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Toronto, Ont., February 21, 1918



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Pat. U.S. Pat. No. 1,254, 1916.
Pat. Can. Pat. No. 1,215, 1916.

The Ontario Corn Show at Chatham

Corn Classes of Inferior Quality Reflect the Condition of Seed Corn Generally. The Situation Discussed With Leading Growers. Where is Our 1918 Seed Corn Coming From?

"THE boys know that this is not good seed corn," remarked L. L. Gregory, President of the Ontario Corn Growers' Association, in reference to the exhibits at Chatham last week. "It is, however, the best we have in southwestern Ontario and it was brought along to make a show."

Some of the ears exhibited at the Ontario Corn show were of a disconcerting of more praise than Mr. Gregory bestowed on them. The average quality, however, was undeniably low; lower, in fact, than at any time since the show was started a decade ago. Some lots that had been tested did not show a germination of 40 per cent. Part of the corn used in a large district display tested as low as 16 per cent. And this is a condition that prevails generally in all of the corn growing countries. So serious is the situation that for a time the advisability of cancelling this show altogether was considered. Under the conditions, the show was a credit to the growers and what was lacking in the show was made up in the other seed sections. In one class of oats, for instance, there were 20 oatmeal entries; "and some right good oats," remarked Dr. C. A. Zavitz. Spring and fall wheat, barley and peas were also well represented and the small seed-clovers and timothy were excellent. Beans, too, made a good showing as was expected in such a best growing centre as Kent county. Several of the exhibitors in the grain section had completed successfully at Guelph and Kempsville.

The Seed Corn Supply.

Where are we going to get our seed corn this year? was the question on everybody's lips. It was generally agreed that there is not enough good seed to reseed the acreage in which it grows. In order to preserve those strains the government has ordered that all home grown seed must be kept in southwestern Ontario. One farmer, who journeyed to the show expecting to buy 500 bushels for his farming club in a more easterly county, went home without any. "If the rest of Ontario can't get its seed corn from the United States, it will have to go without any," remarked A. McKenny, manager of The Essex Seed Farms. "We will have enough for ourselves whereas we usually have 10,000 bushels fit for seed."

Mr. B. R. Cobos related what seems to have been a usual experience when he told of "pogging" 500 bushels of seed in a specially constructed drying house built last year and finding recently that, as a result of the deprivations of frost some of it will not germinate 25 per cent. "We usually grow 20 acres of corn," said he, "and have 500 to 800 bushels to sell for seed. This year we have only 50 to 75 bushels." Mr. Everett, who lives in one of the best White Cap districts in Ontario remarked that his neighbors would not have one-half enough corn testing 50 per cent to replant their farms. One man of his acquaintance paid \$5 a bushel for seed, took it home and found that it didn't test six per cent.

Then we asked the corn judge, Mr. C. A. Gearhart of Ohio, what the situation was in the United States. "Your corn here," he replied, "is just as good as we have been having at our corn shows in the States. For the most part our growers, too, are going to be hard put to get a supply of seed in the near possible future. I recently we tested 1400 samples of seed corn in Ohio. Eighty per cent of these were from the crib, of these 95 per cent germinated less than 40 per cent. Our seed will have to come from a small residue of 1916 crop, and the seed that is certainly coming in having good crib corn and the 19 per cent or so who saved seed

early and dried it. I would not like to see any corn go out of Ohio, but I believe there are other sections of the United States, notably Missouri, from which Canada might get a supply were the United States to raise its embargo on seed corn."

Last of all we encountered Mr. J. O. Duke of Ruthven, Ontario's big seed corn dealer. He thought that the prospects of the United States for seed corn was as good, if not better, than of the seed growers themselves. "I have eight cars of Indiana corn in store that will germinate 70 per cent," he told us. "I also have 32 cars ordered and a deposit paid on the purchase in Missouri. This is of such varieties as Leaming, Wisconsin No. 7, Field's Yellow Dent and Early St. Charles. It will guarantee 80 to 100 per cent and would do much to relieve the scarcity for analage purposes. The trouble is that I may not get half of it in. Cars seem to be particularly scarce and the embargo is still in the way. The corn is there, however, if we can get it over in time."

"Seems to me the Government should give all the cooperation it can," remarked one of the speakers at the show. A chorus of approval followed. Evidently the seed corn situation for the enlarge growers too, must still be regarded as serious.

The Awards.

The sweepstakes for best ten ears of Dent corn went to B. R. Cobos, Woodstock, with Wisconsin No. 7. The Farm and Dairy Trophy for the sweepstakes 10 ears of flint corn was won by A. S. Maynard, Chatham, with Longfellow. Mr. Cobos had the best single ear of Dent and A. S. Campbell & Son, Elmham, had the sweepstakes ear of flint. Other prominent exhibitors were as follows:

Dent classes: C. W. Coatsworth, Kingsville; Walkerside Dairy, Walkerville; Geo. E. Newman, Cottaam; John Gould, Essex and Arthur Mitchell, Woodlee.

Flint classes: R. J. Johnson, Chatham; Frank S. Smith, Port Burwell and Albert Gilbert, Simcoe.

Educational Features.

The southwestern counties are "in the mud." The heavy clay soil gives rise to the mud, but is ever a trouble to the traveller. The station agent, exhibit of the Ontario Highways Branch was well designed to show visitors just how they could get out of the mud. It showed 14 small models of roads of various types. Perhaps the most interesting model was that showing the construction of "The Appian Way," built by Appius Claudius Cæsar about 300 B.C. This wonderful highway was 120 to 200 feet wide and 260 miles long. Its base was heavy matched stonework and on top of that were several courses of crumpled rock and lime mortar. This great road was built entirely by slave labor. All roads then led to Rome but all were not of this type. The common type was also shown—13 feet wide, based on two or three layers of flat quarried stone and broken stone on top. Old roads and Macadam, French roads, Telford and asphalt beds, models, the cement and showed light ways, and finally, for the benefit of city folks, the brick pavement. Methods were shown for resurfacing old roads and even the plink log drag on top of a road. A card over the dragged road bore this inscription: "By the systematic use of this simple tool it is possible to keep earth roads in the best possible condition. The two or three top layers of soil to be graded machine should be used to construct. The log drag can then be used to maintain permanently. The cost is insignificant when compared with the benefits derived."

The self feeder is certainly coming (Continued on page 11.)

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Farm Manure is Most Effective Its Conservation and Use—By F. T. Shutt, D. Sc.

FARM manures constitute the cheapest and most effective of all forms of fertilizers, no matter what the character of the land. For increasing soil fertility this by any of the farm stands unequalled. It may be rightly considered as one of the most valuable assets of the farm. "The more manure the more crops, the more crops the more cattle, the more cattle the more manure." This adage tells an absolutely true and valuable explanation of the fact that mixed farming is the most rational and economical system of agriculture, the one best suited to keep up the productiveness of the soil and the one under the most intelligent management most likely to give the greatest profit.

The greater part of the manure applied to the land is produced in barn, stable and pigery between autumn and spring. It is the winter's manure that the farmer mainly depends on for the corn and root crops of the rotation. How can this manure be handled that the best possible returns may be obtained from it?

First the liquid excrement (urine) must be saved. It is far richer in nitrogen and phosphorus than the valuable fertilizing constituents, than the solid excrement (dung), as the following data clearly show.

COMPOSITION OF SOLID AND LIQUID EXCRETA.

		Phosphoric		
		Nitrogen	Acid	Potash.
Horse:	Solid	1.55	.30	1.25
	Liquid	1.35	traces	1.25
Cow:	Solid	.40	.29	.19
	Liquid	1.00	traces	1.35
Pig:	Solid	.25	.50	.40
	Liquid	.40	.10	.45
Sheep:	Solid	.75	.50	.45
	Liquid	1.35	.95	2.10

Thus it will be seen that, weight for weight, the liquid manure, except in the case of the pig, contains much higher percentages of nitrogen and potash than the solid excrement. Furthermore, these elements are in an immediately available condition for crop use, which greatly enhances their value. Averaging results we find from 40 to 45 per cent. of the total nitrogen excreted by farm animals is in the liquid portion; in the case of the cow the proportion frequently exceeds 50 per cent.

Tight Floors and Gutters.

Thousands of dollars' worth of food lie beneath old barns and stables in the Dominion due to leaky floors and gutters. The first step towards saving the liquid manure is to see that the floor upon which the animal rests and the gutter behind are sound and liquid-tight. A concrete floor and gutter solves the problem in the most complete and satisfactory way, but if this is not practicable at present, put the plank flooring and gutter in the best possible state of repair. Litter cannot perform its function of absorbing the liquid if the floor and gutter are faulty.

The second step is to use sufficient litter or bedding material to take up all free liquid. Straw is the bedding material almost universally used on the farm. It will absorb from two to three times its weight of liquid. If the supply is scanty—and the past season has been a poor one for straw in many districts—it will pay to cut all the straw used as litter, for finally it will absorb about three times as much liquid as uncut. The sawdust and fine shavings can be recommended as clean and satisfactory bedding materials. Peat moss, commonly known as moss-litter (sphagnum) makes admirable bedding. Muck and peat when air-dried make excellent absorbents.

The Application of Manure.

In so far as it may be practicable the manure should be drawn daily, fresh and direct, from the barn and stable to the land. For this purpose, as long as the condition of the soil permits, it is better to use as little or no snow, use the manure-spreader (into which the manure from the carrier has been directed) and distribute at once. This practice means not only a saving in manure, but also the prevention of losses in plant food and humus-forming materials that inevitably follow the accumulation of manure in the yard or piling in the field. It means also an equable and uniform distribution on the land—a matter of great importance.

When the snow lies deep upon the ground, still draw out the manure to the fields—daily if possible—but instead of spreading pile in small heaps of 200 to 400 pounds each. Fifty heaps of 400 pounds or one hundred heaps of 200 pounds each to the acre would mean an application of 10 tons.

With the advance of spring and the disappearance of the snow or the piles of manure, now possibly elevated a foot or more on a foundation of snow, are turned over, and mixed with the soil. The advice given in this article as to the winter application of manure is based on the results of ex-

perimental work conducted chiefly at the Central Experimental Farm, Ottawa. These experiments provide the following facts:

1. That manure left in a loose pile in the yard suffered very considerable losses, chiefly through the leaching away of soluble nitrogen and potash compounds, but partly through fermentation (heating) and consequent destruction of organic matter with its nitrogen. In the course of a few weeks these losses may amount to one-third or more of the initial value of the manure.

2. That manure in large heaps or piles—whether in yard or field—heated rapidly, even in the coldest weather. In the course of three months—January to March—manure so piled lost, chiefly through excessive fermentation, 60 per cent. of its original organic matter and, nearly 90 per cent. of its nitrogen.

3. That heaps of 400 pounds each, put out on the fields fresh from the barn and stable (mixed man-

ure) at least four crops of roots and potatoes and consider the fertilizers paid me well. Besides I was able to spread the stable manure over a greater acreage.

Since the war we are unable to get anything but superphosphate and basic slag. There is some nitrate of soda to be had, but price is so high I am afraid it will not pay. In the season of 1914, I used superphosphate and basic slag on roots with good results. As the basic slag gave as good yield as superphosphate and is somewhat cheaper I decided last season to use basic slag altogether. When I got it I found it lower priced than I had expected, although the price was no lower, in fact higher, and I only had a light crop, although I applied 200 weight more per acre. That was the only time that I found fertilizers not to pay. With that exception I consider the fertilizers paid me even when the price of potatoes was from 25 to 30c per bushel, and if we could only get it now at reasonable price I believe it would be a great boon to P. E. I. farmers.

Ready for the Spring Rush

There should be no lost time in the field this year. Help is going to be scarce and every move should count. The forerunner farmer will see that the seed is cleaned and treated before the land is being seeded. He will also see that the implements needed are ready for work before the frost is out of the ground. Prompt seeding when the season opens is one of the essentials in securing a good crop.

Farmers are not the only ones who are going to be short of help this year. Mechanics and shop men, as well as farmers, are in demand in the army. This means that there may be delay in getting repairs when they are wanted. For this reason look over all of his machines during the winter season and order the extras or parts that are needed to put the machine in good working order.

In preparing for the season's work it would be well to bear in mind that it is better to have an extra part or two left over waiting than it is to lose two or three days waiting during the harvest time for repairs. In other words, order parts that are likely to break, whether they are actually broken at the time of ordering or not. This is the sort of preparedness that counts in getting early crop production.

Seed cleaning, repair ordering and putting the machines in condition for work should be the order of the day as soon as the summer's wood pile and supply of ice have been provided.—Andrew Boss.

ure) showed no sign of heating throughout the experimental run up to March. For the greater part of the period these small heaps were frozen through and careful analysis made immediately before scattering them in the spring showed that while frozen there had been absolutely no loss, either in plant food constituents or organic matter.

Experience With Commercial Fertilizer

In Prince Edward Island—By Edgar G. Geddings

I BEGAN the use of commercial fertilizers about 20 years ago, for the most part on roots and potatoes. I began with mixed fertilizer, however, a Massachusetts brand, being the first. I also used a fertilizer made in Halifax, N.S. The common practice here in growing roots is to apply about 60 one-horse loads of stable manure per acre. I found half that amount with 400 to 600 weight of fertilizer gave as good results. In applying mixed fertilizers I generally put it in the drill, leaving one or two drills without any as a check. In every case the yield was much larger than when no fertilizer was applied.

For potatoes I usually used it on summer fallow sod land, without any stable manure, and always had from fair to good yields. Later on unmixcd fertilizer was placed on the market and I used that as it cost less; I used nitrate of soda, muriate of potash, and superphosphate; applying for roots nitrate of soda 100 lbs., muriate of potash 75 lbs., superphosphate 300 lbs. For potatoes, nitrate of soda 75 lbs., muriate of potash 150 lbs., and superphosphate 300 lbs. I mixed potash and superphosphate and applied as soon as I could get land ready. The nitrate of soda I put on in two applications first, just as the crop appeared above ground, and second, about 10 days later. For roots I used it with a light coat of manure as before; for potatoes, without manure as with the mixed fertilizer. I have always had

A Jersey View of R. O. P. A Change in Regulations Not Desired

Duncan O. Bull, Brampton, Ont.

IN Farm and Dairy of January 31st is published an interview dealing with "Proposed changes in R. O. P. Standard." In the first place I believe that no breeders' association should make any change affecting the length of test or content of milk. The test is made unless the same has been placed before the other dairy breeders' associations, and meets with the approval of the majority of the breeders and testers. It seems hardly fair for one man to state that he believes a radical change should be made, and that any person that does not agree with him is actuated by selfish motives and seeks to gain some personal advantage.

Speaking for myself as a breeder and tester and on behalf of the C. J. C. C., of which I have the honor of being president, after having discussed this matter at our annual meeting, we do not believe in the proposed changes. According to the present ruling a breeder has the option of having his cows freshen again anywhere between 9 and 15 months after commencement of test. According to the proposed changes the cows must freshen within 13 months. Any person who wishes to have their cows freshen every 12 months should so mention in referring to the record of the cow that the test was made in a stated number of days and that she freshened again at such a time. In fact, every R. O. P. certificate that is issued states the number of days that the cow was in milk.

When Short Period Would be Detriment.

I would like to point out two special cases wherein the proposed changes would not work to advantage. First, that it is our belief that heifers should not have their second calf until about 18 months after they have had their first one. By milking heifers 13 or 14 months with their first calf it has a great tendency to develop them persistent milkers and thereby add great value to the cow as a dairy animal over her future years. It also gives the heifer a chance to grow and develop. Secondly, there would be many good cows that would not be able to obtain certificates if they were required to freshen again within 13 months. For example, if one wished to have their cows freshen 13 months and so breed them if the cow returned once or twice she would not be able to receive her R. O. P. certificate. Thus the margin upon which one would be operating would be entirely too small.

As to how much time after a cow was milked, I am of the opinion that this would have to be left to the decision of the owner of the animals as it appears that any effort to curtail a breeder's rights to feed and milk his cows according to his own judgment would not be more in his interest. For example, the Champion Jersey cow, "Sunbeam of Edgelye," produced 18,744 lbs. of milk and 926 lbs. of butter fat in a year and milked as high as 77 lbs. per day. She produced more butter than any other cow of any breed that has qualified for R. O. P. It seems hardly fair to ask this cow to produce 77 lbs. of milk per day with only two milkings as she would be uncomfortable most of the time.

A Reply to Real Farmers.

This test was not conducted by men of the extremely wealthy class referred to in your article, but by farmers and breeders who looked after their cows themselves, and who are making their money exclusively out of farming and dairy produce. It might also be stated that this cow has made better record in a three days' competitive public dairy test than that of any other cow of any breed in the province. There are plenty of cows of other dairy breeds that would be better milkers. Another objection to the change would be that our "short time records" would not compare favorably with the records made to the south of us, seeing that a cow in some associations can receive an R. O. P. certificate for her year's work, even though she may never freshen again. If one listens to many of those who

have been convinced there is no advantage. At the close of war, the American Live Stock change program was unopposed by representatives of the great dairy trust, the way from Wisconsin to attempt to take his cows, persistent develop, with the number increase.

Finish It C. C.

Prof. G. W.

IN normal our beef sending is not stable to the. At the present time the world is in a state of confusion and it might be almost impossible to help out the investigation sent to which the four of ability for h. If it became corner cereal, ending up of the question we should not rest possible in the field extension our cattle.

One f. Some years secured a gain fattening steers barley and 72 than one pound of gain in we made up of hation of 1, 2 at this experiment gains they made 1½ lbs. per st. The cattle we and dressed a live weight, but superior to a consume in out, it was quantity of manumption.

One thing is mium amount same time, pro human con the part of wist grains in the fe the fullest extent



Members in Attendance

have been making "short-time tests" they will surely be convinced that the shorter the test the more room is for manipulation and of gaining undue advantage.

At the time of writing I do not know what decision was reached by the annual meeting of the Ayrshire or Holstein associations, but that of the Live Stock Commissioner will not sanction any change proposed by any breeder or breed association unless such change has been submitted and approved by representatives of other associations.

The nationalities of our association has been of great advantage to the Live Stock industry and I trust, therefore, that nothing will happen to get us away from the national idea of uniform standard. We live in a freedom loving country and any attempt to tell a man how many times he shall milk his cows, or that he is not to be allowed to make persistent milkers of his heifers and allow them to develop, will, in my opinion, result in a reduction of the number of cows under test, rather than an increase.

Finish Beef Cattle Economically It Can Be Done With Little Grain

Prof. G. E. Day, Secretary, Dominion Shorthorn Breeders' Association.

In normal times it is counted good business to give our beef cattle a good degree of finish before taking for the market. The higher price obtainable to the feeder.

At the present time, however, we are facing decidedly abnormal conditions. Statistics indicate that the world is facing a heavy shortage of wheat. If it might be necessary to use grains heretofore employed almost exclusively for the feeding of animals, to help out the supply of wheat. As a matter of fact, investigations are in progress to determine the extent to which wheat flour may be adulterated with the four of other cereals and still retain its palatability for human consumption.

If it becomes necessary, therefore, to utilize the coarser cereals for human food it must mean a shortening up of concentrates for fattening animals, and the question arises whether, under present prospects, we should not make a special effort to use the smallest possible amount of concentrates, and utilize, to the fullest extent, bulky fodders in the fattening of our cattle.

One Pound of Grain Per Pound Gain.

Some years ago the Ontario Agricultural College secured a gain in weight of 2,130 lbs. in the case of fattening steers, from the use of 2,137 lbs. of ground barley and 729 lbs. bran. This is very little more than one pound of concentrates used for each pound of gain in weight, the balance of the ration being made up of hay, corn silage and roots. In the proportion of 1, 2 and 3, respectively. The steers used in this experiment were cheap, common cattle, and the gains they made were not large, being approximately 1½ lbs. per steer, per day, being approximately the same as that of a steer of the same age and weight. The cattle were not well finished when marketed, and dressed a little less than 67 per cent of their live weight, but the beef from these cattle was much superior to the beef from the same cattle when consumed in these days, and, as has been pointed out, it was produced with the use of a very small quantity of material which was fit for human consumption.

One thing is certain, we cannot produce the maximum amount of highly finished beef, and, at the same time, produce the maximum amount of cereals for human consumption. It would seem, therefore, the part of wisdom to economize on the use of cereal grains in the feeding of beef cattle, and to utilize to the fullest extent bulky fodders, even though we have

to be content with smaller gains in weight and a poorer quality of beef. As previously stated, these are abnormal times, and methods which would have been severely condemned a few years ago may be the very best and safest methods we can follow at the present time. Our great effort must be to get human food from our bulky fodders by converting it into meat, with a minimum reduction of cereals for human consumption.

Ensilage Will Replace Roots.

An objection in the mind of many may be the fact that in the collages experiment roots were used very liberally, whereas on many farms roots are not largely grown owing to the labor involved. This is a perfectly legitimate objection, but judging from experience silage can be made to take the place of roots to a very large extent at least. In addition to the hay fed the college steers were mixed timothy and clover and contained too much timothy to be really satisfactory for cattle feeding. With a good quality of clover hay or better still, alfalfa hay, and a liberal allowance of silage there is every reason to believe that results quite equal to the college results can be obtained. The experiment emphasizes the great importance of clover, alfalfa and silage on the farms of this Province.

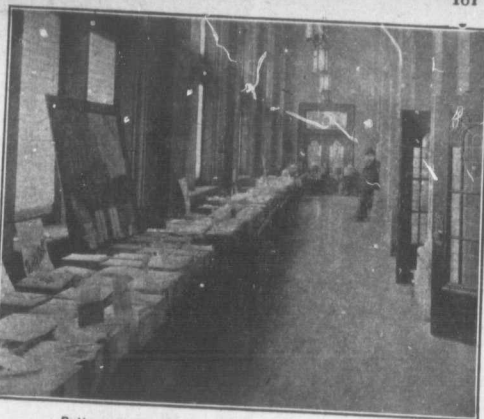
Grade Cow Makes 22,514 Lbs. Milk

A B.C. Record That Is Hard To Beat

T. A. F. Wiancko, Provincial Dairy Instructor.

ON February 5th, "Dairymaid," a grade Holstein cow, owned by Alex. Davie, of the Delta Cow Testing Association, completed her year's work with a credit of 22,514 lbs. milk and 905.3 lbs. fat, making her the champion cow for the year. "Dairymaid" has a previous record under a different owner, extending from Dec. 6th, 1915, to Dec. 4th, 1916, of 19,992 lbs. milk, and 515.1 lbs. fat, being for first prize in her association in 1916, "Lady Bountiful," owned by A. D. Paterson, Ladner, lbs. fat.

"Dairymaid," up until the time she became the property of Mr. Davie, early in 1917, never had a chance to demonstrate fully her dairy capacity. During previous years she was more used to being underdressed than otherwise. She was forced to remain in the rain and snow during fall and winter, and to roam the roadsides during summer, being chased and barked at by dogs, and, in general, being left to look after herself. Even under such conditions she all her inherent milk-making capacity, and turned out her feed bill during 1916 amounted to \$50.95, of which \$20 was for grain and mill feeds, the balance, \$30.85, being for hay, roots, pasture, etc. Her



Butter and Cheese on Exhibit in the Fort Garry Hotel. Butter exhibits from three provinces were a feature of the competition in connection with the annual convention of the Manitoba Dairywomen's Association, held in the Fort Garry Hotel, Winnipeg, this month. The two illustrations on this page speak for the interest taken in dairying in the prairie provinces.

biggest milk yield for one day was 45.5 lbs., and her greatest yield of butterfat in one month was 57.3 lbs. received only good pasture. The following are the items of food costs: Hay, \$15.75; roots, \$7.20; chop, \$16.15; pasture, \$13; bran, \$5.30; silage, \$9; and shorts, \$1.20; making a total cost of \$67.55.

Her best day's milk was 76.5 lbs., and her best month's fat production was 99.6 lbs. She was milked three times per day during several months. The details of her production follow:

Testing Period	Lbs. Milk Daily	Lbs. Milk Milk	Test	Lbs. Butterfat.
Feb. 6th to March 5th	72	1,971	4.0	78.9
to March 31st	76	1,976	3.7	73.1
to April 30th	74	2,329	3.4	79.8
to May 12th	64.3	774	3.2	21.9
to June 12th	76.5	2,190	3.4	74.6
to July 12th	72	3,371	4.2	141.5
to Aug. 12th	65	2,015	3.5	70.5
to Sept. 12th	62	1,922	3.6	69.2
to Oct. 12th	54	1,620	3.6	58.3
to Nov. 12th	42	1,457	3.1	45.3
to Dec. 12th	43.5	1,475	3.1	46.0
to Jan. 12, 1918	50.5	1,565	3.1	49.4
to Feb. 5th	57	1,128	3.0	34.1
Total	22,514	905.3

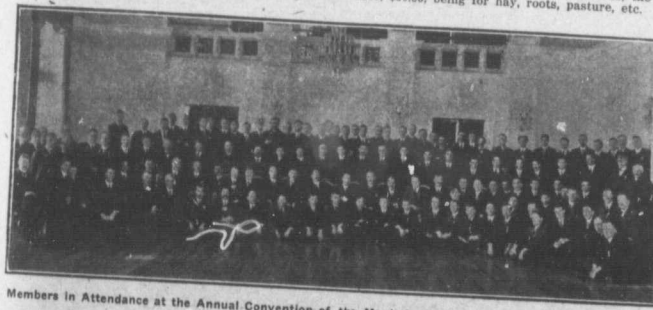
Loss Through Low Grade Seed Samples of Seed Will Be Tested Free at Ottawa

THE use of impure seed is often the cause of considerable loss. Last season an Ontario farmer sowed fax containing several wild mustard seeds per ounce. This farmer considered that the use of this seed damaged his farm to the extent of several hundred dollars.

A Quebec farmer last spring sowed barley which a subsequent germination test showed to be of very low vitality. The result was that his barley which was his nurse crop and wasted good feed, but noxious weeds were enabled to multiply to such an extent lowered. Last season many fields had to be seeded a second time because the seed used had heated or a crop failure means so much now that every reasonable precaution should be taken this year against using as seed, grain that is not of strong vitality.

The information furnished as a result of a thorough test of a lot of seed enables one to use it with intelligence. Canadian grown red clover seed containing quite a large number of such seeds as lambs to imported seed containing only two or three seeds per ounce, if they were wild carrot, bindweed, or some of the other very objectionable weeds.

It is only when the weed seed content, vitality and other qualities of seed are known that an intelligent estimate of its seed value can be arrived at. Every lot of grain to be used as seed should be tested for germination now so that there will be plenty of time to locate a suitable supply, should the desired seed samples tested for purity or germination may send them free of charge up to 12 ounces in weight, in strong envelopes or cotton bags addressed to The Seed Commissioner, Ottawa.—Seed Branch, Ottawa.



Members in Attendance at the Annual Convention of the Manitoba Dairywomen's Association, held in Winnipeg recently.

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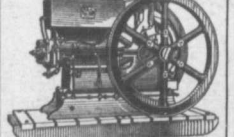
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Canadian Cooperative Wool Growers, Limited

A Dominion-Wide Cooperative Company Organized to Market Canadian
Wool Crop—Have Offered the Government the Entire Clip of 1918
at Last Year's Price

CANADIAN wool growers have decided that they will market their own wool. With this in view a large meeting of delegates from the wool growers' and sheep breeders' associations of every province in Canada was held recently in Toronto, as a result of which the Canadian Wool Growers' Association, Limited, has been formed. This is the first attempt at organizing a commercial cooperative association which will operate nation-wide. The step was taken on the motion of W. A. Dryden, President-elect of the Canadian Sheep Breeders' Association. "That this representative meeting of delegates from various sheep breeders' and wool growers' associations throughout Canada herewith proceed to organize a Canadian Wool Growers' Cooperative Association to act as a selling and buying medium, represent the various associations and interests throughout Canada."

Upon the passing of this resolution a committee was appointed to work out the details of the by-laws which would govern such an association. This committee consisted of Geo. C. Hay, representing British Columbia; E. I. Richardson, for Alberta as a whole, and A. G. Allan representing the ranching interests of the province; Harry Follett, representing Saskatchewan as a whole, with J. D. Wilson of the ranching interests; George Gordon, Manitoba; George Telfer, Ontario; A. McMillan, Quebec; Stanley Logan, Nova Scotia; Angus Avarad, New Brunswick, and W. E. Reek, Prince Edward Island. In addition to these men W. A. Dryden and Colonel McEwen, ex-president of the Canadian Sheep Breeders' Association; Secretary Seyrille, of Quebec Department of Agriculture; F. C. Hart, in charge of cooperative work in Ontario, and W. W. Thompson, of Saskatchewan, met with the committee in an advisory capacity.

One of the objects of the company, while the first and most important, is the collection and cooperative sale of the wool for the nine provinces of Canada, the petition for the charter embraces the right to purchase and hold property, to trade and manufacture. The company hopes to traffic in breeding animals and in market stock as well as in wool.

The by-laws drawn up by the committee, upon which the new company will be established, fix the capital stock of the company at \$200,000, divided into 20,000 shares of \$10 each, of which 20 per cent is to be paid on application, the balance on the call of the directors, who shall not call more than 20 per cent at any one time. There must be three months between calls.

In view of the widely-scattered shareholders it was decided that "representation of the shareholders at any annual meeting shall be by delegates elected by the shareholders of each province of Canada." The maximum number of such delegates, who shall themselves be shareholders, shall be thirty, and the directors, when calling such meetings, shall state the number of delegates to which each province is entitled, according to the proportion which the number of shareholders, in each province bears to the whole number of shareholders, each province having at least one delegate. The three delegates of each province shall be the attending annual, special, or general meetings to be paid out of the general funds of the association.

To give fair representation to each of the nine provinces of Canada, on a directorate limited by law to fif-

teen, it was decided that "one representative be elected from each province of Canada having a shareholder, and the balance of the directors to be elected from each province in the proportion which the number of shareholders in each province bears to the total number of shareholders of the association." It was provided, however, that not more than three directors should be elected to represent one province. The provisional board of directors was apportioned three to Quebec, three to Ontario, two each to Saskatchewan and Alberta, and one each to Nova Scotia, New Brunswick, Prince Edward Island, Manitoba and British Columbia. By this arrangement for the election of directors the proportion will vary according to the number of shareholders in the province.

The cooperative principle of the new venture is indicated in the following clause: "The board of directors is authorized and is to conduct the affairs of the company so as to provide a charge against all business sufficient for an annual payment of six per cent, on the paid-up capital. Further, to provide a reserve fund to exceed one per cent of the company's sales any one year, but at no time shall the total amount of reserve funds exceed paid-up capital. Any further annual surplus funds in distribution of the company shall be distributed to the patrons of the company, whether shareholders or not, in proportion to the volume of business done."

The list of directors in the company was published in last week's issue of Farm and Dairy. The following officers will have charge of the first year's work of the new company: President, Col. Robt. McEwen, Lonsary, Ontario; first vice-president, J. B. Wilson, Forest, Sask.; second vice-president, Stanley Logan, Amherst, N.S. The executive consists of Col. McEwen, W. A. Dryden, Brooklin, Ont., and Geo. Telfer, Paris, Ont., secretary, Geo. O'Brien, of the Department of Agriculture, Ottawa. The manager will be T. Reginald Arkell, who has been loaned by the Dominion Live Stock Branch to the company for the first year. Mr. Arkell is largely responsible for the formation of this company, and will be in charge of the marketing of Canada's wool crop in 1918. Geo. Waldron, counsel for the U.P.O., is also acting as counsel for the new company.

Offer Wool to Government.
By a resolution, carried unanimously, the new cooperative wool growers' company decided to offer their wool crop of 1918 to the Canadian government on the basis of last year's price. The resolution read: "The sheep raisers of Canada desire to place themselves on record as desirous of supporting their country and the war by stimulating the production of more sheep and more wool, and that if the Canadian government has urgent need of Canadian wool for war purposes, the sheep raisers freely and willingly offer their 1918 clips to the government for control on the basis of 1917 market prices gained in cooperative sales in 1917, through the Dominion wool warehouse, Toronto, for manufacture for those purposes required by the government and for which the different lengths and qualities of Canadian wool are most specifically adapted in manufacture. In the event of the government not requiring Canadian wool for its own use, the sale of the wool shall continue as heretofore, namely, an unrestricted market."

Another resolution passed decreed that the board of directors of the new organization, the Canadian Cooperative Wool Growers, Limited, prepare

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eral Passenger Dept., Toronto,
Montreal or Winnipeg.

After a visit to Canada I can re- ply hearty sympathy that Canadian people in contribut- ing their brother farm- fallen such ter- their farms and invaded districts.

When Writing Men: Jon Farm & Dairy

and transmit to the proper authorities in Australia and New Zealand a statement showing exactly why Canada wool is shipped to the United States, namely, not merely for gain, thereby raising the price to Canadian consumers, but owing to the fact that there is no means of profitably utilizing 75 per cent. of it in Canada.

Another resolution expressed the warm appreciation of the delegates for the very efficient service rendered by the Dominion Government Live Stock Branch, with the cooperation of the agricultural departments of the provinces, during the past two years in assisting the various associations in grading and marketing the wool, and asked respectfully for continuation of the same service for the present year and until the new co-operative organization is in a position to carry on the work so auspiciously begun.

It was decided that a commission of three be recommended to the government to be recognized as the wool growers' commission, the commission to be composed of the president of the Canadian Co-operative Wool Growers, Limited, a representative each from the east and the west, the board of directors to make the selection of the eastern and western representatives.

Committee Meet Ministers.

On Tuesday of last week the committee appointed by the new company waited upon the Hon. Mr. Crerar, Minister of Agriculture. Col. McEwen stated the objects of the new company and filed with the Minister a copy of the by-laws and a petition for the incorporation of the company. Hon. Mr. Crerar commended the formation of such a co-operative company, and encouraged the new officers in the task which they have undertaken.

The resolution asking for a similar grading service to that supplied last year by the Dominion Government was presented to the Minister. Mr. Crerar promised that this wool-grading service would be continued by the government until the new company is in a position to take over this work themselves.

In reply to the offer of the 1918 wool clip which was tendered the government through Hon. Mr. Crerar, the Minister thanked the company on behalf of the government, and stated that he would see that this offer was immediately transmitted to Premier Borden.

Agricultural Relief for the Allies

Editor Farm and Dairy.—Our country, with its allies, is waging a great war for justice, for the protection of small nations in the enjoyment of their rights, for continued and growing freedom and for the maintenance of its pledged word of honor. Much destruction and desolation have been caused. The peasant farmers of Belgium, France, Serbia, Roumania and Italy, whose farms were in the immediate areas of battle, have lost everything and in some cases even the land itself.

A British Empire Fund is being raised by voluntary contributions to render first-aid in the restoration of agriculture on such farms in the devastated regions of France, Belgium, Serbia, Roumania and Italy. The object of the Fund is to help in reinstating the peasant farmers in the invaded countries of our Allies. This will be done by gifts of seed, livestock, implements, etc., to enable them to make a fresh start.

Provincial Governments Will Co-operate.

After a visit to all the Provinces of Canada I can report that they are in hearty sympathy with the proposal that Canadian farmers should participate in contributing to the relief of their brother farmers, on whom have fallen such terrible losses because their farms and homes were in the invaded districts. The Ministers of

Agriculture and the leaders of the agricultural organizations in the several Provinces have expressed themselves as entirely in sympathy with the effort to provide an opportunity in such may extend practical financial aid to their brother farmers who have suffered so greatly.

The general plan is for each Provincial Committee to invite the cooperation of existing organizations of farmers, such as Farmers' Institutes, Women's Institutes, Farmers' Clubs, United Farmers, the Grain Growers' Associations, and similar bodies in all the provinces, to arrange for their officers, in each place, to become a local Committee to disseminate information, to receive contributions and to forward them to the Provincial Honorary Secretary-Treasurer for the Province.

The farmers are being invited to regard February as the Relief Month for Brother Farmers in the Devastated Regions. Local committees and individuals will arrange to receive donations on behalf of the Fund and remit the proceeds to their respective Provincial headquarters. Some of the newspapers and journals may arrange to receive and acknowledge contributions from their readers.

The Cause Touches Our Hearts.

The farmers of our Allies, in the

devastated regions have lost everything in the war. In some places land itself is torn beyond any possible recovery into use for growing crops. Their houses and machinery have been destroyed. They have nothing left with which to begin farming again. We, on the other hand, have lost nothing as farmers through the war; but in some cases have made money because of the increase in prices. We ought to help our stricken brethren as soon as the enemy is pushed out of their countries. The object is humane and we are a humane people. They are our allies, our neighbors and our friends. We want to help them for the sake of the good name of Canadian international relations, to have it known that our grain-growers gave something, a good thing to have it known that our livestock men gave something, that our poultrymen and fruit-growers have given something, and above all that our country women have remembered their sisters whose farm homes have to be re-established place among the nations, on behalf of our farmers, which will be in keeping with what our sons and brothers have done and won on the fields of battle.

For all these reasons may I suggest, to your readers that we think kindly

of giving some aid to the Fund for these peasant farmers who have suffered.—J. A. M. Robertson, Chairman, Dominion Executive Committee.

Government Purchases Seed Wheat

STEPS have been taken by the Government to increase wheat-growing in Ontario. An initial purchase has been made of 20,000 bushels of No. 1 Marquis wheat, which will be sold to farmers in bags at \$2.75 a bushel. The seed will be handled through the market branch of the Department of Agriculture. Plans are now being made to secure warehouse space at several points throughout the Province which are served by two or three lines of railways.

Farmers who have their seed shipped from the distributing centres will have to pay the cost of the extra freight to their station from the distributing point. Toronto, Brantford, Lindsay, Woodstock and Chatham have so far been chosen as centres of distribution. Carload lots will be shipped direct to farmers' clubs when sufficient quantities of wheat are ordered, and this will save the payment of extra freight from the distributing point to their station.

This Book will help you Stop the Leaks in your Farm Profits

WE've called it "What the Farmer can do with Concrete"—a title that exactly describes it, but does not give any idea of how vital its help is to you. To realize this you've got to understand that Concrete is a big factor in successful farming. Just consider the common leaks your farm is subject to, and how Concrete stops those leaks.

Wooden Buildings rot under the stress of time and weather. Repairs cost money. Concrete won't rot. Rats are another source of leakage—they gnaw their way through all kinds of buildings—except Concrete, which is rat proof.

Fire on a farm usually means total loss because of the lack of water-pressure. Concrete cannot burn—another leak stopped.

Disease among your stock is usually due to unsanitary conditions. These conditions can be entirely remedied by building the wells, water tanks, septic tanks and barn floors of Concrete.

There's a type of waste that is peculiar to the farm that is built of old-style materials. For instance, mud was never intended for the feeding floor of Concrete, and there will not be a single kernel lost.

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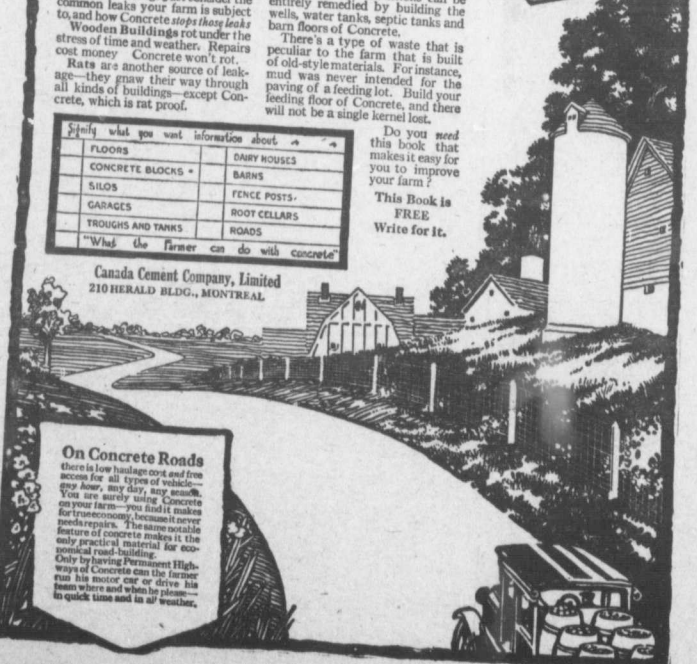
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Factors in Profitable Hog Feeding

(Continued from page 2.)
weight at which to sell hogs if they are in fairly high condition. When they pass 250 pounds in weight the cost of gains increases considerably, resulting in little or no additional profit from further feeding.

Value of Pasture Crops.
Pasture crops are very important in pork production. It is estimated that 15 to 25 per cent less grain is required for producing pounds of gain on pigs when pastures are used extensively than when all the feeding is done in dry lot.

The best pasture crops for hogs appear to be alfalfa and clover. In comparison with grass pastures they are eaten in larger quantities and are rarer pasture they are good during a longer season and the work of preparation of ground and of seeding is very largely eliminated, since they are generally sown in the fall.

When not sown in the fall, mature brood sows are maintained on pasture only, although it may be necessary in other feed in addition. The attempt should not be made, however, to grow pigs on pasture without other feed. If put on pasture only just at weaning time there is danger of loss of some of the pigs from under-feeding. At any rate below 65 to 75 pounds the gains will be very small by this method of handling. By use of a suitable ration those pigs which survive a 100-day period on pasture only can be grown and fattened to satisfactory market hogs by putting on fall feed for a sufficient period. The better practice would appear to consist in feeding grain to the pigs on pasture. The smallest amount fed should be one pound per 100 pounds live weight daily, or one pound per head daily. Larger amounts may be fed up to full feed, depending on the relative supply of grain and pasture available. For this purpose it is not so important to feed a supplement, as the pasture crop itself makes a fair supplement to the ordinary grain ration.

Unless the pigs come off the pasture in good condition and of proper size they should be finished on full feed. For this purpose use a combination ration consisting of one of the grains combined with a supplement as described above. Growing to this condition on pasture is not a profitable undertaking in itself if the pigs must then be sold for the market price per pound for finished hogs or for less.

Farm Labor to be Voluntary

THE order in Council appointing the new Food Board specifies in regard to the farm labor mobilization work of the board that such mobilization shall be on a voluntary basis. The decision against adopting any direct form of conscription of labor for industrial purposes does not, however, preclude the working out of an indirect method of effecting the mobilization of all the labor resources of Canada for some useful work.

Under the Military Service Act all men who have received exemption on the ground of agricultural employment will be made to report to the District Registrar periodically, and unless they are actually helping to do their full share in increasing production their exemptions will be canceled. Similarly, all the able-bodied men who are persistently idle, or who leave their jobs periodically without good cause, may find that inexcusable unemployment is a reason for making them preferentially draftees for military service or for some other form of service under governmental direction.

The new food board has asked employers to cooperate in liberating as many men as possible for farm work during the coming season. Men with experience in caring for horses are especially sought.

The Cost of Milk and the Farmer's Profit

Central Experimental Farm Authorities

THE principles of cost accounting used in manufacturing should be applied to agriculture, not that the farmer may always sell above cost, for at times he sells below cost, but that he may know that the average selling price will at least equal the cost and thus allow him to break even. Were the results of such cost accounting known to the farmer as well as the consumer, the former would be better able to reduce his costs while the latter, recognizing the narrow margin of profit upon which the farmer is working in producing a staple food product, would cease his blind criticism and be willing to pay a fair price for milk, which is one of his cheapest foods.

To find the cost of milk production in no intricate in accounting, because of the complexity of the conditions surrounding the industry, but the importance of the product has led to many investigations with the follow-

ing average results, using present day feed and labor charges:

Feed at cost prices	\$ 2.30
Labor per cow, including handling of milk	55.27
Interest and depreciation on herd	12.10
Depreciation on equipment	8.72
Losses from abortion, tuberculosis, pneumonia, etc. per cow	1.95
Veterinary services and drugs	1.96
Clean sundries	6.00
Added interest of owner in excess of that exhibited by hired help	6.00
Total	\$170.36
6,167 pounds of milk at 20c per gallon	\$123.34
12 tons manure at \$2 per ton	24.00
Total	\$147.34

Under the above conditions cost the farmer 27.6c per gallon or 6.8c per quart. At most he is selling it for 29c per gallon or 7.25c per quart. The profit left to the farmer is very little over the value of the manure for his farm. In one investi-

gation conducted on twenty-five dairy farms keeping on an average of 460 cows, the average profit per cow per year was \$8.28, while out of the twenty-five dairies 28% reaped no profit whatever.

While 6,167 pounds of milk per cow per year may seem a small yield to some farmers, it is in reality a very good average, exceeding the average for Eastern Canada by 2,000 pounds.

Comparatively speaking, milk is one of the cheapest foods. Instead of being regarded as a luxury it should be regarded as a necessity. Based on food values it has been estimated that if periferous steak is worth 30c per pound, milk is worth 16.5c per quart; if eggs are worth 30c per dozen, milk is worth 21c per quart; if fat fowl are worth 30c per pound, milk is worth 20c per quart; and if whitefish is worth 18c per pound, milk is worth 32c per quart. No common meat food is cheaper than milk at 16c per quart. Moreover, milk is an already prepared food, requiring no fuel to cook it. "Who is getting the best deal?" Certainly it is not the farmer.

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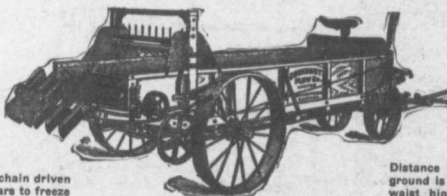
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—the strongest known. The bottom of the box is stationary, there are no slats, aprons or rollers to become fouled and broken; the carrier consists of heavy steel angles held together by chains—simple and effective.

The distributing cylinders and paddles pulverize and spread the manure better than you could do it by hand. Easy lever at driver's hand throws mechanism in or out of gear. In two sizes, 50 or 65 bushels.

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Nova Scotia Crop Review

M. Gumming, Secy. of Agriculture.

WHEREAS 1916 was a good average year for the general farmers of Nova Scotia, 1917, as measured by the production of the farms, fell considerably below it. The spring was unusually cool, and rains fell so frequently that on many farms the middle seeding was done until the middle of June. Unlike the conditions of

the corresponding months of 1916, but the rainfall for August and September practically all the standing crops of western and to some extent eastern Nova Scotia. Over 100,000 barrels of apples fell victim to this gale. Later, on Sept. 7, 8 and 9, a most brighting frost, which affected a large part of America, froze potato vines, garden truck, buckwheat and other vegetation, causing thereby an enormous loss. (In 1914 the earliest serious frost occurred on Oct. 21.) Following all this, a rainfall of nearly four inches visited the province on Oct. 21st and 22d, so saturating the ground that plowing was greatly interfered with; and finally the unusually early snows and cold weather of late November and December, up to the time of writing, have materially shortened the fall plowing season and so reduced the amount of land which it was planned to prepare for next season's crops.

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Ontario Corn Show at Chatham

(Continued from page 2.)

with the hog proposition," remarked District Representative J. W. Noble, who was in charge of the Department of Agriculture courses. "Economy of feeding and security of labor explain its popularity." A small model of a self feeder was a popular feature of this exhibit, where farm bulletins and information could be had for the asking.

A further feature was the exhibit of the Kent Centre Farmers Club. In the front was a Union Jack made by corn kernels of different colors. The name of the club was traced in corn on the wall above. There were several commercial exhibits. A small model of a Green Feed silo attracted attention. R. A. Lister Co. had gasoline engine and silo filling equipment. There were John Deere corn cultivators and planters. There were Magnet, De Laval and Sharples cream separators. And there were many cars, from the cheapest to the more expensive models.

Lectures on agricultural topics in the afternoon and evening were exceptionally well attended. Beautiful weather, too, attended. Beautiful attendance to the corn show was an Armoured could accommodate "11 an glad the show was held this year," said Dr. C. A. Zavitz in summarizing his impressions. "The corn growers have new and hard problem to solve this year and the corn show has given them a good chance to get together and discuss their problems."

The Manitoba Dairy Convention

THE 32nd annual convention of the Manitoba Dairymen's Association recorded by far the largest attendance in the history of the association. The attendance indicated the growth and interest in the dairy industry in the province and the interest taken in the exhibit of dairy products, which was the new feature of the convention. In the interprovincial competition in butter making, Alberta came first, the exhibit of the Carlyle Dairy Co., Calgary, scoring 97.62 points; Crescent Creamery Co., Winnipeg, second, and the Moosomin Creamery, Moosomin, Sask., third. The prizes were \$60, \$40 and \$25 respectively. Each province entered five boxes of 14 lbs. each, made in each of the five months, June to October. The cheese classes were smaller, Albert Carriera, Lies des Cheese, getting a score of 97.1 on June cheese, Joseph Harrison, St. Joseph's, 96.8 on July cheese and A. W. Dumaine, Sallie, Man., 97.2 on September cheese.

Dairy Commissioner Gibson reported that the output of creamery butter for the province was almost a million pounds greater than that of the preceding year, representing the substantial increase of 12.64 per cent. 78% of all butter manufactured was made from properly pasteurized cream. The pasteurizing temperature that he advocated was 165 to 170 degrees F. held for 10 minutes. "We found," said he, "that butter made from cream with a low acidity (2 to 3 per cent.) and treated as above, will hold up in storage for a period of 12 months, where butter made from raw or improperly pasteurized cream will show a decided deterioration at the end of a few months." Ninety-six carloads of creamery butter were exported from the province during the year.

Mr. Gibson reported a good year for the cheese men also. The 25 factories that were operating had an output of 1,063,887 lbs., an increase of 19.48 per cent. J. Villeneuve, chief instructor in cheese making, illustrated the progress made by saying that the make of cheese had increased from 471,855 lbs. in 1914 to 1,063,887 lbs. in 1917; but the province is still

producing 50 carloads less than local consumption.

The association recommended that grade certificates be issued only on butter made from properly pasteurized cream. They heartily recommended the consolidation of the dairy interests through the medium of a Dominion Dairy Council, composed of elective representatives from all Canadian provinces. They formally expressed their appreciation of the work of their Dairy Commissioner and of the services of both the provincial and federal departments of agriculture.

In one way the Manitoba convention this year was one of the most representative ever held in Canada. There were eight representatives present from the trade in Montreal, five from Ontario, and a large number from British Columbia, Alberta and Saskatchewan. There were close to 200 delegates.

Ottawa Secures Plowing Match

IT was decided at the annual meeting of the Ontario Plowmen's Association held last week in Toronto, that the next provincial plowing match will be held at Ottawa on October 16, 17 and 18. There was strong competition for the event. A deputation, headed by the Wardens of Oxford and Mayor of Woodstock, was present to urge the claims of that section. The Mayor of Ottawa and others. Cobourg's voice was heard through the deputation, but the Ottawa delegation won out. The Booths and the Dominion Central Experimental Farm will furnish the ground to be plowed.

W. C. Barrie, Galt, was elected President of the convention; W. H. Garbutt, First Vice President; J. Lockie Wilson, Secretary and Managing Director; T. A. Paterson, Agri-court, Treasurer. R. B. Faith and W. W. Grey, Ottawa, were added to the directorate.

Tractors Bought for Farmers

THE Canadian Government has purchased a thousand Ford tractors at cost. They will be sold to Canadian farmers at cost plus freight. Details of freight costs have not yet been worked out, but it is estimated that the average cost to the farmer including freight will be about eight hundred dollars. In addition the Government has secured options on another thousand of the Ford tractors.

The Ford tractor has not so far been supplied to any private individual. The factories are now engaged on the new tractor for the British Government. When that order is completed—probably by the end of March—delivery in Canada will begin.

Purchases were completed for Canada after tests made of the tractor by Hon. C. A. Dunning of Regina, and sent the Minister of Agriculture, or express themselves as fully satisfied with the work of the tractor, and are convinced of its practicability. The tractor burns either kerosene or gasoline. It is designed as a two-pow machine. A fuel consumption of 2 1/2 gallons of kerosene per acre is regarded as a fair average. The plowing speed is given as 2 1/2 miles per hour.

Conditions of sale will be for cash only. The scheme of distribution still remains to be worked out in detail. Orders will likely be placed through Provincial Departments of Agriculture.

I have never had trouble with "Buh" Saver where cream had been properly pasteurized. Where butter has not been pasteurized, we have been up against it all the time.—J. H. Scott, Ontario butter grader.

Order Farm Machine Repairs Now Delay May Mean Loss

HAVE YOU thought of the difficulty you are going to have this year in getting repairs for your machines? It is the most important thing for you to be thinking about right now. Your crops may depend upon it. You, no doubt, realize that all manufacturers are hard put to it to get materials; and the transportation facilities, freight and express, are congested to such an extent that shipments go through very slowly.

The implement manufacturer and agent in Canada realizes this today and the utmost is being done to take care of the farmers' requirements for repairs. Unless the farmers are also foresighted, many of them are likely to realize the difficulty too when the season for field work opens. They are going to be to use the machines before overhauling them and finding out what parts will have to be replaced.

We cannot urge you too strongly to get busy on this at once. Overhaul every machine on your place and see just what parts are due at once. This is the only way you can be sure of having the new parts in time for use.

We are making every possible effort to get ample stocks of repair parts to convenient points where you can get quick service. Canada and they always carry large stocks of repairs. Besides there are thousands of local agents who carry a good supply of the parts usually called for. Under normal conditions, you could expect quick action on repair orders sent to us or to any of our agents, but at this time conditions are not normal and it is a personal and patriotic duty to look ahead and plan ahead and be prepared to avoid confusion and crop-wasting delays.

Remember the first orders received are the first to be served, so you can recognize the importance of overhauling your machines now and seeing what you will need and getting your order placed. Better be ready than sorry. Do it now.

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BRANCH HOUSES
WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.
EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

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POWER—labor—that's the Farmer's problem to-day. The labor shortage makes it necessary for the farmer to use gasoline all he possibly can to replace man power.
Toronto Engines are especially popular because at a low price they furnish abundant, sure power. Simple in construction they are exceptionally strong and durable, requiring the least possible attention or mechanical experience. Every farmer should read the Toronto Engine Book. Address—
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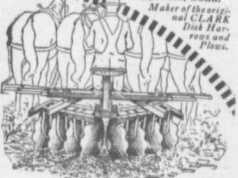
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Put your waste land under cultivation cheaply and quickly. Clean up the bad spots with a

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Does away with hand labor, cuts bogs and stumps land that a moldboard cannot touch. Also for heavy stubble and any disking. Two and four-horse. Heavy disks forged sharp. Thousands in use. Write for new catalog and free book "The Soil and its Tillage" also for name of nearest dealer.

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Six sizes—125—200—250—375—500 and 800 lbs. capacities. DETACHABLE SPINDLE, OIL SPLASH and loose discs. We GUARANTEE these machines to be built of the best material, first-class workmanship, skin clean, easy to turn and wash. Cash prices very low. Most satisfactory or money refunded. Sold on easy terms if desired. Write today for catalogue and local agent's address.

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Potatoes Growing in Northern Ontario.

Immature Potatoes Best for Planting

It Will Pay to Buy New Ontario Seed—T. G. Raynor, Seed Branch, Ottawa

It is a well-known fact that the further north any plant can mature its seed or fruit the better is its quality, either for seed or for use in other ways. With special reference to the potato plant, will the northern grown potato make better seed for the use of Old Ontario than the best that can be produced in the older part of the province? There is considerable evidence that this is the case. I believe there will be a large trade worked up between the New and Old Ontario farmers, which will be of mutual advantage to both. In a locality where the period of sunshine is long, the nights cool and considerate moisture prevails, potato plants keep on growing until the frost comes and cuts them down. Tubers grown under such conditions, when planted in localities where the tops mature as a rule, and where the period of sunshine is shorter during the day and the nights are warm, tend to produce earlier and larger crops than when the matured tubers of that locality are used for seed.

Some years ago the market gardeners around Toronto tried out some tubers of the early Ohio variety, grown in the vicinity of New Liskeard for seed, with splendid results. A large potato grower near Whitby, after using northern-grown seed, has become so convinced of its value to him that he has under consideration the purchase of a farm in northern Ontario and its equipment to grow stock potato seed.

It is possible that in the near future the Ontario Government will be equipping a farm in northern Ontario for the purpose of growing stock seed of the different varieties which may be further experimented with on the many government farms run in connection with their public institutions. The Ontario Department of Agriculture, through its District Representative Branch, is having stock seed grown in a number of the counties where potato growing is made more or less of a specialty for distribution to members of their school farms. They also will try out the northern-grown tubers in comparison on their plots.

In northern Ontario there are excellent potato-growing sections—in the Soo, Temiskaming, Thunder Bay, Kenora and Rainy River districts with this area might be included Muskoka and Parry Sound. Any of these parts could grow seed potatoes in large quantities as well as for commercial purposes. Potatoes from some of these points have won out in competition at the leading exhibitions held in Toronto, Ottawa, and the Winter Fair at Guelph. They are smooth, clean, and when mature, of excellent quality.

To give some idea of the advance made in potato growing, Mr. Collins, the District Representative at Fort William, for the Thunder Bay district, says that when he was located there five years ago they were importing potatoes. Last year a good many carloads were shipped out of that district. He says, regarding the Thun-

der Bay, Kenora and Rainy River districts in a pamphlet he wrote up on farming in 1913, that splendid results have been achieved there. To quote his own words:

"The growing of potatoes is becoming a specialty in this section, and the farmers are making no mistake in specializing in this crop. The soil in most parts is particularly well suited to the production of high quality tubers, and there are few potato beetles and no blight. Last year, during the harvest season, I visited a large number of potato fields, and the smallest yield that I found was 225 bushels per acre, and the largest yield was 350 bushels per acre. Roots of all kinds can be grown successfully, and owing to the cool climate and rapid growth, the vegetables produced in this district cannot be surpassed for table purposes."

While in Fort William and Port Arthur last spring, and talking over the potato problems, the idea struck us that something might be done to get the farmers of Old Ontario to try out some northern-grown seed from the Thunder Bay district. A proposition like this was put to quite a number of farmers who grow anywhere from an acre to 35 acres: "If you could get potatoes not less than two inches in diameter, 97 per cent. sound, free from deep scab and blight, fairly smooth and of one variety, would you be willing to pay 25c a bushel more for these than you could get for your commercial potatoes at the same time on the Toronto or Montreal markets, and have them delivered in the autumn at time of planting?" Nearly every man interviewed said he would, and placed a verbal order. If the proposition went through, for from one bag to 50 bags. It would appear from this that there should be no trouble in placing a carload of seed potatoes in the potato-growing districts of each of the counties in Old Ontario. A Peterboro wholesale dealer said he would take a carload. He, a new man in the production end, is said to have

Bulls is Bulls.

"PERHAPS you have read 'Pigs is Pigs.' Perhaps you think that bulls is bulls. Just stop and ask yourself the question: 'What of a good bull? There is just one answer. A good bull is a bull that will produce better calves' that are better than their mothers, which when raised at the Wood County Wisconsin Agricultural School, in a recent circular to dairymen in his county.

"Can you?" continues Mr. Clark. "at first not to have this kind of a bull? Suppose we consider a few figures.

"If you are raising scrubs, let us assume that a pure-bred bull (don't buy a pure-bred scrub) will produce heifers that will give a pound of milk per day more than their mothers. This is not very much, and it will do this if he comes from good breeding. This means 365 pounds more milk in a year. Assuming this tests 4%, it means 14.6 pounds fat in a year. At present prices this milk is worth at the cheese factory \$7.30 in a year. At the creamery it is worth \$5.80, besides skim milk. Let us take the lower figures of the two.

"Suppose you only get ten heifers from this bull. Each one is \$5.80 better than her mother. This means that the first year that they are in milk they will be worth to you \$58 more than their mothers were. If they go on producing for seven years, as can be expected they will, they will make \$406 more than their mothers. A pure-bred bull calf will not cost you this much.

"Hoard's Dairyman says there are three kinds of dairy farmers: 'First, the man who says 'I will'; second, the man who says 'I won't'; and, third, the one who says, 'I can't.' Take this home to yourself and look into the following:

"1st.—To which of the above classes do I belong?

"2nd.—Ask your wife what she thinks of you as a dairyman.

"3rd.—Go out and look at your cows.

"4th.—Look at the bull you are using.

"5th.—Look at the calves he is producing.

"6th.—Weigh and test the milk of cows and heifers.

"Now do you ant a new bull? If you are going to get him this spring?"



Immature Seed Gives Best Results.

Hardy potato seed from New Ontario shows its superiority within a few weeks from planting. The seed used in the rows on the left was home-grown Irish Cobbler; that on the right was hardy Northern seed of the same variety. Note the difference in vigor and stand of the plants. Photo taken on the farm of Mr. G. A. Williams, Peterboro' Co., Ont.

The fourth annual construction for amendments and enforcements in the Parliament on Feb. 25th to 28th



LETTING IN THE SUN

On the Man Who Specialized (With Apologies to Walt Mason).

LONG years before we got our laws our fathers passed down many you got from that say "I told you so." And from this man these floats to-night a little proverb quaint and bright—"Unless you want an omelette, don't put all eggs in one basket."

"If you would spend a life of ease you've got to specialize in bees." This was the dope that John Doe sprang when nineteen seventeen was young. The year before the honey poured from every flower and moss grown board, and while men plowed and tilled hay the bees just worked their till late at night; they plugged each dead-blamed section tight with nectar fit for gods or men at speed surpassing the human ken. The queens laid eggs by tens and fives; the drones en masse forsook the hive, for workers whispered in their ear "Vamonos, this is our busy year." These workers are the sweet through April shower and August heat; they filled their supers tier on tier, and every blooming crevice near that beeman's winter feast had dripped, until the from all the flowers that bloomed. And meantime, honey prices boomed.

"Twelve tons of honey, Hully gee! Uncle John as in his socks he tucked three thousand shily rocks. "No more with pigs and cows I'll mix. My hove can show them forty tricks. I'll sell my honey every fall, then pike it for the date pines tall. I'll save enough on fuel, by George, to fill the old Niagara's gorge."

And so he sold off all his pigs, his reading books and thing-me-liss. His father's farm went by the board to make a payment on a Ford. "What need have I of land," quoth he, "I'm partner with the busy bee."

So by and by next season came, but honey didn't flow the same. The winter stayed till late July. The active season floated by but still the bees round and died, for nothing could they do beside. And Uncle John, he fussed around, he tore his hair and beat the ground with angry heels, for where was he without the aid of Brother Bee? As summer blithely passed along I thought I scented something wrong. John wore an air of dark blue gloom but still the clover didn't bloom. The bees forgot the sugar by the ton, and when they'd cleaned up last year's store, they licked their lips and cried for more.

One wakening August afternoon I found John crazy as a loon. "What's the matter, John?" I said, "you've cursed enough to raise the dead." Then sobbing like the willow trees he pointed to his wayward bees, to where they clambered out the door and took the air with sullen roar. They circled like a biplane new as up they piked it toward the blue. Old Uncle John let out a groan—"They've taken flight for parts unknown." And as he lay expiring there he ground his teeth and tore his hair, and whispered "I'm a half baked fool to thus forget the old-time rule 'The mouse with but a single hole is caught as ne easy as a mole.'"

Sam Ray

The fourth annual conference on road construction for county roads superintendents and engineers will be held in the Parliament Buildings, Toronto, on Feb. 22nd to 23rd.

Three Crops in One Season

AT the Iowa Agricultural College a 10-acre field was seeded to oats at the rate of three bushels per acre, with an additional eight pounds of red clover and eight pounds of rape seed per acre. When the oats were harvested in July and threshed, the yield was 76 bushels per acre. Once the oat crop was removed, the rape and clover grew rapidly. The rape protected the young clover plants from the scorching sun, and the vigorous growth of the rape indicated that the crop was feeding on the nitrogen taken up by the clover. By September first the field was covered with a dense growth, one and one-half feet high. Since then 200 sheep have been pasturing on this 10-acre field, and will remain there until freezing weather. The heavy growth of rape and clover has been utilized without depleting the fertility of the soil, and a great crop of clover is expected next year.

The Iowa Homestead believes that the revenue from pasturing this land during the fall months will be equal to the revenue from the main crop, oats, and yet the soil will be no less productive at the end of the year than it was in the beginning, so valuable is the clover crop as a soil fertilizer. Is there a suggestion in this Iowa experience for Canadian farmers with rich heavy soils?

Picking a Winner

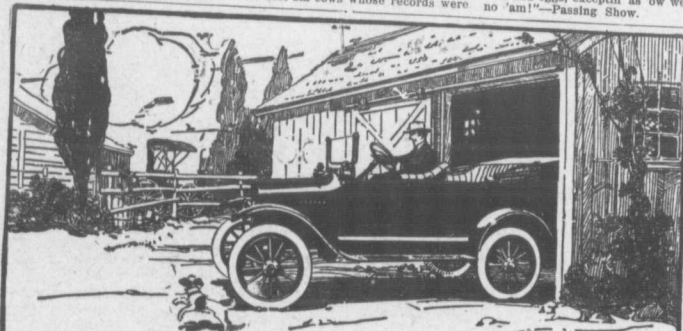
ALTHOUGH it is well understood that certain characteristics in the appearance of a dairy cow indicate her probable milking value, yet it is not always easy to pick a winner just by appearance. The following incident is worth consideration.

At a recent farmers' picnic a prize of \$10 was offered to the man placing in their correct order of production the first six cows whose records were

from 6,000 up to 14,000 lbs. milk.

Fifty men entered the competition, but no one was entitled to the prize. As a matter of fact, only one farmer succeeded in placing the first three cows; 37 did not place the best; and 30 did not place the poorest. In other words, the external indications of milk-producing ability may be lacking in cows, or may be misunderstood by even the experienced farmer. Appearances are often deceiving. There is one way, however, and only one certain way to judge accurately, namely, by keeping simple milk records. There can be no mistake then whatever at the end of the lactation period as to what each cow has done. The Dairy Division, Ottawa, supplies milk record forms free on application.—C. F. W.

"What's for breakfast, Bill?"
"Well, if we 'ad eggs we might 'ave 'am and eggs, exceptin' as 'ow we 'ave no 'am!"—Passing Show.



Replace Your Buggy With a Ford

MORE than 100,000 Fords are owned by people in Canada in preference to the old horse-drawn buggy and other makes of cars.

Your neighbors, and farmers in every section of the Dominion are abandoning their old buggies—selling their driving horses and buying Fords.

Ford cars are utility cars. They are built to endure the strain of constant daily use over rough roads.

These are the tests every farmer gives his car. The Ford meets them in a satisfactory manner. It is the farmer's car, so why not replace your horse and buggy with a Ford?

Ford

THE UNIVERSAL CAR
F. O. B. FORD, ONT.

- Touring - \$495
- Runabout - \$475
- Coupe - \$770
- Sedan - \$970
- One-ton Truck \$750

Ford Motor Company of Canada, Limited
Ford, Ontario

Ontario Fruit Growers Discuss Important Problems

FOR two days last week, Feb. 14 and 15, the members of the Ontario Fruit Growers' Association were in conference in Toronto discussing problems connected with their industry. The past three years have been hard ones for the fruit growers. Crops of most kinds of fruit have been none too good, last year's apple crop having been a failure. The embargo on fruit has disorganized marketing conditions, the cost of supplies has been advancing, labor has been almost unobtainable, insect pests and fungus diseases have been unusually numerous and severe, and altogether the fruit growers have had an extremely trying time of it.

Possibly the most important problem dealt with last week related to the work of the National Service Girls who last year rendered valuable assistance to the fruit growers in harvesting their crops. Several thousand girls last season, moved by a patriotic impulse, gave their services to the fruit growers. While the fruit growers were very "optical at the outset as to the value of the work these girls could do, they were surprised with the results, and many of them last week freely confessed it. This year, however, the girls feel they must have better pay and certain improvements in the conditions under which they work. Recently they met and outlined what they felt the fruit growers should give them if a fruit is to be continued this year on a

mutually satisfactory basis. The fruit growers also have had committees at work on the same problem and joint conferences between representatives of the girls and the fruit growers have been held. For a while at the conference last week it looked as if it was going to be difficult to reach a satisfactory solution of the difficulties, but finally they were met to the apparent satisfaction of both parties. The fruit growers have agreed to guarantee the girls a minimum wage of six dollars a week during the early part of the season until such fruits as peaches, apples, plums and pears are being harvested when the minimum wage will be increased to nine dollars a week. During the early part of the season the girls will be employed on a piece work basis, that is, they will be paid so much for each basket or bushel of fruit they pick. In this way they hope to be able to earn at least nine dollars a week, even in the early part of the season.

Dr. Riddell and Miss Harvey, representing the Trades and Labor Branch of the Department of Agriculture, addressed the convention on behalf of the girls. Miss Harvey announced that she expects to be able to secure several thousand girls this year for the work and that the Government has decided to appoint district secretaries and pay their salaries in each of the fruit districts. There will be a secretary also in each camp of the girls who will report weekly to

the district secretary in reference to the work the girls are doing and the conditions under which they are employed. The fruit growers who employ the girls will have the right to report where girls fail to make good, and the district secretaries will have the power, after looking into conditions, to send the girls home if such action seems advisable. Fruit growers who fail to give the girls the accommodation and sympathetic consideration that they should make the right to employ any more girls. The sticking point which threatened to cause trouble was that the fruit growers felt that to guarantee the girls what at first had been proposed would result in disorganizing their arrangements with their permanent help on the fruit farms. The decision finally reached it is believed will not do this. Over 50 per cent. of the girls last year earned from four to seven dollars a week, out of which they had to pay for their board, railway expenses, clothes and other incidentals. Some of them had little or nothing at all at the end of the season. On the other hand, a few girls carried as high as \$10 and \$12 a week.

Officers Elected.

The election of officers resulted as follows: President, Mr. Grierson, Ottawa; Vice-President, Mr. Hastings, Winona; Sec. Treas., P. W. Hodges, Toronto; Executive, E. A. Sneyd, St. Catharines; W. F. Fisher, Burlington; Directors, R. B. Whyte, Ottawa; C. Casselman, Frogville; J. G. Watt, Colborne; R. W. Grierson, Oshawa; W. F. W. Fisher, Burlington; J. R. Hastings, Winona; F. A. J.

Sheppard, St. Catharines; Chas. Howard, Hagersville; Theo. Rowley, Leamington; A. Stephenson, Longwood; G. H. Harris, Ingersoll; W. Mitchell, Chatham.

President's Address.

President F. J. A. Sheppard, of St. Catharines, pointed out that the war has made it necessary for fruit growers to face conditions such as the coldest among them had never experienced, and the youngest never dreamed could be brought about. While the price of raw materials required by fruit growers had advanced, the price of fruit had not risen proportionately, and in some cases their last state was worse than their first. Under existing conditions it will not be possible for fruit growers to produce much more in 1918 than they did in 1917.

The Car Situation.

A frank review of the car situation was given by G. McIntosh, of the Fruit Division, Ottawa. One statement he made was that if ever suitable cars were pressed into service today, the railways could not move the pulp wood alone that is awaiting shipment, some of which has been piled for three years. There are 21,000 cars belonging to Canadian railways now in the service of American railways, while only 8,000 foreign cars are on Canadian tracks. The C. P. R. has 300 potato cars in the New England States, which they would get back, and there is danger of many car loads of potatoes remaining unmarketed in the Maritime Provinces, while the railways could not move 400 car loads at points on the Canadian Government railway, for which there is a demand in Boston is practically tied up in turnip spoiling. The railways have been doing their utmost to cope with the situation and have shown their willingness to make sacrifices to that end.

Spraying Results.

Prof. H. C. Caesar, Provincial Entomologist, spoke on this subject. "Economic Sprays and Spraying for 1918." Arsenate of lead, in 100 lb. drums, is likely to cost 20 to 25 cents a lb. in paste form, or 40 cents to 48 cents in powder. This is about three times the price ruling before the war. Arsenate of lime has given good results for blight insects, and is more convenient to use with them. The cost of this arsenate of lime. The cost of this arsenate is not likely to be a bad bet this year, good results have been obtained from the dust spray, but under conditions favorable to scab it is not equal to the liquid spray.

The Dominion Fruit Commissioner, D. Johnson, of Ottawa, spoke on the work of the fruit and vegetable committee of the Food Controller's Office, and Mr. J. R. Hastings, a member of that committee, on the subject of the licensing of the fruit and vegetable trade. Both dealt at length with the efforts of the Food Controller's staff to regulate conditions growing out of the war.

The Apple Outlook.

Mr. J. G. Anderson, of Lucknow, submitted a statement on the apple situation and the outlook for 1918. Dr. A. J. Grant, of Theford, spoke on "The Effect of the War on the Farm Apple Orchard." Mr. Anderson expressed the view that there had been three poor crops of apples grown in Ontario during the last three years, the Ontario boxed apple trade in the West has suffered. Dr. Grant believed that those growers who had taken good care of their orchards are sure to obtain high prices for their products, but admitted that there are many orchards that are being neglected because of labor shortages and other conditions, with the result that the industry is suffering. Mr. F. C. Hart, director of the Markets Branch of the Department of Agriculture, suggested that in the event of there being a large crop of inferior apples this year, efforts should be made to have a large proportion of them mar-

(Continued on page 36.)

Practical Patriotism!

IN these times of national stress, the country implores the people to conserve every resource. Keeping your money investments confined to Canada is splendid patriotism, and good, sound business, too. Besides, you can easily prove to yourself that it is profitable patriotism for you to invest in the



"The Canadian farmer hands his money to the Canadian manufacturer, who in turn pays wages to his employees. The money is then turned over to the Canadian merchant for produce bought from the Canadian farmer. Therefore money paid out by the Canadian farmer for Canadian-made machinery comes back to him in actual cash, and in the form of better markets for his produce. Money paid for foreign-made machines is immediately sent out of the country, perhaps never to return."

NOTICE: The Renfrew Separator illustrated here was formerly sold under the name "Standard," which identified it as a high efficiency cream separator. The name "Renfrew" has been used on the same machine for several years for our United States and foreign trade and under that name has become as popular in those markets as under the name "Standard" in Canada. Now the name "Renfrew" has been adopted for Canada so as to link the name more closely with that of our company and so that we can sell the machine under a uniform name throughout the world.

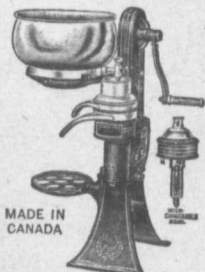
—the machine that is entirely made and designed in Canada by Canadians.

The Renfrew saves one-half pound of valuable cream per cow per week over other machines. By its

unequaled close skimming it gets all but one-tenth pound of butter-fat from 1000 pounds of milk skimmed, which other separators lose one-half to a whole pound.

The Renfrew's close skimming is proven by Government Dairy School tests. We are always glad to have the Renfrew tested beside any other separator, wherever made.

Send for interesting literature, describing the Renfrew self-oiling system, low supply can, interchangeable capacity and other features that are creating big demand for this made-in-Canada machine all over Canada, in the United States and other countries. Write to-day.



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Agencies Almost Everywhere in Canada.

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Ontario Vegetable Growers for Cooperation

Many Important Discussions at Annual Convention

THE two most important subjects discussed at the annual convention of the Ontario Vegetable Growers' Association, held last week in Toronto, were, first: the need of some cooperative organization to assist in the marketing of garden produce, and second: the value of Northern grown potatoes for seed. In the matter of marketing it was shown that the market gardeners of Ontario are badly disorganized. They have no way of knowing the probable supply of vegetables on any particular market with the result that while certain markets may be glutted with one variety of vegetable, other markets may be offering good prices for this. There is a great need of some central bureau of market information. In the matter of Northern grown potatoes the delegates were all of one opinion, that was, that immature seed potatoes would increase the potato yield over that from home grown seed in all proportions to the difference in the cost including freight.

President's Address.

Mr. J. J. Davis, of London, in his presidential address announced, in his recently formulated policy of the Ontario Department of Agriculture in arranging for the growing of seed potatoes in Northern Ontario. This service on the part of the Department will be of great assistance to the potato growers of the province, as it was pointed out that the use of immature seed would double the average potato yield per acre. Mr. Davis, however, pointed out that it is important to get seed from fields that have not been diseased. In his judgment last summer he found that potatoes in some parts of New Ontario were affected with blackleg.

"There is a feeling," said Mr. Davis, "that greenhouse products are luxuries, and that greenhouses should be closed until after the war." Mr. Davis pointed out that greenhouses in connection with vegetable growing should be kept going for four reasons. (1) Greenhouse vegetables have a dietetic value far above their cost in adding succulence to our rations. As tonics they are far superior to drugs and much cheaper. (2) Greenhouses enable market gardeners to employ their help at productive work all the year. (3) The demand for greenhouse produce in Canada is even now being met by Canadian growers. (4) Outdoor vegetable crops are advanced by getting plants started inside. The place of the greenhouse cannot be taken by hotbeds on account of a scarcity of sash.

Northern Potato Seed.

At the conclusion of the presidential address, Mr. W. T. Macoun stated that during the past season at Ottawa they harvested 400 bushels of potatoes per acre from seed brought from Port Arthur, while a similar plot sown to seeds yielded but 86 bushels per acre. "Potatoes grown for a number of years in our warmer climate," said Mr. Macoun, "become infected with mosaic disease and so become less fit for seed. I am convinced that the use of seed from some of the cool potato yield of Ontario.

Mr. H. Broughton, one of the Saralia district potato growers, stated that they have found great advantage in using Northern grown seed. The large growers of early potatoes in Southern Ontario have given up the growing of their own seed potatoes. Mr. Broughton pointed out that good fertility of soil and freedom from weeds were as necessary in growing potatoes as good seed.

The Ontario Department of Agriculture will not be able to supply much seed for this year's planting, but they are in touch with New Brun-

swick growers who will be able to supply potato seed.

Paris green will likely be a scarce article next season, according to Prof. L. Caspar. It will likely cost 60 to 75 cents a pound. Paris green is the quickest killer of common insecticides, but is inclined to burn the foliage unless used with Bordeaux mixture. Arsenate of lead in the paste form, which is one-third as strong as Paris green, and in the powder form, which is twice as strong as the paste, about 40 to 45 cents. This will stick to foliage better than Paris green and will not burn. A mixture of two pounds of the paste arsenate of lead and one pound Paris green in 40 gallons of water will fix the potato beetle. This will kill the quick killing action of the Paris green plus the sticking quality of the lead.

W. R. Dewar of Leamington, deals with the cooperative shipping of tomatoes. The Erie Company of which he is manager, has had good success through cooperative marketing. This ship tomatoes the year round. The cooperative takes 10 per cent of sales to cover cost of handling and at the end of the year all profits over the actual expenses of management are returned pro rata to the growers. This amounted the past season to \$10,000, exclusive of salaries, amounting to but 4% of sales—considerably better than the 10% charged by commission men for careless service. The great benefits are obtained through a closer tab on the markets by the central.

Organization Needed.

George Rush, of Humber Bay, pointed out to the meeting the lack of organization on the part of the vegetable growers of Ontario, particularly in marketing, as a result of which one market is glutted with vegetables and another starved. He suggested the formation of district organizations similar to the farmers' clubs, and a central market bureau to keep the locals informed as to the state of markets. "Organization," concluded Mr. Rush, "is imperative if we are to stay in the business."

In this connection on a motion of J. Lockie Wilson, a committee composed of J. G. Davis, George Rush, F. T. Delworth and G. B. Hellerman, was appointed to work up a scheme for the cooperation of vegetable growers, and to submit this at the next annual meeting when action will likely be taken.

Officers and Directors.

The following officers were elected for 1918: President, J. J. Davis, London; 1st Vice-President, E. K. Purdy, Cataragui; 2nd Vice-President, M. May, Tecumseh; Secretary-Treasurer, J. Lockie Wilson, Toronto; Executive: J. J. Davis, London; E. K. Purdy, Cataragui; Maurice May, Tecumseh; J. Lockie Wilson, Toronto; F. F. Reeves, Humber Bay; Thos. Delworth, Weston; Directors: J. Guthrie, Stratford; H. L. Bailie, Billings Bridge; E. Smith, Ealing; J. H. Madelard, Saralia; W. S. Eborall, Beamsville; E. K. Purdy, Kingston; Maurice May, Bay; Jas. Handrigan, Humber Bay; Wm. Guthrie, Saralia; J. W. Smith, Saralia; A. Nelson, Pontthill.

The development of Agricultural Resources Committee of the legislature of Nova Scotia has issued bulletin No. 1 in connection with its 1918 food production campaign. The subject is "Wheat Growing in Nova Scotia," and its authors are M. C. Oomen, Secretary for Agriculture and S. J. Moore, Dominion Seed Inspector. Copies of the bulletin are available to all who apply to the Committee at Halifax.

Every Little Bit Added to What You've Got Makes Just a Little Bit More

The "Little Bits" have been the foundations for most of the big fortunes of North America. Your "little bit" is right in that stream of skim milk that is carrying a goodly percentage of "skimmable" cream with it if any fixed-feed separator is being used.

Every little bit is saved and is turned into money by using a

SHARPLES SUCTION-FEED CREAM SEPARATOR

The reason for the saving is simple—the Sharples skims clean at any speed. Other separators do not—their construction prevents it. Only the Sharples has the suction-feed principle that draws the milk into the separating bowl in proper proportion to the speed of turning. No cream loss from slow turning—no bell-ringing bugaboos; just complete, uniform separation—that's the Sharples way. Any other way is wasteful. No discs in the Sharples—that means easy, quick cleaning. More than a million users are saving with a Sharples.

Write for catalog today; address Dept. 77



TORONTO, ONT. The Sharples Separator Co. REGINA, SASK.,
The Mitchell & McGregor Hardware Co., Brandon, Man.
Distributors for Manitoba

FAMOUS DUPLEX HAIR CUTTER ON SALE AT HALF PRICE

\$2.00 Reg. Price—For Only \$1.00

\$1.00 CASH GIVEN \$1.00 FOR THIS AD

Read This Offer Carefully. It Will Never Appear Again



There are only two steel plants on this continent that can turn out the fine quality of steel necessary for the DUPLEX. Our contract with one of them expired on January 1st, and then they raised the price 80 per cent. We were then forced to order the work completed. We have just this week made arrangements with 6,000 DUPLEX HAIR CUTTERS. These won't last more than a week or so, when they are sold we will be forced to charge \$2.00 again.

SEND \$1.00 TODAY AND SAVE \$1.00

No experience or practice is needed with the DUPLEX. You can't possibly go wrong. Over 60,000 now in use daily in Canada. Try us as long or as short as you want it to. Cuts while you comb. No scissors or clippers are needed. The Duplex does the work completely. It trims around ears and back of the neck. If you don't believe our statements send us your name and address for printed material, and read dozens of statements under oath from people who use the Duplex, including opinions of well-known barbers.

As long as this 6,000 lot lasts we will accept this advertisement from all readers of Farm and Dairy who send us one dollar cash. Send it to us with only \$1.00 cash and we will send you the DUPLEX HAIR CUTTER complete and ready for use. Add postage paid to any address. Send only \$1.00 and this TO-DAY. TO-MORROW may be TOO LATE. AGENTS WANTED.



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"The Farm Paper for the farmer who milks cows."
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CIRCULATION STATEMENT.

The paid subscriptions to Farm and Dairy approximate 20,900. The actual circulation of each issue, including copies of the paper sent to subscribers, who are but to 22,000 copies. No subscriptions are accepted at less than the full subscription price.

Sworn detailed statements of circulation of the paper, showing its distribution by counties and provinces, will be mailed free on request.

OUR GUARANTEE.

We guarantee that every advertisement in this issue is reliable. We are able to do this because of advertising the reading columns, and sample copies, varies from 20,000 we turn away all unscrupulous advertisers. Should any our paid-in-advance subscribers, we will make good the amount of your loss, provided such transaction occurs reported to us within 30 days of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in any advertisement you state: "I saw your advertisement in Farm and Dairy."

Requests shall include the name of the advertiser, the medium of these columns; but we shall not attempt to adjust trifling disputes between advertisers and honorable business men who advertise, nor pay the debts of honest bankrupts.

The Rural Publishing Company, Ltd
PETERBORO AND TORONTO

"Read not to contradict and to confute, nor to believe and take for granted, but to weigh and consider."

Free Tractors and Cattle

THE Dominion Cabinet made a very practical move last week in aid of greater production when it provided for duty free tractors and remission of the customs duties on cattle coming into Canada. Both orders are for a period of one year and the order in reference to tractors reads as follows:—

"During the period of one year from February 7, 1915, remission and refund of duty is hereby authorized in respect of traction engines costing not more than \$1,400 in the country of production, designed to be moved by steam or other motive power for farm purposes, and parts thereof for repair; and traction attachments designed and imported to be combined with automobiles in Canada for use as traction engines for farm purposes, and parts thereof for repair."

This step, insofar as it affects tractors, is a concession to the demands of the organized farmers and the agricultural press, both of which agencies have been agitating continually for duty-free tractors since the very commencement of the war. This step will do more, we venture to predict, to increase production in the next two years than could have been accomplished by any amount of exhortation. Farm and Dairy congratulates the government on this move. We trust it is but a forerunner of further progressive legislation along the same line.

Thinking Nationally

CANADIAN farmers are a mighty independent class of people. We consider ourselves quite capable of managing our own affairs. We never get enthusiastic over elaborate schemes for so-called "rural uplift." We believe that with a fair chance, we are quite capable of uplifting ourselves. This independence of ours we have always rated our greatest virtue—and while in the past it has been a source of weakness in some things, in most things it has been our greatest source of strength.

But now we are called upon to think nationally. The great need of the hour is co-ordinated effort be-

tween all classes of the community. As individuals, we are in a position to view national problems, the food question for instance, in the light of local conditions only. National necessity now dictates that our efforts be directed from some central authority or bureau in a position to see the situation as a whole, and, therefore, to properly direct the work of the nation. Already, we understand, a plan is being formulated having for its object the co-ordination of the efforts of all the agricultural agencies in the country with a greater production campaign in view. As the parties most interested, Canadian farmers may rightly demand that they be let in, "on the ground floor" and properly represented on all boards that may be appointed. With this initial demand satisfied, however, it is our duty as citizens to do all in our power to relieve the present food shortage, and we can do this only when we think nationally, and to a certain extent rely on central authority for information and direction. The needs of the hour are so great that for the time being, it may be necessary for us to submerge, to a certain extent, our independence of action.

Our Greatest National Crime

THE greatest crime of which any nation can be guilty is the divorcing of its people from the land. Just so surely as great landed estates develop, does the morality and vigor of a people decline. Canada has a superabundance of rich land sufficient to afford homes for the landless people of many nations, but even here we have allowed the speculator to get in, ahead of the land seeker. In a recent publication of the Commission on Conservation, it is stated that there are still vacant lands within 20 miles of the railroads of the prairie provinces totalling 15,443,200 acres, within ten miles 8,514,240 acres, and within five miles 4,491,680 acres. Only a small proportion of this easily accessible land is as yet under cultivation. How deplorable it is that these fertile lands should remain unutilized and unproductive while settlers are abandoning remote territory because of the social isolation and distance from railroads!

Efficiency, commonsense and justice demand that the accessible lands lying next to the railroads, now lying idle, should first be brought under cultivation. A good stiff tax upon land values, such as has already been recommended by all of the farmers' organizations of Western Canada, and by the United Farmers of Ontario as well, would force the speculators who own these vacant lands either to cultivate them or to dispose of them to genuine settlers. Had this policy been followed from the first, unnecessary duplication of railroad systems would have been avoided, social conditions in the West would have been such as to attract rather than repel settlers, and we would be in a much better position to feed a hungry world than we now are.

Why Good Cows?

PROF. C. LARSEN, well known in the United States as an authority on dairy matters, has stated very cogently just why good cows are in demand at the present time. In a recent address before the Wisconsin Holstein Breeders' Association, Prof. Larsen said:—

"The present high price of feed and labor has greatly emphasized the importance of owning large producing cows. The various feeds are twice as high in value as they were a few years ago. Where the feed cost of keeping a dairy cow per year used to be \$45, it is now \$90. During this same time butter has increased about fifteen cents per pound in value. If the cow produces 300 pounds of butterfat per year this fifteen cents per pound increase will take care of the additional feed cost; but if the cow produces only about 150 pounds of butter per year the increased butter income will amount to only about \$22. The point that I wish to bring out at the beginning of this talk is that the higher the feed value, and the higher the cost of labor, the more important it is to breed and own large producing cows."

This reasoning loses none of its force when repeated on this side of the international boundary. There are just two courses open to those who would like to possess the type of cows that alone can make good under present conditions—buying and breed-

ing. The first course is always open to the man with considerable capital. The latter, though a slower process, is open to all. It comes by way of the pure-bred sire. High feed prices and scarcity of labor should both tend to accelerate the demand for well-bred dairy bulls.

Intensive or Extensive Cultivation

THE farmer who desires to do his best in the present crisis finds himself in a quandary. On the one hand he calls for a greater production. At the same time he is faced by an almost impossible labor situation. Farmers as a rule desire to do what is best under the circumstances, but they are at a loss to know, in many cases, whether best results will be achieved by planting as many acres of crop as they can get in or by planting only such land as they can prepare and cultivate properly.

In the past, the Canadian farmers who have erred on the side of too intensive cultivation are few and far between. On the great majority of farms the degree of intensity that has been observed is not great enough to warrant any reduction for most profitable results. For instance, the man who can handle ten acres of corn, but might be able to get in fifteen acres, will probably do better by himself and the nation to spend his labor on the ten acres. The average seed bed is not harrowed enough. The average hoe crop is not cultivated enough. And on few farms is the amount of fertilizer sufficient to cover even the land in hoe crop. Probably the best practice this coming season is to follow along the methods that we have followed in the past and be neither too intensive or too extensive in our operations.

What City Farming Has Taught

CITY back yards, city vacant lots and even city vacant blocks were rushed into gardens last spring by enthusiastic city farmers. All of our cities were deserving of the title of "garden cities." Some of these amateur gardeners had good crops, others fair crops and many had no crops at all. All, however, were richer in experience. They discovered, for instance, that the returns of farming cannot be calculated with mathematical precision, and that a certain quantity of raw material with a certain amount of labor expended does not necessarily result in a certain quantity of the finished article. Where the garden hose did not provide artificial rain on order, our city farmers discovered further that in spite of the best of soil management, good seed and much labor, a whole lot depends upon weather conditions over which the gardener has no control.

What failures there were could not have been due to lack of advice. Our Departments of Agriculture showered bulletins on all city folk who asked for them. There were few local papers that did not take part in the dispensing of agricultural and horticultural information. In none of these bulletins, however, were the amateurs told how to bring their crops through the hard frosts of September.

Farming is more or less of a speculation, with the weather as arbitrator. We are glad that so many of our city friends have had an opportunity to find this out by first hand experience. It should result in a more sympathetic appreciation of some of the farmers' problems. We who make our living on the farm, however, should not forget that the weather is after all not the absolute ruler, and that the odds are still with the best players.

Here Is a Truthful Man

THOMAS H. SWOPE, Kansas City multimillionaire, always declared he never carried a dollar of his millions.

"All I did," he used to say, "was to buy Kansas City real estate when people were anxious to sell, and sell it occasionally when they were anxious to buy, but I kept the most of it. I just sat back and loafed while the people of Kansas City worked for me, and built a great city and made me rich."

Such frankness is refreshing and illuminating.



THE humblest soul on earth, when mindful of Christ's promise is the greatest conqueror.—M. F. Egan.

The Heart of the Desert

(Continued from last week.)

ALCHISE laid Rhoda on the ground while he spoke rapidly to the Indian. The old man protested at first but on the repeated use of Kutie's name he finally nodded and Alchise carried Rhoda into the campos. A squaw knifed a fire which, blazing up brightly, showed a huge, dark room, canvas-roofed and dirt-floored, quite bare except for the soiled blankets on the floor.

Rhoda was laid in the centre of the hut. The old buck knelt beside her. He was very old indeed. His time-worn features were lean and ascetic. His clay-matted hair was streaked with white; his black eyes were deep-sunk and his temples were hollow. But there was a fine sort of dignity about the old medicine-man despite his squalor. He gazed on Rhoda in silence for some time. Alchise and Cesca sat on the floor, and little by little they were joined by a dozen other Indians who formed a circle about the girl. The firelight flickered on the dark intent faces and on Rhoda's delicate beauty as she lay passing rapidly from stupor to delirium.

Suddenly the old man raised his lean hand, shaking a gourd filled with pebbles, and began softly to chant. Instantly the other Indians joined him and the campos was filled with the rhythmic of a weird song. Rhoda tossed her arms and began to cough a little from the smoke. The chant quickened. It was the mechanical repetition of two notes falling always from high to low. Yet it had an indescribable effect of melancholy, this aboriginal song. It was as hopeless and melancholy as all of nature's chants: the wail of the wind, the sob of the rain, the beat of the waves.

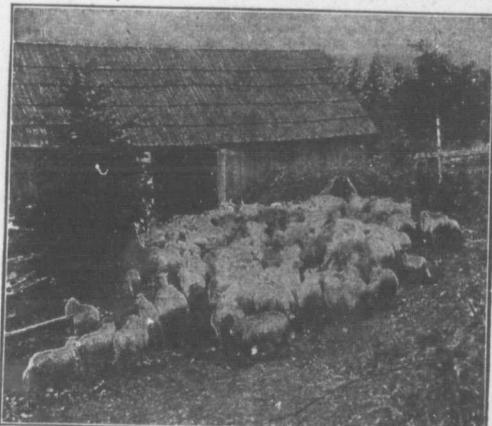
Rhoda sat erect, her eyes wild and wide. The old buck, without ceasing his song, attempted to thrust her back with one lean brown claw, but Rhoda struck him feebly.

"Go away!" she cried. "Be quiet! You hurt my head! Don't make that dreadful noise!"

The chant quickened. The medicine-man now rocked back and forth on his knees, accenting the throb of the song by beating his bare feet on the earth. He seemed by some strange suppleness and of the shadow of death. Rhoda struggled, with horror in her eyes, to rise; but the old man with a hand on her shoulder forced her back on the blanket.

"Oh, what is it?" wailed Rhoda, clutching at the mass of yellow-brown hair about her face. "Where am I? What are you doing? Have I died? Where is Kutie? Kutie!" she screamed. "Kutie!"

The medicine-man held her to the blanket and for a time she sat quiescent. Then as the Indian lifted his hand from her shoulder the bewilderment of her grey eyes changed to the wildness of delirium. She looked toward the doorway where the dawn light made but little headway against the dark interior. With one blue-veined hand on her panting



Wool, Wealth Producers—and their humble home—a product of pioneer days in Ontario.

breast she slowly, stealthily gathered herself together, and with unbelievable swiftness she sprang for the square of dawn light. She leaped almost into the arms of a young buck who sat near the door. He bore her back to her place while the chant continued without interruption.

Exhausted, Rhoda lay listening to the song. Gradually it began to exert its hypnotic influence over her. Its sense of melancholy enveloped her, coursing down her cheeks, her twitching hands turned upward beside her. Slowly she floated outward upon a dark sea whose waves beat a ceaseless requiem of anguish on her ears. It seemed to her that she was enduring all the sorrows of the ages; that she was brain-tortured by the death agonies of all humanity; that all the uselessness, all the meaningless, all the utter weariness of the death-ridden world pressed upon her, suffocating her, forcing her, forcing her, forcing the beating of her heart, the

intake of her breath. Slowly her white lids closed, yet with one last conscious cry for life!

"Kutie!" she wailed. "Kutie!" A quick shadow filled the doorway.

"Here, Rhoda! Here!" Kutie bounded into the room, upsetting the medicine-man, and lifted Rhoda in his arms. She clung to him wildly.

"Take me away, Kutie! Take me away!"

He soothed her with great tenderness.

"Dear one!" he murmured. "Dear one!" and she closed her eyes quietly. During this time the Indians sat silent and watchful. Kutie turned to Alchise.

"You cursed fool!" he said. "She's not well now," replied Alchise anxiously. "Alchise save her for you. Molly tell you where come."

For a moment Kutie stared at Alchise; then, as if realizing the futility of speech, "Come!" he said, and ignoring the other Indians, he strode from the campos. Alchise and Cesca followed him, and outside the anxious Molly seized Rhoda's limp hand with a little cry of joy. Kutie led the way to a quiet spot among the pines. Here he laid Rhoda on a sheepskin and covered her with a tattered blanket, the spoils of his previous night's trip.

About the middle of the morning Alchise opened her eyes. As she stirred, Kutie came to her. "I've had such horrible dreams,

"Rhoda! Rhoda!" whispered Kutie, "your suffering kills me! But I must have you, I must!"

Rhoda moved her head impatiently, as if the Indian's tense, handsome face annoyed her. She refused food but drank deeply of the tepid water and shortly they were again on the trail.

For several hours Rhoda lay in Kutie's arms, weak and ill but with lucid mind. They were making their way up a steep canon. It was very narrow. Rhoda could see the individual leaves of the aspens on the opposite wall as they moved close in the shadow of the other. The floor, watered by a clear brook, was level and green. On either side the walls were murmurous with delicately quivering aspens and sighing pines.

Suddenly Cesca gave a grunt of warning. Far down the valley a shepherd-herd was approaching with his flocks. Kutie turned to the right and Alchise sprang to his aid. In the shelter of the trees, Kutie twisted a handkerchief across Rhoda's mouth; in reply to her outraged eyes, he said:

"I don't mind single visitors as a rule but I haven't time to fuss with one now."

Together the two men carried Rhoda up the canon side. They lifted her from trunk to trunk, now a root-hold, now a jutting bit of rock, till far up the side of the canon Rhoda lay at last on a little ledge bespiced with pine-needles. By the time the Indians were settled on the rock Rhoda was delirious again. The fever had returned twofold and Molly's entire efforts were toward keeping the tossing form on the ledge.

Slowly, very slowly, the herder, a sturdy ragged Mexican, moved up the canon, pausing now and again to scratch his head. He was whistling La Paloma. The Indians' black eyes did not leave him and after his flute-like notes had melted into the distance they still crunched in cramped stillness on the ledge.

But shortly Kutie freed Rhoda's mouth, gave Alchise a swift look, and with infinite care the descent was begun. Kutie did not like traveling in the daylight, for many reasons. Carefully, swiftly they moved up the canon, always hugging the wall late in the afternoon they emerged on an open mesa. All the stretched day Rhoda had traveled in a fearsome world of her own, peopled with usucanny figures, alight with a glare that seared her eyes, held in a vice that gripped her until she screamed with restless pain. The song that the shepherd had whistled tortured her tired brain.

"The day that I left my home for the rolling sea,
I said, 'Mother dear, O pray to thy God for me!'

But 'e'er we set sail I went a fond
leave to take."

Over and over she sang the three lines, ending each time with a frightened stare up into Kutie's face.

"Whom do I see so sadly to? Whom? But they don't care!"

"Then again the three voices!"

"The day that I left my home for the rolling sea—"

Night came and the weary, weary crossing of a crazy, heavily wooded mountain. Kutie did not relinquish his burden. He seemed not to tire of the weight of the slender body that lay now in helpless stupor. If the squaws or Alchise felt fatigue or intolerance as Lutie held them to a pace on the tortuous trail that would surely have exhausted a Caucasian athlete, they gave no sign. All the endless night Kutie led the way under the midnight blackness of the pines or the violet light of the stars, until the lifting light of the dawn found

(Continued on page 21.)

THE UPWARD LOOK

A Baby's Smile

WHOSOEVER shall not receive the Kingdom of God as a little child shall it, no wise enter therein.—Luke 18:17.

You know it well, one of the most beautiful of all God's thoughts in creation, a baby's smile, that little toothless smile that transfigures the whole of the wee face and transfigures your heart and life? It tar more than compensates for all our work, fatigue, care and anxiety which its tiny owner may have caused.

What heavenly rewards God grants us right here on our own earth. What trust and joy and love and adoration there is in that smile. The trust has no hint of misgiving or doubt. It has absolute confidence in the loved one on whom it is bestowed.

Just so must our trust be in our God, that His sovereignty may have whole possession in our heart and soul. In that smile, the wee face is radiance with joy. There is no suggestion of trouble or grief. When Christ's kingdom holds sway in our hearts, there can but be every expression of a glad joy.

The love and adoration also in that smile is a prototype of the love and adoration which is spontaneous and pure, when Christ has full possession.

Yet a doctor reports that in many institutions babies are dying simply for lack of "mothering." Think of the lonely heartache in those little beings that would bring about that result. Think of the lonely heartache in those who have no little lives to help them enter the kingdom, and who never know the wonder and the beauty and the power of a baby's smile.—I. H. N.

HOME CLUB

Mothers and Daughters

WE hear much these days about cooperation. While pondering over this subject of cooperation the other day, I was led to wonder how many of us mothers fully appreciate the value and far-reaching importance of cultivating that spirit of cooperation and better still, companionship, between the mother and daughter in the home. Did it ever occur to Home Clubbers that the first time the Bible mentions a mother and daughter doing work together, it was in the care and keeping of a little child.—Moses. This was a beautiful cooperative work.

There is one word which seems to express the ideal relationship between mother and daughter and that is "companions." Daughters have a great deal more freedom nowadays than in times past and yet the relationship of mother and daughter is oftentimes far from the true companionship they might be. It is a fine thing when a father and his boy are companions. Every boy loves to walk along with his father and be taken into his confidence and to believe every daughter loves it just the same.

This companionship must begin in early childhood in order to continue. The feeling of companionship is oftentimes lost, because the mother seems to forget that if her daughter is expected to be interested in the things which interest her, the mother in turn must be interested in things which appeal to the daughter. A mother sometimes loses her daughter's confidence when she does not show as much sympathy as she should for her "castles in the air." Then, there is another point. A boy's heart is always a man, and very often a girl's heart is a man, too. We should not think that the romantic side of a girl's nature is all

foolishness and we should have patience and sympathy.

Another way in which we can practice cooperation in the home is to see to it that the daughter has an allowance. Then, too, she should have a share in the responsibility and planning of the work, as this is not only a good way to cooperate, but it is also training worth while for the girl. Mother and daughter should also cooperate in keeping the standards of the home on a high level. There will come a time in the life of both the boys and girls in the home when they will have to make decisions without the mother's or father's advice. If the standards of the home have been on a high plane it will help the girls and boys to make wise decisions.—"Aunt Flossie."

"Cousin Elsie" Speaks Her Mind

IHAVE been wondering what all the Home Club members have been doing these winter days, so thought I would drop in for a little chat.

In the Jan. 31st issue of Farm and Dairy appeared a cartoon on one of the household wastes entitled "Save the Bread." It pointed out the great wastage of bread if each family wastes but one slice a day. This certainly sounds terrible, but what of other really unnecessary wastes which could be stopped? For instance, in our neighborhood a soldier's wife and little boy are paying their board and buying good bread from the baker and beef hogs, 25 cents each to feed a horrid looking god for nothing. I like a pet such as a nice cat or dog, but in times such as these are now facing, the dog should earn his board like the rest of us have to do. It would be better to "raise a pig."

While the women are doing their best to save in the kitchen, there is an alarming wastage going on in our training camps. Saving in our kitchens there is just like trying to stop a small leak in one side of the barrel while there is a larger one in the other side. Last summer in Patawawa camp over 150 pigs were fed with leftovers. This may sound like good profit, but when the hogs were sold the money wasn't handed to the Government, although the hogs had been fed at the Government's expense. In speaking of this practice one soldier said that the waste on account of lack of system was tremendous. Plenty of food is provided but with some cooks any leftovers in the line of meat or other things which could be reserved and enjoyed at the next meal, is thrown away and the breads settle down: flour and jam for supper. Why not have a few lessons on economy given to the men who are to cook the material the nation is trying to provide and save on this issue to help the boys overseas?

Another case of waste which I have in mind was that of a man who received socks of dark red and fed his hens and two calves on it. It is, financially speaking, cheap feed, but have we not often heard that a "useful waste means a useful want"? Do you not think we are beginning to face the want I would like to hear the opinions of some of the Home Club members on this question of waste.

War Bread Recipe

Mrs. S. J. Lawrence, Middlesex Co., Ont.

SCALD two tablespoons of flour with one-half pint of boiling water. Beat until smooth. When cool add your yeast cake which has been soaked in lukewarm water. Beat briskly in a bowl and keep in a warm place until light and foamy. This is the yeast.

Four one quart of boiling potato water over two cups of oatmeal and

one tablespoon of salt. Let cool. When lukewarm add one cup corn meal and one cup bran, (rye, whole wheat or Roman meal may be substituted for a change. If the latter is used scald it with the oats.) Add one tablespoonful of lard. I always put in a pinch of ginger and about as much soda as you can place on a five cent piece, "just for luck." Then add yeast and beat in enough white flour to make a sponge. Keep warm until light, then proceed the same as for white bread. Knead in flour to make a stiff loaf. The flour required must be used at this kneading. Let rise, usually over night, then mold lightly into loaves. This bread needs to rise very light and requires longer baking than all-white bread, usually about 50 minutes. The above recipe makes four loaves.

When Making Comforters

WE do not hear so much nowadays of "getting bees," but quilts and comforters are still being made, and this season of the year is a good time to get some new ones under way. A splendid idea which came to our attention recently is worth passing along.

Oftentimes comforters are made from pretty material which, after considerable usage, becomes soiled. The trouble then is to wash the comforter. Here is a way to solve the difficulty: Take mosquito netting and cut it the length and width of the comforter. Then spread the cotton batting between the two pieces of netting and tie as closely as any knitter could be tied with white knitting cotton. The edges of the netting are then turned in and sewed together. A good quality of comfort cretonne or some such material may then be purchased and made up like one would make a pillow case, leaving both ends open for convenience. Slip the netting comforter inside the cover and keep in place by tying in a few places, it not being necessary to have the ties very close together. The open ends can then be quickly sewed up by hand. It will be an easy matter, when such comforters become soiled, to pull out the sewing at the ends, clip the few ties and remove the outer covering, and launder. It will then be as fresh as if newly made.

Use More Milk and No Olo

PROF. H. H. Dean of the Ontario Agricultural College, Guelph, brought out some important points on the value of milk, at the recent Eastern Ontario Dairymen's Association convention. He said:

"Milk at 12 to 15 cents a quart, is cheap food, and any family who can afford to buy meat at present prices can afford to buy at least three quarts of milk a day. The average woman today raises her children on the bottle, and were it not for the dairy cow, the human family would become extinct in about five generations."

"Milk is a well balanced food, rich in properties required for the production of brainy people. Milk should be pasteurized before being used for family consumption, but notwithstanding this fact, recent investigations have shown that not nearly as much sickness is transmitted through milk as has been supposed."

"There is no economy in buying oleomargarine at 35 cents a pound, instead of butter at 50 cents a pound, as purchasing a pound saved in the purchase of oleomargarine may mean a loss of seven or eight dollars in doctors' bills for the children. Oleomargarine is not likely to affect good butter adversely, but it may prove a hard competitor for poor grades of creamery and dairy butter. In this way its advent may bring about an improvement in the quality of the butter produced on the whole is likely to prove a mistake."

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lines of medical school inspection, and the women of the Institutes have helped me to the very limit. One lady gave her time for three days to drive me around from school to school. We went to one school and found a boy 13 years old and only in the second book. He could only see at five feet what he should have seen at 500 feet what he little fellow who got glasses after we had examined his eyesight, said to his father, "Gosh, I never knew anyone could see like this." The parents in because they have no conception that their children are affected.

In going from school to school I have only had two children who cried before they were examined and that was because we did not have time to talk to them beforehand and explain just what we were trying to do. One boy said he "did not want to have his conscience cut out." Children, as a rule, rather enjoy the experience.

The percentage of defective teeth education given along this line by the teachers. I have found less than two per cent of the children examined who have had their teeth properly attended to under the age of 14 years.

In this country of ours with the number of men who will never return to us from the front and those who to the children that they have the best medical care and attention it is possible to give them. Our government should be petitioned to give us a grant to carry on this work of medical inspection of schools.

Keeping Clothes Attractive

A WONDERFUL improvement can be made to an otherwise shabby suit or dress by devoting a little time sponging, pressing and removing spots. In these days of economy when we feel it necessary to wear our suits and dresses probably for a longer time than we used to do, we will need to do some sponging and pressing frequently in order to keep our clothes looking as attractive as possible.

How many of us really know just how to go about freshening up a skirt or dress? In the first place the garment should be brushed well with a good stiff brush to remove all loose dust. Then sponge thoroughly until it is well moistened with a lukewarm mixture of one part of household ammonia to three parts of water; brush well with a good brush, hang up to dry and finally press with a heavy iron, laying a cloth over the goods. Any grease spots not yielding to this process may be removed by using gasoline.

To sponge a new cloth, take a heavy cotton cloth, wet it thoroughly and wring it out. Spread your goods on a table folded into four thicknesses, and lay the damp cloth over it, ironing with a heavy iron until one side is done; repeat on the other side.

Four excellent remedies to have ready are gasoline, strong ammonia, acetic acid and oxalic acid. These acids are poison and should be carefully labeled and put in a safe place. They will keep for a long period.

To remove yards or paint on wool, cotton or linen, rub carefully with gasoline and soap; on silk, use gasoline.

Who has not experienced the difficulty of being out of sour milk when baking, and it is particularly distressing for some special article? Here is a way to solve the difficulty. Add some lemon juice to a cup of sweet milk, and by the end of a half hour it should be thick.

One drawback about roasted potatoes is that takes a considerable length of time to bake them. Try pouring boiling water over the potatoes before putting them in the oven. We are told it saves time and also improves the flavor of the potatoes.

The Heart of the Desert

(Continued from page 12.)

them across the ranges and standing at the edge of a little river.

In the dim light there lifted a terraced adobe building with ladders faintly outlined on the terraces. There was no sound save the barking of a dog and the ripple of the river. With a muttered admonition, Kutlie left Rhoda to the others and climbed one of the ladders. He returned with a blackleted figure that gazed on Rhoda non-committal. At a sign, Kutlie lifted Rhoda, and the little group moved noiselessly toward the dwelling, clambered up a ladder, and disappeared.

Rhoda opened her eyes with a sense of physical comfort that confused her. She was lying on the floor of a long, gray-walled room. In one corner was a tiny adobe fireplace from which a tinier fire threw a lot of flame color on the Navajo that lay before the hearth. Along the walls were benches with splendid Navajos rolled cushion-wise upon them. Above the benches hung several rifles with couarskin quivers beneath them. A couple of cheap framed mirrors were hung with silver necklaces of beautiful workmanship. In a corner a table was set with heavy but shining china dishes.

Rhoda stared with increasing wonder. She was very weak and spent but her head was clear. She lifted her arms and looked at them. She was wearing a loose-fitting gray garment of a strange weave. She fingered it, more and more puzzled.

"You wake now?" asked a low voice.

Coming softly down the room was an Indian woman of comely face and strange garb. Over a soft shirt of cut and weave such as Rhoda had on, she wore a dark shawl caught at one shoulder and reaching only to the knees. A many-colored girdle confined the dress at the waist. Her legs and feet were covered with high, loose moccasins of black hair hung free on her shoulders.

"You been much sick," the woman went on; "much sick," stooping to straighten Rhoda's blanket.

"Where am I?" asked Rhoda.

"At Chima. You eat breakfast?" Rhoda caught the woman's hand.

"Who are you?" she asked. "You have been very good to me."

"Me Marie," replied the woman.

"Where are Kutlie and the others?" "Kutlie here. Others in mountain."

"You much sick, three days." Rhoda sighed. Would this kaleidoscope of misery never end!

"I think it would be glad of it," she said. "I am very glad to see you here. I hope if you had let me die. Will you help me to get back to my white friends?"

Marie shook her head. "Kutlie's friend. We take care of Kutlie's friend."

Rhoda turned wearily on her side. "Go away and let me sleep," she said.

CHAPTER XII.

The Crossing Trails.

As Kutlie, with Rhoda in his arms, disappeared into the mesa fissure, John DeWitt threw himself from his horse and had more than brought their horses to their haunches.

He was met by Acheis's wife, with Acheis entirely hidden from view. For a moment the four men stood panting and in a flash their senses. Then Billy Porter uttered an oath that reverberated from the rocky wall.

"They will set to the top!" he cried. "Jack, you and DeWitt get up there! Carlos and I will hold this!"

(To Be Continued.)

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How Western Farmers Raise Their Taxes

Numerous Kinds of Taxes Imposed. Taxation of Improvements Not Allowed Leads Made on Land Values. How the System Works.

H. Bronson Cowan, Editor-in-Chief, Farm and Dairy.

THE farmers of western Canada look at the matter of raising taxes from a different angle than most people in Ontario and the east. In Ontario the Assessment Act requires that taxes shall be levied on improvements as well as on land values for Municipal and School purposes. This system in consequence is generally followed. One reason why this system is praised in the east is because many believe that people should pay taxes in proportion to their wealth. As there are many farms which have been occupied for years and bear many improvements, it is felt that the men who have these improvements are better able to pay taxes on them, than a man of less wealth whose farm may not be improved to a similar extent. Of course, there is a serious fallacy in this argument. Very frequently it happens that farmers who improve their farms have to borrow the money with which to do it. They then have to pay interest on the money thus borrowed and the taxes on the improvements as well. Naturally this does not encourage a man to improve his land.

The farmers of western Canada have approached the problem of raising their municipal as well as some of their provincial taxes from a different angle than we have in Ontario. The country is much younger and was settled more rapidly. At first improvements were taxed as well as the land. With the rapid development of the country, however, speculators poured in in thousands and bought up millions of acres of land, which they held out of use, expecting it would increase in value and they would be able to sell out at a handsome profit. So much land was held out of use in this way that it created serious problems for the settlers who were actually working their land. They were placed in forced thousands of settlers to drive twenty and thirty miles or more past vacant land in order to reach their own homesteads. Many thus found it impossible to get the advantage of good railroad connections or to enjoy the other conveniences that are to be had when towns and villages are near. The vacant land also grew weeds, which infested the crops of the settlers.

A Serious Condition.

In time another objectionable feature of this situation became apparent. The west was anxious to secure as many settlers as possible. The land speculators were inclined to hold their land at prices that were difficult for many of the poorer settlers to obtain homesteads, thus settlement was retarded. For the same reason, and because people were forced to live at considerable distances apart, it was more difficult for them to maintain schools and churches and for villages to spring up with their numerous conveniences. This it became evident that high land values were retarding the development of the community and that if anything could be done to facilitate their land being sold on reasonable terms, it would promote settlement and thus make it easier to secure the improvements which the settlers so much desired.

Still another factor helped to bring about a change in sentiment. Because the country was new the settlers found it necessary to commence improving their holdings from the first. They had many other difficulties to overcome, and when they found that their taxes were being increased in proportion to the improvements which they did not feel very happy about it. Naturally this in time led to a demand that improvements should be exempt from taxes, and that taxes should be levied only on the value of the land. It was realized that this would not in-

crease the taxes that the settlers would have to pay, while it would increase the taxes of the speculators. No one was worried very much about how the speculators would look at the situation, seeing that most of them did not live in the country, and that they were merely "trying to get something for nothing through benefiting by the industry of the real settlers in the community.

An Important Report.

One of the first steps towards the taxation of land values was taken in British Columbia when in 1911 a Royal Commission on taxation was appointed to look into the whole subject of taxation. This commission later reported in favor of the abolition of the poll tax and all taxes on personal property. Even before this, however, the provincial government of British Columbia had seen fit to divide land into two classes for taxation purposes. These classes were—first, lands held for use or occupation, and second, lands held for an increase in value. It also made a difference in imposing its rates of taxation, between the various classes of

Announce Your Sale Dates Early

BEFORE you are planning to hold an Auction Sale for your district or for a herd, you should select and announce the date as far in advance as possible. In the past, because of the unfortunate circumstances of two sales being held in the same district on the same date, to the detriment of each other.

Select your sale dates then immediately forward it to FARM AND DAIRY for announcement. In the interests of our readers, we announce these free of charge under

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C. G. McKILICAN, Live Stock Rep.
Farm & Dairy, Peterboro, Ont.

land, according to the use to which they were put. Land held for occupation or agricultural use was taxed at the rate of one-half of 1%; land held as coal land, on which the mines are worked, at one per cent; if unworked, at two per cent; land held as "timber land," at two per cent; land held only for appreciation of value, at four per cent. Unworked Crown-granted mineral claims, at 25c per acre.

Each municipality in British Columbia has local option in taxation. It has not proved the disastrous thing we were led to believe that it would in Ontario. A majority of the municipalities have abolished all taxes on improvements, and substituted therefor a tax on land values only. The improvement system is working well and spreading rapidly, and has been adopted by the large cities and many of the towns and villages.

Taxation in the Provinces.

In both Alberta and Saskatchewan the provincial law prevents rural municipalities from imposing taxes on improvements. All municipal and school taxes are raised by the taxation of land values only. In addition there are numerous other taxes that are imposed on land values, such as a notorious weed tax, a hail insurance tax and a wild lands tax. This last tax represents a direct effort of the people to squeeze out the speculator, it being an extra tax that is imposed only on patented lands in the province

that are not being cultivated or used for pasture by the owners. There are a number of exemptions from the application of this tax, but, nevertheless, it has proved effective and a means of raising considerable revenue. "Our wild lands," said Mr. Pierre, the Deputy Minister of Municipal Affairs for Alberta, to me, "is based on the value of the land. The rate fixed by the Act is one per cent of such value, that is, where a section of land is assessed at \$10 per acre, making the total assessment \$6,400—the owner of such idle land is required to pay to the revenues of the province an annual tax amounting to \$64. This tax applies only to land held under title. The revenue raised in this way is collected by the provincial government, much of it being used to improve the roads in the province."

Saskatchewan also has a special tax on idle lands, commonly called a surtax. This tax is never levied against a settler or farmer who cultivates his land. "It is a tax," said Mr. J. N. Bayne, the Deputy Minister of Municipal Affairs, who, by the way, is an old Carleton County man, "of 6 1/2c per acre on those areas which are not being used or are being held for speculative purposes. It might be termed a "Wild Land Tax," for the man who settles down on the land in Saskatchewan, and works it as a farmer, will have no Surtax to pay. It is imposed to discourage the holding of farm lands idle. It is not paid to the provincial government, but is remitted direct to the municipalities. Mr. Bayne admitted that the government feels that it made a mistake when it imposed, to let this tax go to the municipalities, as the municipalities when arranging their tax rate, allow for this tax and reduce their general rate, thus reducing the tax on the speculators as well as on the settlers. This, in some cases, leaves the municipalities with no more money than formerly with which to improve their roads. The revenue raised by this tax in 1911 was \$200,000. It will be seen that it represents a very considerable tax.

Don't Tax Thrift.

"At one time," continued Mr. Bayne, "we raised our thrifts by levying a flat rate on land regardless of its valuation. This method was abandoned at the end of 1913, and in 1914 for the first time in Saskatchewan the history of land values only were assessed generally throughout our rural municipalities. We do not believe in penalizing a man's thrift, by making him pay taxes on his personal property, his herds, his barns or his house. In villages, lands are assessed at their actual value and buildings and improvements at 40% of their value. However, a village may estimate entirely the assessment on buildings and improvements, if a petition to that effect is received by the council, signed by two-thirds of the resident electors. In 1915, 76 villages took advantage of this provision and based their assessments on land values only. Most of our cities are moving in the same direction. Of late there has been a tendency in some sections to favor a return to a tax on improvements, but this has been largely due to the heavy expenditures that were incurred during the boom period and which the municipalities are now struggling to meet. In this connection the government has appointed Prof. Robert Murray Hair to look into the whole situation and report his findings."

Successful in Alberta.

"That the land tax is proving popular in Alberta is certified to by Mr. Pierre whom I have already quoted. On this point he spoke as follows: "The taxation of land values" has worked out very successfully in the rural portion of Alberta and any attempt to change this form of taxation so as to require a farmer to pay more

would be strongly resented by practically the entire rural population."

Extra Taxes.

In Saskatchewan where land owners neglect to destroy noxious weeds or gophers, the rural municipality may destroy them and charge the cost to the land owner in a special tax on the value of his land. There is also a Hail Insurance Tax. In some cases where 25 or more rural municipalities combine to establish an inter-municipal hail insurance scheme, in such cases each claimant upon the fund is entitled to receive up to five cents per acre, for one per cent damage which the Hail Commission may decide he has sustained by hail. In Alberta also there are similar provisions relating to noxious weeds and hail insurance. Hundreds of thousands of dollars have been paid out in recent years in hail insurance to farmers, many of whom might have been almost ruined but for this form of protection.

Unearned Increment Tax.

Alberta also has an unearned increment tax. The province taxes five per cent of the increase in the value of the land at the time of a sale on the ground that this value is principally a community value, due to the growth of population and the expenditure of public money. "If the province by spending money," said Premier Sifton on one occasion, "on a railway through the holding of a lot in a certain town, we think the public is entitled to at least a part of the increased value." Speculation in land has been pretty quiet in Alberta since this form of tax was imposed, but as soon as the next boom arrives, it may be expected to become a means of raising considerable money. The principle it involves is pretty generally approved.

Want Province Extended.

So well satisfied are the farmers of Western Canada with this method of raising their taxes they have again and again passed resolutions in their provincial farmers' associations in favor of the reduction of the tariff taxes which they now have to pay on agricultural machinery, as well as on practically all of their goods they would like to buy, and having the Dominion Government, if necessary, raise any revenue it requires to offset its loss in tariff taxes by a direct tax on land values. It was learned from experience that we may judge from the experience of the farmers of western Canada that, as compared with other forms of taxation, a direct tax on land values has much to commend it. Now that the organized farmers of Ontario have endorsed this system of taxation, the subject soon is likely to become of greater interest in Ontario.

A parson in a little country village sent his man of all work on Sunday morning to the church, who, being David, to inquire as to the non-delivery of some meat which ought to have arrived the previous evening. When the lad returned his master had none to send to church, so he went to the sacred edifice, too. Just as he arrived the parson was giving out the following text: "What did David say?" "Great was his surprise and also the consternation when he replied came from the lad: 'He said that he won't let you have the meat until you pay for the last lot.'"—Buffalo Courier.

One of the most successful prize winners at the recent exhibition of dairy products held by the Eastern Ontario Dairyman's Association at Perth, was Mr. Gilbert Rancier, of Wales, Ontario, who won five prizes and his cheese maker in the same factory two. His cheese maker won a first and second prize, as well as a first, second and third, as well as two other prizes.

The Makers Corner

Butter and Cheese Makers are invited to send contributions to this department, to ask questions on matters relating to churning, making, and to suggest subjects for discussion.

Hints on Butter-Making

By L. A. Zurett, at E.G.O.A. Convention

THE color and texture of butter are influenced largely by the richness of the cream, temperatures of cream and wash water, and length of time in working.

Richness of Cream.
If cream has too high a percentage of fat and the churn is filled much over half full, we are liable to experience considerable difficulty by the cream swelling and hanging up in the churn. When we do get butter it is likely to be in large lumps, and difficult to thoroughly wash. The chances are that the butter will be rather soft to admit of proper working, and we will either have a coarse porous texture showing too much free moisture with a more or less mottled color, or if we work sufficiently to secure an even color we will have a soft, and possibly a greasy texture with too high a moisture content.

If the cream has too low a fat content we will also have difficulties in churning. The fat globules being so far apart will not unite so readily, and if we are churning at the usual temperature the small particles of butter are subject to so much friction by rubbing against each other as to seriously injure the grain. When the churning is finally completed the granules will be small and rounded, and the butter is likely to show a more or less speckled appearance with a sticky or greasy texture.

Experience has taught us that cream having from 32 to 35 per cent. fat with the churn not too full gives the best average results, with a possible range of 30 to 37 per cent. As the average percentage of fat in the cream delivered to our creameries is only about 28 per cent., a considerable improvement could be brought about by encouraging the patrons to produce a richer cream.

Temperatures.
The lack of the employment of proper temperatures in churning, washing and working butter is perhaps more responsible for defective color and grain than is the richness of the cream. The proper churning temperature depends on the length of time the cream has been cooled to this temperature before churning, the richness of the cream, the amount placed in the churn and the nature or composition of the fat. Fat is influenced by changes in temperature, but very slowly, so if the cream is cooled just before being churned a lower temperature must be employed than if the cooling was done several hours previously. The same is true if it is found necessary to raise the temperature before churning as a correspondingly higher temperature must be used.

As it is the common practice to churn on the day following the receipt of the cream, it is better to bring the cream to the proper churning temperature the evening previous, making due allowance for changes which may occur over night. Otherwise, much valuable time will be lost in the morning, or the cream will be churned at whatever temperature it may be at, resulting in more or less gummy work with unsatisfactory results.

The object of washing butter is to remove the buttermilk and reduce the temperature so that the butter has that firmness of body to admit of sufficient working to thoroughly incorporate the salt and moisture and produce a smooth waxy body and grain with a uniform color. If insufficient water is used and the cream has been churned at the proper temperature, the temper-

ature of the wash water should be four or five degrees lower than the cream. Mistakes are often made, especially when the churning temperature has been too high and the butter is soft, by using water of too low a temperature. This causes the outside of the butter, the centre not being affected, with the result that the butter will not be worked evenly and will have a mottled appearance when finished. In a case of this kind it is better to wash the butter with two waters with the first water only, four or five degrees cooler than the cream and the second at the proper temperature to bring about the desired result.

In order to properly work butter it must have a sufficient firmness without being hard, to admit the application of a moderate amount of pressure to force it through the workers. If the butter is too hard, too much friction is caused with a corresponding loss in texture and moisture, if too soft the butter in reality is not worked at all mixed, resulting in a soft porous loose grain with too much free moisture.

Suggestions Wanted

HOW to continue in the business of manufacturing butter or cheese with a milk condensary slowly but surely creeping up to the back door is a problem a considerable number of creamery and cheese factory operators have been called upon to solve, and quite a number of them have apparently failed, for occasionally news comes to us of a creamery or cheese factory that has been forced

FOOD BOARD FOR CANADA.

AN important announcement coming from the Federal Department of Agriculture is to the effect that a Food Board has been formed for the more efficient direction of the various aspects of Canada's supreme task—food production.

Mr. H. B. Thomson, the present Food Controller, as Chairman of the Board and Director of Conservation; Hon. Charles A. Dumas, the Saskatchewan Government, as Director of production, and Mr. J. D. McGregor of Brandon, as Director of Agricultural Labor, are all men of proved ability and influence, men whose training and experience warrant public expectation of real results from their service. Working under the Ministerial guidance of Hon. T. A. Crean, the Minister of Agriculture, with whom agricultural development has been for Canada Food Board should provide inspiring leadership and effective organization for the coming national campaign of food production and food conservation.

to close because of lack of patronage after the opening of a nearby condensary. It is a problem that has confronted cheesemakers especially, for the greater part of the condensaries have been located in territories where the farmers have been accustomed to hauling milk, where the condensary people would not have to educate the farmers to the habit of bringing in milk instead of cream.

We all know why the condensary has been able to force the cheese factory out of business—simply because the condensary utilizes every part of the milk except the whey, which is of no food value, and the cheese factory has the whey left as a waste or by-product, and when we consider that practically one-half of the total solids of milk remain in the whey after the curd has been extracted, we need not

MAPLE LAWN STOCK FARM

at present offers four yearling sons of
KING SEGIS ALCARTRA SPOFFORD

Owned by Levens and Purteile and W. L. Shaw.
Their dams are daughters of
COUNT SEGIS WALKER PIETERTJE
who has 6 daughters with records over 100 lbs. milk in 1 day, and who average over 9 lbs. butter in 7 days. Two with world records.

Write for Pedigree or Come and See.
WM. H. GOUGH & SON - Bloomfield, Ont.

LLENROC STOCK FARM

ON THE BOULEVARD OF THE BEAUTIFUL NIAGARA RIVER

We offer a fine young bull, by our Senior Sire and a 29-lb. cow. ALSO A YOUNG BULL, by SIR VEEMAN HENGERVELD, and from a 15-lb. 2-year-old, who is a grand-daughter of DIONA KONIGEN PIETERTJE 37 lbs.

Write for prices and pedigrees. Address
W. C. HOUCK - R.R. 1, Chippawa, Ont.

HOLSTEINS

We have the only two sons in Canada, of the 46-lb. bull Ormsby Jane King—only mature son of the world's most famous cow. One of them for sale, also a 29-lb. bull, whose dam and two great-grand-dams average 18.4 lbs. butter in 7 days. Also 11 bull calves of lesser note, and families of all ages.
R. M. HOLTBV, R. R. No. 4, PORT PERRY, ONT.

BACKED BY RECORDS

Our present offering is a young bull, born 5th April, 1917, nicely marked and straight as a line, top and bottom. Dam—FRANKY KOINOTYK; Granddam—FRANKY 2ND, twice grand champion in the Ottawa Dairy test. Sire's Dam—ROYALTON DEBOL PEBIN, 34.60 lbs. butter in 7 days; 116 lbs. milk in 1 day.
D. C. FLATT & SON - R. R. No. 2 - HAMILTON, ONT.

SPRUCE GROVE HOLSTEINS

4 BULLS FOR SALE, 6, 7, 12 and 13 months, respectively, by our herd sire MAY ECHO CHAMPION, full brother to MAY ECHO SYLVIA, of 33.31 son of KING SEGIS.
FARM NEAR STOP 35, YONGE STREET RADIAL,
GEORGE COOPER WILLOWDALE, ONTARIO

LAKEVIEW STOCK FARM

offers for sale several daughters, granddaughters and grandsons from the following cows—LAKEVIEW HATFIELD, 37.64 lbs. butter 7 days, and the present Canadian Champion 30-day butter cow, 8 months after calving; LAKEVIEW DUTCHLAND ARTIS, the 34.66 lb. Canadian Champion Son, 3-yr.-old; FRET CANARY COUNTESS 2ND, 27.75 lb. after calving; QUEBEN INKA DEBOL, 37.83 lbs. butter in 7 days, and 24.87 lbs. milk in 1 year, also Canadian Champion Mature cow in 7-day QUEBEN 2ND, 12.28 lb. 3-yr.-old, and her granddaughter, LAKEVIEW 7-day, butter cow, 8 mos. after calving, 18.31 lbs. who is now on test as in the history of Canada that such high producing Holsteins have been offered for sale.
DON'T WAIT TO WRITE, but take the first train for Bronte, Ont. Terms, cash or time.
Major E. F. Osler, Prop. BRONTE, Ont. T. A. Dawson, Mgr.

"AVONDALE FARM" BULLS

Young bulls sired by WOODCREST SIR CLYDE, whose dam has 23.08 lbs. butter, and over 24,000 lbs. milk in a year. He is by the same sire as our bull, Prince Hengerveld Pietje, with seven daughters having over 30 lbs.

1. One 10-month-old from a 23-lb. cow, the dam of our well-known Lady Waldorf Pietje.
2. From a 24½-lb. two-year-old, daughter of a twice 32-lb. cow.
3. From a 19.84-lb. junior two-year-old.

These are going to be sold at a bargain! We have several young sons by our sire as our bull, Prince Hengerveld Pietje, one of those 10 months old.

We are offering by private sale a few good yearlings, and two-year-old females by Woodcrest Sir Clyde.

H. LYNN, Avondale Farm, Brockville, Ont.

MERTON LODGE STOCK FARM

30
HEAD30
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**Will Sell By Public Auction March 5,
1918, at 1-30 p.m.**

Entire Herd of Registered Holstein-Friesian Cattle

Our herd is headed by Butter Baron Sir Kornlyde (29445), whose dam has an A.R.O. record of 103 lbs. milk in 1 day and 35.93 lbs. butter in 7 days, and is now on test again. Her dam has given 100 lbs. milk in 1 day, record when made. Queen Butter Baroness, with 23.17 lbs. butter, Canadian Prince, Brook Bank Butter Baron, King Siegf Akarira Calamity, also daughters and grand-daughters of Pontiac Hermes. 19 of our herd are officially tested or by tested dams.

Also all farm stock and implements. As I have sold my farm everything will be sold without reserve.

Putnam Station, Co. P. R. 1; Farm 7 miles from Ingersoll.

Write for Catalogue.

W. W. GEORGE, R.R. No. 2, MOSSLEY, ONT.

THE FIRST ANNUAL CONSIGNMENT SALE
of the

LONDON DISTRICT HOLSTEIN BREEDERS CLUB

will be held in the city of London, at the Brunswick Hotel Stables, corner of York and Tabot Streets, on

45 Head -- Thursday, March 14, 1918 -- 45 Head

When some of the choicest animals of the Black and White breed will be offered, consisting of daughters and sons of Pinders King Max Fawn, the 24-lb bull, owned by Lipitt, Laidlaw & Hoiby; a son of a 31 lb. bull; grand daughters of the great King Siegf; daughters of Judge Hingsveird DuKoi 8th, whose dam at 5 years old made 32.92; also near descendants of the \$50,000 bull, King Siegf Pontiac Akarira.

These will all be young cows and heifers, the majority of them milking or due to freshen soon. No three teaters or slack quarters—right in every way. If you want something choice in Holsteins, do not fail to be on hand, March 14.

Catalogues will be ready by the 1st of March, 1918. Write the Secretary for one.

Fred Bodkin, R. R. No. 2, Wilton Grove, Ont.

Dispersion Credit Sale

-- 57 HEAD --

**Registered Holsteins
and Holstein Grades**

On Tuesday, Feb. 26, at 10 a.m. sharp

3½ miles from MADOC, Lot 16 and 17, Con.
7, Township of Madoc, Hastings County.

The herd is headed by a son of VICTORIA BURKE, who has a butter record of 31.30 lbs. in 7 days, and 686.64 lbs. milk, in the same period. Her best day's record was 106 lbs. of milk, and FRANCY 3rd's ADMIRAL ORMSBY, whose dam, FRANCY 3rd, produced 29.16 lbs. of butter and 559 lbs. milk in 7 days.

I also offer for sale ADMIRAL BURKE, my herd bull, son of VICTORIA BURKE, rising 4-year-old.

ALSO INCLUDED are implements, horses, swine, dairy utensils and a quantity of household effects, etc.

TERMS OF SALE: \$10.00 and under, cash—over that amount 10 months credit at 7% per annum on approved joint notes.

Norman Montgomery,
Auctioneer.

**CHARLES BACON,
R.R. No. 3, Madoc, Ont.**

be surprised at all. It, therefore, devolves upon the cheesemaker to amend his ways, and get every ounce of energy out of the whey. The whey separator is a partial solution, and has prolonged the existence of a great many cheese factories that otherwise would have found their graves. The skimmed whey remains, however, with only the fat extracted from it, and there is still a considerable amount of digestible matter in it that should be recovered for human food. Much of this skimmed whey is considered worthless and is not even returned to the farm for feed to animals.

There is a splendid opportunity for some cheese factory operator who has competed with a condenser with any marked degree of success to help his fellow cheesemakers solve this vital problem in their own communities by relating to the trade his experiences. —Butter, Cheese and Egg Journal.

A Talk on Pasteurization

By M. P. A. Sondergaard, Before the Minnesota Dairyman's Convention.

LAST year I was given the opportunity to conduct in a number of creameries in this State, a series of experiments bearing on pasteurization. This investigational work was of a practical character and was carried on in co-operation with the State Dairy and Food Department. The object in view was to obtain data on the effect of pasteurization of various grades of cream produced in different localities.

My observation in connection with this work leads me to believe that the major failures in pasteurization, and the consequent slow progress made by the local creameries in adopting the method is due mainly to inefficient equipment, and to carelessness on the part of operators, many of whom do not appreciate the fact that different grades of cream require different methods.

The old style cream ripeners, still found in many plants, should never be used for pasteurizing purposes. They are not only very uneconomical to operate, owing to their limited heating and cooling capacity, but they will invariably cause an oily or rancid flavor to develop in the butter, and their use often results in great losses in the buttermilk.

The quality and especially the fat content of the cream are the two factors to be considered in obtaining the desired result from pasteurization.

From every point of view this cream is always objectionable, but this cream plus great variation in acidity is a calamity and should be constantly guarded against. Cream of this kind should be graded and handled separately. If this is not practicable, care should be taken in equalizing the acidity by holding the cream at about 115 degrees F. for 30 minutes before heating it to pasteurizing temperatures. This precaution will to a great extent prevent curdling of the cream, thus minimizing losses of fat in the buttermilk.

Creameries contemplating pasteurizing should first satisfy themselves that they have efficient apparatus and other facilities which will enable them to carry on the method both in an economical and proper manner. The boiler should have a capacity sufficient to furnish the necessary steam at all times during the entire process without deluging the work. There should be an ample supply of cold water with direct connection from well to cooler. Exhaust steam should be utilized in heating the cream because it saves fuel and has proven to be fully as satisfactory as live steam. Proper ventilation should be provided in order to protect the health of the employees, as well as keeping the creamery in sanitary condition. A supply of milk for starters should be arranged for.

The word "pasteurized" on the butter tub or package of butter should be a uniform guarantee to the pur-

chaser that the product has been heated and held at a temperature long enough to destroy all disease bacteria, and that the case origin of the cream of the body has not been changed, nor has the flavor been injured so as to affect the taste, and that the handling and packing has been done in a manner so as to avoid recontamination of the product from the time the cream is in the vat till the butter reaches the consumer.

Field Notes

By "Mac."

WHEN going through that semi-desert district which covers part of the distance between Peterboro and Toronto, I had the pleasure of calling upon Lewis Rogers, of Manvers. Mr. Rogers has been in that district about three years ago, and much to the surprise of his neighbors is "making good." One of the reasons for his success is the fact that he has made a study of the soil and general conditions and has carried on his operations to suit those conditions. Previous to his entry into the neighborhood, it was considered impossible to grow clover in that district, but by working his farm in proper rotation, manuring for corn and then following with oats seeded to clover, he has been able to grow clover to the king's taste.

Mr. Rogers is a modest man, and my impressions formed by a visit to his farm are based on what I saw rather than what he heard. As we drove out from the station we met a man, who evidently was not a farmer, and regarding whom my host volunteered the following information: "That man's a real estate agent." He sells these run-down farms to the poor deluded "back to the land" chaps from the cities. He puts an ad. in the city press setting forth the beauties of the district, the health of the climate, and all the other advantages, real and imaginary, accruing from a life next the soil, and then sticks a price that would almost buy good land. Of course, the poor buyers bite. After they have made a few payments and find that they cannot possibly make the thing go, he takes the farm of their hands. They return to town sadder and wiser men, richer in experience but poorer in pocket, while he gets busy in preparation for the next poor sucker. Some farms in the neighborhood he has turned over two or three times in this way in a year."

Mr. Rogers, also remarked: "When I bought mine, I only paid — an acre." (I won't mention the price as it would only make our farmers on high priced land jealous) "and even then I had a pretty hard time of it the first year."

Talking About Open Front Hen Houses

When Mr. Rogers bought Sunnybrae Farm there was no hen house, but there was an open front shed, about ten feet by twenty-four. To tide things over till something better could be built, Mr. Rogers had a curtain of bran bags, which he hung across half the front, having the other half open. That arrangement is still in use.

Nothing a fine flock of Barred Rocks standing themselves in the yard, asked: "Do they lay in this house during the winter?" and while Mr. Rogers did not consider the building a model by any means he stated that his hens laid every month last winter.

A Good Wind-break

While in this district I saw a splendid illustration of the value of timber belts. Mr. Rogers farm is surrounded on three sides by a belt of pine, possibly 100 feet wide. This supplies him with fuel and at the same time provides a wind-break. It is possible that the aforementioned success in the growing of clover may be due partially to the effect of this belt holding the snow on the fields.

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The Supply of Coagulants
WITH regard to supplies of coagulant for another year we have a reasonable assurance that if the cheesemakers will be content with sufficient to carry them a few weeks at a time and not try to stock up for the season that there will be no difficulty in meeting all requirements. The Department of Agriculture holds as a reserve, in case of actual shortage, a limited supply of Armour's Soluble Powdered Peppin, which is being sold to cheese factories at cost under certain conditions.

I would add just one word of caution and it is this: cheesemakers should not use any brand of coagulant unless they know that it has been thoroughly tested by some competent authority. We have made it as plain as possible to all vendors of coagulants or substitutes for them that the Dairy Branch is ready to stand between the cheese makers and any irresponsible dealer to see that no inferior article is foisted on the industry. We will always be ready to make careful tests of any new coagulant which may be offered for sale, and to take steps to prevent its sale if it proves to be unsatisfactory.

Every effort should be made to help out the situation by saving the stomachs of calves which are slaughtered at the age when their stomachs are useful for able purpose. The local manufacturers of rennet extract are prepared to take as that are offered. As near as I can determine there is no occasion for alarm over this matter, but we should not neglect any source of supply in sight.

The substitution of pepin for rennet was effected with so little trouble, and without any of the factories experiencing any real shortage, that it is doubtful if it is generally realized how near the cheese industry was to a serious interruption. Without pepin 75 per cent of the factories would now be closed.—J. A. Ruddle, Dairy Commissioner.

York County Champions

YORK county boys in the persons of Frank O'Sullivan of Arnscoot, Irvin Winch, Belhaven, and Clarke Young of Hagersman are winners in the Provincial championship inter-county live stock judging contest.

This contest is the final between the Eastern Ontario and the Western Ontario in the contests held at the Ottawa and Guelph Winter fairs. The Department of Agriculture was able to arrange through the Union Stock Yards management to bring together the Glensary team, which won the eastern championship, and the York county team, winners of the western championships, in a final competition for the Provincial championship, the Union Stock Yards donating a silver cup, value \$125, to the winners. The judges in the final contest were W. J. Bell, Superintendent of the Kemptonville Agricultural School, and J. P. Sackville of the Guelph College. In order that the boys might have the very best class of stock to judge the management took them to the farm of Dr. Parswell, Oakara, for dairy cattle, to Smith & Richardson's at Columbus for horses, to W. D. Dyer's farm at Brooklin for sheep and to W. A. Dryden's farm at Brooklin for beef cattle.

Mr. R. S. Dwanan of the Ontario Department of Agriculture was in charge of the arrangements, in which he was assisted by Mr. C. P. Topping, Secretary of the Union Stock Yards Co. The Glenary team was made up of J. Kennedy, A. Kennedy and T. Gouche, with District Representative D. E. MacRae in charge, while Representative J. C. Stickleby was in charge of the York county boys.

The result of the judging was in favor of the York county boys, who won over their opponents by 139 points.

The Quaker's Stock Farm

ENTIRE DISPERSION SALE OF
50—Pure-Bred Holstein-Friesian Cattle—50

FEMALES
40 OR MORE, INCLUDING

- Shadelawn Cynthia, Canary, 4 yrs., milk, 60.5 lbs., butter 26.37 lbs.
 - Maud Beata Sogis, butter 23.80 lbs.
 - Bella A. Pooch, butter 19.46 lbs.
 - Iris Fayne, 3 yrs., butter 18.87 lbs.
 - Mercena Scheuling 5th, 3 yrs., butter 19.71 lbs.
 - Columba Mercedes Tebes, 2 yrs., butter 12.77 lbs.
 - The Quakerom, 1 year 11 months, butter 14.60 lbs.
- Many other fine foundation cows, tested and untested, and nearly all in shape for testing this spring.

ONE OF OXFORD'S Finest Herds
A Sale Worth While

HEIFERS

Some splendid heifers, freshening to the herd bull this fall, and a number of unborn yearlings.
Splendid Foundation Stock

BULLS

- The young herd sire and show bull, 3 yrs. old—COLANTHUS POPPER ABRECHT, more white than black.
 Dam, milk, 7 days 890.8 lbs.
 Sire's Dam, milk 28.97 lbs.
 butter 7.10 lbs.
 Highest day's milk 103.6 lbs.
 Average (dam and sire's) dam) milk, 7 days 650.04 lbs.
 butter 7 days 30.15 lbs.
- Blue Ribbon Bull at Guelph, 1916.
 Prize-winner at Toronto and London, 1917.
 Several young bulls, ready for service, all from F.O.M. dams. One prize-winner at Toronto, 1917.

DR. RUDD'S SALE STABLE, WOODSTOCK
Wednesday, March 6th, 1918, at 1 o'clock

Convenient Train Service — Good Hotel Accommodation

Terms: Cash or 6 months credit with interest

G. F. MAHON, PROPRIETOR, WOODSTOCK, ONTARIO
 WRITE FOR CATALOGUE

Moore & Dean, Auctioneers

Make Your Sale a Success — Advertise it fully in

C. G. McKILLICAN—Live Stock Representative

For Full Particulars Write

FARM AND DAIRY

OURVILLE HOLSTEINS

Owing to **LABOUR SHORTAGE** We must sell our **ENTIRE MILKING HERD**
30 MATURE FEMALES 30

None Over 6 Years and Absolutely Sound

ALL MILKING OR HEAVY IN CALF

Also Four Young Bulls

AT THE FARM
AYLMER, ONT., March 13, 1918, at 1 P.M.

This sale is on the day following Van Patter's Sale at Aylmer, and is an excellent opportunity for breeders to attend both sales.

These cows are the result of years of breeding and weeding, and include our best. Those with calf are bred to our two herd sires **FINDERNE KING MAY FAYNE**, and **MAPLECREST DEKOL CHAMPION**. The young bulls are sired by these, and are from our best cows.

Rigs will leave the Brown House, Aylmer, on the day of sale.

Write for Catalogues

T. MERRITT MOORE,
 Auctioneer

Elgin County

LIDLAW BROS.
 Aylmer, Ont.

Managing Foreman Wanted

For Dairy Stock Farm. Able to handle men and having good knowledge of farm machinery, both implements and stationary, and able to keep simple farm accounts. Herdsman duties not required. Give full particulars of self and family, experience, etc.

A. C. Hardy, Brockville, Ont.

GILSON TRACTOR



THE STANDARDIZED TRACTOR

—Is a business machine designed along sound mechanical lines of proven worth with no frills features. 15-30 h.p.
Write for free catalogue and rock bottom prices
GILSON MFG. CO. LTD.
377 YORK ST. SUDBURY, CAN. 27

FOR SALE—O. A. C. No. 72 Oats at \$1.25 per bus.; O. A. C. No. 21 Barley at \$1.75 per bus. Forgoing from registered seed. Apply to J. H. MENNER, Jarvis, Ont.

FOR SALE

Two fine young bulls, 7 and 15 months old, respectively, sired by KING SIDERS ALGARTRA CALAMITY. One is out of a dam with a semi-official yearly record of over 500 lbs., the other one out of a good R.O.M. dam.

MICHAEL A. ARBOGAST
Finey Stock Farm, R. R. No. 3
Stratford, Ontario.

Clearing Sale

of 35 HEAD of Pure Breed

HOLSTEINS

and 35 High Quality Grades

Tuesday, February 26,

AT

TILLSONBURG, ONT.

Beginning at 12 o'clock sharp, the following property:—1 pure-bred Holstein bull, PRINCE OF THE MAPLES, 29021; 54 pure-bred Holstein cows, heifers and calves; 35 high quality grade Holstein cows; 1 H.L.K. milkier, 3 units, in first-class condition; 1 air pump, large size; 1 vacuum tank, large size; about 400 feet of air pipe and fittings; 1 gasoline engine, 5 h.p., nearly new; 12 condenser cans; horse, 12 years old, weighs about 1,400 lbs.; set double harness; a quantity of hay.

Sale under cover. Lunch served at noon. Terms—\$10 and under, cash; over that amount, 6 months' credit on notes approved by the bank without interest; at the rate of 6 per cent. per annum off for cash.

J. W. ALLIN, Proprietor
L. H. LIPSIT, Sale Manager
Lindsay & Pound, Auctioneers.
Winters & Smith, Auctioneers.

Farm and Dairy is in an excellent position to champion the cause of the farmer in Canada, because it is owned and controlled exclusively by farmers.

noted through the canning factories, evaporator plants and similar agencies, of which there are a large number now in the province.

Other Subjects.

An excellent paper on "Strawberry Growing in Prince Edward County" was read by Howard Leavens, of Bloomfield. A live discussion was held in regard to proposed changes in the standard 11 quart basket and apple box. This discussion was led by P. J. Carey, of the Dominion Fruit Division. Mr. Carey stated that the present standard 11 quart size basket, which is 5½ inches deep, is not deep enough to accommodate three tiers of large fruit. This has brought into use what is known as the "deep 11," which is 6½ inches deep. This has not proved a desirable package. A committee of fruit growers, who had looked into the situation, recommended an 11 quart basket six inches deep, a compromise between the present size and the deep eleven. In addition to this size the present six quart basket is satisfactory. Mr. Carey recommended the adoption of the Western apple box, which is the same box as is used in the States, and favored the adoption of the American standard barrel as the Canadian standard also. This latter change has already been approved by the Nova Scotia fruit growers.

Discussions were held on the outlook during 1924 for grapes, peaches, plums, pears, cherries and small fruits. Mr. F. G. Stewart, of St. Catharines, expressed the view that temperance legislation in Canada has made it inadvisable for growers to plant any more vineyards on a commercial scale for the present at least. The convention was well attended and the interest keen throughout.

With the District Representatives

I HAVE made a survey for a farmer near Caledon, to assist him with a problem in water supply. He has a spring piece of land not far from the house, and wished to get water for his stock without pumping. I took some levels over this field and found that he had a good fall to put in two branches of tile up through a field, and these will meet and go into a cement tank and the water will be conducted from this to a watering trough. I see no reason why this should not work satisfactorily, winter and summer, and there is no other place in Ontario where the same system of securing an easy water supply would work satisfactorily.—J. W. Stark, Peel County.

Mr. John Steer, of Holland Township, called into the office to report on the results of some sweet clover seed the Department gave him two years ago for experimental purposes. As a result of the small amount of seed which he received, Mr. Steer has this year 80 bushels of unshelled seed which he obtained from 10 acres. He expects to have 40 bus. of the hulled seed. He sowed the clover at the rate of 17 lbs. per acre on land that would not grow a good crop of oats. He cut one field for hay and harvested the second crop for seed, which yielded at the rate of 2 bus. per acre. Another year he intends trying to sow the clover at the rate of 30 lbs. per acre, with the expectation of getting hay of finer quality. His cattle are very fond of the hay and will now eat it more readily than alfalfa. Mr. Steer has found no difficulty in killing sweet clover by cutting it close to the ground.—H. C. Duff, Grey County, Markdale.

I would advise that every young maker or assistant cheese-maker take the long course at some dairy school. It seems too bad that a lot of young makers are satisfied to be only ordinary men in this business. There are better prospects at present, and in the future for men who are equipped to give a better service where needed.—J. Buro, Dairy Inspector.

Stoneycroft Stock Farm

Proprietor H. M. Morgan

Dispersion Sale to be held March 26th

Some of the best known and highest grade stock in America will be offered.

Pure Bred Ayrshires,
Ayrshire and Holstein grades,
Clydesdale Horses.

Catalogue and full details sent you on request. Write

Stoneycroft Stock Farm

Ste. Anne de Bellevue, Que.

WANTED—A Registered Holstein bull 7 to 18 months old. Address W. W. MILLER
Box 179 G. W. Gravenhurst, Ont.

ADVERTISE

In these popular columns, which others find so profitable—

costs you only \$1.48 an inch.

For MILK, BUTTER, CHEESE, VEAL

Holstein cows stand supreme. If you try just one animal you will very soon write me. Write the HOLSTEIN FRIEBRIAN ASSOCIATION

W. A. CLEMONS, Sec.,
St. George, Ontario

CLOVER BAR OFFERS

At Perth Holstein Sale March 13, at Stratford

Lady Paladin R.O.M. at 3 yrs., 2150 lbs. butter; R.O.P. 10911 lbs. milk, 572.50 lbs. butter. Nancy Pieterje at 2 yrs., 7601 lbs. milk, 321.41 lbs. butter. Also two heifers in calf, one due to freshen in May; out of heavy producing dams. Also a young sire fit for service whose three nearest dams average 28.75 lbs. butter in 7 days and 93 lbs. milk one day. All females in calf to Francy 3rd Hartog 2nd, whose two nearest dams average 32 lbs. butter in 7 days, and 102 lbs. milk in one day. We stake our reputation on this offering. Have also a couple of young bulls fit for service. Write for catalog to

J. C. Park, Listowel, Ont.

Take a day of and come to the sale.

P. SMITH R. R. 3 STRATFORD, ONT.

Spring Valley Stock Farm

Blood Will Tell For Immediate Sale

No. 1—Hengerveld Plus Poach—Female two weeks old, over two-thirds white, handsomely marked, and just a dandy. Sire, Jonas Hengerveld, a son of the great Beaudry Herd sire, Plus Buro, whose dam, DeKol Plus, has R.O.P. test of heavy, 25,000 lbs. milk in one year, 80 lbs. milk in one day. Here is a broody individual tracing twice to old DeKol Plus. The first cow that reached the 22,000-lb. mark. The first cheque of \$45 taken her, Feb. 20, your station. Pedigree and transfer free of charge. See that you are the lucky one. She is really worth a \$100 bill.

No. 2—Hengerveld Plus DeKol—Male, 3 weeks old, splendidly marked, over two-thirds white. Here is a chance to grow your own herd sire. He is really bred, like begins like. Same sire as No. 1. Mail your cheque of \$40 to-day for this young sire. He will be shipped Feb. 27, your station. All papers free of charge. If it was of serviceable age our price on him would be \$200. It is the first cheque that counts.

No. 3—Snow Ball Beauty DeKol—A choice young heifer, born July 16, 1916, mostly white, ready to breed any time. Her sire is Gold Triumph, DeKol's Butter Girl, is shown with No. 1. First cheque of \$110 buys this heifer Feb. your station.

These calves are priced very low while their breeding ranks them with the very best. They are simply beauties. Address all communications to

R. R. VALENTINE - - Odessa, Ontario

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W. L. LAN

Letters to the Editor

Tops or Tail-Enders

EDTOR, Farm and Dairy—I am wonderfully interested in the most profitable breed of cattle on earth—the Holstein. They have the size to make them profitable. Their size gives them the ability to consume a large amount of feed and they can thus make profits. Their size also makes their offspring profitable as veal, excelling all other breeds in this respect. The large frames of this breed also makes more beef than the others, so that they sell well on the block. Their great constitution and long life is another point in their favor, as they will make profits from milk and butter for at least fourteen years. The fourteen calves in this length of time, also bring quite a sum.

I would like to point out that the person purchasing a bull for breeding purposes, should not consider the scrub when making his selection. He should select a sire that will allow for the greatest improvement in his herd in the shortest time. When he purchases a registered sire, he should be careful to see that his ancestors have yearly advanced registry and high enough to improve the scrub or registered scrub. I will illustrate by giving the average production of 10 good producers and 10 registered scrubs:

Good Producers	Scrubs	Difference	
10-year-olds	10.248.8	11,379.8	8,819.0
5-year-olds	16,497.7	11,377.0	5,256.7
3-year-olds	15,588.3	10,873.8	5,744.9
2-year-olds	15,215.7	8,344.6	7,871.1

Would you select your bull from the tops, or the tail-enders (registered scrubs)—J. W. HOLLINSHAD, New Westminster Dist., B. C.

Prince Edward Island Conditions

EDTOR, Farm and Dairy—Times are dull. Money is scarce. There is little farm produce moving. The fact is the farmers have not the stuff to market. It is all too scarce for themselves, for most farmers marketed too freely of the little

they had. Last year it must be remembered the crops were very meagre.

Winter struck in early. We have probably the most severe winter weather in the last few weeks—in the beginning of winter—that has taken place in this island for many years. This severe weather is terribly hard on cattle feed, which was none too plentiful in the beginning, and, as a result, cattle feed is going to be very scarce and dear. Many are already hauling feed. It is said that some farmers are nearly out of feed now. Along the north side of the island, feed is scarce. The hay crop was light and the grain crop badly rusted. Around East Point, always a fine farming section, cattle feed is abundant for individual needs, but there is little to spare. In Southern Kings, feed is now at a premium. Around Montague, hay has been selling for \$30 a ton for some time. At a sale recently, straw sold for \$16 a ton, 80c a cwt. That's an awful price for straw. Farmers everywhere are overstocked with cattle and horses, and there appears to be no way of getting clear of this surplus unless by giving them the axe. Nobody wants to buy a cattle beast, and nobody wants to buy a horse. Talk of the great scarcity of cattle and the great good this shortage is to us, when all this fall, in this eastern part of the province, one cannot realize as much as \$5 for a cattle beast, or in fact a horse! Breed horses, indeed—for the pleasure (?) of feeding them high-priced food, 85-cents and \$20 hay. We appear to be going from bad to worse. There is also a slump in sheep and lambs, and there is no demand at all. Pork is high, but so is the stuff that makes the pork, oats, barley and potatoes, cracked corn, etc., prohibitive. As a farmer remarked, just how thirty cents a pound would not pay for making pork this fall. He was right. Farmers, to make any profit on pork this fall, would need to be getting 30 cts a lb. Butter at 40c is losing money to the producer, and so butter cannot be got this winter. It is well the Government allowed the use of margarine, for there would be no butter obtainable, anyway, for love or money.—J. A. Macdonald, Kings Co., P.E.I.

Herd Sires of Merit:

No. 1—Sir Floissie Rag Apple (my senior herd sire). Sire—The great Rag Apple Kerdyke (my sire)—Floissie Albrite Wayne. Bred 5 years old, farm dress. Will sell a half interest or will consider an offer for his purchase.

No. 2—Sir Mercedes Clyde DeKol. Sire—North Star Clyde DeKol (my junior herd sire). Dam—Mercedes Pieterie Netherland. Here is a young bull fit to head any herd, with a 110-lb. dam on sire's side, 31 lbs. butter milk in 1 day, and five 20-lb. sisters. Born April 1st, 1911.

No. 3—Sire also as No. 2; dam a daughter of Pontic Arlic. This should be good milk for anyone. Born March 27th, 1911. The dam of this calf milked 37 lbs. a day as a factor 3-year-old, 5 milkings a day.

No. 4—Same sire as No. 2. Dam Rideaui May Kerdyke. Born April 18, 1911, a heavy bodied calf, very straight—a show bull. These calves are all good individuals, and will be priced to go, as we must have the room. Write

PINE CREST FARM

LESLIE O. WARREN, Proprietor, R. R. No. 1, MALLORYTOWN, ONT.

LAININGDALE STOCK FARM

HOLSTEINS Offers for Sale **HOLSTEINS**
Bull 15 months old, sired by a son of a 25-lb. cow, and from a 23-43-lb. dam, who has four R. O. M. daughters, 25 lbs. 26 lbs., etc. Straight and well grown. Price \$125. Also a few good R. O. M. cows. Write or come. Long Distance phone.
ROBERT C. LANING VILLA NOVA, ONTARIO

BROOKSIDE HOLSTEINS

We offer for sale 2 grandsons of JOHANNA RIEB, who carries 87 1/2% blood of Field's great COLANTHA JOHANNA LAD. No. 1, 2 years old, a fine well individual, nicely marked, dam 15,700 lbs. milk, 970 lbs. butter in 1 year, semi-official test. Price, for quick sale, \$150.

No. 2, 8 months old, a dandy calf every way. Out of a sister to dam of No. 1, having a record of over 15,000 lbs. milk in 6 mos., in R.O.P. test. Good enough to head almost any herd. Price \$75.

Write for particulars; they won't keep at these prices.
W. L. LAMBKIN, R. R. No. 2, GORRIE, ONT.



RARE OFFERINGS FROM THAT GREAT IMPORTED SIRE CHAPMANTON BARONET

(48420)

We are getting more than choice stuff from our great heat sire. Not only have they his depth, constitution and finish, but they are also backed up on their dam's side by splendid records and breeding. Here are a few of our present offerings:—

1—Evie Sir George (55411), dam, Hall Kate; sire, Chapmanton Baronet. Dam's production 5,872 lbs., testing 4 per cent. This is a young bull one-year-old and ready for service.

2—Evie General Haig (55414), Sire, Chapmanton Baronet, dam, Auchefad Primrose, whose yearly production was 5,467 lbs. of 4 per cent. milk.

3—Evie Admiral Jackie Fisher, sire Chapmanton Baronet, dam, Hall Minnie 6 (48423), who made 9,028 lbs. 4.2 per cent. milk. He is one year old and ready for service.

4—Evie Barbara, dam Levensack Snowwhite, sire Chapmanton Baronet. Dam's production, 5,156 lbs. 4.4 per cent. milk.

5—Evie Lady Betty, dam Auchefad Brownie, sire Chapmanton Baronet. Dam's production 3.4 per cent. milk.

Don't miss this chance if you want a sire that will bring your herd nearer the top. The females are just the kind for starting a young herd.

Write or phone for full particulars.

EVIE STOCK FARM

CHESTERVILLE R. R. No. 1, Ont.

J. & C. C. BALLANTYNE, Proprietors

PEACH BLOW AYRSHIRES

Young Stock for sale, always on hand (both sexes), from high-testing heavy producers. Good udders and large teats a special feature of my herd. Three fine young sires ready for service. Get particulars of these if you need a sire. R. T. BROWNLEE, Peach Blow Farm, HEMMINGFORD, QUE.

Every Farm should have
an "Ayrshire"

MORE
MILK
MONEY
BUTTER
MONEY
MONEY

World-famous as the economical producer among dairy cattle.



NOTE W. J. STEPHEN, Secretary
CANADIAN AYRSHIRE BREEDERS' ASS'N
BOX 508—HUNTINGDON, QUE.

Please mention Farm and Dairy when writing advertisers.

SPRINGBANK AYRSHIRES

Bulls from one month to seven months old for sale. All are bred to color and type, and from R.O.P. dams. If you need a well bred bull write at once.
A. S. TURNER & SON,
Ryckman's Corners, Ontario.

TANGLEWYLD AYRSHIRES

The Leading R. O. P. Herd
Large Cows, Large Teats, Large Records, High Testers, Choice Young Bulls and Bull Calves and a few Cows for sale.

WOODSIDE BROS., R. R. No. 1, BARKFELL, ONT.

Better Crops Result from Spraying



Spramotor
That's a SPRAMOTOR unless we made it!

This Knapsack is ideal for spraying small plots of potatoes, shrubs and all small fruits. It is strongly made, powerful and easily operated. We make the SPRAMOTOR in a size and style for every need—operated by hand, hose or gasoline power. 3 Prices range from \$7 up to \$100.

Made in Canada—No duty to pay.

Send to-day for our Free Book on Crop Diseases and Spramotor styles.

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4032 King St., London, Canada

FIELD CROPS IN CANADA.

The Census and Statistics Office has issued its annual estimate of the principal grain crops of Canada for the season of 1917, as compared with 1916. For the provinces of Quebec, Saskatchewan, Alberta and British Columbia, the agricultural statistics of 1917 were collected in cooperation with the Provincial Governments, and consequently for these four provinces the results of both the Dominion and Provincial statistical authorities will record identical results.

Yield and Quality of Grain Crops.
The total yield of wheat for Canada is returned as 235,742,765 bushels from 14,775,550 acres, as compared with 292,781,000 bushels from 15,969,709 acres in 1916. Of oats the total yield is 609,500 bushels from 13,813,409 acres, as compared with 618,211,000 bushels from 10,996,487 acres in 1916. The yield of barley is 55,067,759 bushels from 2,392,200 acres, as against 45,770,000 bushels from 1,802,996 acres in 1916. The average yields per acre of these crops are, in bushels, as follows, the corresponding figures of 1916 being placed within brackets: Wheat, 15.75 (17.10); oats, 39.25 (37.30); barley, 23 (23.73). The total yields of 1917 of the remaining crops are as follows: Rye, 3,807,200 bushels; peas, 3,238,840 bushels; beans, 1,374,000 bushels; buckwheat, 7,130,400 bushels; mixed grains, 16,187,000 bushels; flaxseed, 2,934,800 bushels; corn or husking, 7,762,700 bushels.

The quality of the grain crops of 1917, as indicated by the average weight in pound per measured bushel, is as follows: Fall wheat, 59.37 lbs., as compared with 59.52 lbs. in 1916; spring wheat, 67.48 lbs., as against 66.61 pounds; all wheat, 63.46 lbs., as against 67.10 lbs.; oats, 32.55 lbs., as against 33.58 pounds; barley, 46.37 pounds, as against 45.44 lbs.; rye, 53.44 lbs., against 54.95 lbs.; peas, 59.81 lbs., against 59.83 lbs.; beans, 59.70 lbs., against 60 lbs.; buckwheat, 46.49 lbs., against 46.35 lbs.; mixed grain, 44.41 lbs., against 43.13 lbs.; flaxseed, 54.73 lbs., against 54.59 lbs., and corn for husking, 56.18 lbs., against 56.51 lbs.

Values of Field Crops in Canada.
The average values per bushel of grain crops for all Canada, in 1917, according to the prices returned by the crop-reporting correspondents of the Census and Statistics Office, are higher than in any previous year. They are as follows: Fall wheat, \$2.08, as compared with \$1.54 in 1916; spring wheat, \$1.91, against \$1.29; all wheat, \$1.94, against \$1.54; oats, 60 cents, against 51 cents; barley, \$1.08, against \$2.40; rye, \$1.43, against \$1.11; peas, \$3.64, against \$3.22; beans, \$7.45, against \$5.40; buckwheat, \$1.46, against \$1.07; mixed grains, \$1.16, against 88 cents; flax, \$2.65, against \$2.04, and corn for husking, \$1.84, against \$1.07.

The total farm values of the principal grain crops of 1917 are estimated to be as follows: Wheat, \$483,038,000, as against \$344,094,400 in 1916; oats, \$277,045,300, as against \$216,987,500; barley, \$45,454,600, as against \$35,024,000; rye, \$6,587,200, as against \$4,150,200; peas, \$12,724,100, as against \$4,819,000; beans, \$10,413,000, as against \$2,278,000; buckwheat, \$10,413,000, as against \$6,270,000; flaxseed, \$18,801,700, as against \$9,300,000; flaxseed, \$15,787,000, as against \$16,589,900, and corn for husking, \$14,267,200, as against \$6,747,900. Adding the value of the root and fodder crops, which was published

last November, the total value of the field crops of Canada is estimated at \$1,144,636,400, as compared with \$838,370,600 in 1916 and \$828,370,600 in 1915. The total composite grain crops, \$775,652,260, compared with \$683,753,709 in 1916 and \$691,699,200 in 1915; compared and sugar beets, \$31,695,200, compared with \$1,422,300 in 1916 and \$7,225,300 in 1915, and fodder crops, \$1,666,800, compared with \$1,916,335,000 in 1916 and \$187,062,900 in 1915. The total value of the field crops of Canada has exceeded one billion dollars.

FAIRVIEW STOCK FARM HOLSTEIN SALE.

Some unusually good stock is being offered by E. C. Chambers & Sons in their dispersion sale at Fairview Stock Farm.



Forest Ridge Segis Bessie.

One of the cows included in the dispersion sale of E. C. Chambers on March 5th.

Hatchery, Ontario, on Tuesday, March 5th. There are many reasons why this sale is an outstanding one. In the first place the senior herd sire is the first bull of which we know, to be offered by public auction, whose dam and sire's dam have exceeded 50 lbs. of butter in 7 days. In the second place, because there are more 30-lb. daughters of, and more cows in calf to a 50-lb. bull than has ever come before the breeders of Western Ontario at public auction. The offering comprises 80 head, practically all females.

THE 26TH 40-LB. COW.

Delavan, Wis., Feb. 28, 1918. **EDITOR Farm and Dairy**—I am advised through preliminary reports and by wire, that the Holstein-Friesian cow Niva Kalmuck, 145013, has shown a production of 61.2 lbs. milk, containing 32.92 lbs. fat, in seven consecutive days. She freshened at the age of 7 years, 2 months, 20 days. Her sire is Kalmuck Skyark Johanna, 68332; her dam is Niva DeKol 871, 314462. Her sire and he is now owned by Dr. B. D. Davis, Ontario, Nebraska. With this production she is the twenty-sixth cow to obtain a place in the list of Holstein-Friesian cows with productions exceeding 50 lbs. fat in seven days. Computed on the 89 per cent. basis the equivalent Tarter claimed for Niva Kalmuck would amount to 41.15 lbs.—Malcolm H. Gardner, Supd. A. R.

PUBLIC AUCTION

18 Of Registered 18
HEAD HOLSTEINS HEAD

Including our two herd sires, Sir May Echo Pontiac, whose sire Pontiac Hermes sold at public auction, who has a 20,000 lb. 2-yr. daughter and 22,785 lb. 4-yr.-old; also daughter with R. of M. up to 23 lbs. Also Jr. sire Sir Hengerveld Walker Segis, whose seven nearest dams average butter 27 lbs., milk 500 lbs., test 147%.

Albion Hotel Stables, Coburg

THURSDAY, MARCH 7, 1918

Sale will include our mature herd cows of excellent type and producing ability—all in calf to four herd sires. Excellent R. R. connection. Buyers can come and leave on day of sale.

Bertram Hoskins R. R. 5 Coburg, Ont.

50 HEAD We Invite You to Attend the 50 HEAD

Norfolk Holstein Breeders Annual Sale

On G.T.R. Hagersville, Ont. March 7th On M.C.R.

This will be without question a QUALITY SALE, comprising grand-daughters of KING SEGIS PONTIAC KONGEN, the \$35,000 bull—cows with 28.21 lbs. butter records, and milk records of over 102 lbs. per day. Heifers from high record cows, and in calf to 30 to 35-lb. bulls. At least one 31.5-lb. bull. Also ELMCREST PONTIAC SYLVIA, a beautiful son of AVONDALE PONTIAC ECHO, 18352, and MAUDE SNOW BALL, 29.12. His six nearest dams average 71.6 lbs. milk, 31.62 lbs. butter, 7 days.

WRITE FOR CATALOGUE TO

W. H. CHERRY, Sales Manager Hagersville, Ont. R. E. HAEGER Delavan, Wis., Feb. 28, 1918.

HAY BAY HOLSTEINS;

SEGIS HENGERVED OTHILLE is for sale. I must sell him to avoid inbreeding. Four years old next April. 80% heifer calves last year. He is by the same sire as MAY ECHO SYLVIA, the world's champion. His dam is in the R.O.M., and has two sisters with world's records. You can't equal the individual, his breeding and price. Just the price of beef, \$200. Write for photo, etc.
L. F. BOGART, R.R. No. 3, NAPANEE, ONT.

When Writing Mention Farm and Dairy

WOODLAND HOLSTEINS

60 HEAD Dispersion Sale 60 HEAD

TUESDAY, MARCH 12th, 1918, at AYLMER, ONT.

Sale will be held on day preceding that of Laidlaw Bros. This gives breeders a great opportunity to attend both sales.

INCLUDED in this Sale are about 50 Females, practically all with big R. of M. and R. of P. records, the result of 17 years' scientific breeding and regular testing. These cows, besides being of excellent type are sired by such noted bulls as Dutchland Colantha Sir Abbecker (9140), Woodland Sarcastic Lad (4890), and Sarcastic Mercedes Lad (8411). The young stuff is sired by Maplecrest DeKol Champion, the only son of the only cow in the world to have two daughters with butter records greater than 1,322 lbs. in one year, and Count Midnight Mercena, whose 30 nearest dams average over 26 lbs. Remember the date. This is a grand opportunity for breeders to secure some foundation stock from this noted herd.



AAGGIE MERCEDES

Butter, 7 days at 6 yrs... 29.19 lbs.
Butter, 7 days at 4 yrs... 27.00 "
Butter, 30 days at 4 yrs... 110.89 "
Milk, 30 days at 4 yrs... 2,661.2 "
A daughter of foundation cow Netherland Aaggie. Dam of King Aaggie Fayne, Junior herd sire.

BANOSTINE BELLE DE KOL
Re-champion of world in semi-official test.
Milk, 1 yr. 27,404.4 lbs.
Butter 1,322.94 "
100% same blood as Maple Crest De Kol, champion senior herd sire.

WRITE FOR CATALOGUE TO J. M. VANPATTER & SONS, R. R. 1 AYLMER, ONT.

Butchers' steers and heifers, choice	11.25 to 11.75
do good	10.45 to 11.00
do medium	9.75 to 10.25
do common	8.75 to 9.75
Butchers' cows, choice	9.75 to 10.25
do good	9.00 to 9.50
do medium	8.00 to 8.50
do common	7.25 to 7.75
do canners	6.00 to 6.50
Butchers' bulls, choice	10.00 to 10.50
do good	9.25 to 9.75
do medium	8.50 to 9.00
do common	7.75 to 8.25
Feeders, best	8.50 to 9.00
Stockers, best	8.50 to 9.00
Milkers and cullers, choice	10.00 to 10.50
do can	9.25 to 9.75
Calves, choice	15.00 to 16.00
do medium	13.00 to 14.00
do common	11.50 to 12.50
Heavy fat and backs	13.00 to 14.50
Sheep, choice heavy	11.00 to 12.50
do heavy fat and backs	11.50 to 12.50
do off cars	10.00 to 10.50
do f.c.h.	11.75 to 12.00
Less \$1.00 for thin hogs; less \$2 to \$2.50 on sows; less \$4 on stags; less 50c to \$1 on heavies.	

THE HOSKINS SALE.

ATTENTION is called to the sale of Holsteins to be held by Bertram Hoskins, at Cobourg, on March 7th. Mr. Hoskins is obliged, through lack of

SALE DATES CLAIMED

WATERLOO COUNTY.

Henry Knell, Bridgport, Ont.—Dispersion Sale of 28 Head Registered Holsteins, Date, 27th Feb.

YORK COUNTY.

Messrs. Sherbro Bros. announce Thursday, March 7th as the date of their sale of Holsteins at Bethesda, Ontario.

NORFOLK COUNTY.

Norfolk Holstein Breeders' Club, Hagersville, Ont. Sale of 40 head, March 7th, 1918.

BRANT COUNTY.

E. C. Chambers & Sons, of Fair View Stock Farm, R. R. No. 1, Hatchley, Ont., have selected March 5th for their Dispersion Sale of Registered Holstein Cattle.

On Wednesday, April 3rd, the Brant County District Holstein Breeders' Club will hold a Dispersion Sale of pure-bred animals at Beaufort, Ontario. Mr. N. P. Sager, St. George, Ontario, is secretary.

PERTH COUNTY.

The Perth District Holstein Breeders' Club will hold their first sale on March 15, 1918.

OXFORD COUNTY.

W. D. Allen will hold a sale of 35 head of pure bred Holsteins and 35 head high quality grades at Tillsonburg, Tuesday, February 25.

There will be a sale of the Holstein herd of Edwin C. Chambers & Son, of Fairview Stock Farm, R.R. No. 1, Hatchley, Ont., on Tuesday, March 5th, 1918.

Wednesday, March 6th, is the date of the complete dispersion sale of the Quaker's herd of fifty pure-bred Holsteins, at Woodstock, Ont. O. F. Mahon is the proprietor.

H. C. Hamner, of Norwich, Ont., will hold a complete dispersion sale of his entire herd of pure-bred and grade Holsteins, on Friday, March 15th, 1918.

Noah S. Bender, Tavistock, Ont. Holstein dispersion sale, March 15th.

The Oxford District Holstein Breeders' Club will hold a consignment sale of registered animals at Woodstock, Ont., on March 25th, 1918. W. H. Thomson, Woodstock, is the secretary.

Southern Counties Aphrodisia Breeders' Club, Woodstock, Ont. Dispersion Sale of pure-bred Aphrodisias, March 7th, 1918.

T. G. Gregg, of Ingersoll, announces April 15 as the date of their Holstein sale.

ELGIN COUNTY.

J. W. Van Patten & Sons, Appleton, Ont., will hold a dissolution of partnership sale of their Holstein herd on April 13.

help to sell his entire herd of mature cows. This will be an opportunity for breeders to secure some good stuff. This is especially so in the case of the bull offered. Further information will be given in these columns next week.

HILLCREST SALE NOTES.

Having sold "Hillcrest" and now moving on a 50-acre farm, on which there is no accommodation for a mature herd. As a result we are forced to largely reduce our herd, and have reluctantly decided that the practical thing to do, in order that we may

have a free hand in our building operation to sell the whole herd with the exception of a few better calves from our stock bull to serve as a foundation of what we hope will be a future herd. As we have reached the decision to want it underfoot right at the present time, we propose to make this the greatest sale of Holstein cattle ever pulled off in Canada. To accomplish this we realize that we must have a uniformly better bunch to offer, in individuality, breeding and official production than any other sale has yet brought out. We are aware of putting in the very best we have, and know they are good, because we've bred and worked them. Four 5th-bus cows or heifer cows, 20,000-lb. cows in R.O.P., several 20-lb. year-olds, and all that average 27.50 lbs. in 7 days' official test and over 85 lbs. milk in 7 days. Five 3rd-bus bulls, most of them with 20,000-lb. year-lion in official test. In view of official or semi-official production. Future issues will show photos of many of the members of the herd just as they are, and we will give them definite information, relating to their individual production, relating to their individual production in official test. In order to make it as convenient as possible for every breeder to attend, assured of the very best sale accommodation, we are holding this sale at the Union Stock Yards, Toronto, and trust you will keep March 15th in mind as the date on which this top-notch Holsteins will be dispersed.

THE SALE AT FAIRVIEW FARM.

THE Fairview dispersion sale on March 5th will include many high-class animals. Mostly all the cows are in calf to King Segis of Forest Ridge 10th. Forest Ridge Segis Heasle, 25.07 lbs. of butter as a 4 yr. old; Marie Leigh also four daughters and one male from this cow. Her eldest daughter, Fairview Parlor, just tested as a 4 yr. old, made 22.15 lbs. of butter in 7 days. Her half sire will be in the sale from the herd sire, King Segis of Forest Ridge 10th. His two nearest dams made over 30 lbs. of butter in 7 days.

SEVEN HEIFER CALVES, RANGING 1 YR. OLD, FROM THIS NOTED BULL, FROM DAMS AS HIGH AS 25 LBS. OF BUTTER IN 7 DAYS.

Marie Colanaba with a record of 30.05 lbs. this being an indication of her capacity. Margie Mercens Abbokirk, a 19.34 lb. 4 yr. old, whose dam, Maggie Clark, made 25 lbs. of butter in 7 days and over 20,000 lbs. milk in 1 year. The 14-year-old of Vikonia Johanna, a grand-daughter of King Segis, made 14.75 lbs. of butter in 7 days and dam of the world's only 14-year-old Segis Payne Johanna, a half-sister on the dam's side of Queen Bitter Baroness, 33.17 lbs. of butter in 7 days. Three grand-daughters of Pontiac Hordyke, all from tested dams; six daughters of Lord Dehor, the former herd sire whose dam and sire's dam average over 25 lbs. of butter in 7 days.

THE NORFOLK SALE.

THE Norfolk Breeders' Club is this year holding their annual sale at Hagersville. They are putting a particularly fine assortment of dairy cattle, and have secured R. E. Hager to handle the hammer for them on March 7th. The sale is to be held in the town of Hagersville, and is easily reached by Grand Trunk and Michigan Central railways. Good accommodation can be secured, and the sale will be held in Hutter's feed and sale stables. W. H. Cherry is the Sales Manager.

OFFERING No. 1

Premier Keyes Korndyke 33895

Born Jan. 8, 1918. Nicely marked, being about half black and white. This is a show animal as he has great size, good length, deep body and is very straight. In fact a beautiful calf everywhere. Guaranteed to satisfy.

SIRE—King Sylvia Keyes, 25566. His dam and two sisters average 34.33 lbs. butter and 75.8 lbs. milk in 7 days, 5 sisters average 15 lbs. milk per day, and 20 of his nearest relatives average 30 lbs. milk in 7 days. He is a brother of May Echo Sylvia, the World's Greatest Cow, 153 lbs. milk in 1 day, 1,000 lbs. with 41.01 lbs. butter in 7 days.

DAM—Maple Grove Heaslelle DeKolt, 28234, with a record of 582.3 lbs. of milk and 25.53 lbs. of butter in 7 days. This cow is backed by rich of the breed, and whose daughter, Sadie Yale Concordia the first 20-lb. cow of 69.4 lbs. milk with 41.01 lbs. butter in 7 days.

The 2 nearest dams of this calf average 94.4 lbs. milk per day, and the 4 nearest dams average 69.4 lbs. milk and 26.72 lbs. butter in 7 days.

DAM and SIRE TUBERCULIN TESTED.

Come, Write or Phone, Brantford No. 1102, at ONCE. He is a Bargain at a Bargain Price.

W. G. BAILEY - OAK PARK STOCK FARM - PARIS, ONT., CAN.

LYNDENWOOD HOLSTEINS

PRESENT OFFERING—4 YOUNG BULLS 11-15 MONTHS. Excellent type and breeding, all from officially tested dams, also a few choice females, due to freshen in the spring, in calf to our stock bull.

W. J. BAILEY - JARVIS, ONT.

HIGHLAND LAKE FARMS

Herd sire, AVONDALE PONTIAC ECHO (under lease), a son of MAY ECHO SYLVIA, the world's record cow. Only one other 41-lb. bull in Canada. We have young bulls for sale, whose two nearest dams (both Canadian champions) average as high as 35.62 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows, and one ready for service with 41-lb. sire and an 18,000-lb. two-year-old dam.

Send for our "Book of Bulls." A few females for sale. Satisfaction guaranteed.

R. W. E. Burnaby - Farm at Step 85 Yonge Street East - Jefferson, Ont.

ANOTHER GOOD ONE

Yes, he is ready for service. He is KING PONTIAC HIRKIE, who is sired by KING PONTIAC ARTIS CANADA, and whose dam is one of A. C. Hardy's imported cows. This young sire I offer for just 10 months old, of excellent type, and from a daughter of my old foundation cow, QUEEN OF HILDENAU. His sire's dam made over 18,000 lbs. in R.O.P. He is a good one.

Priced for Quick Sale.

J. W. Johnston, R.R. No. 2 - Forest View Stock Farm, Hawkesbury, Ont.

Young Sires Backed by Records

Why go to Uncle Sam's for a Holstein bull, when you can get one here whose two nearest dams average over 27,700 lbs. milk and 107 lbs. butter in 1 year, and whose four nearest dams average over 100 lbs. milk in 1 day? Three of them average almost 30 lbs. butter in 7 days. RAUWERD-MERCHINA POSCH, No. 23436, has these records back of him. For next 10 days we will sell three bull calves under 3 months old, sons of MERCHINA, CALAMITY POSCH. Price each \$75. Call and see these cows. This advertisement will not appear again.

W. FRED. FALLIS, - R. R. No. 3 - Millbrook, Ont.

When Writing Mention Farm and Dairy

IMPORTANT ANNOUNCEMENT!

"Hill-Crest Farm" is Sold

New Owner Takes Possession April 1st

On Thursday, March 28th, 1918, at UNION STOCK YARDS, TORONTO, the splendid Hill-Crest Herd of Registered Holsteins, the property of G. A. BRETHEN, Norwood, Ont., will be dispersed.

BEAR DATE IN MIND. FUTURE ISSUES WILL Tell of the exceptional BREEDING, INDIVIDUALITY and PRODUCTION of this great herd.

G. A. BRETHEN, NORWOOD, ONT.

Now Then, All Together, to Help Win the War!

INCREASED PRODUCTION is now the most crying need of the hour. A world famine is at hand unless every effort possible is put forth along the line of producing food, to feed the armies at the front, and help make up the serious shortage of food supplies in the various Allied Countries.

Everybody can help—those who produce the raw materials; the manufacturer who fashions these materials into the implements used in raising crops; those who transport the implements to the farmers; the farmer; the thresher; the elevator employees, and those who have to do with the shipment of food products across the water—the co-operation of all is needed at this critical time.

Farm help is scarce, as in all lines of activity, and it is only by making use of the most efficient labor-saving implements that the present world-crisis can be coped with. Large-sized implements which can be operated with the minimum of man power will go a long way towards securing the increased production of food products so absolutely essential at this time.

You take no chances with Massey-Harris Implements, as they are designed by those having years of experience with farming conditions and the building of suitable machinery to handle the farm work economically and satisfactorily. The line includes everything needed, from the plowing of the land to the hauling of the crop to market.

Massey-Harris Co., Limited.

Head Offices—Toronto.

Branches at:—Montreal, Moncton, Winnipeg, Regina, Swift Current,
Saskatoon, Yorkton, Calgary, Edmonton, Vancouver, Kamloops.

—Agencies Everywhere—

