. We wish them to make an economical use of a large quantity of food.

3. A bright eye (5), large forehead (6) and prominent spine (13) indicate nervous power to drive the dairy machinery.

4. A good sized, evenly developed udder (34 and 35) of flexible quality, with good-sized teats (36) prominent udder and milk veins (33), large milk wells and good-sized escutcheon indicate capacity for milk production. (This, however, cannot be accurately determined except by the use of the scales and tester.)

5. Lastly, we may look for beau-



not reveal her secrets so easily. Why should nature deal differently in this respect, from what she does in other important matters? Why should she hide her precious metals in the far-off Klondike, or her secrets of electric waves from the ordinary man, and reveal them only to the searcher after gold or truth? Why should she do this in one realm of nature and follow a different rule with reference to the most secret and most mysterious act in the universe? Again, we say, man, thou art following "A will o' the wisp," a mirage, a delusion of your imagination! Think not to so easily master the hidden and mysterious. By the sweat of thy brow shalt thou earn thy daily bread!

WHAT TO LOOK FOR

There are, however, certain things which we may reasonably look for when selecting a dairy cow, but they are only secondary to the all important question of milk production. Among the secondary points are:

1. A good constitution and plenty of vitality, indicated by good

ty of form, which is a combination of clean-cut head, slim neck, fine horns, limbs and tail, pleasing colors, and an altogether of something which we know, yet find so difficult to describe.

Having said so much about the form it will be necessary to warn against relying on this, or we may be deluded into thinking that form is all that is necessary, whereas form is secondary and perform is of prime importance. This latter can only be ascertained by the use of the scales and tester. Form is the kindergarten, the A.B.C. of the question, perform is the high school the cerebrum training, where dairymen learn the correct art of selecting cows.

MAKE THE STANDARD PERFORMANCE.

In the case of pure-bred dairy stock it will be necessary to have a standard of form and color as a guide, but the emphasis should not be placed here. It should be laid upon production. The time has come when breeders of pure-bred dairy stock may very well consider the advisability of not registering an animal, which does not come up to a certain standard.

The nucleus of this is found in the "Advanced Registry," "Record of Merit," etc., now adopted by some breeders. Why not go a step farther and not register any female which does not come up to the standard of, say 6,000 lbs. milk or 250 lbs. butter in a year, nor any male, whose dam or granddam did not reach the above standard? This standard should be raised from time to time. It would eliminate a great many "scrubs" from herd books, which are masquerading under the title of pure-breds. It would revolutionize the breeding of dairy stock in Canada to the benefit of the dairy industry and eventually the owners of all breeds of pure-bred dairy cattle.

HOW TO DO IT.

How can such a scheme be carried out? It can be done by organizing the breeders of pure-bred dairy stock into districts under the supervision of competent men, who would visit the farms as often as possible to give instruction in methods of conducting such tests and to check the weights and tests of owners, who would be relied upon to do the work. The plan is practicable if the owners would co-operate and proper men are selected to carry out details. Eventually the plan would include all owners of cows, but owners of pure-bred stock should make the first move, as they are supposed to be in advance of ordinary dairymen. They also would profit most by it, i.e. those who are breeding the highest class of stock, as determined by the scales and tester.

IMPROVE THE AVERAGE DAIRY COW.

There has not been that advancement in the average dairy cattle of the province that we should expect. A man who has common stock wishes to improve them and purchases a registered animal or possibly several. He expects great results. He compares them with his common cows and finds that in many cases they are inferior in milk or butter production, and consequently concludes that pure-bred dairy stock is a delusion. He has paid a high price for a piece of paper and possibly a pretty form, but for his purpose they prove a disappointment. The only remedy for this is to base the registration of dairy cattle upon performance and not upon form and pedigree, as we understand it at present.



A New Source of Light

Prof. Graham, of Brown University, in experimenting in his laboratory, produced enough light from an overripe porterhouse steak to enable him to take photographs, and the discovery is considered a remarkable one from a scientific standpoint. From a gastronomic point of view, no one has ever considered a steak somewhat decayed a thing to make light of or to be treated in a light manner.—Hotel World.

Goat Raising Profitable

Some weeks ago an item appeared in these columns pointing out the advantages of goat keeping and the advisability of people in the rougher parts of Canada where pasturage is not plentiful, engaging in this industry. Since that time we have had several enquiries from people who want to know where goats suitable for this purpose can be procured. The goats referred to are the milking goats, kept especially for that work. They are not plentiful on this side of the Atlantic. If, however, some enterprising person would import a few good types, we are sure he would find a ready sale for them at remunerative prices.

Considerable attention has been given to goat-keeping in England, where a flourishing goat society is doing effective work in encouraging goat-keeping among the poorer classes. While the number in the Old Land who could afford to keep a cow is somewhat limited, those who could keep a milking goat form a much larger body. Though the goat supplies a small quantity of milk as compared with the cow, its product is much richer, sweeter and more nutritious. For children



A Milking Goat.

and invalids goat's milk is particularly valuable.

As to the best breed of goats for milk, it is, perhaps, hard to say. Good milkers are found amongst nearly all breeds. Those who have made a success of goat keeping have done so by selecting good milkers and breeding them to males descended from good milking families. The Toggenburg, a Swiss variety, has a good record as a milking breed. It is also very docile. The Maltese is another good milking variety. The most popular goat in England is the Anglo-Nubian, a short-haired, short-horned goat. Where milk alone is the object, the Irish goat is considered as suitable as any other for cottagers' purposes. It has, however, long hair and high horns which make it unpopular.

A good milking goat will average from 4 to 6 lbs. of milk a day. In an experiment conducted in England in 1898 five Toggenburg goats produced in less than twelve months 7,140 lbs., or over 3½ tons of milk. The largest quantity yielded by any one goat in any one day was 8 lb. 11½ oz., or 3¼ quarts and the daily average of the same animal during a little more than nine months was over five pints.

Goats' milk is specially adapted to the sick and for children, as the goat is immune from tuberculosis.

The demand for milking goats is increasing very fast in the United States where, in many sections, it is likely to supercede the Angora goat for the reason that this latter variety can only be raised profitably on large farms or ranges, and then only at a profit of \$1.00 per head. As compared with that of the milking goat this return is very meagre. The Spanish-Maltese variety, which is becoming popular in many parts of the States, often returns a net profit of \$30 per annum. This variety is raised in Mexico from which country the United States gets its chief supply.

Supt. Smith Resigns

At a meeting of farmers and dairymen held at the Western Dairy School, Stratroy, on March 16th, it was announced that Arch. Smith, for the past four years superintendent of the school, had resigned. Mr. Smith has done successful work for the dairy industry of Western Ontario. Under his guidance the school has come to the front and greatly extended its influence as an educational institution. Mr. Smith will probably act as representative for a large English produce firm and control several important creameries in the western part of the province.

The meeting referred to was largely attended. Addresses were delivered by the Hon. John Dryden, Minister of Agriculture; C. A. Zavitz, experimentalist, Ontario Agricultural College, Guelph; Mrs. E. M. Torrance, in charge of the domestic science class at the school, and Mr. Barnes, V.S. Mr. James Ferguson of Caradoc was chairman at the afternoon session, and Mayor Geddes of Stratroy at the evening session.

All the addresses were practical and to the point, and were listened to with profit and interest by those present.

Eastern Ontario Fair

A meeting of the fair representatives of the Ottawa Valley District was held at Ottawa on March 10th. F. W. Hodson, G. C. Creelman and H. B. Cowan were present and addressed the meeting. A motion approving of the work of the expert judges was carried, and the superintendent of fairs was authorized to arrange the dates for the next exhibitions in the Ottawa Valley, after consulting with the officers of the various fairs interested and to assign judges.

"Pago Pago is a very odd name," said Mr. Bloomfield, "but then there are such very strange names in the Pacific Islands."

"Yes," added Mr. Bellefield, "Pago Pago is quite as odd a name as Sing Sing."—Pittsburg Chronicle Telegraph.

Mouldy Spots in Silage

Many farmers, when feeding from the silo, complain of mouldy spots in the ensilage. These are usually caused by letting the corn get too dry before putting it in the silo and by improper mixing. Too many dry leaves in one place cause the ensilage to become fire-fanged in spots. Corn should be put in the silo immediately after being cut. If the leaves are dry pour some water over them when filling. If corn escapes frost and is put in in the right stage of maturity, and not allowed to become wilted, but placed in the silo as it is cut, there will be enough moisture in it to make it keep all right providing the walls are air tight.

Practical Cow Keeping

Prof. Dean's answers to the following questions at the Ottawa Winter Fair will be found of value:

Ques.—What is the best time to have cows come in?

Ans.—About two years and a half old. Let the heifer drop her second calf about 15 months after the first. If the cow does not come up to 6,000 lbs. of milk and 250 lbs. of butter after this time get rid of her.

Ques.—What effect would suckling a calf have on the heifer?

Ans.—Pretty sure to spoil her.

Ques.—How often would you feed a calf?

Ans.—When very young three times a day.

Ques.—Will letting the calf get fat hurt it for a dairy cow?

Ans.—Yes, I think it will hurt her.

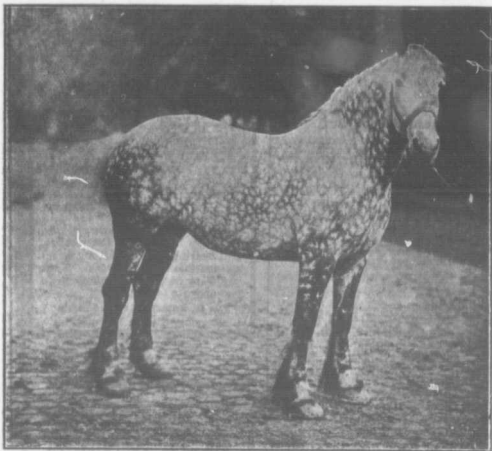
Ques.—Do you milk a cow dry right after calving?

Ans.—We think it best. She will dry off if you do not. In cases of danger of milk fever it is best not to milk dry.

Ques.—What are the best breed of cows for the dairy?

Ans.—The ones best adapted to the dairymen. We have found a larger percentage of good cows at the college among Holsteins than any other breed.

Old Moses, who belonged to Judge Jack Mississippi, "befo' the wah," was for many years sexton and a devout member of the Presbyterian Church. Shortly after the war the colored Methodists of the community had a rousing meeting in which Moses loudly professed conversion, and joined the Methodist Church. Some days after the judge met him, and asked, "How's this, Moses? I hear you have joined the Methodists. I thought I brought you up better than that." Moses took off his hat and solemnly scratched his woolly pate as he replied: "Yessir, Massa, dat's so—dat's so—de Presbyterian people am a mighty fine people, and de Presbyterian church am a mighty fine church—but—Massa—don't you tink it am powerful dismal for a nigger?"—Harper's Magazine.



"This horse was purchased at a high figure by the C.P.R. for use on one of their heavy drays in this city. Note the strong chest and neck development. It would take some power to hold it back.

Canadian Bred vs. Imported Horses

In your note below Mr. Wade's letter, in March 15th issue, you invite discussion re imported and Canadian bred stallions. You ask, Why separate the two classes at all? You also say that while there may be several crosses in the Canadian bred horse he traces back, so to speak, to the "woods."

In Mr. Wade's article he states that at least two thirds of the imported horses have not as many crosses of noted, or any, sires as the Canadian breeds. He also states that a number of imported horses registered in the last volume of the stud book, trace to a grand dam or great grand dam, bought on the open market, breeding unknown. Horses with two crosses are accepted in the Scotch book, it takes five to record them in Canada.

Now to begin with, I will say with the editor, Why separate the two classes at all? From my own observation I think the Canadian breeds do compare favorably with the imported ones, perhaps not with the pick that were at Toronto, but they do with a great number we see scattered through the country. While our large importers bring out some choice animals for show purposes, there are not a few who would be very apt to be beaten in the show ring by the despised Canadian bred. I know this to be a fact. Some years ago I showed a Canadian bred at the State Fair at Lansing, Mich., against eight imported horses, and carried off third honors. Canadian breeds are not all good individual animals, neither are the imported.

Who is responsible for the separate classes, I do not know, but I have known owners of imported horses, protest against Canadian breeds competing with them in the show ring; perhaps, it works the other way as well.

As to breeding I might refer to the Canadian bred Bonnie Doon, of St. Mary's (1180) page 35 fourth volume, bred by Slack & Sons, St. Mary's. Sire Bonnie Doon, Imp. (1055) dam Dandy (189) and tracing back in a direct line to eighth dam by Grey Clyde (170) imported in 1842 a long way back to the "woods." The imported horse Scotland's Pride (1185), page 37, volume IV. sire Wellington (906), dam Jessie by Colonel (184). These may be extreme cases, but we will leave the readers to judge.

Mr. Wade states, that he finds in the last volume of the Stud Book many instances of imported horses, whose grand dam or great grand dam was bought on the open market, breeding unknown.

Now let me ask, have we not been exporting, at least, some mares with our geldings, for quite a number of years? And is it not just possible, that some of the mares thus exported and sold on the open market, are the ones that figure in the pedigrees of some recent importations. If such be the case and we think it is quite possible, then it becomes evident that some of the imported horses trace back, so to speak, to the same "woods" as the Canadian breeds.

J. T. Brander,
Lambton Co., Ont

Have Only One Class

I am pleased to see that the live stock registrar has taken exception to your comments on Canadian bred Clydesdales at the Spring Stallion Show, and he is certainly well qualified to deal with the question. As Mr Wade very clearly shows, there are many Canadian breeds that are much farther removed from the scrub in point of breeding, (and he might also have said in point of merit), than some that have the distinction of being imported.

We are all indebted to the enterprising importers of good stock, and they are entitled to generous treatment and encouragement, but we cannot ignore the fact that there are importers that are not benefactors, who bring to us at times very inferior stuff and that stuff banks on just such criticism as the report referred to.

I think the time has come when the Canadian bred class can be cancelled without injury to the breed, and all recorded Clydesdales placed on equal footing in the showing, and the Canadians will not suffer by the comparison provided the judge loses sight of the place of birth for the time-being, and judges horse.

J. G. Clark.

Carleton Co., Ont.

Thinks Long Pedigrees Fictitious

Re your criticism of the Canadian bred class at the Toronto Stallion Show, and Mr. Wade's letter, and as you invite criticism in the matter I may be permitted to say a few words. To begin with I quite agree with your views, and I hope a little discussion may help to enlighten the public. I am indeed surprised that such a good authority as Mr. Wade should speak in such terms of the so called short pedigreed Clydesdales of Scotch breeding. Take some of the most noted horses of our day, such as the Prince of Wales (673), Doonley (222), Macgregor (1487) and many others of the good ones with short pedigrees. Would any one think of comparing them with the Canadian four or five cross as a breeding horse? I think not.

Now a word or two about two horses that I know personally and that have travelled in this section, viz.—At alias King of the West, imp. by Robt. Feris, of Richmond Hill, and owned in this county by John Clark, Esq., and Sir Wm. Wallace (806) imp. by Hendry & Douglass, and owned by myself to which I ought to add old Campsie Jock owned by the late Wm Eadie, Esq., of Vars, all short pedigreed horses. Would anyone in this section think of comparing any of the Canadian bred fellows with them even if they had pedigrees as long as your arm? I think not; such comparisons are in my opinion simply absurd. I believe the prevailing opinion is that the imported horse, although his pedigree may appear short in the

Scott stud book, invariably had a foundation of draught stock—am I right?

I would be the last man who would wish to say anything unpatriotic of our Canadian stud book or the horses entered therein. But the situation just remains that their foundations are of all sorts and conditions and invariably from light stock, and I am sorry to say that I have good reason to believe that their long pedigrees are in many cases purely fictitious. No horseman of any repute can be taken in by them and few indeed would think of breeding a mare that traced to imported stock to any of them. I would not on any consideration.

But from a breeder's standpoint, what effect has this wholesale registration of Canadian horses of doubtful origin upon the horses of the country? They are raised by the farmers at much less cost, and are consequently shutting out the imported animal, their stud fee being so low that no man could think of buying a first-class imported animal and entering into competition with them. The unsuspecting farmer and breeder believe that they are just as well bred as the imported animal, and their owners on many occasions use the long pedigree question for all it is worth.

Thos. Good,
Carleton Co., Ont.

The Western Demand For Horses

Western Canada at the present time offers golden opportunities to horse breeders. "The country is booming" in the best sense of the word. Settlement is increasing rapidly and a very small proportion of the new arrivals are provided with the necessary farm stock, even those who bring cattle very frequently are unsupplied with horses. The cities and towns are growing at an equal rate and offer an ever increasing market for horses of a varied character, high class roadsters and saddle horses, light cobs for delivery rigs, and heavy truck horses. The farmers, too with increasing prosperity are becoming more particular in their selection and take greater pride in their horses than in the early days of the settlement of this country, and here again we have a steadily increasing market for high class animals.

In the past by far the greater proportion of the farm animals used have been bronchos and ranch bred horses (some with a dash of thoroughbred blood) brought in from the Territories and Montana. They are exceedingly hardy and have great powers of endurance and are great favorites for general purpose animals. Some farmers claim that they can do more work with such horses than with heavier animals. This is especially the case where the farmer is situated at considerable distance from railway and market facilities. This class of horses are good travellers as well as good workers, which is an

important consideration to farmers situated from ten to fifteen miles from the railway. The increased railway facilities of the province will and already have, largely altered this.

M. B. Winnipeg.

Farmers' Telephones

There is operated in Prince Edward county, Ontario, perhaps the largest farmers' telephone system in Canada. Mr. J. G. Sprague, the originator of this system, writes regarding its organization as follows:

"I am a farmer, and at first started, three years ago, a very modest line to connect my residence with the village store and postoffice, three miles distant. In a short time other farmers solicited connection with my line, and, becoming interested in the work, I kept gradually branching out, until I have a system embracing about one hundred subscribers, centralized in a switch-board at my residence, in all about seventy miles of line. The service now requires an operator almost continually.

"I charge my subscribers a very modest rental, in fact too small for the present service, as I fixed the rate when I had little to offer them in return, but I find now as my system expands that they are getting more for their money than I am. It requires more expense in proportion to the number of subscribers as the number increases, and I am free to admit that I have made mistakes, and some of these I may mention for the benefit of others who may be contemplating a similar venture. In the first place, I used too small poles, as I soon learned that I had to increase the number of wires, and I have been compelled to rebuild some of my lines. But my worst mistake, as I said before, was in undertaking to give service too cheaply. What was sufficient to cover small repairs on a line and instruments in one's immediate neighborhood will not be adequate to systematically operate and maintain a widespread system, to say nothing of the serious item of depreciation, which is always entirely ignored in the beginning."

Mr. Sprague advises farmers' telephone companies to secure connection with the Bell system on fair terms, as the service will be incomplete without such connection. He states that he was able to make satisfactory arrangements with the Bell Company at Picton.

The First Consolidated School

Russell County may be the first in Ontario to have a consolidated rural school. The schools at Vernon and Dalmeny will likely unite and have the scholars drawn to one central school. They may also have a school garden in connection with it. If the plan succeeds an effort will be made to secure rural mail delivery in connection with it.

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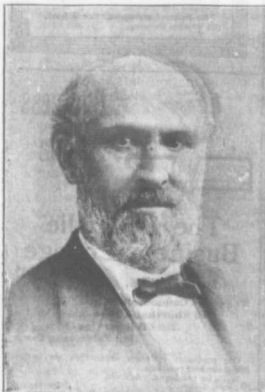
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Important Work in Seed Selection

Winners in Main Competition—A Seed Growers' Association

No more important work has been done for Canada than that accomplished by the Macdonald seed grain competition. This competition was planned and carried to a successful issue by Prof. Robertson and was made possible by the generosity of Sir Wm. C. Macdonald, who donated \$10,000 for this purpose.

The main competition has closed and the three years' work is ended. Ten yearly prizes ranging from \$25 to \$55 were awarded in every province, for both wheat and oats. Ten prizes ranging from \$100 to \$25 were awarded in each province in the main competition based upon the work of the three years. Al-



Sir Wm. C. Macdonald.

together 174 prizes were awarded in the main competitions and 485 prizes in the yearly competitions.

The increases in the yields of grain per acre obtained by the competitors averaged 36 per cent. for oats and 39 per cent. for wheat. While these increases were largely due to selection, some credit must be given to the better cultivation and fertilization of the seed plots by competitors, a result that Prof. Robertson anticipated when he announced his scheme four years ago. Over ninety per cent. of the reports stated that a decided improvement was observed in the vigor of the crop and the size of the heads of grain because of continued selection. The average increase in the number of grains per 100 heads, during the three years was 19 per cent. for oats and 18 per cent. for spring wheat for the Dominion. Deductions made by Prof. Robertson, after giving careful study to the results of the competition are, that the increases in the number of grains per 100 heads are due in part to increased skill in selecting

in part to favorable season, and last but not least to the system of continued selection of plump seed from large heads, selected by hand from the most vigorous plants in the seed grain plot, year after year.

THE WINNERS

The value of each of the prizes in each section was \$100, \$75, \$50, \$25, \$15, \$10 and four \$5 prizes. The winners in each section were, in the order named, as follows: Those for Nova Scotia, Quebec and Manitoba will appear later.

FALL WHEAT CLASS

C. E. Gies, Heidelberg; W. J. Armstrong, Constance; Bertie Andrews & Co., Sheridan; Adam Stevenson, Avonbank; Alfred Mountain, Avonbank; Ernest Cochrane, Ayr; Claude Blake, Lyons; Willie Murray, Avening; Bessie Brimicimbe, Goderich.

ONTARIO WHEAT

Pearl Henricks, Meaford; Chas. St. George & Co., Tramore; Edith Flaming, Ivanhoe; John Delandrea, Golden Valley; E. G. Brown, Chard; D. A. McLennan, Laggan; Duncan McBeath, North Bay; Robert McKay, Maxville; Robt. H. Patterson, Northcote; Henry Wright, Bowasson.

NEW BRUNSWICK WHEAT

Ethel M. Shaw, Tobique River; Jennie Mullin, Petitcodiac; Bertha Prondfoot, Mt. Pisgah; Clarence Billing, Cen. Hanesville; Lillian and Alice Fisher, Chatham; Crewdson LeBaron, Burden; J. B. Cormier, Elm Tree; John B. Nichol, Bathurst Village; Earl N. Dunphy, Morans; Elsie Rasmussen, Foley Brook.

PRINCE EDWARD WHEAT

Gordon McMillan, New Haven; John McGrath, Woodville, Lot 2; Irene S. Wigginton, Bridgetown; Eugenie Arsenault Urbanville; Edgar Gillespie, Long River; S. H. Gordon, Los 6; Flora Livingston, Hopfield; Chas. B. McLean, Point Prim; Willie Jenkirs, Vernon River Bridge; S. J. Waugh, North Bedque.

NORTHWEST TERRITORIES WHEAT

Violet E. McKell, Regina; S. Kirkham, Saltcoats; Talbot E. Steuck, Abernethy; Peter Keith, Fitzmaurice; George Sim, Bella Prairie; Melrose Prevost, Flett Springs; Marie L. Ripaud, Duck Lake; Thomas Jessop, Fleming; Josefa Neumier, Langenberg; Martin Ham, Hague.

BRITISH COLUMBIA WHEAT

Gordon Frederic, Ladner; D. & D. Graham, Armstrong; Wm. A. Middleton, Vernon; Gilbert Mohr, Enderby; Percival French, Vernon; Harry B. Biggar, Langley Prairie; V. W. Menzies, Pender Island; Ella J. McLennan, Beaver Point; Wm. Peterson, Galestola.

ONTARIO OATS

John Price, Marsville; Harvey Lennox, Magnetawan; W. J. Armstrong, Constance; Gertrude Ladd, Calntown; Wilbert Prouse, Goderich; S. H. Webster, Lakelet; W. L. Stephen, Aurora, Box 734; Alfred Mountain, Avonbank; Bertie Andrews & Co., Sheridan; Maggie Marshall, Doe Lake.

NEW BRUNSWICK OATS

Ethel M. Shaw, Tobique River; Lorne Colpitta, Petitcodiac; Shelbourn Ferguson, Lower Queensbury; J. Kenneth King, Smith Creek; Har-

old Sorensen, Foley Brook; Mabel Cripps, Jeffrey's Office; Allen P. Nichol, Bathurst Village; Carl Rasmussen, Foley Brook; H. H. Hastings, Murray Road; Camille Foster, Gloucester.

PRINCE EDWARD OATS

Hedley McKay, Park Corner; Clevebank Baker, Margate; Jas. Marchbank, New Anson; Lizzie Kennedy, So-sport, Lot 48; Willie A. Jenkirs, Vernon River; Ernest J. Haslam, Springfield; Mabel McLean, Lot 10; Willie Campbell, Belmont; Hazel Edwards, Northwiltshire; Simon J. McLean, Point Prim.

NORTHWEST TERRITORIES OATS

Samuel E. Steuck, Abernethy; Melle, Prevost, Flett Springs; Vilost Ef McKell, Regina; Silas El Wheel-er, Penhold; Josefa Neumier, Langenberg; Walter Strong, Olds; Marie Ripaud, Duck Lake; Annie Bourne, Innisfail; John Einarson, Lourg.

BRITISH COLUMBIA OATS

Gordon Frederic, Ladner; Morrice Middleton, Vernon; Ella J. McLennan, Beaver Point; D. & D. Graham, Armstrong; Gilbert C. Mohr, Ender-



Prof. J. W. Robertson

by; Henry Peterson, Gabriola; Harry B. Diggar, Langley Prairie; V. W. Menzies, Pender Island.

AN ASSOCIATION FORMED

With a view of continuing and extending the production of improved seed as a special branch of farming, arrangements have been made for the forming of an association of seed growers.

Its object will be to advance the interests of seed growers by forming regulations as to methods, publishing information as to standards, and issuing such certificates of registration as will provide for distinguishing between hand-selected purebred seed grain and ordinary grain. The workings of provincial and local associations will be directed by an advisory board of the Dominion association. There will be three distinct classes of registration. First, "purebred registered seed," or seed obtained from heads selected by hand from the largest and most vigorous plants on a registered seed plot of at least the third year. Second, "improv-

ed registered seed," or grain obtained from a crop produced from a hand-selected plot. Third, "general crop registered seed" or seed produced direct from "improved registered seed."

It is the intention of the Department of Agriculture to foster the good work started in the Macdonald seed grain competition and to encourage the production of improved seed by farmers who will make the growing of grain for seed, as distinguished from grain for feed or food purposes, a specialty in their farm operations. There is much need and much profit for a few farmers in every agricultural locality in Canada to take up this work. The time is not far distant when the value of improved and registered seed will be recognized as fully as stock raisers recognize the value of purebred live stock.

THE MACDONALD-ROBERTSON ASSOCIATION

The Association will be known as the Macdonald-Robertson Seed Growers' Association and will start with a membership of 450 farmers. It is the desire of Prof. Robertson that other seed growers who wish to become members of the association should provide seed plots and sow them this spring. Specially prepared land following in rotation after a leguminous crop, a hoed crop or a summer fallow should be used for this purpose. The plot should not be less than one quarter of an acre, and may be one acre. The best obtainable seed, of a variety of good marketable quality, suited to the locality, should be used and sown thin on the seed plot. From such a plot the heads of the largest and most vigorous plants would be selected by hand in 1903 in sufficient quantity to sow a seed grain plot in 1904, which would become the hand-selected seed plot of the first year. When a similar selection has been made out of the crop of 1904, the plot of 1905 would become the hand-selected seed plot of the second year, and so on.

Further particulars of the association may be had on application to Prof. Robertson, Department of Agriculture, Ottawa, who will also receive applications from farmers for registration as members in the association.

Pump and Large Seeds Best

At a meeting held at Strathroy on March 16th, Mr. C. A. Zavitz gave the results of his experience in testing seeds at the Agricultural College. He said in part:

"We find, on dividing seeds into three sizes, large, medium and small, that in the case of oats the average yield was: With the largest seed, 62 bushels per acre; with the medium seed, 54 bushels per acre, and with the smallest seed, 46½ bushels per acre, a difference of 15½ bushels per acre between the largest and smallest

seed. There are two and a half million acres of oats planted every year in Ontario, and an increase of one bushel in the yield per acre, would mean \$600,000 to the farmers, which would pay for running ten agricultural colleges.

"Take root seeds—you never hear of anyone sifting root seeds. Yet the results of our experiments, spread over a number of years, showed on the average that Swede turnips were produced in the following proportions according to the largeness of the seed: Large, 14 tons per acre; medium, 12 2-5 tons, and small, 5½. Fall turnips were, respectively, 23, 19½ and 12 tons per acre; carrots, 24½, 22 and 16; mangels, 33, 29½ and 21½; sugar beets, 20, 19, 14. The average of all these seeds showed that the largest seed produced 23 tons per acre, the medium 20½, and the smallest, 14. It shows that it would pay us to plant the largest and plumpest seeds. The same holds good in the matter of flower seeds. I think it would pay us well to sift and then throw away one-third of the seed we buy."

Continuing, Mr. Zavitz showed that it also paid to plant the largest potatoes. In planting eyes the best results were obtained by planting pieces about an ounce and a half in weight, and containing from two to three eyes. Experiments had shown, too, that there were marked results in planting potatoes cut the same day as over those cut four or five days before planting. The value of sprinkling land plaster over them was to increase the yield on an average of 17 bushels per acre.

Plums on the Wild Plum Stock

Some time ago the question was asked—how will plums do on the wild or Chickasaw stock?

We have about four hundred grafted or budded on the wild stock. They are quite satisfactory in every way. They are hardy, vigorous, and regular annual bearers of heavy crops. In fact most of our best show plums are gathered from these trees. They should, however, be grafted or budded very low down, otherwise the more vigorous growing varieties for a time, would out-grow the stock. But when they get into bearing the top will not grow so fast, and the stock seems to catch up.

Where only a few trees are wanted a good way is to take sucker roots about half to three-quarter inch in diameter, plant in nursery row for one year; then cut off low to the ground and graft with the required varieties. They will make trees wonderfully fast and are easily grown as potatoes.

J. G. Mitchell,
Georgian Bay Experiment Station,
Grey County, Ont.



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If you farm according to modern methods as taught by our Agricultural Course.

Treats of soils, plows, tillage, drainage, irrigation, fertilizers, crop rotation, etc. Helps you to determine what crops are best for you to grow, and how to treat your soil to grow them successfully. We teach right—right—flowed courses including Commercial, Soil Geography and Typewriting, English, French, German, Mathematics, Botany, Horticulture, and History Text books free to our students. In what Courses are you interested? Write for free booklet. The Home Correspondence School, 601 Temple Building, TORONTO.



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Orchard after spraying with lime and sulphur.

Lime and Sulphur Treatment for San Jose Scale

In regard to the efficiency of lime and sulphur, or lime, sulphur and salt, as a remedy for combatting the San Jose Scale, I have the utmost confidence. If proper proportions be sufficiently cooked and thoroughly applied it will practically annihilate the scale without danger to peach trees. It is safe to use on any kind of fruit trees, is more effective than any other spray remedy, is cheap, and with the aid of steam in cooking the finished material may be supplied more rapidly than it is likely to be required. It is especially convenient for mixed orchards, being suitable for any kind of tree. Hired help can do no injury with it and when the trees are dry the quality of the spraying will be clearly indicated.

It is always desirable not to spend too much time and material in spraying an orchard the first time and when the trees are dry and white to go over them a second time and touch up the parts that were missed in the first operation. In this way a very perfect covering is got which is indispensable in securing even, satisfactory results against the San Jose Scale for if any escape, their fecundity is such that they will quickly recopy the trees. All scale remedies kill by contact and unless the scale be hit it will not be killed. The parts of a tree most likely to escape treatment are the deep cracks in the bark on the trunk and the twigs. Rough bark and moss should be carefully scraped off and the tops thoroughly pruned and cut back. Lime and sulphur wash is suitable only for trees without foliage. When used at one-third of normal strength on foliage it quickly took off the leaves. The scale is much more susceptible to treatment when active than when dormant and the more active it is the more susceptible. Treatments made in April were much more satisfactory than those made in winter.

THE PROPORTIONS

most used in the U. S. are 40 lbs. lime, 20 lbs. sulphur, and 15 lbs. salt in 50 imperial gallons of wash. The quantities I have found most satisfactory do not vary much from these, being 40 lbs. lime 20 lbs. sulphur and 15 lbs. salt in 40 gallons of wash or 1 lb. lime, $\frac{1}{2}$ lb. sulphur and 1-3 lb. salt to the gal of wash. We had really the best results when these proportions of lime and sulphur were used without salt. I slake the lime in boiling water add the sulphur and boil two or three hours or until the sulphur is all dissolved, increase to the desired quantity with hot water and apply while hot so thoroughly that the trees are entirely covered. Unless sufficiently cooked so that the sulphur is dissolved the material is practically useless. A normal nozzle discharging at the angle of 45 degrees is a good attachment for spraying bare trees. It will probably be observed as the season advances that many of the females remain alive on treated trees. They will live longer and attain a larger size than females that have given birth to a brood on untreated trees, but they are not at all likely to breed.

THE SUMMER TREATMENT.

During the summer months we invariably find trees and parts of trees that are very badly infested and in many instances the fruit becoming useless. In finding a treatment that would destroy the scale in such cases without injuring the foliage, many remedies were tried of which kerosene and soap emulsion proved altogether the best and was so exceedingly satisfactory that in many instances the results were as good as from winter work. One gallon of kerosene in six of emulsion being a suitable strength for apples, pears and plums and one in seven for peaches. The result from this treatment seems to depend very much upon weather conditions. In damp weather or even dark cloudy days the results were poor but in bright, hot dry weather the results were almost complete. It has been held that kerosene soap emulsion will keep in good condition for years. This I think a mistake. It is never so good as when perfectly fresh. Kerosene is very volatile and soon gets away. In spraying infested trees in leaf, I use a rather coarse Vermorel nozzle, the spray from which will splash off the foliage and penetrate to the scale on the wood. With lime and sulphur in the spring and kerosene emulsion in the summer, the San Jose scale may be successfully and profitably controlled regardless of surrounding conditions.

Geo. E. Fisher,
San Jose Scale Inspector.

For Fruit Growers

Apple trees should not be planted on low lands subject to overflows. It is safe to say that every orchard, well cultivated, can be made to pay.

For the first years of an orchard pruning is one of the most important items.

First-class fruit in first-class shape will probably create an inquiry far more of the same kind.

There is no objection to selling No. 2 fruit if it is so marked. But to sell No. 2 fruit as No. 1 is wrong.

A large orchard poorly planted and poorly tended will not produce as good results as fewer trees well cultivated.

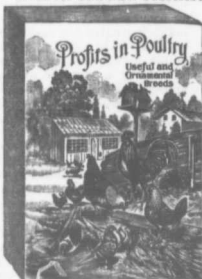


Boiling the lime and sulphur preparation for spraying.

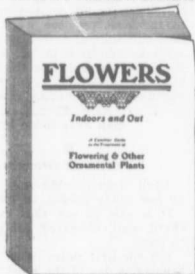
MORE PREMIUMS--FREE!

These premiums are all different from the ones described on page 191 of our April 1st issue. The offers in that issue, however, still remain open. Look them up.

No. 525—Profits in Poultry
Given for ONE NEW Subscriber



No. 711—Flowers Indoors and Out
Given for ONE NEW Subscriber



No. 369—Silver Filled Bracelet
Given for TWO NEW Subscribers

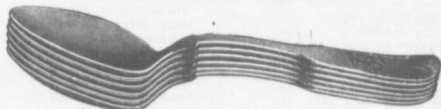


No. 638—Gent's Watch and Chain
Given for FOUR NEW Subscribers



A Stem-Wind and Stem-Set
Guaranteed Nickel Watch
and Gold Plated Vest Chain

No. 609—Six Initial Teaspoons
Given for TWO NEW Subscribers



No. 639—Lady's Neck Chain
Given for ONE NEW Subscriber



No. 537—Daisy "Take Down" Air Rifle
Given for FOUR NEW Subscribers



All you have to do to earn one of these useful and valuable articles is to persuade one or two of your friends to subscribe to THE FARMING WORLD. For one new subscription at \$1.00 a year we will send to you postpaid your choice of a Ladies' Neck Chain, or either of two interesting books, namely, "Profits in Poultry," or "Flowers, Indoors and Out." For two subscriptions you will receive a Handsome Chain Bracelet, or Six Initial Teaspoons, and for four subscriptions your choice of an excellent nickel Watch and Gold-plated Chain, or one of our Daisy Air Rifles. These articles WILL NOT COST YOU ONE CENT, and as soon as you show our paper round, you will find plenty of people who will be glad to subscribe. Don't delay. Send in your subscriptions at once, while this offer holds good.

THE FARMING WORLD
MORANG BUILDING, TORONTO

The Farm Home



Where Nature Holds Sway

In and About the Home

To Clean Linoleums

A wise woman of my acquaintance has discovered the secret of keeping the kitchen and bathroom linoleums indefinitely. The secret is varnish (a hard drier) laid on about four times a year. The oil-cloth coverings in her house have now been in use eight years, yet the pattern remains in all its pristine glory. The varnish stands the wear and tear. As inlaid linoleum is too expensive for the limited household income, this simple method will recommend itself especially to the economical housewife who has purchased the cheaper sort.—Mary D.

We have discovered at our house that a piece of zinc, a few inches square, thrown into the stove, will not only burn itself, but will burn all the soot in the stove. First, see that your pipes and chimney are clean, and then use the zinc every morning. It works like magic.—Mrs. E. B. W.

Charcoal Dust for Cleansing Wood

At school a small girl broke her charcoal crayon while working, making quite a little pulverized charcoal on her desk. Asking permission of her teacher to dampen a cloth that she might wipe the dust away, she was surprised to find she had cleaned all the ink spots from the varnished wood. The result was that all the pupils in the room spent their spare time at noon and recess cleaning their desks. The teacher who told this to me has taught several years and considers it "a great discovery."—B. Practical.

A Match Scratch

A sheet of fine sandpaper is glued to a piece of thin wood the same

size. Two large clay pipes are crossed in the centre and tied in tiny bow knots. Two brass rings are put in with the upper ribbons on the back and are used to hang it up by.—May Leonard.

How to Split a Sheet of Paper

Paper can be split into two or even three parts, however thin the sheets. It may be convenient to know to do this sometimes; as, for instance, when one wishes to paste in a scrap-book an article printed on both sides of the paper.

Get a piece of plate glass and place it on a sheet of paper. Then let the paper be thoroughly soaked. With care and a little skill the sheet can be split by the top surface being removed.

The best plan, however, is to paste a piece of cloth or strong paper to each side of the sheet to be split. When dry, quickly, and

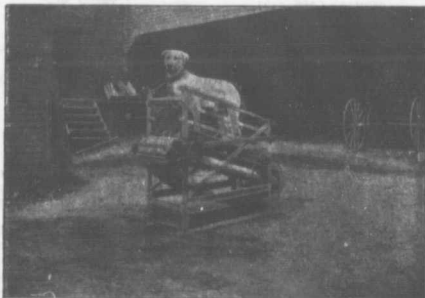
without hesitation, pull the two pieces asunder, when one part of the sheet will be found to have adhered to one and part to the other. Soften the paste in water, and the pieces can be easily removed from the cloth.—The Household.

A Canadian Pioneer's Enjoyment

I am seventy-five years of age, was born in Scotland, emigrated with the family in my first year. I went into the backwoods and became one of the pioneer farmers. I acquired some knowledge of the carpenter trade, and always had tools and a work-shop. Although advanced in years, I am still able to do much of the light work on the farm. I still enjoy the labor on the farm, and take pleasure in having everything in its proper place and work done at the proper time. I also enjoy working in the work-shop on stormy days making and repairing farming implements in winter. I take pleasure in attending the farm stock combined with my shop work. I prize very much the association of friends or acquaintances, either in the home or small social gatherings or parties.

I am a married man, wife living, but have no family, therefore, must depend on outside aid in the decline of life. I specially enjoy the company and amusements of young people. Take pleasure in visiting our common or district school and enjoy reading. Read *The Farming World* and other papers and books along that line. I also enjoy reading the social papers, and even get something out of politics to keep life moving. I read and enjoy religious books and papers, such as the *Church Messenger* and the *Outlook*. I would enjoy visiting, but I find very little time for that kind of amusement. Being content with home enjoyments or comforts, I am looking forward hopefully to the home above, knowing I shall be rewarded for every attempt to follow the Master here.

Canadian Pioneer.



A dog can be used in many more useful ways than driving the cows to and from pasture. The above illustration shows a useful dog power that will save a lot of labor in the home at churning time.

Hints by May Manton

4259, WOMEN'S SHIRT WAIST, 32 to 40 BUST

To be made with or without extensions over the sleeves and with or without the fitted lining.

The foundation lining is snugly fitted and is in every way desirable where wool or silk is used, but can be omitted whenever it is not desired. The fronts of the waist proper are tucked for their entire length and are extended to form the yoke or shoulder straps and are joined to side portions that



4259 Shirt Waist,
32 to 40 bust

are tucked for a few inches only below their upper edge. The back, however, is simply plain and the closing is effected through a regulation box plait at the centre front. The sleeves are in shirt style with the straight narrow cuffs closing at the outside that are the favorites of the season. At the neck is a stock elongated at the front to give a bishop suggestion.

The quantity of material required for the medium size is $4\frac{1}{2}$ yards 21 inches wide, $4\frac{1}{2}$ yards 27 inches wide, $3\frac{1}{2}$ yards 32 inches wide, or $2\frac{1}{2}$ yards 44 inches wide.

The pattern 4259 is cut in sizes for a 32, 34, 36, 38 and 40 inch bust measure.

WOMAN'S CAPE, 4367

This cape is cut to give the effect of a pointed yoke at the back, and with circular portions that fall over the shoulders and are joined to the centre portion with inverted



4367 Woman's Cape,
34, 38 and 42 bust.

plaits at fronts and on centre back. The neck is finished with a flat col-

lar that terminates in stole ends.

The quantity of material required for the medium size is $3\frac{1}{2}$ yards 21 inches wide, $1\frac{1}{2}$ yards 44 inches wide or $1\frac{1}{2}$ yards 52 inches wide.

The pattern 4367 is cut in sizes for a 34, 38 and 42 inch bust measure.

WOMAN'S TUCKED SKIRT, WITH BOX PLAILED BACK, 4366

Perforated for Dip in Front.

This skirt is cut with a front and back gore and circular side portions that are lengthened by the flounce. Both front and back are laid in tucks that are stitched flat to flounce depth and fall free below, giving the double box plait effect. The lower edge of both



4366 Tucked Skirt,
22 to 30 waist.

skirt and flounce is finished with wide tucks that are arranged in groups. The closing is effected invisibly beneath the back plait.

The quantity of material required for medium size is 10 yards 27 inches wide, $7\frac{1}{2}$ yards 44 inches wide or 7 yards 52 inches wide.

The skirt pattern 4366 is cut in sizes for a 22, 24, 26, 28 and 30 inch waist measure.

GIRL'S TUCKED COAT, 4365

This coat consists of fronts and back, both of which are tucked and stitched with corticelli silk to flounce depth. Over the shoulders is arranged a deep cape collar that is shaped with scalloped outline. The sleeves are in bell shape and can be slipped on and off with ease.



4365 Girl's Tucked
Coat, 2 to 8 yrs.

The right side of the coat laps over the left and is closed in double breasted style with buttons and buttonholes.

The quantity of material required for medium size (4 years) is $4\frac{1}{2}$ yards 21 inches wide, 4 yards 27 inches wide or $2\frac{1}{2}$ yards 44 inches wide.

The pattern 4365 is cut in sizes for children of 2, 4, 6 and 8 years of age.

The price of each of the above patterns post-paid is only 10 cts. Send orders to The Farming World, Morning Building, Toronto, giving size wanted.

A Stamping Outfit

The accompanying illustration shows a stamping outfit that should prove an acquisition in every home. This outfit contains 127 beautiful patterns and two complete alphabets all of which are carefully perforated on linen-bound paper, each sheet being 14x 22 inches in size. With each outfit is sent one cake of Black Eureka Compound, which enables anyone to do indelible stamping instantly,



without heat or trouble, and without the use of powder, paint or turpentine, also full instructions for doing all kinds of stamping successfully. The outfit is up-to-date in every particular, and embraces all the latest and most fashionable ideas in the fascinating art of embroderery.

To enable many of our readers to secure a set of this outfit, we will give it free to anyone sending in one new yearly subscription to The Farming World at \$1.00, or for two renewals at \$1.00 each. This is an exceptional offer, which we trust, many will take advantage of.

Beef "Pone" for Supper

When you have a piece of beef that you do not think will make a nice roast, run it through the sausage mill, season with pepper, salt and onion, make into a "pone," put in oven and bake thoroughly. When cold cut in slices. It makes a nice supper dish.—L. B.

Dropped Cookies

Use 2 cups sugar, $\frac{1}{2}$ cup butter, 2 eggs, 1 cup warm water, 1 cup molasses, 2 teaspoons soda, 1 teaspoon baking powder, spices to taste. Stir very stiff.—Mrs. D. V. W.

Sour Cream Pie

One cup of chopped raisins, one cup of sugar, one egg, one cup of sour cream, one table-spoon of flour. Baked between two crusts, —Kate E. Knickerbocker.



More of this fruit is needed in Canada, especially in Ontario.

"Boy Wanted," and What Came Of It

"There, I guess that ought to bring one early to-morrow morning," said Mr. Jonathan Peabody as he finished tacking the card on his store door, and stepped back to view his work.

"Boys is plentiful enough, but they are so triflin'. But I've made up my mind to get one this year; my old legs can't do all the running," he added, as he closed and locked the door for the night.

Uncle Jonathan, as everybody called him, was a bachelor, and had sold papers from that little store for twenty years. The building was frame, and only one story and contained two rooms—his shop and the back one, which he used for a general living room.

With the new year Uncle Jonathan had determined to get a boy to help him about the shop and deliver papers. If he was smart and reliable, he would pay him two dollars a week to begin with; then if he proved satisfactory he would keep him all the time; so he had printed the afore-named card, and prepared to await results. It was a quarter past six when he repaired to the back room to arrange the evening meal. Everything was clean and cheerful there; a rag car-

pet upon the floor, a round table in the center covered with a bright red cloth, and a lamp with a rosy shade, that cast a mellow light upon all the surrounding objects.

Uncle Jonathan bustled back and forth from the cupboard to the stove, and from the stove to the table, all the time talking to Thomas, a large gray cat, who purred sociably and rubbed against his legs in a most sympathetic manner. First he laid a square of linen on one side of the table, then he took from the cupboard an old-fashioned blue and white plate, cup and saucer; beside them he laid a bone-handled knife and fork. He lifted the cover of a pot of boiling water and took down a can of yellow meal, letting it sift through his fingers into the pot, all the time stirring it briskly and keeping up a steady conversation with Thomas, who sat watching his movements with widening yellow eyes. Suddenly he paused and listened. "Thomas, did you hear a knock?" he asked. "We never open the shop after we've closed it for the night; everyone knows that. Still, Thomas, we must see who it is." So, after pushing the bubbling, seething pudding to the back of the stove,

he took up the lamp, and, followed sedately by Thomas, passed through the store to the front door.

"Who's there?" he called, for it was a cold night, and he did not want to open the door unnecessarily. It was a child's voice replied, but so faintly that the words could not be understood. Children always appealed to Uncle Jonathan's heart, so he sat down the lamp and made haste to open the door.

The air was cold and keen as a knife, and threatened to blow out the light, so that the door could only be open a small crack—a most inhospitable way to talk to a child. "Come inside; come inside, quickly, my dear, and tell me what you want," he called, while he widened the crack large enough to admit a little girl, with a large bundle in her arms.

"Please, sir," said the child, "you want a boy?"

"Yes, so I do. Do you know of one?"

She did not reply at once, but commenced tugging at the bundle she held in her arms. It was a heavy gray shawl, and when she found the head of a fractious pin and pulled it out, the shawl fell away from the tumbled head and rosy cheeks of a baby boy, of perhaps three three years of age.

"Bless my stars!" exclaimed Uncle Jonathan; "it's a baby."

"Yes, sir," said the girl; "but it's a boy. Don't you think he'll do?"

Then Uncle Jonathan laughed; how he did laugh and shake and chuckle, while the children watched him with great round serious eyes.

"Please, sir, you said you wanted a boy." The child's voice was so sad and reproachful that Uncle Jonathan immediately stopped laughing.

"I did, I did, my dear, but one big enough to help me in the store. Now, if you were a boy, you could carry papers, you see. But a baby—" Again he broke into a hearty peal of laughter, in which the baby joined, clapping his hands.

"That's right. You see the funny side, don't you, my little man; and a sister mustn't cry," as he saw two big tears stealing down the girl's cheeks.

"I'll tell you what we'll do. Come into the other room, and we'll all have supper together and talk it over; the pudding is done."

The magic word "pudding" dried the tears, and while Uncle Jonathan bustled himself putting on an extra plate, cup and saucer, and a pewter mug, which he took from the top shelf of the cupboard, the child removed her own ragged jacket and hood, and released the baby from his imprisonment in the gray shawl.

"What is your name?" asked Uncle Jonathan.

"Mary McDonald, sir, and baby's name is Roderick."

"Scotch. That's good honest stock, is it not, Thomas?"

Thomas was making the most friendly overtures to the baby, who

in turn viewed him with round eyes of delight and wonderment, and made frantic grabs at the waving tail; but withal Thomas was wary and managed to keep just out of reach of his babyship's fingers.

"Where is—where is your mother?" Uncle Jonathan asked this question hesitatingly, for the children did not show much evidence of a mother's care.

"Mother died two weeks ago," Mary's voice broke in sobs, "and father went away when Roddy was a little baby. And, oh, sir!"—It seemed as though the warmth of the room and Uncle Jonathan's kindly manner had suddenly given her confidence. "I am too little to sew as mother did—you see, I am only eleven this winter, sir—and, I can't earn any money. Roddy must have a home, and when I saw you wanted a boy, I thought Roddy might do, so I brought him. He is such a good little fellow, and he hardly ever cries—if you will just let me come to see him sometimes."

By this time the tears were rolling fast down the excited child's face, and something dropped with a big splash into the pewter cup, which Uncle Jonathan had taken up to fill with milk.

"Come, come," he said, clearing his throat vigorously, "we are forgetting all about our supper. Come, Roddy, little man, if you are going to be Uncle Jonathan's boy, you must sit on his knee and drink milk from this nice cup. It's Thomas' milk, but Thomas won't care. He'll hunt a nice fat little mouse with a long tail for his supper."

Well, they had no one in the world, so it is not strange that the old customers were surprised next morning by a quiet, bright-faced little girl behind the counter, and that a yellow-haired, red-cheeked baby toddled about the store and made friends with everybody. "Some of your friends turned up at last!" they asked, and Uncle Jonathan nodded his head, with a face beaming with such happiness that they all congratulated him, and went out feeling as though something good had come into their own lives.—Harriet E. Hawley, in *Exchange*.

Some Conundrums

What is the best thing to do in a hurry? Nothing.

When is a piece of wood like a queen? When it is made into a ruler.

Why is a muff like a bashful young man? Because it holds a young lady's hand without squeezing it.

What two letters will make us food? M. and H. will make us muck.

What pit is of great use to the world? The oldest.

What is the puddest coupler in use? The wedding ring.

What is the first bus that ever crossed the ocean? Columbus.

When does a man's hair resemble a packing box? When it stands on end.

Why is an opera singer like a confectioner? Because she deals in ice cream (high screams).

Why is a dog biting his tail a good manager? Because he makes both ends meet.

What letter of the alphabet is necessary to make a shoe? The last.

What belongs to yourself, but is used more by your friends than by yourself? Your name.

What is the keynote to good manners? B natural.

Which of the English kings has most reason to complain of his washwoman? King John, when he lost his baggage in the Wash.

Why is an author the queerest animal in the world? Because his tale comes out of his head.

Hints to Parents

When requesting the boys and girls to assist with the farm chores let there be no displeasure or irritation in your voice, but much of

gentle firmness and encouragement.—M. G.

We have a little boy whom we are training to be a farmer. First of all, we treat him as our equal. We think it a great mistake to teach a child his parents are his superiors. We teach him to think that we three are united. We always allow him to help us feed and care for the live stock. We allow him to have some calves or colts of his own each year, and teach him how to invest his money to a good advantage. When we go for an outing or pleasure trip we take him with us.—J. W. H. and C. H.

"Children," said Aunt Mary, "you have a new little brother. He came this morning while you were asleep." "Did he?" exclaimed the eldest. "Then I know who brought him." "Who was it?" asked Aunt Mary. "Why, the milkman, of course. I saw it on his cart, 'Families supplied daily.'"—Kavanaugh.

\$50 for the Girls and Boys

VALUABLE PRIZES FOR THE BEST COLLECTION OF WEEDS AND ESSAYS ON HOW TO DESTROY THEM.

We wish to obtain specimens of injurious weeds in Canada and information as to the best methods of destroying them. We want the girls and boys who read the *Farming World* to help us in securing these.

To the girl or boy sending us the best collection of injurious weeds we will give \$50; for the second best collection, \$15; for the third best collection, \$10; and for the fourth best collection, \$5. The prizes will be awarded subject to the following conditions:

- (1) A single specimen of each variety of weed shall be mounted on white paper (about foolscap size) in such a way as to show the leaves, the branching, and, if possible, the flower. Where blotting paper is not available, newspapers or a large book will do for drying and pressing the specimens in. Spread the plants out carefully between newspapers and place a couple of large books on them. The better pressed the plants are the better they will keep.
- (2) Each specimen must be carefully labelled with the popular and botanical name, the habitat (a swamp, wood, field), and the date of collection. The dry specimens can be mounted on the white paper readily with strips of gummed paper.
- (3) No collection shall be enlarged by the addition of duplicates. Select only the best specimens of each variety.
- (4) Each competitor must write an essay, containing not more than 500 words, describing some of the most injurious plants in his or her locality and the methods used to destroy them. In awarding the prizes 25 points will be given for a perfect essay.
- (5) All competitors must be subscribers to the *Farming World*, or the paper must be a regular visitor in the home in which they live.
- (6) All who intend competing for a prize must fill in the attached blank form and send to us not later than June 1st, 1903.
- (7) All collections must reach this office not later than August 1st, 1903.

The above conditions can be easily complied with by every boy or girl on the farm, and we look for a ready response to this splendid offer. Now is the time to begin. Fill in the coupon below. Mail to us to-day and commence your collection at once.

Dr. James Fletcher, Dominion Entomologist and Botanist, has kindly consented to examine the collections and make the awards. He has also kindly offered, where no other means are available, to send the botanical name of any weed to a competitor if a specimen is sent him. Such specimens and letters will go free by mail if addressed to the Entomologist and Botanist, Central Experimental Farm, Ottawa. We would prefer, however, that competitors make every effort, by consulting books on botany, etc., to find out the names for themselves. When this can't be done, Dr. Fletcher will be pleased to help you out.

THE FARMING WORLD, Toronto.

(Cut this off and mail to us)

THE FARMING WORLD, 90 Wellington St. West, Toronto.

I intend entering the competition for the best collection of weeds. I will comply with the conditions governing the contest and will have my collection sent in before August 1st, 1903.

Name

P.O. Province

A Few Hints and Suggestions

Break, Break, Break

Break, break, break.
On the kitchen floor O see,
I would I dare utter to Bridget,
The thoughts that arise in me.

Oh well for the husbands and sons,
That they work in the office all
day,

O well for our neighbor's wife,
Her cook has gone away.

And this dreadful work goes on
And dogless ever will,
For as long as the cups are in
Bridget's hands
They will always break and spill.

Break, break, break,
From morn till night, ah me,
The last of my wedding China is
gone,
And will never come back to me.

Suggestions

To prevent shoestrings untying,
tie in a bow knot, then tie the
loops just once.—P.

Did you ever try putting popcorn
in a hot oven for about half an
hour, after it is popped? It makes
the corn very brittle and tender,
and improves the flavor much.—
Dollie P.

In using sour milk for cooking,
be sure to beat it well with the
beater. This will insure light
muffins, biscuit or cake. Do not put
soda into the sour milk, but sift it
into the flour as you do baking
powder.—A.R.A.

To prevent bread from burning,
I put wrapping paper over it when it
has been in the oven some 20 min-
utes. It is much more satisfactory
than newspaper, as the bread is
less likely to burn or smoke.—E.S.
P.

Caution must be exercised in the
use of gasoline, while cleaning
gloves and dresses, as it is a most
volatile fluid; it should never be
used in a room where there is a
light or a fire. Open the windows
and air the room thoroughly after
using.—E.M.L.

Fashion Hints

The new silk and linen batistes
appear in natural flax colors, in
white, and also in tints of pink,
blue, cream, etc. Many of the pat-
terns have flowers woven to re-
semble embroidery; others show de-
licate lace stripes with warp-printed
designs in floral colorings made
of silk and linen. Tokyo is one of
the newest and most desirable of
the silk-and-linen mixtures display-
ed this season.

Many of the new silk or satin
sash ribbons are striped or barred
with a line of black velvet, that
makes them very becoming when
used for blouse vest fronts, stocks,
ribbon roses, etc. Entire waists
are made of the wider ribbons, and
a pretty result is obtained by tuck-

ing the silk or satin portions of the
striped designs, leaving the black
line untouched. This renders the
velvet stripe quite prominent, pro-
ducing a stylish effect.

Cameo brooches and lace pins
are among the revived styles in
jewelry. These are made in differ-
ent sizes and finished with rims of
brilliant diamond chippings, frost-
ed engraved silver, pearl and enamel,
and gold filigree.

New styles in covert coats are
set forth for the wear of women,
young girls and children of any
age. These are exhibited in short
three-quarter and figure lengths,
the front finished with large smoke-
pearl buttons, or else there is an
invisible fly front fastening. Coats
of this kind are unlined, and be-
sides forming very reasonable
wraps for the entire spring season,
they will prove very useful on cold
days during the summer over
gowns of foulard silk, pique, voile.

Blouse waists for young women
are this season in as varied forms
as those of their elders. A style
easy to make and which washes
well has the front on each side
tucked to voke depth leaving a be-
coming fullness below the tucks
which droops over the narrow-
shaped belt. The right side of the
front laps considerably to the left
in a diagonal line, and large pearl
buttons are used as a finish. The
back is plain with only slight full-
ness at the waist line. The bishop
sleeve and the regular shirt-sleeve
shape with link cuffs are used in
making these waists. The neck is
finished with a narrow circular
band, above which is worn a
straight collar showing double
rows of stitching at each edge.

"Round hats will remain flat and
wide" is the latest edict from Par-
is. Extremely wide brims and flat
crowns may be expected for some
time to come. This flatness on
models just received from Paris is
very frequently accentuated by a
drapery of falling fringe or lace at-
tached to the brim of the hat all
around like the mushroom styles in
the early years of the last century,
when very full skirts and sloping
shoulders were among the styles of
the time. Wreaths of crushed roses
are laid flat around the plateau
brims of hat models prepared for
Easter wear, and there are fewer
loops of ribbon, aigrette effects, or
erect trimmings of any description
than appeared on some of the fash-
ionable winter styles.

New shirt waists of light wool in
white, gray and fawn color have
the box plaits, collar, cuffs and
girdle piped with taffeta silk in
bright tartan patterns. Other
waists are made of bands of white
wool joined together with pale blue
or pale green silk fagotting. These
waists fasten at the back, blouse
slightly in front, are fastened with
small pearl buttons, and worn with
dark blue or dark green skirts of
cloth, velvet or zibeline.



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In the Flower Garden

Three Lovely Plants

I like to keep each class of plants by themselves as far as possible. For instance, in one window I keep roses, in another Abutilons, in another pansy, geraniums, etc. I think plants are much more satisfactory when in blossom. Besides, they can be treated much more satisfactorily as regards their peculiar habits. The rose is an aristocratic plant, and likes the company of others of its own family much better than those belonging to a lower order. Perhaps one reason is that they are much less subject to insects and more easily treated for them if infected, when alone, than if mixed in a general collection.

My roses are in a south window in the kitchen where there is plenty of steam every day, and they get all the sunshine our long Canadian winter affords us. This together with a weekly bath in the wash tub, tops and roots, is all the "treatment" they receive and the result is most satisfactory. I have found soapuds to be almost a panacea for all the ills house-plants are heir too.

My other kitchen window is filled with geraniums and they do first rate too, and for stand-bys few flowers rival this good old favorite.

My "flowering maples" are always in blossom, and the window is fairly darkened by their luxuriant leaves. They begin to blossom when but a few inches high and keep at it until one wonders where they get so much staying power from their little pots of dirt. I have white, pink, red and yellow, besides two kinds of variegated leaved ones, and they are really beautiful though not nearly so showy as the pansy geraniums. They are a perfect glory of bright bloom all through the early spring and summer, and I had no idea there were so many kinds until I began to collect them.

One hardly knows which is the handsomest when all are so pretty and so thickly covered with blossoms. A window cannot well be filled with any kind of plants that will give more enjoyment during their season. They are not exacting in their requirements either, but will repay a little extra care, especially must one attend closely to keeping the branches nipped out about of a length to be symmetrical for they are greatly given to straggling; one branch growing to an unbecoming length at but careful pinching will remedy the expense of the others unless attended to, and for that matter, this is also a habit of the Abutilon.

Roses I always allow to grow as they will for their growth is upright and I like a large plant, but the others will start straight off sideways as quickly as any where, and will need close watching if they are to develop into shapely

plants, but the result will repay one well for their labor.

F. H. Sutton, Que.

Large Flowered Pentstemon

These pentstemons have bell-shaped, pendant, gloxinia-like blossoms, 2 inches across and of several colors, from white to crimson, beautifully blotched and veined.

They bloom the first year from seed, and for several years, if well cared for, beginning to blossom in June and continuing till frost, flowers being borne on spikes 2 feet high.

Plants are quite hardy, but require some protection in severe weather. They are fine for borders, where they have an open, sunny situation and rich soil. The plants are healthy and vigorous, not troubled with insects, and succeed in almost any soil.—Bernice Baker.

Begonia Vernon

A plant of begonia vernon was planted in a 5-inch pot of good soil and set in a 2-quart earthen dish, which was kept full of water. It was set in a shaded, sheltered place, with only an hour's sunshine in the morning. It was a mass of beautiful waxen leaves and flowers all the summer and until late in fall, when it was dried off. The growth was far more luxuriant than when grown in any other way. No fertilizer was given it. It was an old, large plant.—E. C. Smith.

Good Flowers to Grow

If a leaf occasionally turns yellow and falls, it is nothing unusual, since they must ripen after a time like all leaves. But if many turn at one time, something is wrong. When warmer weather is at hand, replot into a large sized pot, using good rich soil and good drainage. It will then grow rapidly this spring and summer.—Mary J. Ross.

Sunflowers, large and small, single and double, annual and perennial, in all shades of yellow, are a decided help in the flower garden. From little Stella 3 inches across, to Giant Russian, with blossoms 15 to 18 inches across, all are interesting. From a despised flower they are growing to be much admired, and many of our agricultural fairs now offer premiums for the best variety and display.

Try cloome, white or pink, for edging canna beds, setting the plants 8 inches apart. They grow tall and slender, the blossom heads being heavy, causing the plants to sway with every passing breeze. They fill out the irregular outline of the bed, and the colors harmonize with everything they come in contact with.

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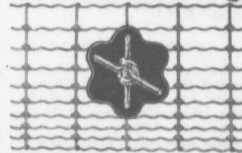
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In the Vegetable Garden

Lima Beans

These can hardly be omitted either from the home or market garden. Being very tender and liable to damage from cold weather or even very light frosts, the first early seed should be started in boxes. They are more safely handled than cucumber or melon vines, and old pans are very convenient for starting them. They must be planted far enough apart so that in transplanting a good ball of earth may be taken with each plant. Stick them in the soil eyes down, and cover half or three-quarters of an inch deep. They can be set out easily and quickly with a trowel. The bush varieties are growing rapidly in popularity, both as to quality and yield, and will in a great measure succeed the pole varieties, especially where space is an object. Burpee's Willow Leaf, Wood's Prolific, Burpee's Quarter Century and Dweaver's Wonder are all desirable varieties of the bush Limas, and are named in order of their season. The plants are spreading in habit and will require 2 feet of space each way in good soil, and 3 to 3½ feet if cultivated with a horse.

The pole or climbing varieties, the chief dependence of the market gardeners, are trained in various ways on poles or trellises. A good way is to set posts of 2x4 or heavier, 12 feet apart and 8 feet high; 1x3 inch boards are nailed from post to post at top, and 1x2 or 3 inch strips at bottom. Coarse wool or binder twine is cut in 3-yard lengths and tied to top and bottom boards, 12 to 16 inches apart. Not more than two vines should be allowed to each string, and once started they will climb it far more readily than poles. After reaching the top the leaders should be pinched off to throw strength of the vines into maturing the crop. Rows four feet apart are sufficient for horse culture; but on well enriched soil perhaps 4½ to 5 feet would give better results.—J. E. M.

Rhubarb for Family Garden

This is one of the first spring products of the family garden. Its appearance is hailed with delight, because it comes at a time of the year when every member of the family is just hungry for something sour. The household has been fed on sweets and meats during the winter until an acid, such as we find in rhubarb, is relished as a choice luxury. The children watch for its coming and eagerly devour the crisp stalks before mother can use them for pie timber. Rhubarb requires rich soil to do its best, and the plants should be reset frequently into rows when each root must be cut into several sections; otherwise the plants will "run out" and furnish only small, tough

stalks. When planting rhubarb remember the general principle of a successful farm garden, that of planting everything in long rows where the horse and corn tools can be used when cultivation is necessary. We advise planting with a plow by opening deep furrows in which manure and soil are well mixed. Plant deeply, covering with the plow. Early spring tillage can be done with a surface-working horse cultivator, that will not reach the crowns of the plants, which should be at least six inches below the surface.

Cover the plants each and every fall with a liberal dressing of barnyard manures; that will protect the ground from freezing and thus hasten an early supply. A few pots of rhubarb can be taken into the cellar each winter with a quantity of earth, and thus continue the supply, as it will keep on growing, the same as celery. Don't neglect the rows of rhubarb. W.C.

Garden Cranberries

Mrs. E. N. Moore, Uncasville, Conn., says that she has a cranberry bed two yards wide and ten yards long in her garden which furnishes a good supply of excellent fruit with very little trouble. Some vines which grew on a dry bank were taken up in spring and planted in rows, which in time became a matted bed. It has been kept free from weeds and grass and has had an annual dressing of wood ashes. The average yield is about two bushels. Cranberries intended for home use are put in water and placed in the cellar. They keep well and are cooked when needed. Being on high land, the cranberries are not injured by early frosts, and the picking is done in October.

New Onion Culture

I have had splendid success with the new onion culture the past season, which consists of planting the seed in the potted or cold frame a month before it is time to sow the seed in the open and setting out the plants three inches apart in rows a foot apart about the first of May. By this method I grew onions which weighed a pound apiece and which took prizes at several exhibitions. The varieties I found after a trial to be most suitable for this method of culture were Prizetaker yellow, Red Wethersfield and Southport White Globe. The large Red Globe is the heaviest yielding, but does not ripen down as well as the Wethersfield. The Silver King is a good white onion for transplanting, but a poor keeper. Such varieties as the Danvers and Silverskin do not pay as well as the large varieties when grown by this method. Its chief advantages are that it promotes earliness, permits of growing the large bright colored onions which command the highest prices and

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gives a heavy yield compared with seedlings. I think so much of the system that I intend putting out a large piece the coming season, and I feel sure I will be well paid.

E. Mackinlay,
Halifax.

Early Potatoes

Potatoes the past season, especially the early varieties, were a good crop with me. The most satisfactory potato both for earliness and quality, I have found to be the Irish Cobbler, among ten varieties. It is a chunky potato with a clear white skin, and while not quite as early as the Gem or Sunrise, can be used on account of its shape some days before the oval varieties. The Early Sunrise is the best pink potato of several varieties, followed by the Rose and Hebron types, which, after all, if a good strain of seed is planted, are about as satisfactory as any with regard to yield and quality. My rule is to plant a new variety, sparingly the first year or two until I find out its advantages, if any, over the standard sorts, and so I can tell by the sure test of growth its true value. The earliness of potatoes does not depend so much on the variety as it does on thorough cultivating. E. M.

Planting Tomatoes

Tomatoes were my principal crop the past season. I set the plants about two feet apart each way for early and dwarf sorts, and three feet for the larger growing varieties. Contrary to previous methods, I did not give the plot any stable manure, it being black loam containing much rotted sod, but used a handful of wood ashes or phosphate to each plant, when setting out, and about three weeks later, just before a rain, I sprinkled some dry powdered hen manure around each plant, and soaked it in, which gave them a start. The fruit started to ripen July 25th, which is early for this locality, and from one row of 250 plants I gathered 1,000 pounds, or half a ton, ripe, which at the wholesale price of 2c. per pound amounted to \$20.00 at a cost for seed and time of \$3.00. The earliest varieties were the Atlantic Prize and Earliest of All, the heaviest yielders were the Mikado and Matchless, and the handsomest and finest quality of tomatoes were the Golden Queen and Dwarf Champion, although owing to the Champion being a poor bearer, I would not plant largely of it, except for home use.

E. Mackinlay, Halifax.

Garden Fertilizers

The question of manures and fertilizers is one of the most perplexing and important things in gardening and the reason so many peo-

ple fail to get the best results from chemical fertilizers is that they use them without regard to the nature or condition of the soil. They depend too much on the fertilizer and too little on the tilth and moisture holding capacity of the soil. To apply fertilizers to a loose sandy soil or a light clay that has not enough humus in its make up, is simply a waste, while to such soils stable manure, by supplying humus or organic matter, as well as plant food, may be of the greatest advantage. Get the soil in good condition by increasing its capacity to hold moisture, which can only be done by deep tillage and the supplying of humus by the application of swamp muck, stable manures, or by the practice of green manuring, and only then can you expect the best results from chemical fertilizers. On the other hand, a soil which is in a good condition, both as to texture and fertility, will usually give far better results at less expense by the application of fertilizers alone. It depends greatly on conditions as to the best system to be pursued.

E. Mackinlay, Halifax.

The Canadian Garden

The above is the title of a valuable little book for the amateur gardener. It is by Mrs. Annie L. Jack, and published by Wm. Briggs, Toronto. It is well written and covers the whole field of garden culture in Canada.

Spinach for Early Spring

The sort of spinach which I prefer for early spring planting, is the round-leaved virolay, or victoria. I do not see how anyone can grow the common arrow-leaved sorts of spinach after once giving these a trial. These two varieties are of an intense dark-green color, and the leaves are very thick. Each plant, when given sufficient room to grow is distinct, and forms a large bunch of leaves. To show the great productiveness of these varieties over the ordinary kinds, I cut the leaves off two good plants so as not to injure the hearts five times, and after the last cutting they sent out numbers of strong vigorous seed stalks from which in the fall I rubbed out half a pound of seed from the two selected plants and good seed it was, too. If you have been growing old run-out sorts of spinach, make a change, and you will be pleased with the results and by having a good quality, you will get good customers. Leave a few good plants for seed and you will be surprised at what they will yield with no extra trouble on your part.

E. Mackinlay, Halifax.

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9-11 Brook Ave. Toronto, Ont.

Nature About the Farm

Edited by C. W. Nash

The editor of this department will be glad to identify for subscribers any specimens of natural history sent to this office for that purpose and will answer any questions on the subject that may be asked through the Farming World.

BIRD NOTES

If the birds are as good weather prophets as they are generally supposed to be, this ought to be the earliest spring we have had for many years. There are more species here now than we usually see before the end of April and some of the individuals of these species arrived so much before their usual time, that one would think they were desirous of breaking all previous records. Mr. A. A. Wood, of Coldstream has just sent me his list up to March 31st as follows:

March 8, red tailed hawk; March 9, robin, March 9, bluebird; March 9, song sparrow, March 10, red headed woodpecker, March 12, sparrow hawk; March 13, kingfisher; March 13, meadow lark; March 18, phoebe; March 22, flicker; March 23, cowbird; March 31, mourning dove.

This covers all the species that are most easily observed and which are consequently the most useful for the purpose of comparison. Mr. Wood also informs me that he has already found a nest of the long eared owl containing two eggs. Most of the owls are early breeders, but I have no previous record so early as this. Among the most interesting of our recent arrivals is the well known meadow lark of which I give an illustration in this issue. It is peculiarly a bird of the open country and was not generally distributed throughout Ontario until after the land was cleared. Mr. Kay gives the date of its first appearance in Muskoka at about 1863 since which time, as more land has been brought under cultivation, it has become abundant. In Canada there are two forms of this species. The typical form (*Sturnella magna*) which is found in more or less abundance in the province east of Manitoba, and the western meadow lark which is abundant on the prairies of Manitoba and westward to Vancouver Island, where it winters. The western form is rather larger than the eastern and like all prairie birds somewhat lighter in color, otherwise in form and habits they are alike, but in their musical powers they differ widely; our bird has a variety of rather pleasing notes, but no real claim to be considered a high class feathered songster. The western bird however is entitled to rank amongst the very foremost musicians of the bird choir in America. Their clear musical notes are uttered by the birds from the ground, from the tree tops, or while they

are flying, in fact I think the air song the most to be admired of all their vocal performances. Unlike the great majority of our birds, meadowlarks do not cease singing after the nesting season is over, even during the heat of summer when others are heard all day and far into the evening. Perhaps just while they are moulting in September the song loses much of its force and power, but the larks are never quite silent, their spirit is willing to make music at all times, from the day of their arrival in the spring to the whitening of the plains in November, when they depart for the south bravely singing as they go. Meadowlarks' nests are placed on the ground, usually under the shelter of a tuft of grass or clover, they are compactly built of dry grass, lined with finer blades of the same material, the surrounding vegetation being so arranged as to form a dome over the top and partially covering the entrance.



The Meadow Lark

The eggs are four or five, rather large for the size of the bird, marked with many reddish brown spots and they sometimes raise two broods in the season.

Meadowlarks are very valuable birds to the farmer; from the time of their arrival until their departure, they resort to the cultivated land and the meadows, feeding almost entirely on insects of the most injurious class, of which cut-worms, wire-worms and white grubs form a large proportion, these creatures work under ground during the day and so are difficult to deal with by any means at our command, but the meadowlarks by some well developed faculty are enabled to locate them and can pull them from their hiding places and devour them. I have occasionally found a few of these birds passing the winter in Ontario and even at that season they were able to obtain sufficient insects to keep them in good condition. Of late years the larks have been much persecuted by gunners, who ought to know better than to destroy such valuable birds. Their destruction is prohibited by law and farmers should see that this law is rigidly enforced at all times.

INSECT LIFE

The remarkably mild weather that we have enjoyed during the past few weeks has had a wonderful effect on plants and insect life. The alders and hazels have produced their catkins and the soft maples are in blossom. To-day to my great surprise I found an Elder bush covered with blossom buds each of the clusters being nearly as large as a silver quarter. The pleasant temperature has induced large numbers of insects that hibernate in the larval or adult stages to move out of their winter quarters so that there is enough life everywhere to attract the attention and excite the interest of a lover of nature in the country.

There is a curiously marked, common caterpillar that may very frequently be seen at this season or even earlier crawling on the roads. It is sometimes known as the "wooly bear," because it is clothed in a furry coat. The centre of the body is chestnut red, the two ends being jet black. This insect hibernates in the larval stage, but does not seem to be a very sound sleeper or else it is possessed of such a restless spirit that it is not easily satisfied with its winter quarters for I have often found it moving about on bright days even before the snow was off the ground. It is not often a very injurious insect, though where it occurs in gardens it sometimes does mischief.

The moth which produces this caterpillar is known as the Isabella moth (*Pyrrharctia isatella*) it appears in June and July and shortly after deposits eggs from which these black and brown caterpillars are subsequently hatched.

The common grey slug appears to be very abundant in this neighborhood this spring; wherever they occur in number they are likely to do a great deal of damage to young plants in seed beds. The best way to get rid of them is to dust over the beds in the evening a little lime or use a liberal dressing of wood ashes. If neither of these materials should be handy a little salt applied in the same way will have the desired effect.

Dates of Dominion Exhibition

The Dominion of Canada Industrial Exhibition will be held in Toronto on August 27 to Sept. 12. The local government has made a grant of \$6,000 for the extension of the dairy building. The exhibition board has received notice from the Dominion Government that the grant of \$50,000 has been made. This amount with the \$25,000 the citizens of Toronto are expected to subscribe should enable the management to finance the project without much difficulty.

Mr. G. Brander, Cumberland Co., N. S., reports one of his brood sows as having farrowed 7 pigs on March 21st last, and that all are doing well. Next.



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Frost Farm Fence

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THE above illustration shows the **Spramotor** fitted to an ordinary cask of 50 gallons, which is so highly recommended by R. M. Kellogg, Three Rivers, Mich. This outfit was awarded First Place by the Canadian Government in the Famous contest, as well as the **Gold Medal** at the Pan-American. There are other makers copying our illustrations and claiming the Canadian Government award, therefore the public is cautioned against such deception. This outfit has a capacity of eight nozzles when operated by hand. It will be fitted to a tank or otherwise, as ordered. It has all the latest patented improvements, and is the most economical and efficient sprayer built.

This year we have added another pronounced success in the form of a power attachment, whereby this size spryamotor may be converted into a power machine, thereby doubling its capacity. It is entirely automatic in its operation, maintaining a pressure of 100 lbs. to 200 lbs. It is self-regulating. Shutting off and turning on of the nozzles may be done regardless of the machine. When the nozzles are shut off, the Spramotor stops, and so remains until the nozzles are turned on again, maintaining the full pressure all the time. One nozzle may be used or the full capacity, the pressure being automatically adjusted to the varying number of nozzles in use.

One man or boy can do as much with it as two with any other, and very much cheaper. It will save you the attendance of one man, and give you more effective service. It can also be worked by hand, if desired. Any kind of power can be used, steam, kerosene or gasoline. The Spramotor works well with any of them. If you have an engine now, we can fit you out equally well. We will prove to your satisfaction that it's every word true. *Will do all this and other things, too.

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In the Poultry Yard

A Quebec Poultry Keeper's Experience

In the first place I could not afford to buy pure bred poultry, and started in with the "mongrels" that were on the place when we came here. Each year since, I have had a new cock, not always of the same breed, and none of my friends who have pure breeds can show as many eggs per hen per year, or raise more or healthier chicks than I can and do.

I feed them anything I can get hold of, corn, oats, barley, ground and whole, apples, cabbage, small potatoes, meat scraps, table scraps etc. I try to have as great a variety as possible, being careful to give them a good feed of warmed, whole corn at night in cold weather.

One of the best things I have, is the chaff and seeds on the barn floor and the bottoms of the hays, and if I can lay in a good supply before the floors are entirely cleaned up after threshing I consider a good crop of winter eggs pretty well assured.

I have a place built for a hog house; we have cut a large opening into the cow stable which insures its warmth and gives the "biddies" the very best of winter runs and scratching places. The stable is light and warm, and there is running water on both sides of it. It opens on the south into a large and warm lean-to, where a lot of hogs are kept, and the hens have free range through the day, but are expected to come back to their own quarters to roost and be fed at night.

One way in which I keep a continuous supply of fresh eggs is by hatching chickens any time of year when the hens are inclined to set. Having so good a place I find no trouble in raising them at one time of year more than another, and so have pullets laying most of the time.

I always try to set two or more hens at the same time, and give all the produce to one mother several times during incubation. I sprinkle sulphur on the hen when setting. Lice are by far the worst foe the poultry man has to contend with. A free use of lime, whitewash and sulphur, together with a good run, and plenty of exercise, will solve this vexatious problem.

Give them a large shallow box filled with fine dirt and wood ashes to dust in, and scatter a little sulphur in it occasionally. Give them old plaster, egg shells, and hear them sing and cackle. Don't overfeed; make them hunt for their living.

We have the vegetable and flower garden fenced in with meshed wire and hardly ever shut the hens up in summer, never unless there is grain close to the buildings, and only for a little while then, and how they do lay!

Florence Holmes, Bromo Co., Que.

Britain's Egg Supply

In 1902, Great Britain consumed no less than 5,000 millions of eggs or about twelve millions daily. These eggs, if threaded on a string would more than encircle the earth or if broken into a dry dock would float a couple of ironclads. In the country districts the eggs consumed are home grown, but four-fifths of the eggs consumed in towns are of foreign origin and being from three to six months old, are more or less stale. The value of the eggs imported by Britain last year was over \$30,000,000. Canada should have a larger share of this than she is getting.

The Hen a By-Product

Metaphorically speaking, the hen is at present little more than an agricultural by-product, the real value of which has scarcely been realized, and still less exploited. The farmer has long looked upon her much as he did on the family cat. He was interested in other branches which he had learned were profitable. He was not interested in poultry having instinctively concluded it unproductive financially, and therefore unworthy of interest.

It is this utter lack of interest in poultry that is responsible both for the comparative unpopularity of the industry among farmers, and for their mistaken conceptions as to its remunerative possibilities.

There is nothing in the ordinary course of things, to hinder every tenant farmer in the country paying his rent with the proceeds of his hen house. And all that is necessary is that he give his fowls the same care and attention as is bestowed upon his fat cattle or bacon hogs. The hen is a valuable asset on the farm; not merely a domestic pet, a decorative creature, or an agricultural by-product.

Without energetic, earnest interest nothing agricultural could ever spell aught but failure. Previously hens have failed for lack of these essential factors to their success, just as would any other department on the farm, if similarly despised.

Let every farmer realize that he is not in business for fun; that it is his duty towards himself, his family and his country to exploit every resource on the farm to the utmost limit of possibilities. Let him make up for his long-standing neglect of the hen by bestowing upon her in future, that interest which she certainly merits. It will pay.

Your experience in poultry is valuable. Let us have a few brief notes as to what your hens are doing at the present time. How many eggs do you get per day? What do you feed your hens? What do you sell your eggs for and to whom?

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is so good and so big as well that you'll find it the best for you to buy. It is the only one in the world that will hatch any kind of eggs. It is made in the U.S.A. and is the only one of its kind in the world. It is the only one that will hatch any kind of eggs. It is made in the U.S.A. and is the only one of its kind in the world. It is the only one that will hatch any kind of eggs. It is made in the U.S.A. and is the only one of its kind in the world.

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Thinning and Hoeing Turnips

Replying to your correspondents "E.G.G." and "Farmer" in March 15th issue, Mr. Mavor states that I quoted him incorrectly as saying that "one man should be able to thin one acre of turnips a day." Mr. Mavor explains that such a thing is possible, and offers proof of 5½ acres having been thinned for him in 6 short days, that is, work in the field commenced late and finished early each day. He wishes to assert that one acre can be thinned in a day, but he does not wish to go as far as saying that this amount should be held to constitute a fair day's work in this line. Some men are more apt than others and as a rule the farmers of Quebec are by no means apt at thinning turnips. Even in Scotland, some men were never successful in raising turnips, merely because of their inaptitude for the work. What is required is a steady hand. To thin the plants dexterously they must be removed by pushing with the hoe, cleaning down the side of the drill on the far side with the same stroke, and with the return of the hoe cleaning down the side next to you. It is important to do this cleaning down of the drill thoroughly, for whenever you miss, weeds are almost sure to grow. The quicker you push the hoe through the more readily you get a single plant. Mr. Mavor says it is quite possible to thin to a single plant with the hoe alone, but that a second thinning by hand is always safer. The plants may be left about 9 inches apart.

With regard to pulling three-quarters of an acre a day Mr. Mavor says that this may be considered a fair day's work. It is better to pull one row at a time. Pulling is harder on the back than thinning, and great speed cannot be kept up as long. Mr. Mavor once pulled 14 Scotch cart loads in one hour.

Mr. Mavor gives his system of growing turnips as follows: Sod is broken up after haying, and a crop of oats raised the next summer, the stubble is plowed down in the fall, and plowed again next spring and harrowed. Then it is drilled and manure and phosphate applied in the drill. Then a light tooth harrow about four drills wide is run along the drills. A very light harrow is used so as not to drag the manure or harrow down the drills completely. After this drill up again. Mr. Mavor uses the common seed drill, sowing two drills at a time, with 1½ lbs. seed to the acre. It is not safe to sow thin as there may be misses. The cultivator is run through before thinning, and once again before going over them the second time by hand.

Mr. Mavor has raised from 800 to 1,000 bushels to the acre, according to the year. He has been a most successful farmer, and retired from business a year or two ago, and is now enjoying a well earned rest. H.W.P.

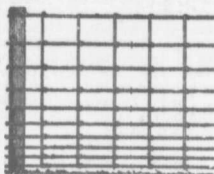
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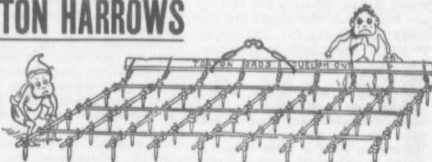
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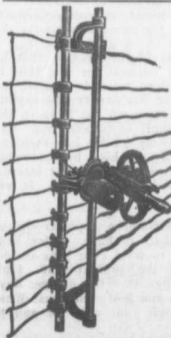
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A large variety suitable for the requirements of any country, made in different widths to suit purchasers, re-embodying the most efficient, strongest, and longest wearing Harrows ever manufactured in our unequalled works. Parties wishing a description of our Harrows will do well to write us direct or apply to the local agent.

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The Sugar Beet World

Devoted to Sugar Beet Culture in Canada and Allied Industries. Specially
Representing the Farmers' Interests

Edited by JAMES FOWLER

A Construction Co. to be Wound Up

A petition has been filed at the Goodge Hall asking for the winding up of the Colonial Construction Company Limited. This company was organized a year ago to buy a sugar factory for the Warton Beet Sugar Company. The factory was to cost \$400,000 and the company was to be paid \$150,000 cash, \$100,000 in stock and \$150,000 in the bonds of the Warton Sugar Company. There are a number of creditors. The shareholders of the company are mostly Detroit capitalists.

Sugar Beet Culture

Different farmers labor under different conditions of soil and situation in the cultivation of beets. The methods successfully adopted by one farmer cannot be accepted as warranting the success of another. Personal judgment must come into play. Certain conditions are however, applicable to all. One of these is to stir up the sub-soil in the fall, but on no account to do so in the spring. Levelness of the beet field is very important, not only surface levelness, but levelness of the firmer soil on which the seeds lay and of the depth of loose soil covering it. If such conditions are not carefully observed a great irregularity in crop will surely result.

Beets absolutely require moisture and warmth. These are two essential conditions.

If it rains immediately after sowing, and a crust forms on the surface, this should be broken lightly with a fine harrow. Nothing that prevent the rapid germination of the seed should be overlooked, as risk of damage from weather is very slight once the young plants are above ground; the risk is nearly all before this takes place.

In cold springs, beets seems to thrive well on a clover sod, but sandy loam is generally considered the most favorable under ordinary conditions.

Prof. A. E. Shuttleworth.

American Beet Sugar

A very high authority in the sugar trade states the production of beet sugar in the United States in 1902, at 148,526 tons. The year before, it was 124,859 tons. The domestic production of cane sugar rose from 292,150 tons, to 302,000 tons. The gain in beet sugar was nearly 14,000 tons, or about 40 per cent more than the increase in the quantity of cane sugar grown in the United States.

Although these figures are small

when compared to the enormous importation of foreign sugar, there is one point which looks well for sugar-growing in that country. The rate per cent. of increase last year was somewhat higher in the domestic production than in the imports.

Pulp Feeding

Pulp should be allowed to go through a sweat and ferment before using it to feed cattle. It should be kept in a place where it can be well drained. After fermenting it is both fattening and appetizing. A grown cow will eat 100 pounds per day. The syrup should be fed in connection with pulp, as the pulp gives the stock an appetite for syrup and vice versa. There is no danger of an animal eating too much, for it will not hurt them.

Cattle should be put on pulp during good weather. Put the pulp in a convenient place and do not let them have anything else to eat. In other words "starve them to it." It is much better in the long run than to keep them filled up on other foods.

Young cattle do well on pulp and molasses. There are several ways to feed the molasses, but the most convenient way is to use troughs and place several around in the feeding pens. Cattle will take to eating molasses as soon as you put it out for them. It also makes ex-

cellent feed for horses, either fed clear or mixed with other foods.

In feeding grain with pulp and molasses a binding grain should be used, such as cottonseed meal or shorts. The proper time to feed grain is after cattle have started to eat pulp, and in cold weather, especially in the morning while the pulp is frozen.

Good fresh water should always be kept where the cattle can get it, although while eating pulp cattle will not drink much water.

Always keep plenty of salt in the feeding pens. A very little hay is necessary, although cattle should be fed a little hay every day, as there are always a few in the bunch that are not eating pulp good and should have hay and water.

Cows that are about to bring calves should not be fed pulp or syrup as they will almost always lose the calf, and sometimes cow and calf will both die. Calves will begin eating pulp at one week old.

—Ezra Nickolls.

Carleton Stallion Show

The County of Carleton Agricultural Society will hold a stallion show at Richmond, Ont., April 29th. Prizes will be given for Clydesdales, imported and Canadian bred, thoroughbreds and standard breeds. A good local exhibit is expected.



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Shorthorn Classes at the Industrial

The Executive Committee of the Dominion Shorthorn Breeders' Association has decided to change the dividing line of ages in the yearling and calf classes. Heretofore the first of February has been the date between the senior yearlings and senior calves, but for the future the first of January will be the dividing date in both yearling and calf classes. Senior yearlings to be calved on or after September 1st, 1901, and before January 1st, 1902. Junior yearlings on or after January 1st, 1902, up to September 1st, 1902. Senior calves to be born on or after September 1st, 1902, and before January 1st, 1903. Junior calves on or after January 1st, 1903, up to September 1st, 1903.

The committee also recommends that classes be provided for steers, either pure bred or grades, sired by a Shorthorn registered bull, on the same basis as to ages as the above division is for yearlings and calves in the regular class.

The Dominion Shorthorn Breeders' Association have voted the sum of \$1,500, in case it is duplicated by the Industrial, for premiums at the coming Dominion Exhibition, and no doubt the prize winners at this show will be kept for national honors at St. Louis in 1904.

Open Air Horse Show

Toronto is to have an open air horse show this summer, that is if the present desire of the Harness, Hunter and Saddle Horse Society is realized. A meeting of the society held on March 30th, decided upon a one day outside show, at some suitable point, in July.

The Royal Show

We are indebted to the secretary for a copy of volume 63 of the Journal of the Royal Agricultural Society of England. A special feature of this volume is a sketch of Wm. Cobbett, a well-known agriculturist, politician and pioneer in the struggle for the reform of the British constitution. He died in 1835. Other matters of interest are dealt with.

The sixty-fourth exhibition of the society will be held at the new permanent showyard in London on June 23-27, 1903.

A successful sale of young Shorthorns was held at Campbellcroft, Ont., on March 18th, under the auspices of the Central Ontario Pure Breed Stock Association. While no sensational prices were paid the average of nearly \$66 was considered fairly satisfactory by the contributors. Among those present was Mr. Henry Wade, Toronto



Scotch Shorthorns

Imported and Canadian Bred Shorthorns. Imported bulls, cows and heifers of the best families, bred headed by Rapson Ch. scollar 1st and Vicover, bred by Lord Lovat.

Large White Yorkshires

A choice lot of boars ready for service, direct from stock of the best herds in England. Also young pigs and sows bred or old enough to breed.

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Importer and Breeder of Scotch Shorthorns and Large White Yorkshires.

Maple Lodge Stock Farm

Scotch Shorthorns, Choice Milking Strains, Prize Winning Leicesters, Young Stock for sale—imported and home bred.

A. W. SMITH, Maple Lodge P.O., Ont.

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FOR SALE

Ayshire Bull Calves
From one to five months old. From good milking strains. **Chas. S. Aylwin, Freeman, P.O., Burlington Station, Ont.**

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Will buy a trained Collie dog \$7 five months old with full pedigree. Reason for selling have sold my farm. He is a beauty. Write for description.
W. J. Derbyshire, Havelock, Ont.

Champion Berkshire Herd of Canada

(Headed by the 1000-lb.)

SILVER MEDAL CHAMPION BOAR OF CANADA

(and other noted Prize Boars)
I was awarded the above honors, besides 10 other prizes, at the late Toronto Exhibition. The great growth and size of my boars, at the different ages, was freely complimented on by the best judges, many of whom assured me such size had never been seen before, and I think I had the HEAVIEST HOGGS on the grounds of ANY BREED in almost every class, and at every age. I have a grand lot of young boars, ready for service, young sows bred to prime boars, and young pigs from my best prime sows and boars, all for sale very reasonable. Come and see them, or send for pictures of my winners, showing part of the group that won at Toronto. W. H. DURHAM, York Lodge, East Toronto P.O., Canada.

Canadian Horse Show

The Canadian Horse show and military tournament to be held on April 29 to May 2nd, promises to be a great success. The entries are coming in well and a splendid showing of horse flesh is expected. Friday May 1st will be farmers' day when the events will be of more interest to the agriculturist than on the previous days.

Mr. L. W. Paisley, Secretary of the British Columbia Live Stock and Dairyman's Association has been in Ontario during the past

STOCKMEN

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DAVID McCRAE, Janesville, Guelph, Canada. Importer and Breeder of Galloway Cattle, Clydevale Horses and Cornwell Sheep. Choice animals for sale.

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PURE BRED STOCK

I have for sale 4 Ayshire Bulls, 2 Pure Bred Shorthorn Heifers, coming one year old; 1 Shorthorn Bull, two years old; Choice Yorkshire Boar, one year old; Yorkshire Sows and Boars, from four weeks to six months old; these animals are of choicest breeding. Will be sold cheap to quick buyers.

JOHN H. DOUGLAS, Warkworth, Ont.

few weeks purchasing live stock for British Columbia breeders and ranchers. He expects to take back twelve car loads. The shipment will contain some draft horses but principally cattle and sheep.

Likes the Change

There has been a great change in our welcome visitor, "The Farm and Home," but it is an agreeable change, for the paper as it is to-day is without doubt the best farm journal coming here for the money. Its columns are full of spicy news boiled down. The type is also much improved.—C. E. W., Vernon, B.C.

Shorthorns in New Brunswick

As has been previously mentioned in this paper, the Agricultural Agent of the Canadian Pacific Railway, Mr. W. W. Hubbard, has been devoting considerable attention to the improvement of live stock conditions in the Province of New Brunswick, and arranged for an auction sale at Woodstock on the 27th Match last.

Much interest was taken throughout the province in this sale and prominent farmers from all parts were present when auctioneer George Jackson, of Port Perry, Ont., opened the sale. John Bright of Myrtle, Ont., was present to look after the interests of the consignors to the sale.

The bidding was spirited from the start and a considerable number of men who wanted bulls went home without them.

Herewith we give the list of consignors and purchasers:



Mr. W. W. Hubbard, C. P. R. Agricultural Agent.

Jas. Leask, Greenbank, Ont., bull, 11 months, Albert Deyone Red Rapids, \$80.

Geo. Leach, Myrtle, Ont., bull, 16 months, Dr. Dundas, Hoyt Station, \$115.

W. M. Young Bros., Whitty, bull, 22 months, J. A. Humble, Stanley, \$105.

W. M. Young Bros., Whitty, Bull, 14 months, W. J. McLaggan, Blackville, \$110.

John Bright, Myrtle, bull 8 months, Frank Slipp, Jacksonville, \$105.

John Bright, Myrtle, cow, 10 years, J. A. Humble, Stanley, \$110.

Chas. Calder, Brooklin, bull, 17 months, David Curry, Andover, \$125.

Chas. Calder, Brooklin, Bull, 22 months, B. Sandson, St. Hilaire, \$120.

Chas. Calder, Brooklin, Bull, 23 months, H. H. McCain, Florenceville, \$75.

R. Holthy, Manchester, bull, 14 months, Ernest Halen, Pembroke, N. B., \$105.

A. W. Smith, Maple Lodge, bull, 14 months, W. H. DeVeber, Woodstock, N. B., \$75.

Wm. Bright, Raglan, bull, 7 months, W. L. McPhail, Bon Accord, \$80.

John D. Howden & Son, Whitty, bull, 13 months, Albert Deyone, Red Rapids, \$125.

W. G. Howden, Brooklin, bull, 18 months, John A. Little, Harvey Station, \$120.

W. G. Howden, Brooklin, bull, 13 months, David Curry, Andover, \$125. John Bright, Myrtle, cow 3 years, C. L. Smith, Woodstock, \$85.

John Bright, Myrtle, cow, 5 years, Dr. M. Dundas, Hoyt, \$135.

14 Males sold for \$1,465 or \$104.64 ea.
3 Females sold for 330 or 110.00 ea.
17 Head sold for 1,795 or 105.59 ea.

It is likely that another Shorthorn sale will be arranged for by private enterprise before many months. The St. John Valley is a magnificent stock country and the liberal introduction of good Shorthorn blood must make for improvement.

Orchard Meetings in New Brunswick

The New Brunswick Department of Agriculture is most anxious to assist in developing the fruit growing industry in that province and will this spring conduct a series of orchard meetings.

Mr. Alex. McNeil, of the Fruit Division of the Dominion Department of Agriculture, has been instructed by Prof. Robertson to assist the New Brunswick Department in this work and will go to New Brunswick about the middle of April. Meetings will be held as follows:

April 20, Fredericton, I. Peabody's orchard.

April 21, Andover.

April 23, Florenceville, H. H. McCain's orchard.

April 24, Woodstock, C. L. Smith's orchard.

April 25, Harvey Station.

April 27, Westfield, F. W. C. Nase's orchard.

April 28, Sussex.

April 29, Hillsborough.

April 30, Shediac, Geo. J. Welling's orchard.

May 2, Lower Gagetown.

May 4, Upper Jemsey.

May 5, Upper Sheffield, Isaac Stephenson's orchard.

A first-class spraying outfit will be taken to each meeting and practical illustrations of mixing spraying mixtures, application of spray, pruning and grafting will be given. Wherever possible, evening meetings will be held and full discussions on fruit-growing conducted.

Very much of New Brunswick and especially the St. John River Valley, is well adapted to the growth of apples, pears and the hardier stone fruits. There is no good reason why this valley should not export many more apples than does the infinitely smaller Annapolis Valley and the Provincial Government is making a move in the right direction when it tries to stir up an interest in greater fruit growing knowledge and better practices.

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Works well both on stacks and in barns, unloads all kinds of grain, chaff, hay, straw, etc., without loss or in chaves.

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For 50 cents a gallon can be made as follows:

Absorbine, 4 ounces
Vinegar, 1 quart
Water, 3 quarts
Saltpetre (powdered), 1 ounce

This combination will prove satisfactory and successful for curing Bruises, Strains, Gouty Galls, to loosen the shoulders for work horses; it will reduce Swollen Ankles, Bad Tendons, and all kinds of troubles where liniment would be generally used. Buy by the name.

ABSORBINE

at the store, or send to the manufacturer, W. F. YOUNG, P. O. F., SPIRITVILLE, MASS., or to the Wholesale Distributors, A. E. C., who will send it prepaid upon receipt of \$1.00 for a bottle. The makers ABSORBINE will make three gallons of liniment or wash as above formula. Write for a bottle and the free booklet giving formula of Veterinary Remedies.



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—and—
CANADIAN FARM AND HOME.

J. W. WHEATON, B. A. Editor

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QUESTIONS AND ANSWERS

RELATIVE VALUE OF FOODS

I found this comparison of foods in an almanac: 100 lbs. of hay are equal to any one of the following:—275 lbs. green Indian corn, 400 lbs. green clover, 442 lbs. dry straw, 360 lbs. wheat straw, 164 lbs. oat straw, 180 lbs. barley straw, 153 lbs. pea straw, 200 lbs. buckwheat straw, 201 lbs. raw potatoes, 175 lbs. boiled potatoes, 339 lbs. mangel wurtzel, 504 lbs. turnips, 300 lbs. carrots, 54 lbs. burley, 54 lbs. rye, 46 lbs. wheat, 59 lbs. oats, 45 lbs. peas and beans mixed, 64 lbs. buckwheat, 57 lbs. Indian corn, 105 lbs. wheat bran, 167 lbs. wheat, pea and oat chaff, 59 lbs. linseed cake. Is it correct?—E. G. G., Murray River, P.E.I.

The table of the comparative value, of feeding stuffs given above is not to be found in any of the standard works on cattle feeding, nor am I able to conjecture on what basis the comparison has been made. It has certainly not been made on the total dry matter in the foods, nor on their protein content. For certain purposes, foods may be compared according to their heat-producing or energy-producing value in the system, but the figures submitted have not been computed from such values. The data are manifestly incorrect, and could not be used in comparing ratios.

As I have indicated, there are several standpoints from which foods may be compared, but it is evident from an understanding of the principles of nutrition that there is no one basis which would allow us to assign what might be termed substitutional values. The body requires not only heat-producing nutrients, but also compounds that may serve to build up and repair the waste of tissue, muscle, bone, blood, milk, etc. Thus, a certain amount of nitrogenous nutrients (protein) is daily required by the animal and no amount of carbonaceous elements (starch and fat) can take their place. We know

that butter (fat) for instance, cannot replace meat (or some other form of protein) in our daily food; and the same is true in principle for farm animals. It is true that all cattle foods contain both body-building and heat-producing nutrients, but the proportions differ so widely in the various cattle foods that we cannot with economy and with a due regard to the preservation of the health of the animal, entirely substitute one food for another. A properly-balanced fodder necessitates not only a due proportion of the various foods, but also a certain bulk for digestion and assimilation to proceed normally.—Frank T. Shutt, Chemist, Experimental Farms, Ottawa.

THE AGRICULTURAL USE OF SAWDUST

Is sawdust any good to mix with barnyard manure for the land?
H. A. W., Kent Co., N.B.

The very best use of sawdust on the farm is as a litter, its high absorbent qualities, when first dried by exposure to the air, making it especially valuable for this purpose. Either with straw alone, it serves to keep the animal clean, dry and comfortable and prevents the loss of much valuable liquid manure.

Sawdust does not contain much plant food, and we should doubt the economy of making a special compost of it with barnyard manure, but by its employment as we have indicated, in the stable, cow house, and pig pen, and the subsequent fermentation of the manure therefrom, such elements of fertility as it contains will be liberated in available forms. In this connection we should state that owing to its open, porous character it should not be allowed to rot with horse manure alone in the heap, as thereby much of the nitrogen of the latter might be lost through excessive fermentation.

It has been stated that manure made when sawdust has been used as a litter will injure the land, but enquiries made by the writer from several who have for many years been applying such to their land does not elicit any such testimony. No doubt, heavy applications of sawdust would injure certain soils, but there seems to be ample testimony that sawdust manure, such as we have been speaking of, can be used repeatedly, both on heavy and light loams with the very best results.

Frank T. Shutt,
Chemist, Dom. Expl. Farms.

A STIFLE OUT

I have a two-year-old colt with a stifle out. It slips in and out as the colt walks, and has been that way from birth. It blistered many times last fall, but it did not do any good. The colt is growing fast.—G. F., Port Rowan, Ont.

This trouble in the young colt is due, probably, to a weakness of the ligament or to imperfect development of the bones forming the joint. The colt, being young, might overcome this weakness. We would advise good hand rubbing and a mild blister occasionally. When hot weather comes pour, or, if you can, pump cold water on the joint twice a day, continuing the pouring for half an hour at a time. Sometimes fully-developed horses have stifle put out by accident or otherwise, when it may be pulled in by a simple mechanical device. But in the present case the trouble is due to weakness or imperfections in the parts that keep the bone in place.

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BARREN COW

I have a three-year-old cow. She had a calf one year ago, but has never come in season since. What can be done to bring her in season?—A. Mc., Ross William, Ont.

A cow so long coming in season as the above, has doubtless met with some injury to her generative organs. Often cows in this condition have a twin calf left in the uterus. This would prevent her coming in season. We would advise an examination by a competent veterinary surgeon in order to find out what the trouble is. If the cow is not worth going to this expense, better fatten her for the block.

PIGS WITH SCURFY SKINS

I have a number of pigs with rough scurfy skins. What can I do for them? They feed and grow well, but look bad in the hair.—G. B., Cumberland Co., N.S.

The trouble is due to bad digestion and not to a variety of food. Give green food or roots of some kind. Also look to the sanitary condition of the pen. Pigs to be healthy must be kept clean and the air pure. A little hypophosphite of soda in the food will do good. Do you feed salt, charcoal or anything that will aid a pig's digestion?

ABORTION

Can you tell me how to stop abortion in a herd of cows without going to the trouble of treating each individual separately? How long is it likely to stay in a herd if there is nothing done to stop it?—F.R.J., Halton Co.

We know of no method such as you suggest. Abortion sometimes dies out spontaneously on cows, but remains to the germ, but infects each new cow placed in the herd. In most cases, however, it takes from one and a half to three years to get rid of the disease by the best of treatment.

HORSE SCOURING

Can you tell me what is the matter with my horse and how to cure it? He is healthy and high lived, but when I drive him on the road the first few miles he will be scouring. I feed him good timothy hay and oats mixed with a little wheat.—W. A., Grey Co.

Quit feeding wheat, and always allow drinking water before but not after feeding. Mix in feed twice daily a tablespoonful of a mixture of equal parts ground ginger, hydrastis canadensis, wood charcoal and bicarbonate of soda. Strain it as it may appear the feeding of carrots often stops this trouble, and where it persists we find that mixing browned wheat flour in the food proves effective. See that horse stands in a clean, well-ventilated stable, and that the water is pure and not very hard from lime. If it is quite hard then change to rain water.

About Rural Law

FARMER AND HIS HELP

Q. I had a man hired for a year. After the expiration of the year he still worked on without any new arrangement. 1. Can I discharge him at any time during the second year without giving him any notice, and what wages can he collect during the second year? 2. If I need improper language to him, and insulted him, and in consequence he left me, could he collect any damages from me, and if so how much? 3. If I imposed on

him in performing his work could he leave me without giving any notice without being liable in damages? 4. How should a servant be discharged so as not to render the master liable for damages? 5. If my servant should get sick, or injured while in my employ, could he collect his full wages during the time he was not able to work? 6. If my servant complains that my work is too heavy for him and is injurious to his health, can he leave me at any time without rendering himself liable in damages, and if not how much damages will he have to pay? 7. If my servant wishes to leave me at any time during his second year without my giving him any cause, how should he proceed so as not to be liable to me in damages? 8. Can he compel me to keep him till the end of the second year, provided he does his work satisfactorily? 9. If I had a man hired by the year, and by the contract was to be furnished a house and other privileges, and I discharge him without just cause, can he still occupy the house until he finds some other place to live, without paying me rent, and can he collect wages or expenses of me while he is hunting work?—Subscriber, Clinton, Ont.

ANSWER. 1. You cannot discharge him without giving him any notice. You must give him reasonable notice. If you paid him by the month, probably a month's notice would be sufficient. 2. Certainly three months' would. You would have to pay him the same wages as before. 3. If he left you he could not get damages. 4. It would depend on the nature of the imposition. It might be sufficient to justify his leaving, and if so you could not get damages. 5. You should give him notice to quit at the end of a certain time. The length of the notice would, of course, depend on the nature of the contract. 6. It would depend on the nature of the contract, and of the illness. The illness of the servant might justify you in dismissing him. If he got hurt he might have an action against you for damages. 7. He cannot leave you without due notice. The damages would be for the jury to assess according to the circumstances of the case. 8. He should give you notice in the same way that you should give him notice should you wish to discharge him. 9. No. 10. He has no right to continue to occupy the house. Should you put him out, however, the rental value of the house would probably be added to the amount of the damages which he could recover. The amount

HOLSTEINS.—For sale, clean, two young bulls and two heifers. S. E. SMITH, Dundas, Ont.

FOR SALE.—DeLaval Separator, 800 lbs., used but few months and in very best order, \$50 S. W. GRANT, 20 Wellington Street West, Toronto.

BUFF ORPINGTONS.—I have a fine pen of birds including a grand cockerel, Ken's strain eggs, \$2.50 per lb. W. H. BIGGAR, Trafalgar, Ont.

BLACK MINORCA'S AND BUFF WYANDOTTES, winners at Toronto, Ottawa, Guelph, Egg, Red, & Minorca, \$1 and \$2 setting. WM. MOEBUS, 11 Burt St., Toronto.

DAVID G. HUSTON, of Shanawaville, Ontario, who has had fourteen years' experience, has secured the best pens of the following varieties: Barred Plymouth Rocks, Single Comb White and Buff Leghorns, and Black Minorcas \$1.50 for 15 eggs; Pekin Ducks \$2.00 for 15. His strain is A. No. 1 in every respect.

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WHITE AND SILVER WYANDOTTES; best for quality and vigor. W. D. MONKMAN, Bond Head, Ont.

BARRED ROCKS, WHITE WYANDOTTES, BLACK MINORCAS, also SS. MOTHERAL & SON, Drumbo, Ont.

EGGS from Cook's Buff Orpingtons, imported direct from England, \$2.00. Utility stock, \$1.50. Circular, S. W. D. FRITH, Winchester, Ont.

FOR SALE.—Shorthorns, Canswells and Barred Rocks. Young stock always on hand. Show stock available. MRS. HALL, BOWS, Whitby, Ont.

FARM FOR SALE CHEAP.—In Township of Bedford, Brant County, 100 acres, or will rent if you desire. Catalogue of farms. S. G. REED, Brantford, Ont.

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EGGS, from choicest "utility" and "fancy" strains, Brown Leghorns, Black Minorcas, Barred Rocks, White Wyandottes, Canswell's eggs, parkies, etc. JOHN FETTER, Freeland, Ont.

SHORTHORNS AND LEICESTERS. Young Stock of both sexes for sale, also my stock Bull Imp. Canswells' BISS for sale. JAMES DOUGLAS, Caledonia, Ont.

FOR SALE.—Universal Stock Food, saving Farmers 25 per cent of their Corn, Oats, and other Feed; also our Stock and Wilding systems for our Great Free Trial Offer, mention how much stock you own, and we will send you UNIVERSAL STOCK FOOD CO., Guelph, Ont., Canada.

EGGS from Ford's mammoth broods turkeys, Buff and Golden Laced Wyandottes, will hatch you winners. We produce the best Wyandotte eggs from the same stock we set eggs from ourselves. Turkey eggs, \$2.00 each. "Plymouth" eggs, \$1.50 per setting. \$2.00 per setting of 15. JAS. FORD & SONS, Drayton, Ont.

WANTED.—Energetic, responsible man to sell fruit trees, ornamental trees, etc. Canvassing could free. Liberal terms. Catalogue and terms sent upon request. We also have a special line of seed potatoes never before offered for sale in Canada. For best terms apply NOW. FELHAM NURSERY COMPANY, Toronto, Ont.

BUFF PARTRIDGE COCHINS, Light and dark Brahmas, Langshans, Barred White Rocks, Golden, Silver, Buff, White Wyandottes, White, Brown, Black Leghorns, Black Minorcas, Spanish, Silver Dorkings, Houdans, Silver Spangled Hamburgs, Palmdes, Game, Pekin, Roman, Wyandotte, Cayuga Ducks, eggs \$1.00 setting. K. LAURIE, Wolferton, Ont.

LOOK HERE.—Eggs from my best imported pens of Barred F. Rocks, White Wyandotte, Game winners, guaranteed pure Hawkins, Royal Blue strains, quality unsurpassed, \$5.00 single setting or \$2.00 for two settings. Write for prices, orders and get something good. Address, M. J. FIELD, Wellington Poultry Yards, Simcoe, Ont.

IMPORTED BUFF ORPINGTONS.—Another important just arrived, cockerel costing \$50.00 a pair. Oranges and Lemons both \$1.00 per lb. \$2.00 per lb. Canadian bred also, Buff \$2.00 per lb. A few good Cockerels left. Also brooder of registered Bluebirds, shrikes and Robins, very superior and get something good. Address, M. J. FIELD, Wellington Poultry Yards, Simcoe, Ont. Write for catalogue and breeding standard.

PINE HILL POULTRY YARDS has been getting fine lot of imported stock and is better prepared than ever to fill orders on the following varieties: Buff and W. Rocks, S. L. and W. Wyandottes, S. G. Dorkings, and B. and B. Rocks. Also, \$1.00 per lb. Pekin Ducks eggs \$1.00 per lb. M. Brown Turkey eggs \$2.00 per lb. Turkeys, \$2.00 each. Eggs \$2.00 each. Also all small or large orders on short notice. D. A. GRAHAM, Thessalon, Ont.

VALUABLE RESIDENTIAL FARM PROPERTY FOR SALE. 188 acres on bay shore adjoining Owen Sound. The following varieties: Game, 100 acres of the land, 20 acres of hardwood, 5 acres of mixed fruit, water supply, fencing, under-drainage, and local roads. The property is well located in Ontario. An Owen Sound is making the property a desirable one. Write for particulars in value. It will be sold this spring. Terms: one-half cash, balance to suit purchaser. For further particulars apply to W. MORRISON, Rippen Park, Owen Sound, Ont.

of wages which he would have earned during the time he is looking for work had you not discharged him would also be added to the amount of the damages.

VILLAGE SIDEWALKS

Q. I live in an unincorporated village; I own the house in which I live. The lot on which the house is built has a frontage of ten rods on the street. I have planted a row of shade trees on the street in front of my lot and have graded and seeded the roadside, and this forms the sidewalk at this point. The roadway, owing to neglect, becomes soft in the spring, and the driving public turn in on the grass, and the traffic being heavy the grass is cut up and walking made difficult. 1. Can I prevent the public from driving on the sod? I have also built two culverts to my gateway. 2. Are these culverts public or private property? 3. Are the rights of pedestrians to be ignored by the driving public? 4. Would I be justified in asking the township council for damages, the other sidewalks in the village being maintained by townships. aid—J. H. B., Bridgsmorth, Ont.

A. 1. The township council can pass a by-law setting apart a certain portion of the street as a sidewalk, and preventing the driving of vehicles or cattle, etc., thereon. In the absence of some such by-law by the council you could not prevent driving on the sod. You have no right to control the traffic on the matter. 2. They are private property in the sense that you could remove them if you liked; public in as much as the council could order their removal. 3. Pedestrians and vehicles have equal rights on the street. If there be a by-law against it vehicles must not drive on the sidewalks. 4. You could not get damages from the council.

Protect Your Trees

Eternal vigilance must be the watchword of the fruit-grower. He must assist nature by protecting his trees from the ravages of destructive pests. Spraying is an aid to this, and has helped the fruit-grower very much indeed. A new invention that has come into prominence the past year or two is the Expansive Tree Protector. This is in the form of a band saturated with an insecticide, placed around the trunk of the tree. As the insect ascends it comes in contact with the poison and its career is ended. The inventor of this protector claims that it will destroy or prevent 85 per cent. of the insects that injure fruit and trees from carrying on their work. A great many of them have been sold both in Canada and the United States, and where properly applied are reported to be giving good satisfaction. Mr. R. L. Huggard, in charge of the Ontario fruit experiment station at Whitby, writes regarding last year's experience with the tree protector, as follows:

"Owing to so much wet weather at the time of hatching, there were not nearly so many insects as usual, and but very few of our apples were wormy when harvested, but on some greenings, four of which were banded and two were not, there were nine wormy apples in half a bushel promiscuously gathered off the trees that were not banded, showing conclusively to my satisfaction the benefit of banding trees."

New Ontario Settlers

THE VETERANS' LOCATING AND COLONIZATION ASSOCIATION

COLONEL L. BUCHAN, C.M.G., President. MAJOR WILLIAM HENDERIE, JR., Vice-President.
MAJOR DONALD M. ROBERTSON, Secretary-Treasurer.

Having explored and examined the lands in New Ontario in the settlement of Veterans, we are now selecting farms for intending settlers who procure lands from the Government either by free grant or by purchase.

The Association has examined all the lands opened for settlement in Temiscanage and Rainy River.

Apply for particulars to DONALD M. ROBERTSON

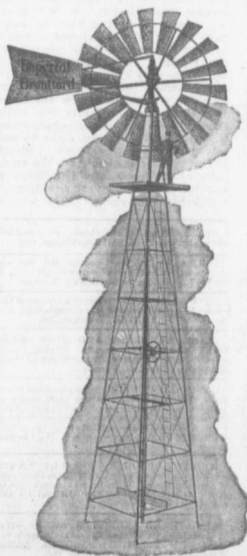
Canada Life Building, Toronto



That label is only put on the best paints made—Ramsay's Paints. We make them and guarantee them for value, strength, beauty, durability and economy.

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A. RAMSAY & SON, Paint makers, MONTREAL, Que., Can.



BRANTFORD Galvanized Steel WINDMILLS

For Pumping and Power.

MAPLE LEAF Grain Grinders

Iron and Wood Pumps, Tanks, Etc.

Goold, Shapley & Muir Co., Limited
BRANTFORD, CANADA

The Canadian Produce Markets at a Glance

The highest quotations of wholesale prices for standard grades of farm produce in the leading markets on the dates named. Poorer stuff lower.

Date	Toronto		Montreal		St. John		Halifax		Winnipeg		Victoria	
	10	11	10	11	10	11	10	11	10	11	8	
Wheat, per bushel.....	\$ 0 69½	\$0 70	8	8	8	8	8	8	\$ 0 73½	\$0 70*	\$27 00*	
Oats, per bushel.....	31½	35	43	44	44	44	37	37	25 00*	25 00*		
Barley, per bushel.....	45	43	50	50	50	50	36½	36½	29 00*	29 00*		
Peas, per bushel.....	62	68	75	78	78	78	55	55	35 00*	35 00*		
Corn, per bushel.....	41	53	58	58	58	58	40	40	23 00*	23 00*		
Flour, per barrel.....	4 80	3 55	4 80	4 65	4 65	4 60	4 00	4 00	.....	.....
Beans, per ton.....	17 00	19 00	23 00	22 50	22 50	15 50	15 50	19 00	.....	.....
Shorts, per ton.....	18 50	21 00	24 00	24 50	24 50	17 50	17 50	21 00	.....	.....
Potatoes, per bag.....	1 00	1 00	2 00	1 80	1 80	65	80	.....	.....	.....
Beans, per bushel.....	1 80	1 85	2 00	2 05	2 05	.....	3 00	.....	.....	.....
Hay, per ton.....	9 00	9 50	.....	10 35	10 35	5 50	9 50	.....	.....	.....
Straw, per ton.....	5 00	.....	8 00	8 00	8 00	.....	12 00	.....	.....	.....
Eggs, per dozen.....	12	12½	12	12	12	14	20	.....	.....	.....
Chickens, per pair, d. w.....	1 00	1 00	1 50	1 40	1 40	13*	75	.....	.....	.....
Ducks, per pair, d. w.....	1 00	1 00	1 50	1 50	1 50	.....	75	.....	.....	.....
Turkeys, per pound, d. w.....	17	20	16	16	16	.....	.....	.....	.....	.....
Geese, per pound, d. w.....	11	12	.....	12	12	.....	17	.....	.....	.....
Apples, per barrel.....	1 75	.....	2 75	3 00	3 00	4 50	1 75	box	.....	.....
Cheese, per pound.....	14	13½	14	14	14	20	.....	.....	.....	.....
Butter, creamery, per pound.....	25	24½	25	24	24	30	.....	.....	.....	.....
Butter, dairy, per pound.....	19	20	22	21	21	20	.....	.....	.....	.....
Cattle, per cwt.....	4 85	5 00	4 75	4 75	4 50	6 00	.....	.....	.....	.....
Sheep, per cwt.....	4 75	4 00	7 00	7 00	7 00	6 25	.....	.....	.....	.....
Hogs, per cwt.....	6 12½	6 50	7 00	7 25	6 00	7 00	.....	.....	.....	.....
Veal Calves, per cwt.....	5 50	5 00*	8 10	8 10	8 10	.....	7 00	.....	.....	.....

* Per ton; † per lb.; ‡ each.

Our Fortnightly Market Review

The Trend of Markets—Supply and Demand—The Outlook

Toronto, April 13, 1903.

The conditions of wholesale trade generally in Canada were never better than they are at present. The scarcity of skilled labor has led to an increase of wages in many large manufacturing concerns. Since the beginning of 1903 there has been a decrease in the number of failures in Canada as compared with the same period of last year. Manufacturers have little surplus stock on hand and the outlook is hopeful. The money market continues about the same.

Wheat

Only about four months remain before the new crop of wheat is expected. This is having some effect upon the market. India, Russia and the Argentina are beginning to export largely, and European markets are not so dependant upon the United States and Canada for supplies. The winter wheat crop so far looks well, though it is not past the danger point yet. Locally the market remains about the same. Red and white are quoted at 60 and 69 1-2c., goose at 63 to 66c., and spring at 68 to 69c., at outside points.

Coarse Grains

There is a good demand for oats for export at Montreal, via Portland, otherwise the market for coarse grains is quiet at quotations.

Seeds

There seems to be a good steady trade in seeds. At Montreal, Alsike is quoted at \$13 to \$15, and red clover at \$12 to \$14.50 per cwt., and timothy at \$2 to \$3, and flaxseed at \$1.70 per bushel. At Toronto, clover and Alsike are a little easier. The prices for re-cleaned seed per bush, are red clover, \$3.70 to \$7.80; Alsike, \$4.80 to \$8.50, and timothy, \$1.50 to \$2.75, as to quality and quantity bought.

Eggs and Poultry

While there has been an active demand for the Easter trade, prices did not advance any. Stocks on hand have not been large, but receipts have been heavy. Prices have ruled about 12c. in large lots.

Wool

The wool season will soon be here, and farmers will be looking for some signs of better prices for their product. The condition of the wool trade remains very much the same, fleece being in small stock and pulled not in very great demand. In the States buying is reported to have almost ceased. From a statistical standpoint the wool situation has not been stronger than now for years, but at the same time the actual demand was seldom lighter.

Live Stock

Receipts of live stock at Toronto Cattle Market during the past week have not been large and trade has

ruled rather brisk, everything being bought up. The quality of the fat cattle offered has only been fair. Owing to a short supply of exporters, this class advanced to 15c. per cwt. and some of the best butchers' stock have been taken for export thus causing a scarcity in choice butchers, which advanced also. Thursday of last week, previous to the holiday, was the best market since Christmas. The best exporters sold at \$4.75 to \$4.85, and the bulk at \$4.50 to \$4.75 per cwt. Two picked lots sold at \$5 per cwt. Feeders and stockers are in good demand. Short-cut feeders, 1,100 to 1,150 lbs each, are worth \$4 to \$4.35, and lighter ones, 900 to 1,000 lbs each, are worth \$3.50 to \$3.80 per cwt. Stockers sell all the way from \$2.75 to \$3.75 per cwt as to quality and weight. Milch cows bring from \$35 to \$50 each, and veal calves sell readily at table quotations.

Sheep and lambs have been in light supply with prices firm at \$4.25 to \$4.75 per cwt. for export ewes, and \$3.50 to \$4 for bucks. Yearling grain-fed lambs sell as high as \$6 to \$6.50 per cwt.

The supply of hogs has been light but prices have dropped 5c. since our last report, and quotations last week were \$6.12 1-2 per cwt. for selects, and \$6 for lights and fats.

Horses

Trade in heavy and general purpose horses has never been as good at Grands. Everything offered is sold at good prices. Prices are keeping up though there is no advance over a week or two ago. The quality is not what it was a couple of weeks ago. Good horses sell at from \$140 to \$200 each. Farmers are buying for immediate use horses at from \$50 to \$125 each. Drivers have been somewhat slow, but it is expected that this week will see an improvement in this respect.

Winnipeg Markets

The only noticeable feature in Western Canadian trade, so far as agriculture is concerned, is the reopening of the grain trade. The near approach

CELLULOID



A Laundry Finish At Home

CELLULOID STARCH

will give your linen a finish
equal to the best laundry work

Full directions with every package. Your
grocer sells it—ask him for it.

STARCH

A. E. AMES & Co.

BANKERS

18 KING STREET EAST, TORONTO

Members of the Toronto Stock Exchange

INVESTMENT SECURITIES

Specially selected for conservative investors, and netting from 3½ to 6¼ per cent.

Allow 4 per cent. Interest on Deposits.

Issues Foreign and Domestic

LETTERS OF CREDIT

For the use of travellers, available in all parts of the world.

It is Worth While

investigating the advantages offered to settlers on the **CROWN LANDS IN NEW ONTARIO**. The climate is all right; the land is rich and well watered; railways serve each district opened for settlement, and the local market for timber, in most cases, enables the cost of clearing to be more than met by the crop of trees now on the land.

If You have any Curiosity

as to Ontario's advantages in this regard, and desire to better your position, write for information to

HON. E. J. DAVIS

Commissioner of Crown Lands, TORONTO, ONT.

SMALLPOX IN WALL COVERINGS



In these days when small-pox is so prevalent, the question of how we shall decorate the walls of our homes and insure a healthy condition is one of great moment.

PHYSICIANS ALL AGREE that wall paper with its poisonous coloring matter and mouldy paste is unsanitary; that it affords an elegant opportunity for bacteria to thrive. This is evident not only from what they say, but from the fact that the walls of hospitals are never papered.

ANOTHER POINT. Scourst-ones all tell us that the walls of a room to be healthy must be so that wall paper and calcimine obstruct wall ventilation.

THE BIG POINT IS that **Church's Cold Water ALABASTINE** has none of the disadvantages of either paper or calcimine, but all the advantages of a

pure, porous, cement-like wall-coating that hardens with age, and can be recoated as often as is necessary to renew.

With **ALABASTINE** the most beautiful effects can be produced; anyone can do plain tiling.

All dealers sell **ALABASTINE**.

We send to any Lady Iron, who asks for it, "THE HOUSEKEEPER'S REMEDY," Address,

The ALABASTINE CO., Limited, PARIS, ONT.

limited supply and there is a very active demand for this article at 19 to 20c. The market for both butter and cheese will rule high for the next week or two, after which the increased supply will bring prices down to a safer level.

There is practically nothing doing in New Brunswick in hay, but Nova Scotia has quite a quantity yet to dispose of. Dealers are still asking \$10 and better, in car load lots, but the feeling is undeniably weaker than two weeks ago. There has been no activity in oats for some time. Stocks are entirely Western, and are held here at 4½c. P.E. Island oats, stored at Charlottetown, are being offered at 34c., f.o.b.

There is not much demand for potatoes, nor are stocks at all large in the hands of producers. Should there be anything like the usual spring demand, it is difficult to say how it can be satisfied, but dealers seem to be provided for rather better than usual. Some green stuff from local hot houses has already made its appearance.

PUBLISHER'S DESK

That the steadily-increasing attractiveness of The Farming World is meeting with the appreciation alike of our readers and advertisers is amply demonstrated by the many kindly letters we have lately received. We take this opportunity of sincerely thanking these friends, and would say that arrangements are under way to still further improve the paper in every manner to the appearance and value of the paper. Our one aim is the production of a paper which, from every possible standpoint, will easily take its place in the very front rank of similar publications on this side of the Atlantic.

As will be seen from the advertisement on another page, Messrs. Watson, Laidlaw & Co., of Glasgow, Scotland, have placed a cream separator of their manufacture on this market, through their local agents, Messrs. Arnott & Co. For over thirty years this firm has been engaged in the manufacture of all manner of centrifugal machinery, which would augur well for the class of machine Messrs. Arnott will handle. The makers claim for their separator that it is easier to run than any other machine on the market; that it will cost less for repairs; and that being less intricate, it is more durable, while, so far as skimming ability is concerned, its work is all that could be desired.

The Magnet Separator many of our readers must know, not that it has been largely advertised—for it has had practically no advertising at all—but for the reason that there are so many of them in use throughout the Dominion. There are very few articles of any kind which can attain, unaided by judicious advertising, the popularity possessed by the Guelph machine. This fact is probably the highest recommendation possible. Previously, the Magnet has gone quietly ahead building up a splendid business on its merits, and the works have been enlarged very considerably to meet a heavy and steadily-increasing demand.

Our readers all know Messrs. Steele, Briggs & Co.—for that firm's name is a household word throughout Canada—and behind that name stands the unassailable reputation of many years, for upright, honest dealing. Attention is directed to ad on front cover.

Bug Death

**Kills the Bugs.
Feeds the Plant.**

Can be used dry—mixed with water and sprayed on the vines, or used with Bordeaux Mixture.

It Pays Anyway.

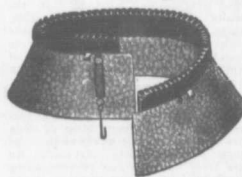
We guarantee the EXTRA YIELD more than pays for cost of BUG DEATH. Send for free booklet with full information.

BUG DEATH CHEMICAL CO. Ltd.
ST. STEPHEN, N. E.

Pat. in Canada, U.S.A., & U.K. JUNE 20, 1910.
400-FORBUSH, PREVENTS RUBBER.

THE EXPANSIVE TREE PROTECTOR

Has been on the Market for Three Years
TESTED AND APPROVED
Recommended by Park Commissioner John Chambers, of Toronto;
H. L. Hoggard, Central Experimental Station, Whittby, Ont.



It works while you sleep. Always on guard. It expands with the tree. Will not tear, break loose, or run out.

It is durable, will last for years, making it cheaper to use than any home-made device.

It both repels and kills. No crushing or burning of insects.

It is hooked around the tree; no nailing or defacing. Once put on it stays. It works automatically. The "Insecticide" with which the band is saturated meets every demand for relief.

Send for Full Set of Circulars
AGENTS WANTED GOOD PAY

DO NOT BE DECEIVED BY IMITATIONS AND INFRINGEMENTS
EXPANSIVE TREE PROTECTOR CO. OF ONTARIO, LIMITED
Cor. Jarvis and Richmond Streets, Toronto, Ont.

New Ontario Settlement

For more than a year the Veterans' Locating and Colonization Association of Toronto have been engaged in the work of exploring lands for the settlement of Veterans in New Ontario. The Temiscamingue District, in which some 500 Veterans were located by the association, is remarkably fertile and offers great possibilities to settlers. There will be a great rush of Veterans to this district as soon as navigation opens; in fact, many have gone up already to take possession of the claim located for them by the association. The village of New Liskeard, which is situated at the head of the lake, is the principal point of the district. It is a thriving village, having a chartered bank and a number of stores. During the past year over \$500,000 was paid out in the district by lumbermen operators. In this section bricks are being manufactured on an extensive scale, which are used in the building of houses and stores. The explorers of the association have been through and examined all the surveyed lands in this district and have completed the location of Veterans on all the lands now open. The Rainy River Valley has also been fully explored and a large number of settlers are daily coming in from the United States. The land in this section is also very fertile and offers great advantages to incoming settlers. Farmers intending to take up lands in either of those districts will do well to communicate with Major D. M. Robertson, Canada Life Building, Toronto, and ascertain the particulars with regard to the land and the system of selection.

Just Keep Cool

We are apt to get offended
At something said or done,
Which is often but intended
To provoke a bit of fun.

WORTH INVESTIGATING

You are not asked to take our word for anything we may say or claim for

MAGNET SEPARATORS

You are asked to believe the evidence as placed before you in your own Dairy—believe what you see actually done. The strongest argument in favor of the "Magnet" is what it will do for you. What someone else has done or what we can do might serve to point an interest in the "Magnet," but just how many Dollars it will make for you is the thing.

We Get Letters

from all the best people in the country telling us how much they like the

MAGNET CREAM SEPARATOR

THE PETRIE MFG. CO., LTD.
Guelph, Ont.

Ottawa, April 6th, 1908.

Gentlemen:—I am pleased to inform you that the Magnet Cream Separator which I bought from you several months ago, has been in constant use in my dairy of forty cows. It has been very carefully and severely tested, and I am glad to inform you that it has given perfect satisfaction.

It runs very lightly, skims well, and separates beyond the capacity guaranteed by you. I have no hesitation in saying that Canadian farmers would find it to their interests to buy machines made in Canada, rather than those imported from foreign countries and assembled in Canada. The reasons are obvious and need no explanation.

Yours very truly,
F. W. HODSON (Live Stock Commissioner)

We Want to Convince

every Dairy Farmer that Magnet Separators have no superior for all round economy, turning easy and being made very strong and simple. We sell you on the broadest kind of guarantee.

MADE IN CANADA

Petrie Manufacturing Co'y
GUELPH, ONT., CANADA Limited

A Catalogue Mailed Free



PATERSON'S

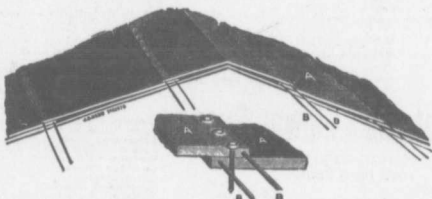
RED STAR BRAND

Patent Wire-Edged Ready Roofing And Heavy-Tarred Felt Paper ::

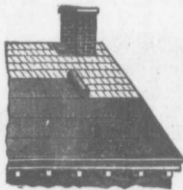
ECONOMICAL

DURABLE

FIRE-PROOF



A shows method of laying Red Star Brand Wire Edged Ready Roofing, with 2-inch laps secured by nailing two inches apart. B B shows wires running through the edges of the roofing, giving it great strength at the joints or laps—a very desirable feature, especially in localities where high winds prevail.



Leaky Shingle Roofs
May be made WATERTIGHT AND DURABLE, without removing the shingles, by covering the roof with Red Star Brand Ready Roofing, as shown in above cut.

You've got some Old or New Roofs to cover, haven't you?
You're not satisfied with Shingles, but think there is no reasonable priced substitute for them.

You may be afraid to leave the old rut by trying a Roofing Material with which you are not familiar.

In any case, permit us to say our Wire Edged Ready Roofing is not an experiment, as we have been selling it in Canada for twenty years. Our Annual Sales now amount to over 100,000 rolls.

When we tell you this Roofing is superior to Shingles in every respect we know what we are talking about and mean what we say.

Our Roofing costs less than Shingles, and is more quickly and easily put on.

Nearly all Hardware Merchants sell our Wire Edged Ready Roofing and Building Papers.

Samples and further information from

THE PATERSON MANUFACTURING CO., LIMITED

Toronto

Montreal

St. John

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**SEED
OATS**



"SHEFFIELD STANDARD" OAT

THE COMING OAT

The Latest and Best of Many
New Varieties

Sheffield Standard

WE have secured from the originator his entire crop of seed of this valuable new oat, and offer it for sale for the first time. He has written us that he has never seen its equal, and that it is, without doubt, the heaviest cropping and handsomest oat ever introduced. Such words from an experienced and successful introducer of New Seed Oats is certainly a great recommendation. He says further: "This New White Oat has done remarkably well in Canada ever since I began to grow it."

The following are a few of its points of excellence: It is very early, and has shown itself proof against Rust and Smut. Its good results as a yielder—80 to 100 bushels per acre—weighing grain, 40 to 45 pounds per measured bushel. Further, the stem is stiff and strong, the grain is large and the hull very thin.

After threshing and cleaning for seed the yield was 80 bushels per acre of large, plump, handsome, creamy white grain, weighing 45 lbs. to the bushel. This can be partly attributed to the fact that in many cases the spikes or breast will contain three full kernels where other oats give but two. The straw is very strong, and does not lodge even when others with less weight of grain in the head go down. The blade is nearly double the size of that of ordinary oats, which is the best evidence of its inherent vigor.

This new oat is remarkable for its heavy standing property, and for this reason 6 packs (1½ bushels) is sufficient to seed an acre.

PRICE

Lb., 20c.; 3 lbs., 50c., postpaid. Peck, 50c.; Bushel, \$1.50; 2 Bushels, \$2.80; 5 Bushels, \$6.75; By Express or Freight.

COTTON BAGS INCLUDED

Vegetable & Flower Seeds

IN FULL-SIZED PACKETS,
YOUR OWN CHOICE

Select any Seeds from the list below at the following rates:

Any 45 Packets for \$1.00, - - Postpaid
Any 21 Packets for 50c., - - Postpaid
Any 10 Packets for 25c., - - Postpaid

FLOWERS

- Alyssum—Sweet
- Aster—Tall Mixed
- Aster—Dwarf Mixed
- Balsam—Candelia Flowered
- Bartonia—Golden
- Calendula—Mixed
- Calliopsis—Mixed
- Canary Bird—Climber
- Candytuft—Best Colors Mixed
- Candytuft—Fragrant White
- Chrysanthemum—Double Anasal.
- Dianthus—Indian Pink
- Dolphinium—Larkspur
- Gallardia—Large Flowered
- Harigold—Tall African
- Harigold—Dwarf French
- Mignonette—Sweet
- Nasturtium—Tall Mixed
- Nasturtium—Dwarf Mixed
- Pansy—Simmers' "Premier"
- Petunia—Large Mixed
- Phlox Drummondii—Mixed
- Poppo Shirley—Mixed
- Poppo—Carnation Flowered
- Portulaca—Single Mixed
- Salpiglossa—Large Flowering
- Scabiosa—Tall Mixed
- Scarlet Runner Beans
- Sea Purslane—10 weeks
- Stocks—German
- Sunflower—Best Double
- Sweet Peas—Scherer's Mixed
- Verbena—Mammoth Mixed
- Zinnia—Doulis Mixed
- Wild Garden Mixture

VEGETABLES

- Beans—Green Pod Dwarf
- Beans—Wax or Better Dwarf
- Beans—Pulse Butter
- Beet—Best Round
- Beet—Best Long
- Borecole, or Kale
- Carrot—Shorthorn
- Carrot—Long Orange
- Cabbage—Late Flat
- Cabbage—Long Keeper
- Cauliflower—Main Crop
- Cucumber—For Slicing
- Cucumber—For Pickle
- Corn—Early
- Corn—Late
- Coleary—White Chalcot
- Celery—Red Early
- Cress—Cured
- Lettuce—Curly
- Lettuce—Heading
- Leek—Large Flat
- Pumpkin—Earliest and Best
- Watermelon—Sweetest
- Citron—For Preserves
- Citron—Large Yellow
- Onion—Best Red
- Onion—Large White
- Onion—White Pickling
- Pepper—Long Red
- Parship—Best Long
- Parsley—For Greening
- Pumpkin—For Pie
- Peas—Dwarf Early
- Peas—Medium Earl
- Peas—Sugar
- Radish—Long Summer
- Radish—Round Summer
- Radish—Winter
- Salady, or Vegetable Oyster
- Squash—Summer Marrow
- Squash—Winter Keeping
- Tobacco—Hardest Kind
- Tomato—Early Large Red
- Tomato—Yellow Fin
- Tomato—For Preserves
- Turnip—White, for Garden
- Turnip—Yellow, for Garden
- Turnip—Sweeds, for Garden
- Sage
- Summer Savory



These Packets are our regular full-size 5 and 10-cent packets. Mark the varieties wanted, send money, your name and address, and the seeds will reach you promptly.

J. A. SIMMERS, Toronto, Canada

Canada's Premier Seed House

Canada's Premier Seed House

SEND FOR OUR ILLUSTRATED CATALOGUE—FREE