

FARM AND DAIRY & RURAL HOME



Peterboro, Ont., June 22, 1916

Dairy and Cold Storage
Comm. Dec 16
Dept. of Agr.



Waiting for the 1916 Crop

(Photo on the farm of Geo. Brock, Huron Co., Ont.)

Does Underdrainage Pay

Some 1916 Experiences.

Farming Methods of A. C. Hallman

From Notes Made on His Farm.

The Ormstown Show

Report of Awards.

Wisconsin Factories Using Pepsin

An Authoritative Report.

Farm and Dairy House Plan No. 8

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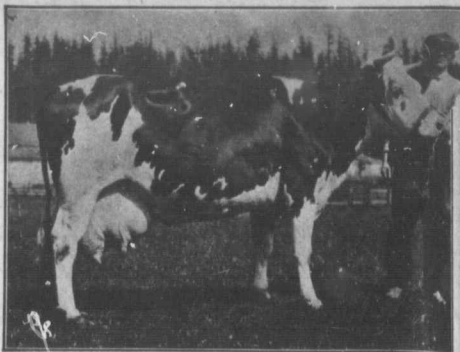
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Seventh Annual Ormstown Fair

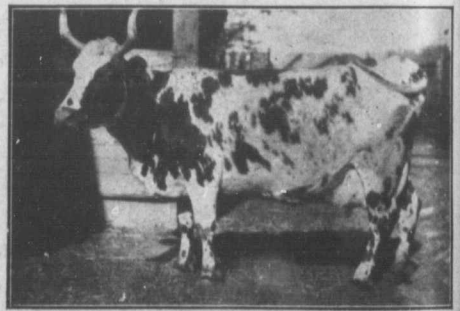
A Great and Successful Live Stock Exhibition

THE Ormstown Show this year was bigger and better than ever before. This fair is held under the auspices of the Live Stock Breeders' Association of the district of Beauharnois. The noted Holstein breeder, Mr. Neil Sangster, is its president, and it was under his guidance that this year's success was achieved. A large arena has been erected, where all the judging was done. This year two cattle barns were changed to accommodate horses, four new cattle barns, each 125 feet long, were erected, and a barn for sheep and swine was built, the total cost being \$3,000. The wet weather did not hinder exhibitors from coming out, as there was a large entry in all classes of live stock. There were 325 entries in horses, 485 in cattle, 100 in sheep, 75 in swine, and 240 in poultry.

In horses, Clydesdales were the largest entry, and many excellent specimens were shown. Canadian-bred and Standard-bred were also in evidence. The carriage classes were especially full, and much interest was shown in the placing of awards by those interested in the horse industry. The cattle exhibit was one of the best ever seen at this show, and, for the first time in its history, Holsteins were more numerous than Ayrshires. The Jersey class was fairly well filled. In previous years there has not been a large exhibit of Jerseys, until last year when Mr. B. H. Bull and Son of Brampton, exhibited a car load. This year there were three herds represented, making the competition much more keen.

An Inter-County Judging Competition was conducted for Prof. H. Sargent's trophy. Two counties, Shebrooke and Chateaugay, sent teams to compete in this class, Sherbrooke county winning with 320 points and Chateaugay coming second with 269 points. Individual standing: Horses—1, C. Boyce; 2, R. Alto; 3, H. Parkinsson; 4, Jas. Graham; 5, J. B. Butler. Ayrshires—1, C. Boyce; 2, R. Alto; 3, J. D. McEwan; 4, H. Parkinsson; 5, R. Ashton. Holsteins—1, E. Ashton; 2, C. Boyce; 3, Wm. McEwan; 4, J. H. Butler; 5, Jas. Graham. C. Boyce won the individual prize with R. Alto next.

Ayrshire Classes. In this Ayrshire contest a big display is naturally looked for, and insiders were not disappointed. The Kay, Montgomery, McMillan, Elder and other herds were conspicuous by their absence, but there were over 150 head on display. It was the general opinion of lovers of this breed that they were more uniform in quality than usual, and nearly all in good fit. In the aged bull classes, R. H. News again was with Hobland Masterpiece. This aged bull was in better form than ever, and is proving one of the best of sires. (Continued on page 6.)



Anna of Dunain, the foundation cow at Dunain Farm, Northumberland Co., Ont. A description of this farm appears on page 9.

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Ar. CHATHAM	7.00 a.m. " "	Ar. SELBY Jct.	11.37 a.m. " "
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Ar. WINDSOR (CPR)	8.30 a.m. " "		
Ar. DETROIT (Fort St.)	9.30 a.m. " "		
Ar. DETROIT (MCR)	8.10 a.m. (C.T.)	Lv. DETROIT (Fort St.)	7.00 p.m. Daily
Lv. DETROIT	8.30 a.m. " "	Ar. WINDSOR (CPR)	7.40 p.m. " "
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VOL. XXXV

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Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chotham

VOL. XXXV

PETERBORO, ONT., JUNE 22, 1916

No. 24

Does Underdrainage Pay?—Some 1916 Experiences The Advantages of Having Land Well Drained

By R. D. COLQUETTE, B.S.A.

DOES it pay to underdrain? That is placing the matter upon a too strictly utilitarian basis, but drainage is a matter of fact. business. Some farm operations can be urged from motives of good taste as well as from those of profit. It can be shown that aside from the increased revenues they will ensure to the farmer, there is also a return in the increased satisfaction they enable him to get out of his life work. But this is not the case with underdrainage. It must be judged from the straight dollars and cents' standpoint, for a string of tile buried several feet under ground do not add to the appearance of any man's farm. Before a farmer undertakes to install an expensive system of the drainage, therefore, he has a right to ask if the increased yields of his fields will justify the expenditure.

The men best qualified to answer the question, "Does underdrainage pay?" are those who have tried it out on their own farms. They are especially qualified to do so if, during such a spring season as we have had this year, they have had the experience of working both drained and undrained land, for then they are in a position to judge by comparison. Recently I had the opportunity of visiting a few of such men on their farms, and they are enthusiastic regarding the benefits of a thorough system of under drains in low lying land and sanguine as to its ability to pay for itself within a reasonable time.

My first visit was to the farms of Beecher and Sandy Matchett, of Peterboro Co., Ont. The line fence that divides the farms of these two men runs through a very low place that seems to have been designed by nature for scoring water. This piece of land, comprising about 12 acres on each side of the line fence, was selected by the Department of Agriculture for the location of their drainage demonstration plots.

A Timely Object Lesson.

The first plots to be inspected were on the farm of Beecher Matchett. After experiencing considerable difficulty in passing dry sod from the roadway to the field, I found the drained land to be in excellent tilth, with just enough moisture to provide ideal conditions for growth and with no standing water, except in one place, where it received the run-off from an adjoining field. The undrained plot, however, was in striking contrast to this one. Scarcely a foot of it but was water-logged, and a considerable portion of it was entirely under water. Both plots are sown to clover and grass, but while the drained land promises to give an excellent crop of hay, it will only be under very favorable circumstances for the balance of the season that a half crop will be secured from the undrained land. The plots on the farm of Sandy Matchett (not

Alexander, as he was careful to inform me) told a similar tale of the advantages of underdrainage. The drained part is under fall wheat this



How Water is Lost From Soil

SOILS lose water in only three ways: by drainage, evaporation, and "transpiration" by plants.

The food plants take from the soil passes into the roots dissolved in water. After this food material has been used by the plant, it becomes necessary to get rid of the excess water so more can be taken in. This is done through the leaves, from which the moisture is evaporated by the wind. This process is called "transpiration" and the plant can procure its food in no other way. If the plants are those of our crops, transpiration is to be encouraged and as much moisture as possible placed at the disposal of the plant for this purpose.

Evaporation, on the other hand, is always injurious and should be reduced as far as possible. Evaporation absorbs heat. It follows that the "drying out" of water from the soil uses up the heat which the soil should have and which it otherwise would have.

The third way in which water is lost from soil is by drainage. Drainage of water over the surface of the land is injurious because of the fact that it washes away soluble plant food and the finest and best particles of the soil.

Opposed to this is "Underdrainage," or the taking of water downward through the soil and out by underground channels. By this means, surface flow is prevented. It has been said "The process of underdrainage is a process of absorption and filtration as opposed to surface flow and evaporation. The completeness with which the latter is prevented and the former promoted is a measure of the completeness of the improvement."—E. H. Landels.

season, which at the time of my visit was just coming out in shot blade. It promises an excellent crop. "If this plot hadn't been drained," said Mr. Matchett, "we would never have been able to get the wheat sown last fall, and one thing is certain, it would not yet have been in a condition for sowing this spring but for the

drains." The undrained plot showed the condition this one would have been in if no provision had been made for carrying off the surplus water. It was sown to clover and timothy last year, and is now being used for pasture. The cows were literally wallowing knee-deep in mud at the time of my visit, and it is safe to say that if it had been left for spring seeding there would have been no crop produced on it this year. Needless to say, Mr. Matchett strongly favors drainage as a straight business proposition. The results, as seen on his own farm and on the farm of his brother, go to show that if nothing further happens to the crop, with the increased yield of this season alone, the original cost of a tile drain system could be largely defrayed.

In the Chesterville District.

In no part of the province are the advantages of drainage more strikingly shown than in the Chesterville district of Durham county. While on a recent trip to Eastern Ontario I stopped off at Chesterville for a few hours and paid a short visit to the Allison Stock Farm. On this farm the benefits of underdrainage are well illustrated. Mr. Allison stated that he has a traction ditcher of his own, and is proceeding from year to year with a drainage programme that is designed to eventually include the whole of his farm. This programme is not yet completed, and we had an excellent opportunity of studying the difference in the condition of drained and undrained fields that lie side by side and on the same level.

In looking over the farm, we first crossed a large pasture field which was undrained. The water level seemed to be within an inch of the surface in most places, and wherever there was a depression, however slight, it was filled to the brim with water. The ground was very soft and the cattle were cutting it up pretty badly. Every footprint they left became filled with water. Although the grass seemed to be flourishing fairly well, there was no clover to be seen. "Last year," said Mr. Allison, "there was a splendid stand of clover on this field, although it was only the first crop after seeding. This year we expected a still better stand, but as you see, it has entirely disappeared. That is what the spring rains have done for us."

We next passed by a field where two four-horse outfits were at work. Mr. Allison explained that this was one of the first pieces of undrained land that they had been able to do anything with. "As you see," he said, "it is not in the best condition for working, but we have simply got to get the seed in." The ground was rather too wet for seeding, and the cultivator teeth were clogging to some extent. It may not have been good farm practice, according to the text-books, to work the land until it became a little drier, but

It was then the second week in June, the weather showed no sign of improving, and there was still a large acreage of grain to be sown, after which the corn and roots land had to be attended to. Circumstances such as these must be taken into consideration by the practical farmer.

What Drainage Did.

The next field we came to was in striking contrast to the one we had just passed. It had formerly been one of the wettest fields on the farm, and, therefore, one of the last to be sown. For the same reason it was one of the first that Mr. Allison drained, and it has a complete system of tiles underlying it. I was informed by Mr. Allison that this year it was the first field on the farm to become ready for cultivation. It had all been sown and the grain was beginning to show up nicely. The fine soil, perfectly dry on top and in the best of health, was absorbing the heat of the sun, and we knew that just beneath the surface, where the young roots were feeding, the moisture and heat were meeting to provide ideal conditions for growth. We also knew that down further still the drains were working 24 hours a day and seven days in the week, drawing away the surplus water and making seeding operations and growth possible.

It is Mr. Allison's intention to proceed with his drainage programme as fast as the conditions of the soil and the scarcity of labor will permit. Previous to this year, he informed me, the latest corn he had ever sown had been put in the ground on the 12th of June. This year it would be well after that date before he would be able to get the first corn in. In order to avoid a repetition of the unsatisfactory experience which he has had on undrained land in getting this year's crop in, no time will be lost in extending the drainage system to all parts of the farm; for Mr. Allison is firmly convinced that it pays to underdrain.

The Stability of Dairying

E. P. Bradt, B.S.A., Dundas Co., Ont.

THE dairy farmer occupies a rather unique position in the general agricultural industry of our country. He is indispensable to the human race, and the products from his herds are a necessity for the maintenance and upbuilding of the nation. The child requires milk from his birth, in fact, must have it or perish; the invalid often lives for years on it; the aged very often use it almost exclusively; the athlete uses it when in training for some trying experience of physical endurance; in short, it is the greatest of all foods for all people under all conditions. The young, the old; the weak, the strong; the poor, the rich; all these are customers of the producer of milk.

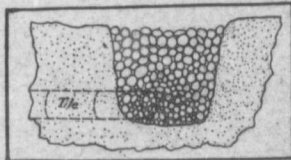
From this we gather the reason of the stability of the dairy industry. Other commodities are unstable, and we find a great rise and fall in the supply, and demand for them on the market, depending on times and money conditions. Financial stringencies and periods of tightness of money do not need to worry the dairy farmer. He knows that the commodity he has for sale is one of the necessities of life, and that in periods of hard times it will be the luxuries that the careful housewife will dispense with while the consumption of the dairy products will go on practically the same.

There is no reason for the dairy farmer losing heart in his business. If some of his fellow farmers go out of dairying, all the more reason why he should stay with it.

A Hoopless Silo

ABOUT two years ago a cut showing a hoopless silo, owned by P. J. Harvey, Stanstead, Co. Que., was published in Farm and Dairy. Recently a subscriber living in British Columbia asked for details showing how this silo was constructed. Mr. Harvey, who has now had three years' experience with his silo, has kindly supplied the following information regarding it:

"Although my silo is said to be hoopless, in the strict sense of the term this is not the case. The



Catch Basin for Leading Water From a Low Spot into Drain.

misconception has probably arisen because the hoops never need tightening, and because they are invisible either from the outside or from the inside.

Making the Hoops.

"The silo is constructed as follows: A circular cement foundation, such as is used for an ordinary stave silo is first built. Two by four studding, placed 18 inches apart, are stood on this foundation, care being taken to keep them about one and one-half inches in from the outside of the foundation. These are firmly braced in position. The hoops are made from half-inch elm boards, four, five and six inches wide, the wider ones being used near the bottom, and the narrower ones further up. To make the first hoop, six-inch boards are bent around the studding close



Prosperity or an Existence? The Reason Why.

The cartoon soon herewith has been published by the North Dakota Agricultural College. In the picture of the prosperous farmer to the left are cows whose annual profit runs from \$20 to \$50 a head. Down the road to the butcher shop he is starting the unprofitable cows from his herd. The cows in the pasture to the right are all branded with a question mark. Their owner has both profitable and unprofitable cows, but does not know which is which. Consequently he drives a team while his neighbor rides in an automobile. The moral, as Mr. Chas. F. Whitley would immediately suggest, is "Test your cows."

to the foundation and laced to the uprights. Three thicknesses are put on in this way, making a hoop one and a half inches thick with the joints well broken. Nails are then driven through the hoop and firmly clutched to hold the boards together.

"Another hoop, similar to this one, is placed about two feet further from the foundation and so on to the top, the distance between the hoops being gradually increased until at the top they are four feet apart. When one-third of the way

up the five-inch boards are used, and nearer the top the four-inch ones.

Boarding in the Silo.

"When the hoops are in position the outside is covered with good lumber, placed vertically, and firmly nailed to the hoops. A start is then made with the lining. Narrow lumber is nailed vertically between two of the studs. When the first stud is reached it is taken down, for the framework is only required while the silo is under construction. The sheathing is then continued, the studs being removed one by one until the complete round is made on the inside of the hoops.

"When the first ply of sheathing is in place a start is made with the tar paper and the second ply. The paper is tacked in place one strip at a time, this reaching, of course, from top to bottom. The second ply of sheathing is also placed vertically, and is best made of narrow boards. When it is completed the wall of the silo consists of three thicknesses of lumber, one thickness of tar paper and a dead air space of one and a half inches. This prevents the ensilage from freezing.

"I have filled my silo three times since I built it, and the ensilage has kept perfectly. The silo has not budged a hair's breadth since I put it up, and if I were to build another I would build one just like it. If it did happen to blow over it would not be damaged. It has certainly proved to be entirely satisfactory in every respect."

A cut, showing Mr. Harvey's silo after three years' service, appears on the opposite page.

Feeding Pointers for Dairymen

Henry Glenshning, Ontario Co., Ont.

THESE dairy farmers, as a rule, confine himself to one of the well known recognized dairy breeds. It is not necessary that the cows should be registered animals of their respective breeds, but the dairymen should use a pure bred sire of whatever breed he may have chosen to build up a herd.

It is easier and more economical to handle one breed than two or three, as the farmer can concentrate his mind on that one breed and his money in procuring a first class sire. The sire should be descended on both sides from good milkers having a high test in butter fat. Dairymen should, as far as possible, raise their own cows. With the creamery this is easily done, as there is always an abundance of fresh skimmed milk. The young calf should be fed the whole new milk from the mother for a week. After that a little skimmed milk can be added and the skimmed milk gradually increased, so that at the end of three weeks the new milk can be cut off altogether.

It is a good plan to add a little ground flax seed to the skimmed milk to supply the natural fat that has been taken from the milk in the form of cream. In advising ground flax, I wish to impress upon my readers that I do not mean oil cake, as the most of the oil has been taken from the flax in the process of making the oil cake. Oil cake and skimmed milk have a good deal in common in their composition as feedstuffs. With skimmed milk, the green grasses and clovers in the summer and plenty of shade, calf raising becomes an easy matter. For winter feeding substitute the grasses by using alfalfa or clover hay, corn silage and roots. If alfalfa cannot be had, ground oats should take its place.

(Continued on page 11.)

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"Grow all you Feed"

M. R. A. C. HALL
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The Farming Methods of A. C. Hallman

"Grow all you Feed and Feed all you Grow"—the Motto of this Well-known Holstein Breeder.

By F. E. ELLIS, B.S.A.

MR. A. C. HALLMAN, of Breslau, Ont., as one of the veteran Holstein breeders of Canada was the subject of a sketch in Farm and Dairy a few weeks ago. These additional notes deal with Mr. Hallman as a practical farmer. Here, too, he has always endeavored to be in advance of his times. He was the first man in his neighborhood to build a silo, and the first man in the county to erect a cement silo. He was the first in the neighborhood to grow alfalfa, making his first seedling on the rocky farm on which he made his start. In his farming operations his aim is to grow all he feeds and feed all he grows. Really, he does not live up to this rule. Literally, he does.

"I grow considerable fall wheat," said Mr. Hallman at one time. "I sell it, and with the proceeds buy feed, so in one way the products of the farm are all fed."

In 1915, the fall wheat averaged over 47 bushels to the acre on this farm. His crops consist of 10 to 14 acres of corn and three to four acres of roots. A few sugar beets are grown for the beet factory, which gives Mr. Hallman the privilege of buying beet pulp. That he considers this pulp good and cheap feed, he proves by purchasing 50 to 60 tons of it each year at 50 cents a ton. Other crops consist of 80 tons of hay and 2,000 to 3,000 bushels of grain. Forty to 50 head of Holsteins are carried, and the stock carrying capacity of the farm will soon be increased by the addition of a summer silo and an increase in the acreage devoted to corn.

No Fixed Rotation Followed.

Speaking of his rotation, Mr. Hallman said: "I have no fixed system of cropping. All my land gets manure every two or three years. I grow the fall wheat on the hay ground and this gives me a lot of roughage. All of the straw is cut and goes through the mangers before it is used for bedding. The manure goes on the wheat and the hoe crops. I wouldn't think of sowing fall wheat without it, and I have never missed a crop, except in 1914 when climatic conditions reduced the yield to 22 bushels per acre.

"As the corn land is measured, I can always get good crops on stubble. As a result of keeping the land clean and following a comparatively short rotation, whereas the farm was black with

thistles when I came here we never see any now.

"I like to apply manure with the spreader. I can't put it on evenly enough or thinly enough by hand. We clean the yards in the fall, and if the ground is frozen in winter and there is not too much snow, we get manure out. In February the manure is carted out in big piles and spread with the spreader."

An Ideal Dairy Farm.

The Hallman farm is laid out in big fields of 18 to 40 acres. If it is desired to divide a field a wire is run across it. The rough land is all at the back of the farm and a creek through it makes it ideal pasture. A lane runs back from the buildings through the centre of the farm to this pasture. The creek does not spoil any of the workable fields, and any one of them can be pastured along with the permanent pasture. This layout makes the Hallman farm an ideal one for dairying. It is situated on the main road between Toronto and Sarnia, Guelph and Berlin, and is just one and one-quarter miles from Breslau station.

"Have you done any tile draining?" I asked Mr. Hallman.

"Do you see that 18-acre field out there? Well that was a black ash swamp when I came here. Father used to tell me that tile drains would pay for themselves in three years. I have followed out his teaching, and whereas I used to go to the low spots to see if the field were ready to work, now I go to the high spots. Altogether, we have laid six miles of tile. I would as lief put my money in tile drains as in any other form of investment."

This year Mr. Hallman has 25 acres of alfalfa to cut and has seeded down six acres to sweet clover. He is a strong believer in a combination of alfalfa or clover with silage for feeding purposes. He has two silos, one for summer feeding, is 12 x 40 feet, and the other is 14 x 36 feet. Mr. Hallman called my attention to the hip metal roof of his summer silo, the one shown furthest away in the cut, which has some very commendable features. It is five feet to the hip and the first pitch is almost perpendicular. The silo is filled to the break in the roof, so that about five feet is added to the depth of the silo.

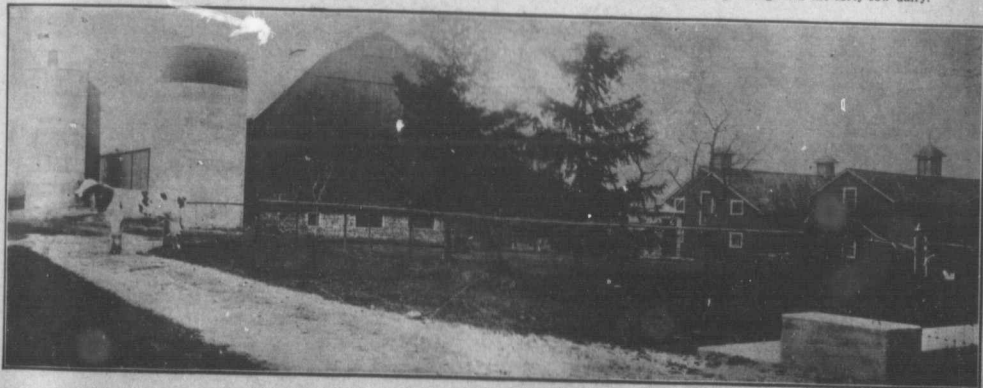


The Hopless Silo on the Farm of P. J. Harvey, Stanstead Co., Que., Described on the Opposite Page.

Requirements of a Good Animal

A good animal is like a machine. A good machine requires that each part be of good material and just the right weight and strength. The good animal must have its parts developed in the right proportion to make the type desired. The adaptability of a machine and the proportioning of its parts can hardly be determined by looking at it. However, the make of the machine is the guarantee as to its possessing or lacking quality. Likewise in the animal a good deal can be determined as to its type by looking at it. Its real quality, however, can not be determined in this way. To get at this it becomes necessary to go further back. The quality was put into the animal by its parents, its grandparents, its great-grandparents, etc. This makes it important to know that all these parents had qualities that would contribute to the making of a good animal of the type wanted. A pedigree is a scheme for keeping track of the parents of an animal. It is a guarantee of what is back of the animal, of what has contributed to its make up. It is this fact that makes the pure-bred animal valuable.—North Dakota Experiment Station.

Some dairies of twenty cows will often produce as much milk as others of forty cows. There is something wrong with the forty-cow dairy.

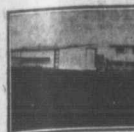


The Farm Buildings of A. C. Hallman, Showing Summer and Winter Silos. The bull shown is Sir Echo Poeh, now at the head of Mr. Hallman's herd.



The Crown Egg

For 19 months ago Crown Egg Farm Ontario, and had proprietor, Mr. A. E. is a generally accepted best place to make pro- test is with a small fr- tinct to the general



Business

To the left is the brooder for 1000 laying Millington started this year ago, last spring, as he said to be past the stage, but progress to most satisfactory.

I first visited the la is a shanty roof struc wide and 100 feet long 1,000 pure bred white are no cross pairing house, the whole 1,000 one compartment. The front is covered with cr not a piece of glass in ed like a cold type of b. Leghorn but the prop- ter without a sick hen- ting a laying average of eggs in January and ton added, getting "A" for them.

This latter comment class of farm caters. All to high-class hotels. The eggs are guaranteed



British Columbia is the illustration is the most extensive poultry raised to poultry culture 174

sterile. To insure a he- eggs, the birds are ne- sible, as even a small rob the eggs of the f- favor that the high- ch- feeding met Sprouted oats are for green feed. Ordinar- sion, wheat and g- litter is inches deep. hen's working all day- mash is fed wet and a day. The ground bo-

Seventh Annual Ormstown Show

(Continued from page 1.)

Nearly all of the top winners in the young classes were by Masterpiece. The second winner was Gordon's Crofthead Lord Caldwell, a bull of splendid type, dairy conformation and deep barrel. In the senior yearlings, Ness' Burnside Ypres Masterpiece was an easy winner, and he is a promising youngster. In the juniors Caved in a choice bull in Ness' Lord. In the senior calf class Ness again struck the red with Baron's McMaster, a calf of great substance. In the junior class Logan's sunnyside Sir Robert proved the winner. R. L. Ness won both senior and junior championships with Hobland Masterpiece and Burnside McMaster.

In the aged cow class in milk the 15 matrons made a grand showing with their uniformity in type and symmetry of form and large, square udders. Gordon's Locherger Cherry was again the winner. She is a cow of great substance, with much good style. She has developed greatly since last year, and was in perfect form. Space will not permit to comment on all the fine cows in this and the dry all class, where Auchenbain Hattie did again win the red.

In the 3-year-old class in milk, Moo's Star of Fieldhouse was an easy winner. She possesses fine form and type, and has a very milky appearance. The same may be said of the 2-year-old class, when Ness' Burnside Lady Lucky Girl topped the class.

All the senior classes were well filled, but the senior calf class in which there were 16 beauties, was the sensational class of the show, as every one was worthy of a first place, but Judge A. Cairns, of Byron, Ont., worked out the best five expeditiously and well.

Ayrshire Awards.

Judge—A. Cairns, Byron, Ont. Aged Bulls—1, Hobland Masterpiece, R. R. Ness; 2, Crofthead Lord Caldwell, Hector Gordon; 3, Howick; 4, Hillside Perfection, D. T. Ness, Howick.

Bulls 2 year—1, Burnside Cherry Master, J. D. McDougall, Ormstown; 2, Burnside Linnaean, Geo. Hay, Howick. Senior Yearlings—1, Burnside Master, R. R. Ness; 2, Sunnyside Ypres, J. W. Logan; 3, County Lucky Masterpiece, J. P. Cavers, Ormstown; 4, Chertwell Wanderer, J. P. Cavers, Ormstown; 5, Ness' Lord, J. P. Cavers; 6, J. D. McDougall; 7, D. T. Ness; 8, Chertwell Victory, D. T. Ness; 9, Hillhurst Bloomsdale, Peter Dickson, Ormstown.

Senior Bull Calf—1, Baron's McMaster, R. R. Ness; 2 and 3, Greenbank Linnaean and Greenbank Lady, Geo. Hay; 4, Star of Maple Hill, R. T. Brownlee; 5, Hobland Masterpiece; 6, Sunnyside Masterpiece; 7, J. W. Logan; 8, J. W. Logan; 9, D. T. Ness; 10, H. Holmes; 11, R. R. Ness; 12, R. T. Brownlee. Senior Male and Grand Champion—R. R. Ness, on Hobland Masterpiece. Junior Male Champion—R. R. Ness, on Burnside McMaster.

Female Awards.

Aged Cows, in milk—1, Locherger Cherry, Hector Gordon; 2, Hobland Masterpiece, R. R. Ness; 3, Glenhurst Plover, R. R. Ness; 4, Barchesse Berby, H. Gordon; 5, Hobland Plover, H. Gordon. Cows 3 years and over, dry—1, Auchenbain Hattie, R. R. Ness; 2, Stonehouse Mer, H. Gordon; 3, Brownhill Plover, R. R. Ness; 4, Ardene Carntyne; 5, J. W. Logan; 6, Lochergeria Kaltrina, D. T. Ness.

Cows 2 years, in milk—1, Star of Fieldhouse, Chas. Moo, Ormstown; 2, Sunnyside Ardyle, J. W. Logan; 3, Hymansee Queen, J. P. Cavers; 4, Ness' Lord, J. P. Cavers; 5, Edgewood Verbona, D. T. Ness. Two-year-old Heifers, in milk—1, Burnside Lady Lucky Girl, R. R. Ness; 2, Partridge, Geo. Hay; 3, Sunnyside side Belle, J. W. Logan; 4, Red Rose Bird of Fieldhouse, Chas. Moo. Two-year-old Heifers, dry—1, Burnside Margie Finkelson, R. R. Ness; 2, Ness' Lord, H. Gordon; 3, Burnside Spotless, R. R. Ness; 4, Burnside Lady, R. R. Ness; 5, Lucky Lass, J. P. Cavers.

Senior Yearling—1, Burnside Prussian, R. R. Ness; 2, Sunnyside Peany, J. W. Logan; 3, Springtime Lady Mary, J. W. Logan.

T. Ness; 4, Roseleaf, J. P. Cavers; 4, Burnside Pearl, R. R. Ness. Junior Yearling—1, R. R. Ness; 2, R. T. Brownlee; 3, W. Logan; 4, J. P. Cavers; 5, D. T. Ness. Senior Heifer Calf—1, P. D. McArthur; 2 and 3, R. R. Ness; 4, R. T. Brownlee; 5, H. Gordon; 6, J. P. Cavers; 7, J. W. Logan; 8, D. T. Ness; 9, J. P. Cavers.

Group Awards. Graded Heifer—1, R. R. Ness; 2, Hector Gordon; 3, J. W. Logan; 4, J. P. Cavers; 5, D. T. Ness. Young Heifer—1, R. R. Ness; 2, R. T. Brownlee; 3, J. W. Logan; 4, D. T. Ness; 5, J. P. Cavers; 6, H. Gordon; 7, R. T. Ness.

Get of sire (3 animals)—1, Hobland Masterpiece, R. R. Ness; 2, Notetorial Sir Douglas, J. W. Logan; 3, R. V. Brownlee; 4, D. T. Ness; 5, J. P. Cavers. Produce of Cow (3 animals)—1, D. T. Ness; 2, J. W. Logan; 3, J. P. Cavers; 4, H. Gordon; 5, R. R. Ness; 6, J. P. Cavers; 4, D. T. Ness.

Grand Champion Female—1, Locherger Cherry, H. Gordon; ribbon and S. J. Gobbie's special. Junior Champion Female—1, Burnside Barbara, R. R. Ness; 2, S. J. Gobbie's special.

W. P. Stephen's Special (Record Cow) Female—1, Burnside Barbara, R. R. Ness; 2, Barbara, R. R. Ness; 3, J. L. Tarte Special (Best Calf under 12 months)—1, P. D. McArthur.

Best of Breed (Best Cow) by exhibitor—1, R. R. Ness; 2, J. W. Logan. Best of Breed (Best Junior Female)—1, Burnside McMaster, R. R. Ness.

Best of Telephone Co. Special (Best Ayrshire Bull)—Hobland Masterpiece, R. R. Ness.

Life-dovro & Mahon Special (Best Display of Ayrshire cattle)—1, R. R. Ness; 2, J. P. Cavers.

Life-dovro & Gardner Best display of Ayrshire cattle—Hector Gordon.

Holstein Classes. Holsteins were not quite so uniform in type as the previous and in some classes so varied was the type that Judge Mallory had a difficult problem to solve ere he made his placings. This was Mr. Mallory's first year at Ormstown Fair, and the breeders were well suited with his decisions.

In the aged bull class, Raymond's Pontiac Korydke Hello, because of being lame, had to take third place. He is a massive animal, weighing 2,700 pounds, with splendid scale and quality, and of good dairy type. Brown's Gano Favorit Poeh has a deep body, clear cut head, and is a bull of quality. In the younger male classes there were from 8 to 15 animals, and among them were many fine individuals from noted strains of this great milking breed.

In the aged cow class, Raymond's Rhoda Bonerages was the winner in a class of 14. She is a cow of splendid type and form with splendid mammary development. Brown's Lily of Millbrook was a close second, in quality, but hardly in the form of the winner. The 3-year-old cows in milk were a fine lot, 15 in all, and gave the judges a difficulty, as did the dry cow class of 10. In the aged old class in milk, Helm won the red with Edna Netherland Kalmer, a heifer of substance and quality. In each of the younger classes there were from 8 to 15 animals, many of them showing splendid breeding and producing qualities. The groups usually filled one end of the arena.

Holstein Awards. Judge—P. Mallory, Frankfort, Ont. Aged Female—1, H. Brown; 2, Gano Favorit Poeh; 3, J. J. Alexander; 4, Gano Favorit Poeh; 5, Val de R. Raymond; 6, Pontiac Korydke Hello.

Two-year-old Bull—1, A. Youle; 2, Ormstown; 3, H. Anderson; 4, H. Anderson; 5, R. Anderson; 6, H. Anderson; 7, H. Anderson; 8, H. Anderson; 9, H. Anderson; 10, H. Anderson; 11, H. Anderson; 12, H. Anderson; 13, H. Anderson; 14, H. Anderson; 15, H. Anderson.

Senior Yearling—1, H. T. Cunningham; 2, H. T. Cunningham; 3, H. T. Cunningham; 4, H. T. Cunningham; 5, H. T. Cunningham; 6, H. T. Cunningham; 7, H. T. Cunningham; 8, H. T. Cunningham; 9, H. T. Cunningham; 10, H. T. Cunningham; 11, H. T. Cunningham; 12, H. T. Cunningham; 13, H. T. Cunningham; 14, H. T. Cunningham; 15, H. T. Cunningham.

Junior Yearling—1, A. McNaughton; 2, Gano Favorit Poeh; 3, Neil Ganster; 4, H. T. Cunningham; 5, H. T. Cunningham; 6, H. T. Cunningham; 7, H. T. Cunningham; 8, H. T. Cunningham; 9, H. T. Cunningham; 10, H. T. Cunningham; 11, H. T. Cunningham; 12, H. T. Cunningham; 13, H. T. Cunningham; 14, H. T. Cunningham; 15, H. T. Cunningham.

(Continued on page 10.)

Eighty-five thousand satisfied owners against unproved claims and rosy promises

You judge a man by what he's done—not by what he says he intends to do. Judge a motor car the same way.

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Zenonem means health and comfort to older birds by keeping them from lice and other pests. There is practically no disease in brooders where there is no Zenonem. It is the only disinfectant that kills every germ that is present. Made in Canada.

ZENNER DISINFECTANT CO., Sandwich St., Windsor, Ont.



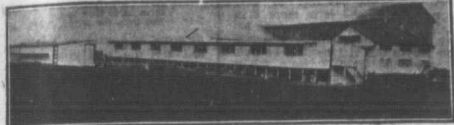
The Crown Egg Farm

A FEW months ago I visited the Crown Egg Farm, near Paris, Ont., and had a chat with its proprietor, Mr. A. E. Millington. It is a generally accepted rule that the best place to make profits with poultry is with a small flock as an adjunct to the general farm, but Mr.

of this mash supplies all the animal food the hens get.

The surplus cockerels are sold as broilers in Toronto when they weigh one and one-half pounds each. "We don't force the Leghorns for broilers," said Mr. Millington. "They are very active and can't stand forced feeding. We bring them naturally up to one and one-half pounds and then get rid of them."

The laying stock are all pullets. Some 300 of the best of these are reserved for breeders, but the breeding flock are the only year-olds around the farm. The pullets are disposed of in August. Ultimately the idea is to have two laying houses. In one of these will be chickens hatched very early which will molt



Business Headquarters at the Crown Egg Farm.

To the left is the brooder house, in the centre the laying house with accommodation for 1,000 laying Leghorns, and to the right the incubator house.

Millington started this enterprise one year ago, last spring, so it cannot yet be said to be past the experimental stage, but progress to date has been most satisfactory.

I first visited the laying house. It is a shanty roof structure, 16 feet wide and 160 feet long and affords accommodation for a laying flock of 1,000 pure bred white Leghorns. There are no cross partitions in this long house, the whole 1,000 birds being in one compartment. The big open front is covered with canvas. There is not a piece of glass in it. This seemed like a cold type of house for White Leghorns, but the proprietor assured me that they came through last winter without a sick hen and were getting a laying average of 60 per cent. of eggs in January and, Mr. Millington added, getting "a sickle a piece for them."

This latter comment indicates the class of trade to which the Crown Egg Farm caters. All eggs are sold to high-class hotels and hospitals. The eggs are guaranteed sanitary and

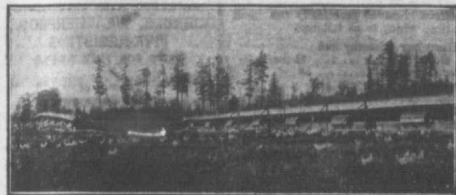
early and then carry the egg supply right through the summer. Chickens hatched later will supply the winter and spring eggs. Last year with only one laying house, there were no eggs to dispose of from August to November.

Charcoal, grit and oyster shells are fed in convenient hoppers. The drinking fountains are cleaned thoroughly every day.

The incubators have a capacity of 8,400 eggs. From these the chickens are removed to Paradise brooders where they are kept six days and thence to the hoover house, equipped with 24 hoovers and individual runs inside and out.

At the time of my visit, 19 colony houses in the orchard housed 300 select pullets. These were to be built up for a month and then forced into an early moult, trap mated all winter and the best ones selected for the breeding flock of the following spring.

Mr. Millington's methods are unusual and we will watch the development of the idea with interest.—F. E. E.



British Columbia is the Home of Many Successful Poultry Ranches.

The illustration is the Hillcrest Poultry Farm on Vancouver Island. It is one of many extensive poultry farms in the province. But with a climate wonderfully suited to poultry culture, British Columbia still imports a large part of her poultry supplies, both eggs and dressed poultry.

sterile. To insure a high quality of eggs, the birds are never allowed outside, as even a small range would rob the eggs of the rich, grain-fed flavor that the high-class market demands.

Feeding Methods

Sprouted oats are fed all winter for green feed. Ordinary mixed grains—corn, wheat and oats—are fed in a litter 18 inches deep. This keeps the hens working all day. The laying mash is fed wet and crumbly, once a day. The ground bone composition

Keep the surroundings free from filth. Clean coops and yards frequently to prevent droppings from contaminating the food.

Exercise aids digestion and assimilation and keeps the chickens contented in confinement.

Give a scratch feed consisting of finely cracked grain, as well-seasoned corn, wheat, steel-cut oats, millet seed, etc., or commercial chick food in a light litter, such as hay chaff.

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The Dominion Experimental Farm's beautiful stretches of road which join the driveway system are also treated with Tarvia both as a road-binder and dust-layer.

The City of Ottawa also has several miles of tarviated roads.

Accordingly, the Ottawa authorities ought to know whether or not Tarvia makes good.

This is what Mr. A. Stuart, Superintendent of the Ottawa Improvement Commission, has to say:

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Dunain Farm : Small, But Fruitful

Realizing an Ideal Set by a Toronto Man a Decade Ago

ONE of the aims of every one is to have a home where freedom and the comforts of life may be fully enjoyed. There are few places where these can be found in greater degree than at Dunain Farm, the home of Mrs. Barlow Cumberland, on the western borders of the town of Port Hope, Ontario. Embodied in this beautiful country place are the objects of nature so necessary to make it real and enjoyable at all seasons. A grove of stately pines that have been spared from the woodman's axe, provide shelter, shade and picturesque for the farm buildings. The land naturally slopes southward, giving an uninterrupted view of the deep blue waters of Lake Ontario from any point of the farm.

The house is of the old, substantial kind, roomy and comfortable, yet modern in every particular. It is surrounded by grounds laid out in exquisite taste, and designed so that nature is supplemented rather than dispensed with. When one enters the main gateway and looks upon the picture presented by the palatial residence and its beautiful surroundings, with the waters of the lake in the distance, it appears as if nothing could be added to or detracted from the scene to make it more perfect.

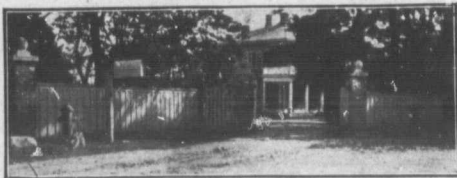
Mrs. Cumberland does not confine her attention to trees, shrubs and flowers alone. Intermingled with these are all kinds of garden vegetables, herbs and fruit, which are so essential in every home. Vegetables are planted and nurtured with the same care as is given to ornamental

plants. Small fruits of all the hardy varieties are grown extensively. An apple orchard, three acres in extent, is maintained, and pruning, spraying and good cultivation practised, so that only high-class fruit is produced for sale or for home use. A modest poultry plant supplies eggs and fowl for table use and market purposes. This is operated according to approved methods and yields a good income.

The farm is composed of 40 acres, of which 30 are under crop, the balance of the land being taken up with

stables is provided. This barn is modern, neat and designed to give the maximum amount of comfort to both the animals and their attendants.

The Dunain herd of Ayrshires was established some ten or twelve years ago by the late Barlow Cumberland, and, though small, it contains some of the best blood of Canadian Ayrshire families. The foundation cow is Anna of Dunain, whose photograph appears on page 2. She is sired by Glencairn of Burnside, her dam being Annie Laurie 3rd. Two helpers from this cow are retained in the herd, Lady Hopeful of Dunain and Red Annie of Dunain. Both of these helpers have good R.O.P. records, and are



Dunain Farm, the beautiful home of Mrs. Barlow Cumberland, Port Hope, Ont.

fine individuals of excellent type. The herd is headed by Vaudreuil Pride 12th from the imported sire Aucherbrain Pride and the big record cow, White Rose. The aim has always been to keep a high-class sire as a herd leader. The quality of the younger animals is proving the wisdom of this,

as they are excellent specimens of the breed, and will make future names for themselves. This is another case where family relationships are being maintained in a herd. With the concentration of such high-class blood, it is only natural to find animals that are big producers and that will transmit these qualities to their offspring. A utility herd, like that on Dunain Farm, gives the double satisfaction of being a source of pride and of yielding a substantial income.

Toronto Fat Stock Show

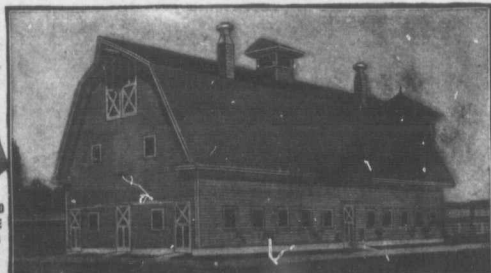
THE management of the Toronto Fat Stock Show are planning to hold a bigger and better show than ever at the Union Stock Yards this fall. The dates selected are December 8 and 9. The indications are that the prize list will contain many new classes and offer especially attractive prizes to breeders and feeders of cattle, sheep and horses. It is not too late now for the man who wants to come out on top to begin preparing his animals. The secretary of the Toronto Fat Stock Show will be only too glad to give any further information regarding the prize list, even before the final list is ready for distribution.

Building Hints

ONE cord of stone, three bushels of lime and a cubic yard of sand will lay 100 cubic feet of wall. To find the number of lath required for room, divide the square feet by four and multiply by 6 1/2. One gallon of paint will cover 250 feet outside. New work requires one-fourth to one-half more.

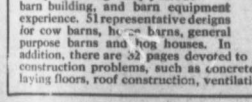
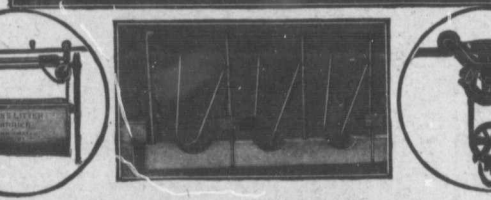
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"THE VETERINARIAN"

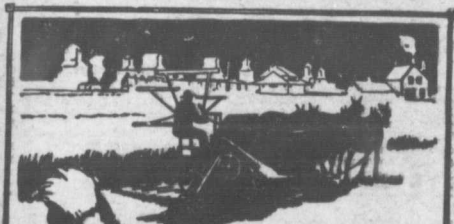
A treatise on the diseases of domestic animals by Dr. Chas. J. Korinek, Graduate of the Ontario Veterinary College of the University of Toronto and Hon. Member Ontario Veterinary Medical Association, describes the cause, symptoms and treatment of all diseases of Horses, Cattle, and Poultry, cloth bound, illustrated, \$2.50 and sells for

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FARM & DAIRY

Peterboro

C.E.F. Feeding Methods

(Continued from Page 8.)

Jano Seigs Aggie, the new world's champion cow, all breeds and ages, in butter production for periods from 1 to 120 days.

It is also interesting to note the following: 50 lbs. average cow's milk contains 79.53 lbs. water, 85 lbs. ash, 3.24 lbs. protein, 4.41 lbs. carbohydrates, 3.26 lbs. fat.

Although these heifers, producing 92 to 97 1/2 lbs. milk per day, did not quite average 3 lbs. fat each per day in their 7-day record, yet they consumed approximately 2.34 lbs. digestible protein and 10.03 lbs. digestible carbohydrates and fat per pound of protein or fat produced in milk.

Feeding Whey to Calves

Is whey (which has been heated at the factory to make it sweet), good to feed to calves? Does it pay to feed it to calves instead of milk?

(1) Whey has considerable feeding value for certain classes of live stock. It contains about 7% solids, including the greater part of albumen of milk, nearly all the sugar of milk, and some ash. Warm sweet whey can be fed to calves with more or less success, provided care is exercised in keeping the feeding pails perfectly clean. Some authorities even claim it has half the value of skim milk for calves. Having such a large sugar content, it sours very quickly, the sugar being changed to acid by the bacteria present, hence if great care is not observed in feeding it to calves, digestive troubles are almost certain to follow. Provided milk is available, there is just a question about the wisdom of feeding sour whey to calves. However, if milk is not to be had a little whey might be substituted for calves over one month old. They should be started off with very little and this gradually increased until they will be getting say 10 to 12 lbs. per day, taking about ten days to work up to the full amount. Sour whey would, without doubt, give a much better return if fed to pigs. It is estimated that 700 lbs. of whey, either sweet or sour, is equal to 100 lbs. grain when fed to pigs at the rate of three to five lbs. to one lb. grain.

Omstown Stock Show

(Continued from Page 6.)

Stags: 4 T. Watson, Waldron Hengerfeld; 5, J. Helm; 6, Sons, Jlyssa DeKok. Senior Bull—1, H. T. Cunningham; 2, D. H. Brown & Sons; 3, A. E. Young; 4, D. H. Brown & Sons; 5, D. Raymond; Junior Bull—1, D. H. Brown & Sons; 2, T. Watson; 3, H. H. Craig; 4, D. H. Brown & Sons; 5, J. J. Alexander.

Female Awards.

Cows (2 years and over, in milk)—1, D. Raymond; Rhode Bearers; 2, D. H. Brown & Sons, Lady of Millbrook; 3, D. Raymond, Kentucky Queen DeKok; 4, H. Brown & Sons, Millbrook Pouch Poterlie; 5, Nell Sangster, Rhoda's Queen Princess. Cow (2 years and over, in milk)—1, A. Young; Dairy Dancer; 2, H. Brown & Sons, Dairy Postie Korndyke; 4, Nell Sangster, Corn Bogie Berka. Two-year-old heifer, in milk—1, J. Helm & Sons, Edna, Netherlands Palmer; 2, D. Raymond, Tony Stewart; 3, J. Helm & Sons, Spot Peter; 4, H. H. Craig; 5, J. J. Alexander. Cow (3 years dry)—1, D. Raymond, Hattie Peterie Girl; 2, J. J. Alexander, Bernice Hengerfeld; 3, Tom Mellan; 4, J. Winter. Heifer (3 years and over, dry)—1, D. Raymond, Hattie Lady; 2, D. H. Brown & Sons, Millbrook Pasture Princess; 3, D. Raymond, Hethoska; 4, J. Helm & Sons; 5, J. Winter. Senior Yearling—1, N. Sangster; 2, J. J. Alexander; 3, T. Watson; 4, H. H. Craig; Junior Yearling—1, D. Raymond; 2, J. Helm & Sons; 3, A. E. Young; 4, Nell Sangster; Senior Calf—1 and 2, D. H. Brown & Sons; 3, D. Raymond; 4, H. H. Craig; Junior Calf—1, James Winter; 2 and 4, D. Raymond; 3, H. T. Cunningham.

Group Awards.

Graded Herd—1, D. Raymond; 2, D. H. Brown & Sons; 3, J. Helm & Sons; 4, H. H. Alexander; 5, J. Helm & Sons; Young Herd—1, D. H. Brown & Sons;

2, Nell Sangster; 3, J. Helm & Sons; 4, D. Raymond; 5, H. H. Alexander. Get of Sire (4 animals)—1, D. Raymond; 2, D. H. Brown & Sons; 3, D. Raymond; 4, H. H. Alexander; 5, J. J. Alexander. Produce of Cow (3 animals)—1, A. Young; 2, J. Helm & Sons; 3, D. Raymond; 4, N. Sangster.

Dairy Herd (3 cows)—1, D. Raymond; 2, D. H. Brown & Sons; 3, D. Raymond; 4, H. H. Craig; 5, J. J. Alexander. Senior and Grand Champion—1, D. H. Brown & Sons; ribbon and Best Tailbone Special.

Senior Male Champion—H. T. Cunningham, ribbon and Best Hattie Special. Senior Female Champion—Best display of Hobbies; 1, H. Brown & Sons; 2, J. Helm & Sons; 3, H. H. Craig; 4, H. H. Craig; 5, D. Raymond; 6, D. Raymond; double, turrow plow.

Jersey Classes.

This popular Channel Island breed was represented by the herds of Messrs. B. H. Bull & Son, Brampton; Messrs. W. H. Martin & Son, Warrenton, Ore., besides some individual herds. Martin's herd was delayed on route, and was judged the day after landing, therefore they were not in as good form. There were many individuals of merit in both herds. The animals in the herd of Messrs. Bull & Son are very true to Jersey type, and are a most uniform lot. This is the second time they have exhibited at this fair. Last year they had to compete, but this year Martin came out against them with over twenty head. The Messrs. Bull hope that another year or two more of the Quebec Jersey men will come out, if they like good competition. Mr. Martin has a lot of strong, milky females, and his herd shows good quality.

Jersey Awards.

Judges—Prof. C. A. Archibald, Ottawa, Ont. Aged Bull—1, Brampton Burma King; 2, H. Bull & Son, Brampton, Ont.; 3, Purple Blue, W. H. Martin, Warrenton, Que. Two-year-old Bull—1, Brampton Ganoga Prince, H. H. Bull & Son. Senior Yearling—1, Brampton Fontaine Dove; 2, H. H. Bull & Sons; Brampton Blue Boy, Bull & Sons; 3, A. Rember. Junior Yearling Bull—1 and 2, Bull & Son. Senior Bull Calf—1 and 2, Bull & Sons; 3 and 4, W. H. Martin. Junior Bull Calf—1 and 2, Bull & Sons; 3, W. H. Martin.

Female Awards.

Cow, 4 years, in milk—1, Brampton Lady Elliot, Bull & Sons; 2, By ameson, Bright Hill, Bull & Sons; 3 and 4, Bull & Sons; 5, Blue Boy, W. H. Martin. Cow, 3 years and over, in milk—1, Brampton Cowslip, Bull & Sons; 2, Brampton Bright Patrie, Bull & Sons; 3, Lady Britton, W. H. Martin. Cow, 2 years and over, in milk—1, Brampton Pink Lady; 2, Golden Bull, W. H. Martin; 3, Bull & Sons. Cow, 2 years and over dry—1, Brampton Matiland, Bull & Sons; 2, Genie Bant, W. H. Martin; 3, Bull & Sons; 4, Canada's Brown Beauty, W. H. Martin. Heifer, 2 years old, dry—1 and 2, Bull & Sons; 3, C. C. Cline. Senior Yearling—1 and 2, Bull & Sons; 3 and 4, W. H. Martin; 5, J. Winter. Junior Yearling—1 and 2, Bull & Sons; 3, W. H. Martin. Senior Calf—1, Bull & Sons; 2, W. H. Martin. Junior Calf—1 and 2, Bull & Sons; 3, R. T. Evers; 4, W. H. Martin.

Group Awards.

Graded Herd—1 and 2, Bull & Sons; 3, W. H. Martin. Young Herd—1 and 2, Bull & Sons; 3, W. H. Martin; 4, H. H. Alexander. Get of Sire (4 animals)—1, Bull & Sons; 2, D. Raymond; 3, D. Raymond; 4, H. H. Alexander. Produce of Cow (3 animals)—1, Bull & Sons; 2, W. H. Martin; 3, W. H. Martin. Dairy Herd (4 cows)—1 and 2, Bull & Sons. A. Philip, M.L.A., Special: One Champion Jersey Female, and Best Display of Jersey Cattle—Bull & Son.

The first rule of the conscientious dairyman is, "In all things be clean."

Land plaster used freely in the stables will absorb all odors and increase the fertilizing value of the manure.

Thorough cultivation pays in so far as the resultant crop values are relatively greater than the increased cost of production.



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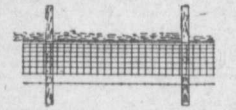
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Hog Fences

A good permanent fence for a pig lot can be made as follows: Place posts four inches by seven feet one rod apart. Staple a string of barb wire two inches from the bottom. Two inches above it place a ribbon of 28-inch woven wire and six inches above it another string of barb wire. Figure 10 shows a draft of this fence. The post will project one and one-half feet above the height of the fence. Short posts can be used, but the longer posts may be used some time later in case it is desired to place more wires on the fence to keep in cattle or horses.

A good movable fence can be made in practically the same way. Use smaller posts, sharpen them and drive them into the ground two rods apart. On the bottom string a barb wire. Stretch the woven wire on the post and staple it tightly to the post so that it can be readily removed and



rolled up when you wish to move it. A fence of this kind can be readily moved from place to place, and set up without a great deal of labor. The panel portable fence is also a very convenient type of fence. The cost of it makes it almost prohibitive, however, on the average farm.—N. D. A. C. Institute Monthly.

Feeding Pointers for Dairymen

(Continued from page 4.)
It is advisable to have young heifers drop their first calves at about 30 months of age. If they freshen earlier there is a tendency in the course of a few generations for the offspring to weaken and become smaller and less robust.

Early summer conditions are the ideal ones for successful dairying. The cows are allowed to wadple the fields at their own sweet will, bathed in sunshine, expanding their lungs with pure air, and with abundance of succulent and palatable grass and pure spring water. Under these conditions do not continue throughout the summer. Supplementary feed has to be supplied to help out the pastures. First in the list of these supplementaries, I would place alfalfa, which can be either fed green or as hay. It contains a high percentage of all of the nutrients for milk production. Another supplementary feed is corn silage, made the previous season in a narrow, deep silo. To this should be added such feeds as wheat bran, ground oats, cottonseed meal, or oil cake. Later in the season, green peas and oats, and green corn are all excellent.

For winter feed, roots, silage, alfalfa and red clover hay stand out prominently as roughage, supplemented with wheat bran, ground oats, cottonseed meal and oil cake. If an abundance of alfalfa hay is to be had, there will not be much need of the more expensive meals.

During fall and spring, when temperatures are moderate, pigs will drink the right amount of water if they have access to it. In cold weather when the water is chilly they will not drink enough for best results. Then it must be fed to them in the form of slop feed. The young pigs and breeding stock need more water than fattening stock.

"Production and Thrift"

You Dairymen of Canada! The Department of Agriculture, in its War Book, "Production and Thrift," asks you to "do your bit" in the great struggle by increasing production. The shortage of labor has made this hard to accomplish. Yet the problem can be solved by labor-saving devices. Take milking: One man can milk and strip 30 cows per hour with a Sharples Milker. If you have 15 cows or more, it will pay you to get a



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Cream production can be increased by the use of a separator that will get ALL the cream at ANY speed. There's only one machine that will meet this requirement, the

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PUBLISHED EVERY THURSDAY

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

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We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of Farm and Dairy are as carefully edited as the reading columns, and because to protect our readers, we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with you as one of our paid-in-advance subscribers, we will make good the amount of your loss, provided such transaction occurs within one month from date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is in Form 10 on this contract that we writing to advertisers you state: "I saw your advertisement in Farm and Dairy."

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The Rural Publishing Company, Ltd.
PETERBORO, ONT.

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

Rural Recruiting

SOME time ago we had occasion to draw attention to the unfairness of basing an estimate of the number of men contributed to the overseas forces by the agricultural industry of Canada upon the number of those who had enlisted under the class "farmers." The report of the committee of the Manufacturers' Association in the co-ordination of recruiting again makes this a pertinent subject for comment. According to this report country districts have not made heavy sacrifices. It is claimed that only 14,500, or 5.4 per cent. of those enlisted, have been recruited from the ranks of farmers, and that the majority of these were farm laborers, most of them of British birth. The inference is that only a very few Canadian born farmers or their sons are at present with the colors. In contrast to this it is pointed out that business men, clerks and manual laborers represent 85 per cent. of the enlistments, and that of these manufacturing has contributed by far the greater share.

It would be interesting to know what proportion of the Canadian-born with the colors were born and raised on farms. It would probably surprise the members of the committee on co-ordination of recruiting. One thing is certain, it is more than 5.4 per cent. Farm-bred boys have not been slower than their city cousins in answering the call for fighting men. The fact that previous to the war many of them had answered the call to the city is significant. It means that many of the enlistments now credited to the city and to the manufacturing industry could with more justice be credited to the country. It is the members of country homes who are anxiously scanning the casualty lists to see if their names appear. For is this all. The enlistments in the county battalions are no indication of the number of men who have gone directly from the farms to the army. Every city battalion has its quota of such men.

If the truth were known it would be found that country districts have contributed their share and, considering the importance of maintaining agricultural production, perhaps more than their share, to the overseas forces.

The committee is to be commended, however, upon including an agricultural army as one of the three divisions into which it recommends that available men in Canada be divided, the other two being the fighting and the industrial armies. It is also to be commended upon suggesting that experienced farmers and farm foremen, with a reasonable number of assistants be exempted from military service. Agriculture was seriously undamaged before the outbreak of the war. This shortage of farm labor has reached a point where no more can be spared without curtailing the production of foodstuffs. Not an additional man should be taken from the industry without being replaced by another who is unfit for military service.

More Cows Needed in B.C.

PROVINCIAL Dairy Instructor Wancko, of British Columbia, is authority for the statement that 40,000 more dairy cows are needed in the province before the dairy industry will be able to supply the home demand for dairy products. From 10,000,000 to 12,000,000 pounds of butter are imported annually. This deficiency is now being met by shipments from New Zealand and from the other provinces of Canada. The difference between the supply and the amount produced by the dairy farms of British Columbia is not due to unsuitability of the province for dairying. Its soil and climate are admirably adapted to the production of cheese and butter of the best quality. It is due to the fact that full advantage has not been taken of the opportunities that the province offers to dairymen.

It is significant that simultaneously with an underproduction of dairy products (there is an overproduction of fruit. While the fruit-growing possibilities of the province have been exploited beyond all reason the equally profitable work of dairying has been seriously neglected. This is a striking illustration of the beneficial influence of the land-booster on the agricultural development of a new country. Prices of fruit farms have been inflated until they are beyond the reach of the dairyman. The lure of the unearned increment that was being realized when prices were being forced up from a nominal figure to \$1,000 or more an acre has attracted many men to fruit farming that would otherwise have been satisfied with the more modest but surer rewards of dairying. The result is an unbalanced agriculture in which fruit-growers have found it necessary to apply for a tariff protection while dairying has been neglected to an unwarrantable extent. There are indications that dairying is now beginning to receive the recognition that it deserves. That recognition should result in the introduction of more balance into the agriculture of British Columbia than it now enjoys. This in turn would result in increased prosperity for the farming industry of the province.

The War Loans

THE huge loans that the governments of all the belligerent countries are finding it necessary to negotiate in order to carry on the war, are drawn from past savings. Whether secured through financial institutions, whose funds consist of the savings of the people that have been entrusted to them for investment, or secured direct from the people themselves, they must come from the accumulations of the past. When a government bond is taken up it simply means that a claim to some form of wealth that has been saved from consumption is transferred to the government in return for its promise to give back a similar claim in the future. In the

transaction the government mortgages wealth that will come into its possession in the future in return for the use of wealth that has been saved from the past.

The future obstinately refuses to become a creditor. Guns must be made before they can be used. Shells cannot be fired until after they are manufactured. The battle-ships needed to defend a coast cannot be built after the war is over. It is last year's harvest that is feeding the soldiers in the trenches and the sailors on the fleet. The products of next year's harvest and next year's output of munitions factories are no more available than the products of another planet. Destruction can never get ahead of production.

If borrowing could not be resorted to, the financial burden of the war, insofar as it could not be met by immediate taxation, would fall altogether upon the present owners of accumulated wealth. The savings of the people would have to be commandeered for present needs, with no prospect of repayment. By borrowing, repayment is assured, insofar as a government can assure it. But this repayment will have to be made from future earnings. Government bonds are taken up because the lenders have faith in the continuation of the power of the government to take, in the form of taxes, the title to a portion of the wealth created by the people. In order to repay the huge war loans that are being negotiated, a greater proportion than ever of the wealth produced by the toiling masses will have to be taxed away from them in the future and passed on to those who are fortunate enough now to have money to lend to the governments. The final result can only be that the rich will become still richer and the poor still poorer.

New Zealand's Burden

NEW ZEALAND has one of the finest climates for dairy farming that the world affords. Her soil is rich. Her dairymen have a make practically no provision whatever for winter feeding, thus giving them a distinct advantage over most of New Zealand's rivals in the dairy field. The annual precipitation is large and pastures are good. A great percentage of the dairy products are manufactured in cooperative factories and sold through cooperative societies, thus bringing to the producer a high percentage of the consumer's dollar.

In spite of these great advantages, however, New Zealand's dairymen are as hard a working people as we find in the world. Apparently they find it as difficult to make ends meet as do farmers in other and less favored countries. Why? We believe we found the explanation recently when looking through the advertising columns of our esteemed contemporary, the New Zealand Dairyman. We started at the top of a column of "Farms for Sale" ads. The first farm listed was one of thirty acres, and the price quoted was \$29 an acre, or \$300. Fancy paying \$9,000 for a thirty acre dairy farm. The next on the list was a ten acre dairy farm at \$125, or \$625 an acre. Next came fifty-two acres at a more reasonable price, only \$41, or \$205 an acre.

Does it not appear that New Zealand's natural adaptation for dairying has been capitalized in the price of its land? Conditions would certainly need to be good to enable a dairy farmer to pay interest on such land values as these and in addition make a living for himself and his family.

The ideal solution of the country church problem is to have in each rural community one strong church adequately supported, properly equipped, ministered to by an able man—a church which leads in community service. The path is the realization of such an ideal is rough and thorny. Church federation, however, promises large results in this direction and should be specially encouraged.—Butterfield.

The District

OWING to the club's annual meeting the winter in Toronto of the United to have decided to postpone in order members of the club's vice as full as able to get in to movement. It is conventions will arousing a great movement at large work of the local vice clubs are again represented at the. The dates of been rearranged as follows: June Palmerston, June 29; Petrolia, July 5; Chesherville, Morning session a.m. and afternoon

One Club's

THE story of a secretary of Farmers' Club, Ont., secured orders up a car load of through the center car of potatoes as the grover in the position of how und that may be met w operative work, in the energetic assistance a secretary, backed by a few members, a representative of

THE AUDIT BUREAU

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WHAT IT IS—W

THE annual convention of the Bureau of Circulation of Farm and Dairy held in Chicago, and by it from its directors, that the association of publishers, advertising agents, is in condition, and its growth has been highly satisfactory. The Audit Bureau of Circulation is an organization to which papers, magazines and technical journals are sent if they are willing to be measured, and not only circulation is, but to establish, how much business is obtained, how much money is made, and how many arrears. But all this prove that publication of they claim. As they have, and to all advertisers want and know through trained experts. The president explained what the publisher at it correct in all respects. This is for the protection and advertising agencies that concern themselves represent the quantities. It is also for the honest publisher, who disadvantage in complex recoupments. The president of the Bureau, Mr. Bruce, of Chicago, in his address, said that the circulation represents will of the largest country devoted to the verifying conditions.

But, he said, to practical work. The Audit Bureau was truly cooperative in publishing, advertising, being engaged in circulation of the Bureau's information of circulation everywhere as accurate as up-to-date and able to ascertain from audits of publications. The Audit Bureau depends on A. B. C. credit men in companies making cer-

In Union There is Strength

The District Conventions

OWING to the impossibility of all the clubs being represented at the annual meeting held during the winter in Toronto, the directors of the United Farmers of Ontario have decided to hold five district conventions in order to give the members of the clubs throughout the province as full an opportunity as possible to get in touch with this great movement. It is hoped that these conventions will be the means of arousing a greater interest in the movement at large, as well as in the work of the local, and for this purpose clubs are again urged to be well represented at the conventions.

The dates of the meetings have been rearranged slightly and will be as follows:

Palmerston, June 19; Woodstock, June 29; Petrolia, June 30; Bellefleur, July 5; Chesterville, July 6. Morning sessions will open at 10 a.m. and afternoon sessions at 2 p.m.

One Club's Experience

THE story of how Owen Hoey, secretary of the English Line Farmers' Club, Campbellford, Ont., secured orders enough to make up a car load of sugar, purchased through the central company, and a car of potatoes secured direct from the grower in Muskoka, is a revelation of how unforeseen difficulties that may be met while conducting co-operative work, may be overcome by the energetic and persistent work of a secretary, backed up by the loyalty of a few members. A short time ago a representative of Farm and Dairy

paid a short visit to Mr. Hoey and secured an account of how he had managed the business of the club last year. A car of sugar costing \$2,100 is quite an order for one club to handle. Mr. Hoey found it to be so, but by energetic work he was able to secure enough orders to enable the club to handle a full car load. There were not enough members at any one meeting of his club to supply orders for a cartload. The rural telephone had to be requisitioned and the plan followed was this: A member of the club on each telephone line was called up and requested to secure an order if possible from every farmer on his telephone line. Some of the lines on which there were no members were handled by Mr. Hoey himself. He would first make arrangements with the central for the lines he wanted. There would always be one of these which would not be busy, in which he could have immediate access. Once he had a line he could hold it until he had canvassed every man on it.

While all this was in progress, sugar was going up at the rate of about 10 cents a day. The papers were watched diligently and a close touch maintained with the central company. When sugar neared the seven dollar mark, Mr. Hoey called up the central office one day at noon and got a quotation of \$6.91 for Redpath's granulated. There were still about 75 bags to be disposed of before the full car load could be handled. It was difficult to decide whether or not to risk ordering a car. It had to be decided to take the chance for, as he said, sugar is not a perishable product. At six o'clock in the evening he again called up central, but the order was now quoted at \$7.21. The order was placed, although only granulated sugar could be obtained, while the members would have preferred a mixed car. In due time the car arrived, but by this time sugar had gone far above the price for which it had been secured and no difficulty whatever was met in disposing of the balance of the car. In fact 36 people were on hand to buy up what was left after the orders had been filled.

A car of potatoes was secured from New Lakeview, Ont. The name of a grower having been secured, Mr. Hoey got in touch with him by night letter and got quotations of \$1.75 a bag, delivered, for potatoes grown free from disease or injury. He immediately placed an order for a car with instructions that he should be advised how many bags contained. The car proved to be a large one, for when it arrived, it was found to contain 369 bags, which was a great deal more than the club could handle. However, 100 bags were disposed of to a neighboring club.

The day before the club car arrived, a competitor had secured a car of potatoes and had 24 hours the start of the club in disposing of them. The club had to allow the secretary one and one-half cents a cart, for his work in connection with handling the order and to remove dissatisfaction it was decided to weigh each order on a town scale. Their competitor was beaten by two and three one-half cents a bag. Two or three who had placed their orders with the club, went over to the other men, giving the excuse that he had the best potatoes. Other members, however, took a few extra bags, but when the orders were all filled, only 28 bags were left. These have since been disposed of.

Besides the sugar and potatoes, the English Line Farmers' Club has done

FARMERS



Have you had the Empire Mechanical Milker Booklet?

It is free, it is interesting—it is full of facts that every wideawake farmer and dairyman should know. Write for it to-day.

Empire Mechanical Milkers have solved the problem of milking. They free you from dependence upon hired help, and make it possible to keep more cows.

With one double or two cow unit, one man or a boy will milk 20 to 80 cows in an hour, and one man can operate two double units. See what a saving this would mean to you in wages if hired help does your milking; or in labor, bother and time if you do it yourself?

Read about it in the Booklet. Read the letters from satisfied users.

EMPIRE MECHANICAL MILKER

LANDDOWN, ONT.
DEAR SIR:—
The two double unit milkers have given me excellent satisfaction. The cows' teats and udders were never in a nicer condition. Empire Milker is a boon to any farmer, I believe I can milk my 22 cows in 35 minutes.
L. B. WEBSTER.

JASPER, ONT.
GENTLEMEN:—
I purchased one of your milker outfits last spring. I would have had to dis-
pose of my cows had I not bought it, as I had no help to milk. The machine is doing all I believe it is the best on the market.
WILLIAM KING.

takes the Droggery out of Dairying—cuts the wages bill—protects the milk from stable air, dirt and germs and usually induces cows to let down more milk.

You, or your Boy, or one hired man, and an "Empire Milker" could take care of a pretty large herd and do it easily. The Empire successfully imitates the action of a sucking calf and is easier on the cows than hand milking—it does its work thoroughly and well — milks evenly, smoothly and naturally — it is good for the cows—saves you money—increases your profits and makes you independent.

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Please send me The Empire Mechanical Milker Booklet. I have _____ cows.
Name and Address _____
Dist. B. _____

The Empire Cream Separator Co. of Canada, Limited. MONTREAL, TORONTO, WINNIPEG.

THE AUDIT BUREAU OF CIRCULATIONS.

WHAT IT IS—WHY IT EXISTS.

THE annual convention of the Audit Bureau of Circulations, of which Farm and Dairy is a member, was held in Chicago, and the reports received by it from its directors and officers showed that the association, which is composed of publishers, advertisers and advertising agents, is in a flourishing condition, and its growth during the last year had been highly satisfactory to the membership.

The Audit Bureau of Circulations is an organization to which farm papers, newspapers, magazines and clubs, trade and technical journals earnestly cling, unless they are willing to tell what their circulation is, and not only tell what their circulation is, but to swear to it, and swear not only as to the quantity of circulation, but as to how it is distributed, how it is obtained, how much is paid and how much is free, and in proportion of it is in arrears. But all this is not enough to prove that publications have the circulation they claim. After the publishers have stated and sworn to what circulation they have, and to all the other facts advertisers want to know, the Audit Bureau, through trained expert examiners, makes a searching examination to find out if what the publisher states and swears to is correct in all particulars.

This is for the protection of advertisers and advertising agents against publications that conceal the character or misrepresent the quantity of their circulation. It is also for the protection of the honest publisher, who might be put at a disadvantage in competing with the one less scrupulous.

The president of the A. B. C. is Louis Bruch of the American Radio-Advertising Club, Chicago. In his address to the convention, Mr. Bruch said the Audit Bureau of Circulations represents the organized will of the largest single body in this country devoted to the improvement of advertising conditions. This rapid growth was due, he said, to the fact that the practical work of the Bureau accomplishes was truly co-operative—all interested in publication, advertiser, advertising agent, being equally served and advised. Audit Bureau's findings on its examination of circulations are accepted everywhere as accurate and final.

Up-to-date information can thus be ascertained from statements and reports of publications that are members of the A. B. C. If they want, they can depend on A. B. C. service just as the credit men in commerce have relied on companies making credit reports.

a considerable business in smaller orders. About 500 rods of wire fencing has been purchased. One hundred and forty bags of oak cake and 30 tons of bran and shorts, have also been handled, as well as considerable clover and seed. In seeds, the club was able to offer better prices to its members than could be secured from the local merchants.

Mr. Hoey gives it all his experience that it is best for the details of a club's business regarding a deal being put through, be only known by five or six trusted men. The club's competitors show an inclination to pump

the members for information regarding business which the club has in contemplation. They find the newer members to be much more susceptible to their blandishments in this particular than the old and tried men.

Balancing the hog's ration is a very nice problem. They will not thrive on a ration that is low in protein, as for instance, corn and water. Such a ration, too, is deficient in mineral matter and variety. When fed an excessive amount of protein on the other hand, pigs will be equally stunted.

OUR FARM HOMES



CHEERFULNESS is like money well expended in charity; the more we dispense of it, the greater our possessions.—Victor Hugo.

God's Country and the Woman

(Continued from last week.)

CHAPTER NINE.

WITHOUT another word Jean led the party to the door, which had partly closed after Josephine. For a moment he paused with his hand upon it, and then entered. Philip was close behind him. His first glance swept the room in search of the girl. She had disappeared with her two companions. For a moment he heard voices beyond a second door in front of him. Then there was silence.

In wonder he stared about him, and Jean did not interrupt his gaze. He stood in a great room whose walls were of logs and axe-hewn timbers. It was a room forty feet long by twenty in width, massive in its build, with walls and ceiling stained a deep brown. In one end was a fireplace large enough to hold a pile of logs six feet in length, and in this a small fire was smouldering. In the centre of the room was a long, massive table, with legs carved by the axe, and on this a lamp was burning. The floor was strewn with fur rugs, and on the walls hung the mounted heads of beasts. These things impressed themselves upon Philip first. It was as if he had stepped suddenly out of the world in which he was living into the ancient hall of a wild and half-savage tribe whose bones had turned to dust centuries ago.

Not until Jean spoke to him, and led the way through the room, was this first impression swept back by his swift and closer observation of detail. About him extreme age was curiously blended with the modern. His breath stopped short when he saw in the shadow of the farther wall a piano, with a bronze lamp suspended from the ceiling above it. His eyes caught the shadowy outline of cases filled with books; he saw close to the fireplace wide, low-built divans covered with cushions; and over the door through which they passed hung a framed copy of de Vinci's masterpiece, "La Joconde," the Smiling Woman.

Into a dimly lighted hall he followed Jean, who paused a moment later before another door, which he opened. Philip waited while he struck a match and lighted a lamp. He knew at a glance that this was to be his sleeping apartment, and as he took in its ample comfort, the broad low bed behind its old-fashioned curtains, the easy chairs, the small table covered with books and magazines, and the richly furled rugs on the floor, he experienced a new and strange feeling of restfulness and pleasure which for the moment overshadowed his morose-excited sensations. Jean was already on his knees before a fireplace touching a match to a pile of birch, and as the inflammable bark sputtered into flame and the small logs began to crackle he rose to his feet and faced

Philip. Both were soaked to the skin. Jean's hair hung lank and wet about his face, and his hollow cheeks were cadaverous. In spite of the hour and the place, Philip could not restrain a laugh.

"I'm glad Josephine was thoughtful enough to come in ahead of us, Jean," he chuckled. "We look like a couple of drowned water-rats!"

"I will bring up your sack, M'sieur," responded Jean. "If you haven't dry clothes of your own you will find garments behind the curtains. I think some of them will fit you. After we are warmed and dried we will have supper."

A few moments after Jean left him an Indian woman brought him a pail of hot water. He was half stripped and enjoying a steaming sponge bath when Croisset returned with his dunnage sack. The Arctic had not left him much to choose from, but behind the curtains which Jean had pointed out to him he found a good-sized wardrobe. He glowed with warmth and comfort when he had finished dressing. The chill was gone

from his blood. He no longer felt the ache in his arms and back. He lighted his pipe, and for a few moments stood with his back to the crackling fire, listening and waiting. Through the thick walls no sound came to him. Once he thought that he heard the closing of a distant door. Even the night was strangely silent, and he walked to the other large window in his room and stared out into the darkness. On this side the edge of the forest was not far away, for he could hear the sighing of the wind in the treetops.

For an hour he waited with growing impatience for Jean's return or some word from Josephine. At last there came another knock at the door. He opened it eagerly. To his disappointment neither Jean nor the girl stood there, but the Indian woman who had brought him the hot water, carrying in her hands a metal server covered with steaming dishes. She moved silently past him, placed the server on the table, and was turning to go when he spoke to her.

"Tan-ee a stumuche hoyun?" he asked in Cree.

She went out as if she had not heard him, and the door closed behind her. With growing perplexity, Philip directed his attention to the food. This manner of serving his supper partly convinced him that he would not see Josephine again that night. He was hungry, and began to do justice to the contents of the dishes. In one dish he found a piece of fruit cake and half a dozen pickles, and he knew that at least Josephine had helped to prepare his supper. Half an hour later the Indian woman returned as silently as before and carried away the dishes. He followed her to the door and stood for a few moments looking down the hall. He looked at his watch. It was after ten o'clock. Where was Jean he wondered. Why had Josephine not sent some word to him—at least an explanation telling him why she could not see him as she had promised? Why had Croisset spoken in that

strange way just before they entered the door of Adare House? Nothing had happened, and he was becoming more and more convinced that nothing would happen that night.

He turned suddenly from the door, facing the window in his room. The next instant he stood tense and staring. A face was glued against the pane; dark, sinister, with eyes that shone with the morbid gleam of a beast. In a flash it was gone. But in that brief space Philip had seen enough to hold him like one turned to stone, still staring where the face had been, his heart beating like a hammer. As the face disappeared he had seen a hand pass swiftly through the light, and in the hand was a pistol. It was not this fact, nor the suddenness of the apparition, that drew the gasping breath from his lips. It was the face, filled "with a hatred that was almost madness—the face of Jean Jacques Croisset!"

Scarcely was gone when Philip sprang to the table, snatched up his automatic, and ran out into the hall. The end of the hall he believed opened outdoors, and he ran swiftly in that direction. His unaccustomed feet made no sound. He found the door locked with an iron bar. It took him but a moment to throw this up, open the door, and leap out into the night. The wind had died away, and it was snowing in the silent, starry sky, and listened, his eyes trying to find some moving shadow in the gloom. His fighting blood was up. His one impulse now was to come face to face with Jean Croisset and demand an explanation. He knew that if he had stood another moment with his back to the window Jean would have killed him. Murder was in the half-breed's eyes. He had been ready. Only Philip's quick turning from the door had saved him. It was evident that Jean had fled from the window as quickly as Philip had run out into the night. He had not fled, he was hiding in the gloom of the building. At the thought that Jean might be crouching in the shadows Philip turned suddenly and moved swiftly and silently along the log wall of the Adare House. He had expected a shot out of the darkness, and with his thumb he pressed down the safety lever of his automatic. He had almost reached his own window when a sound just beyond the pale film of light that came out of it drew him more cautiously into the pitch darkness of the deep shadow next the wall. In another moment he was sure. Some other person was moving through the gloom beyond his streak of light.

With his pistol in readiness, Philip darted through the illuminated path. A startled cry broke out of the night, and with that cry his hand gripped fiercely in the deep fur of a coat. In the same breath an exclamation of astonishment came from his own lips as he looked into the white, starting face of Josephine. His pistol arm had dropped to his side. He believed that she had not seen the weapon, and he thrust it in his trousers pocket.

"You, Josephine!" he gasped. "What are you doing here?"

"And you?" she counter demanded. "You have no coat, no hat. . . ." Her hands gripped his arm. "I saw you run through the light. You had a pistol."

An impulse which he could not explain prompted him to tell a falsehood. "I came out—to see what the night looked like," he said. "When I heard you in the darkness it startled me for a moment, and I drew my pistol."

"You have seen no one else?" she asked.

Again he was prompted to keep his secret. "Is it possible that any one else is awake and roaming about at this

hour?" he laughed turning to my n Josephine. I thot forgotten me. A forest. Listen!"

"We hadn't for ed Josephine. things happened. Adare house took way to you. A forest. Listen!"

From perhaps there came the m scarcely had that when there follo throated voice of sione. Philip ha strange cry broke

"They are com sobbed. "Quick, you best of saving you must be good at all!" She set and half ran with through which the short time before she threw off her fu cape that she Philip saw that al for the night and t on a thin, shimmer and her hair was green masses ab her breast, just wro It did not seem re should be wearing a wonderful that she the clinging beauty glowing softness of for him, and that peeted had taken

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"In a few minut father will be her. "The letter Jean there, where we came up by way and told me I need for a number of who made me h while. Then we didn't want them to understand why—y father changed his with the mailing of my mother startin Fond du Lac. On Indian ran to us they were coming They are out here half a mile awa—doos!"

She turned a litt the bed.

"You remember— had spent a year went on. "I was th It happened. See—

She moved to th drew the curtain breathing. Philip fo "It's my baby," st little boy."

He could not se bowed her head and as if fearing to a asleep on the bed.

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Near to Nature's Heart.

awake and roaming about at this

(Continued N

hour" he laughed. "I was just returning to my room to go to bed, Josephine. I thought that you had forgotten me. And Jean—where is he?"

"We hadn't forgotten you," shivered Josephine. "But unexpected things happened since we came to Adare house to-night. I was on my way to you. And Jean is back in the forest. Listen!"

From perhaps half a mile away there came the howl of a dog, and scarcely had that sound died away when there followed it the full-throated voice of the pack whose silence Philip had won at. A strange cry broke from Josephine.

"They are coming!" she almost sobbed. "Quick, Philip! My last hope of saving you is gone, and now you must be good to me—if you care at all!" She asked him by the hand and half ran with him to the door through which they had entered a short time before. In the great room she threw off her hood and the long fur cape that covered her, and then Philip saw that she had not dressed for the night and the storm. She had on a thin, shimmering dress of white, and her hair was coiled in loose golden masses about her head. On her breast, just below her white, bare throat, she wore a single red rose. It did not seem remarkable that she should be wearing a rose. To him the wonderful thing was that, in the room, the clinging beauty of her dress, the glowing softness of her hair had been for him, and that something unexpected had taken her out into the night. Before he could speak she led him swiftly through the hall beyond, and did not pause until they had entered through another door and stood in the room which he knew was her room. In a glance he took in its exquisite furnishings. Here, too, the bed was set behind curtains, and the curtains were closely drawn.

She had faced him now, standing a few steps away. She was deathly white, but her eyes had never met his more undimmed or more beautiful. Something in her attitude restrained him from approaching nearer. He looked at her, and waited. When she spoke her voice was low and calm. He knew that at last she had come to the hour of her greatest fight, and in that moment he was more unnerved than she.

"In a few minutes by mother and father will be here, Philip," she said. "The letter Jean brought me back there, where we first saw each other, came up by way of Wollaston House, and told me I need not expect them for a number of weeks. That was what made me happy for a little while. They were in Montreal, and I didn't want them to return. You will understand why—very soon. But my father changed his mind, and almost with the mailing of the letter he and my mother started home by way of Fond du Lac. Only an hour ago an Indian ran to us with the news that they were coming down the river. They are out there now—less than half a mile away—with Jean and the dogs!"

She turned a little from him, facing the bed.

"You remember—I told you that I had spent a year in Montreal," she went on. "I was there—alone—when it happened. See—"

She moved to the bed and gently drew the curtains aside. Scarcely breathing, Philip followed her. "It's my baby," she whispered, "My little boy."

He could not see her face. She bowed her head and continued softly, as if fearing to awaken the baby asleep on the bed:

(Continued next week.)

The Upward Look

Travel Series No. 37.

"Help."

"Thou callist in trouble, and I delivered thee."—Ps. LXXXI. 7.

WHAT meant to me most, among the Rockies, was the sense of the nearness. You seemed to be in the very heart of that wonder and grandeur. Before in the case of beautiful scenery; in other places all this had looked so far away, now it all seemed so close. Between Field and Lake Louise was for me the grandest part of the railway trip. That road had been a wonderful feat. One marvels how it has been accomplished, as one looks up at the great heights above, down into the abysses below, ahead through narrow gorges, back where no way in could be seen. Marvellous have been the ways these tremendous difficulties have been overcome. The most wonderful is the tunnelling into the massive sides of those mountains.

In one place, the train enters a tunnel, makes curves in the shape of a great eight and comes out above where it entered, so that the tourist can look down and see both openings.

If man has been able to conceive of such ways of mastering obstacles, how can we ever doubt that our Heavenly Father, who has the wealth of the Universe at His command, will be able to help us to overcome ours.

Many a time on that trip, the financial question was a serious one, but again and again means were provided, in what seemed miraculous ways.

Tremendous has been the work done by brains, muscles, power implements, machinery. So God does not always expect us to sit passively by and wait for Him to do the work of conquest. He expects us to do everything in our power. There are these times hardest to bear, when that which can be done, then our faith must be the stronger and more triumphant, that God's forces are at work for us. At times by the very processes of the darkest hours of suffering, is afforded a way out into the light.—I. H. N.

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CIRCULATION DEPARTMENT

FARM AND DAIRY PETERBORO, ONT.

Of Interest to Institute Workers

ONE day last week we boarded the train here at Peterboro and went down the line a few miles to attend one of the summer series of Women's Institute meetings, held at Millbrook, Ont. Between 50 and 60 men and women (the men greatly in the minority, of course) from the Cavan and Millbrook branches were in attendance. Mrs. M. E. Milligan, president of the Cavan branch, occupied the chair. After a short musical program, Mrs. H. Greer, of Toronto, addressed the gathering. Her message was full of encouragement to the women to continue the good work in which they are engaged.

Mrs. Greer's remarks were largely of a patriotic nature, as the efforts of all branches of the Institute are at present directed along patriotic lines. "Since I came out into the country to speak at these meetings," she said, "it has seemed very hard for me to realize that we are indeed at war, be-

cause everything seems so peaceful and quiet. It is so different in the city, where we see hundreds of soldiers every day. Then when they have finished their training and are ready to go overseas, these are the days when we realize that we are indeed at war. Behind all this fighting army we have another army for which we have to be thankful—the producing army—the farmers of Canada. We know that the result of last year's harvest was millions of dollars more produce than ever before, and at the beginning of 1916 40 per cent. more land was under cultivation than ever before. This year the farmers are asked to produce more."

The subject of "Preparedness" was dealt with at some length, and it is Mrs. Greer's belief that we can all be patriotic by preparing for the future. She laid special emphasis on the point of saving material from

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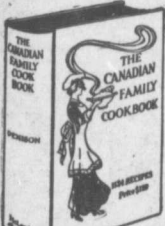
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spondence, but students desiring to gradu-
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THE CANADIAN COOK BOOK

Edited by GRACE DENISON
(Lady Cecil Staveley Neill)



Admir carefully considering the
merits of many cook books, we
have come to the conclusion that
this one is the best suited to the
needs of Our Women Folks. It is
practical, containing no recipes
that do not demand risky and ex-
pensive ingredients and is just the
book required in the farm kitchen.
For this reason, it is
Recommended by Our Household
Editor.

It contains 589 pages with recipes
for preparing soups, fish and meat,
vegetables, pastries, preserves and
jellies, cordons, beverages, dishes
for the sick, table decorations, etc.,
with blank pages for written
recipes, a chapter on dinner giving
and a complete set of tables.
It is

BOUND IN OILCLOTH
so that it may be opened out on
the kitchen table without danger
of injury to the binding. In short,
it is just the cook book that Our
Women Folks have been looking
for. It will be sent postpaid for
only One New Subscriber, or we
will renew your subscription for a
year, and send you the cook book
for \$1.25.

CIRCULATION DEPARTMENT.

waste. "We haven't been a thirty
people," she said. "We have been
wasteful and extravagant because we
have had plenty. Now the change is
coming. We know ourselves that in
our own homes there are countless
things that we have been saving up
from year to year. When the clean-
ing time comes around, we have to
take them out, turn them over, and
put them away again. Now is the
time to get rid of the material by
giving it away or selling for patri-
otic purposes." A great many in-
stitutes are collecting newspapers
and magazines for sale. The Ayr in-
stitute was given special mention. In
six weeks' time they collected a 13-
ton car load, which they shipped to
Toronto, and from which they real-
ized \$60.

In speaking of the work of the in-
stitute, Mrs. Greer told us that the
courses in sewing, domestic science
and home nursing would be con-
tinued this year. These courses
should be taken up as a matter of
economy in these times and are
The sewing course was mentioned
particularly, in view of the amount
we have to pay out to a dressmaker
if we are not skilled in the art.
Mrs. Greer advised the Millbrook and
Cavan branches to get in touch with
Mr. Putnam in the near future if
they were desirous of taking up these
courses in the fall.

The question of keeping the boys
and girls on the farm was also
touched upon by Mrs. Greer, she
speaking more especially about the
problem of inspiring a love for the
country in the girls who are brought
up on the farm. "The thing to do is
to try to interest the girls and keep
them in the homes. It is simply
amazing to see from one farm to an-
other and find one girl and one
no boys. When we ask where they
are we are told that they have gone
to the city, as they had not sufficient
interest in the farm to remain on
it. It is natural for a girl to want
to have something of their very own,
and I believe that the boys and girls
should be given something that will
keep them there. One way to keep
the girls interested is in raising poultry.
There is a wide field for this
line of produce. Last winter chick-
ens brought any place from 23 to 26
cents a pound, and eggs were as high
as 12 cents a dozen in Toronto. Fruit
growing is another money-making
source."

Mrs. Greer recommended very
highly the endeavors of the Depart-
ment of Agriculture this year in con-
nection with their Gardening and
Canning Competition for girls 15
years of age and over who are mem-
bers of the Institute. Such a competi-
tion Mrs. Greer believes to be a
capital thing for the girls, as it will
give them an idea about one of the
most neglected household duties—
canning and preserving. It will also
give them an idea of the value of
canning, banking and so forth, as well
as bring them in considerable pin
money. The branches who did not
take up this work this year are
advised to get in touch with the De-
partment of Agriculture so that they
may be ready for the work next year.

We have touched very briefly on
the points brought out by Mrs. Greer,
as space does not permit of our deal-
ing with it more fully. In conclu-
ding her remarks she said: "You have
been doing a great work, but there is
still room for a great deal more.
Perhaps some of us are beginning to
get a little tired and that is why
I rest. We should remember that
this work has to go on, and if we
drop out, who is going to take it up?
After this year is over we will have
different conditions to meet. Are we
making plans now to get ready for
it?"

"While we are thinking so much
about our patriotic work, however,

we must not forget about the aims
and objects of the Institute. Perhaps
in our very midst there may be un-
happiness, poverty and sickness. We
should not forget these things. One
thing we were particularly asked to
mention at these meetings was that
the women of the Institute take an
interest in the old men and women
who are in the Houses of Refuge.
We should see if there is anything
that we might do to make their de-
clining years a little better. Per-
haps we think that our work doesn't
count. Let each one of us remember
that it is the efficient work of every
individual that goes to make up the
great and glorious work of the na-
tion."

Do You Play?

By Edwina Mary Layman.
PERHAPS you don't want to play, or
you think you're too old, or
you say you've forgotten how!
No, it is not too late, not too old, not too
"doesn't want to play" although there
may be a few who think they've for-
gotten how. All the sorrows in life
may be helped to be eliminated by
some active form of play or pleasure.
It is good for man to play and for the
farmer most of all!

You say that you do not need ex-
ercise, but that is a wrong impression,
for your daily work tends to make
you stiff and does not develop the
fine, delicate muscles that bring ease,
grace and bodily control. All active
out-of-door games tend to this de-
velopment. Why not play with your
wife, with your children, with your
neighbor, and make the most of what
there is in life for you? For an hour
after supper take time to play tennis,
base ball, volleyball or some form of
amusement in which you are particu-
larly interested. Your work will
hold a keener joy for you, for you
will have unconsciously acquired the
attitude of play toward it.

You can never take wealth nor ma-
terial possessions with you when you
leave this world, but you can give
to it and gain from it much of pleasure
in the pure enjoyment of the good
and happy things of life. We were
made to be happy, and the greatest
material happiness comes through the
enjoyment of some form of recreative
sport, after a day of good work well
done.

Don't sit on the side lines and watch!
Come into the open and play! Drop
your work for a few moments every
day and play with your children, for
very a little child can lead you
back into that long forgotten king-
dom of early joys and greatest of op-
portunities, your youth and all it held
for you.

How to Wash Woolen Goods

Gertrude Halliday.

TO wash woolen goods success-
fully the water should be soft
and warm, not hot, and of uniform
temperature throughout the
operation. Only the milder soaps
should be used and these not applied
directly to the fabric. If much dirt
is present, a volatile alkali such as
ammonium carbonate may be added
to the wash water.

The scrubbing to which fabric is
subjected should be gentle, and the
wringing through loosely set wring-
ers.

Once washed, the goods should not
be allowed to lie about wet, but
should be immediately hung up to
dry, preferably out of doors, if the
air is dry and the temperature above
freezing.

The reason for this careful treat-
ment is found in the peculiar nature
of the wool fibre. Its outer or epi-
dermal layer is made up of minute
serrations, which are arranged in
such a manner as the scales on a

fish. Now these scales are softened
and opened up by hot water and by
such alkalis as are found in the
dasher soaps. This softened condi-
tion of the pressure due to hard
scrubbing is sufficient to cause the
serrated edges of the fibres to inter-
lock or felt. Felted fibres are usually
hard and brittle. This is because
the alkali which has helped in the
dyeing process has removed from the
cells certain fatty substances which
serve to make the fibre soft and
pliable.

Fabrics which have become hard
and felted have not only lost their
attractiveness, but also most of
their usefulness as a protection from
the cold. This latter quality is due
to the "air blanket" which forms in
the spaces between the fibres, or
quilt air, as we know, a very
poor conductor of heat and cold.
When the fibres have become felted,
these air spaces are lost and conse-
quently the fabric is no longer able
to materially aid the body to retain
its heat.—Colorado Agricultural Col-
lege.

Successful Ice-Cream Making

THIS is the season of the year when
ice cream is made and to make our
ice cream freezer work smoothly.
Every farm home should have an ice
cream freezer, as it is not difficult to
lay in a supply of ice in the winter
and does not require much space to
ice cream for which one could wish,
as we have the purest of ingredients
from which to make it. The Ne-
braska College of Agriculture has the
following to say in regard to success-
fully freezing cream:

"Success in making ice cream is
largely dependent upon proper freez-
ing. In the ordinary freezer, this is
accomplished by making a mixture
of ice and salt around the can con-
taining the ice cream mixture. The
production of a smooth ice cream is
due to both the agitation and the
freezing. The degree of agitation is,
of course, due to the speed of the
dasher and is under the control of the
operator. The freezing, however, is
dependent upon the proportion of
ice and salt used in the freezing mix-
ture.

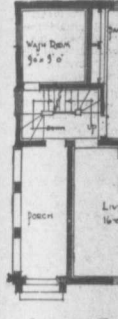
A mixture of one part of salt to
nine or 10 of ice gives the best re-
sults. If more salt is used, the mix-
ture freezes too quickly and is likely
to be granular. On the other hand,
if an insufficient amount of salt is
used, the freezing may be so prolon-
ged that the cream will become partly
curdled in the freezer. The results
may be avoided by proper icing.

The space between the can and the
tub should be filled about one-third
of the way up with finely crushed ice,
which packed in with the salt should
then be sprinkled over the ice and
another layer added. On each
layer of ice should be placed a small
amount of salt. This is continued un-
til the tub is filled, using more salt
near the top than at the bottom.
The brine from the melting ice and
salt should not be allowed to drain
away as fast as formed. Care must
be exercised, however, that the brine
does not get under the cover of the
freezer. The agitation should be dis-
continued when the ice cream mixture
is well whipped and has a
smooth, fluffy appearance. The
dasher should then be removed and
the ice cream allowed to harden with-
out further agitation.

When the ribbon bows on your hat
become matted, or on a dress, try
heating use bowl of a large kitchen
spoon and using it as you would a
flat-iron, pressing the loops of rib-
bon with it from the inside. For
small loops of narrow ribbon, curl-
ing iron may be used in the same way.

A VERY great
planning has
making of her

that with its attrac-
tion might be combined
solid comfort and a
It will be obser-
ed that the porch
on, like a postscript
the house is in the
porated into the de-
if it belonged, as in
In the second pla-
cessible from the
it is not chrouding
that room from the



"GROUND FLOR"

Opening of the sto-
is a wash room with
dies of the men
and smocks, a pla-
clothes and to lean
blankets in the win-
the men to mend
rainy day, and ma-
nilities which ordi-
housewife's work d-

From this entrance
upstairs to the main
the cellar, the latter
especially conven-
in the winter's room
the seed potatoes are
The kitchen is ro-
used both as kitchen
and a room with a
most families who
while the living room
planned that it be
one of those gloom-
which are so stiff
There's the firepla-
and a room with a
ways be a more or
spite of itself, and

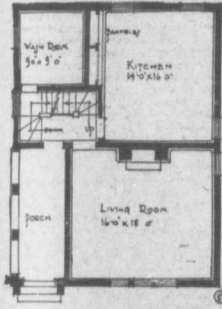


An Original Farm House

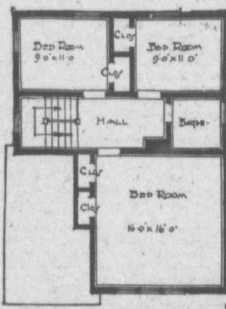
A VERY great deal of thought and planning have gone into the making of house No. 8 in order that with its attractive exterior there might be combined the maximum of solid comfort and convenience. It will be observed at the outset that the porch which is usually tacked on, like a postscript, to the front of the house is in this building incorporated into the design and looks as if it belonged, as a porch ought to do. In the second place while it is accessible from the main living room it is not shrouding the windows of that room from the direct sunlight.

of windows and the door to the porch all tending to make it livable. Upstairs there is a large room for the owner and two smaller rooms, besides the bath, providing accommodation for quite a goodly sized family with the generous closet space which commends any house to the housewife's favor.

Architect's Description.
A similar design to House No. 8 was published some months ago. From the front porch entrance you go into the stair hall. Down four steps is a platform giving onto a door and into a washroom large enough to



GROUND FLOOR PLAN



BED ROOM FLOOR PLAN

Opening of the side entrance there is a wash room with ample space to dispose of the men's outdoor wraps and smocks, a place to wash the clothes and to leave the robes and blankets in the winter time and for the men to mend the harness on a rainy day, and many other such activities which ordinarily make the housewife's work difficult.

From this entrance also one goes upstairs to the main hall or down to the cellar, the latter arrangement being especially convenient for putting in the winter's roots, and taking out the seed potatoes again in the spring.

The kitchen is roomy enough to be used both as kitchen and dining room, and will probably be so utilized by most families who build this house, while the living room has been so planned that it can hardly become one of those gloomy company parlors which are so stiff and depressing. There's the fireplace, for one thing, and a room with a fireplace must always be a more or less jolly place in spite of itself, and the pretty group

use as a store-room as well and down to the basement. From the stair-hall the living-room and kitchen are also reached, the kitchen having large comfortable sized pantries built in on one side.

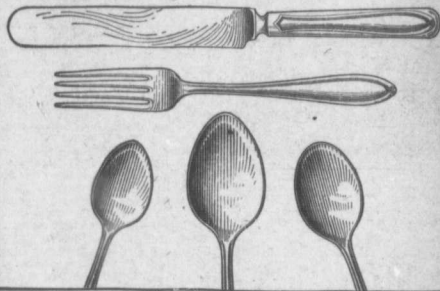
Upstairs are two small bedrooms 9 by 11 feet, each with closets, and one large bedroom 16 by 16 feet, and a room for future bath.

The exterior of this house should really be built of stucco, but in the event of this material not being available, shingle is the next desirable material. At any rate stucco or some form of material similar, such as rough board stained should be used for the half timber gable. On the interior wall board may be substituted for plaster if desired.

The cost of this house should be about \$4,300.

Working Drawings \$2.50.
Complete working drawings for the construction of Farm and Dairy House No. 8, together with complete bill of materials and instructions for building, will be mailed to any address for \$2.50.

Given to Quaker Oats Users



Here Are Two Coupons FREE

Dozens of Premiums are offered in each package of Quaker Oats. Valuable things like Jewelry, Aluminum Cooking Utensils and Silverware.

Every 10c Package of Quaker Oats contains a coupon. Every 25c package two coupons. You can pay for the premiums with coupons only, or with coupons plus a small sum of money.

This is Our Method for making Quaker Oats known. We induce people to try it, and its flavor and richness keep them as users forever. For Quaker Oats is made of just the big, plump grains—just the choicest one-third of choice oats.

Dominion Pattern Silverware

The Tableware we picture is made by the Oneida Community. It is their famous Par Plate, with the best nickel base. The wearing qualities are guaranteed by the makers and by us.

This pattern—the Dominion Pattern—is made exclusively for us. It closely resembles Old English Sterling patterns. You never saw a more exquisite design.

The Table Spoon is given for 20 coupons, or for 3 coupons and 20c.
The Fork—a medium fork—is given for 20 coupons, or 5 coupons and 20c.

The Knife—a medium knife—is given for 30 coupons, or 6 coupons and 25c.

Two are Free

Cut out the coupon in this ad.

It takes the place of two of the Quaker Oats coupons. Then each 10c package has a coupon—each 25c package has two. Buy Quaker Oats and get them. Send them to us with the coupon we print here, and get a full set of this Silverware free. We send it by post prepaid.

Pay In Coupons

The Tea Spoon is given for 10 coupons, or for 2 coupons and 10c.

The Cereal Spoon is given for 10 coupons, or 2 coupons and 10c.

This Coupon Good for Two

This coupon counts the same as two coupons from the Quaker Oats packages, when sent with the regular coupons. But only one of these coupons can apply on any one article. The rest must be Quaker Oats coupons.

The Quaker Oats Company

Premium Department
Peterborough, Ont.

(1350)

Let Us Help You to Get That Holiday

Have you been planning to take a holiday this summer, but felt you could not afford it? Let us help you. We have a plan that will enable you to have your holiday and put money in your pocket as well. Give us a few hours of your spare time in the evenings and you can earn the cost of your holiday in a week. You supply the time and we'll supply the money. Write for particulars.

CIRCULATION DEPARTMENT

Farm and Dairy - Peterboro, Ont.

EATERS



GIILLET'S BUTTER

THE WILLIAM DAVIES COMPANY LIMITED
Established 1854. TORONTO, ONT.

The Makers' Corner

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

Pepsin Being Used in Wisconsin

THE following communication, received from the Dairy Department of the University of Wisconsin, gives an authoritative account of the extent to which pepsin has been used as a rennet substitute in that state:

"We sent you yesterday copies of our circular on the use of pepsin in cheesemaking and in addition will say that owing to the shortage of rennet extract, because of delayed imports from Europe and the consequent high price of extract in this state, a number of cheese factories have begun using pepsin."

"In a careful way to learn whether it can be successfully used as a standard for rennet, previous experiments were made at Wisconsin, Ohio, New York and Canada, and although a few cheeses were made, these all turned out well. Additional cheese made last fall in Canada proved to be of good quality this spring. Cheese made at the Wisconsin station this spring and sold when a month old have given entire satisfaction.

"Out of the number of factories in Wisconsin now using pepsin, none have reported any serious difficulty, and there is no reason at present to suspect that there will be any trouble arising from the use of pepsin, as no change whatever is made in the quality of cheese when the use of pepsin. We believe that Canadian cheesemakers would run little, or no risk in using pepsin, instead of rennet, and the method we use for handling pepsin is described in the circular sent you."

The following extracts from the circular referred to in the above letter, contains the recommendations that have been made to Wisconsin cheesemakers regarding the use of pepsin.

Use of Pepsin Advocated.

Cheese factories in Wisconsin and elsewhere face a shortage in the supply of rennet extract, due to decreased imports from Europe. This shortage can be met, in part, if factories and patrons will make efforts to prevent the waste of calf stomachs, throughout the state.

Pepsin, a similar product as rennet, from the pig, and certain other animals, has been proposed as a substitute for rennet, in the making of some kinds of cheese. Pepsin can be obtained through any dealer in cheese factory supplies.

Used in Making American Cheese.

Some years ago, a few American cheeses were made, as a trial, with pepsin instead of rennet, at the Wisconsin Experiment Station, in Ohio and in Canada. The pepsin cheese were practically the same as rennet cheese in all respects. During the past few weeks, a number of factories in Wisconsin have given pepsin a trial, and no serious difficulty has been reported. Pepsin cheese made recently at this Station, and sold in the Chicago market gave good satisfaction.

One-fourth ounce of dry pepsin is about right for thickening 1,000 pounds of ripened milk of .18 to .20 per cent. acidity, as often used for American cheese. For western milk, more pepsin is required and at some American and brick cheese factories, as much as two-thirds of an ounce may be necessary. For fresh, warm milk, as for Swiss cheese, one ounce of pepsin along with two-thirds of a gallon of sour whey (containing no

calf stomach) has been found to thicken the milk in 5 to 10 minutes, but the curd is not so elastic and tough when cut 30 minutes, as rennet curds commonly are.

Should Give Pepsin a Trial.

On account of the good quality of pepsin cheese, and the success had thus far in its use, it appears to be little danger of loss in attempting to make either American or brick cheese with pepsin. Makers are therefore advised to procure four ounces or larger samples of pepsin, give it a trial, and become familiar with its use at once, before their supply of rennet extract is exhausted. They will then be able to judge from their own observation whether to buy pepsin or extract, at the prevailing market prices.

With pepsin at about \$3.50 a pound, one-fourth ounce of pepsin to curdle 1,000 pounds of milk costs about 5.5 cents; and with rennet extract at \$2.30 per gallon, three ounces of extract to curdle 1,000 pounds of milk will also cost about 5.5 cents.

Pasteurization is Coming

WHY not pasteurize? This is a subject much discussed at all creamery meetings. Prof. Demm suggests that we may soon see pasteurization under compulsion. Joa Sorenson, of Minnesota, evidently believes that the same is true in the United States. He writes in *The Dairy Record* as follows:

"Do you realize which way the wind is blowing in the creamery business, or in other words, do you realize that pasteurization of cream for butter-making is coming and it is coming to stay? Glancing through a creamery paper we notice the following headings of articles: 'Pasteurized Butter,' 'Pasteurized Cream,' 'Compulsory Pasteurization.' We believe that when the creamery papers are discussing these subjects, they are reflecting the thoughts of many butter-makers and others who are interested in better and more uniform butter, and judging from what is said of pasteurization in the papers and at conventions, it is only a question of a very short time before every creamery in the country will be pasteurizing all cream used for butter-making."

"It seems to be the opinion of creamery men and others, that the time is ripe for making pasteurization compulsory by law, and it takes no prophet to predict that several of the dairy states will have compulsory pasteurization laws on their statutes when the legislature meets again."

"Now, with such laws almost a certainty, why not meet the conditions as we find them, and start pasteurizing instead of waiting for a law to be enacted which will creamery as to pasteurize? If we study this question of pasteurization, we must admit that the advantages of pasteurization are very much greater than the disadvantages, and it would be difficult to present one good argument against pasteurization, while there are a number of very good arguments in its favor."

Marketing Saskatchewan Butter

IN a recent interview with Mr. W. A. Wilson, Dairy Commissioner for Saskatchewan, it was learned that he had inaugurated a plan which he expected would eventually result in all the export butter of the province being marketed through the Dairy Branch.

During the past two years the Dairy Branch has been making practice of shipping each week to cold storage the butter made at the cooperative creameries. Each churning is then graded by the government graders and an analysis certificate issued. The butter is then held in cold storage where it will not de-

teriorate, or sold according as market conditions warrant.

For some years a large percentage of the creamery butter of Saskatchewan has been sold in the British Columbia markets and the dealers there place so much importance upon the grade certificate that they now require one to accompany each churning of butter and will pay more for butter that bears the stamp of the government official graders.

To extend this advantage to all the creameries of the province, gradings departments have been opened at Prince Albert, Saskatoon, Regina and Moose Jaw, and creamery owners in any part of the province can ship their butter to the depot nearest their creamery. The butter will then be graded and a cheque for about 85% of its value advanced by the Dairy Branch to the owner and the balance sent him when the butter is sold.

During the past year the Dairy Branch marketed more than 2,000,000 lbs. of butter which was practically all milked under government supervision and it is expected that the export of creamery butter through the Dairy Branch will this year reach a very substantial sum.

Farmers Institute Meeting

THE annual meeting of the West "Peterboro" Farmers' Institute was held on June 18 at the home of the Warden Scott in Smith Township. Wet weather was not allowed to interfere with the enjoyment of the event, for though it disarranged some of the usual features, these were more than compensated for by the novelty of a barn supper. The tables were set on the floor of the wide driveway and spread with those dainties that country ladies know so well how to provide. Addresses were given by Mr. H. B. Cowan, of Farm and Dairy, District Representative McCrae, of Norwood, the officers of the Institute and prominent farmers of the riding. Mr. and Mrs. Scott proved delightful hosts and the meeting in many respects was a memorable one.

A Gold Mine on Your Farm

You can double your profits by storing your surplus milk.

For more information, write to:

BISSELL

SILO

"Summer Feed Silo" Winter Long

For more information, write to:

Mr. W. F. Step

secretary of the Ayrshire

Association, and Prof.

Donald College, Que.

In Scotland, where silos

are a climatic desideratum,

regard frame of green

upon rough land that

produce food as tasty

as she might desire.

For many generations

a race of cattle has been

reared in the

which are more or

other dairy breed.

anced body makes

adaptable to the man-

climate, cold and food

over. She is a long

may live to be good

ducers at the age of

A dairy farm with few

enly found in the

and an odd summer

to the last degree,

human consumption

the standard set of a

breed.

Good records are es-

Veterinary

Blind

ONE of our sweet lambs, his good mother would have another year, or we will here—J.M., or W.

It is probable

manages that they

become active after

W

WE have a young

tests are of

warts, which

harmless on the

rock by the consid-

erous cases of

were so much worse

seen some before

had something to

in calf. Since also

grating them with

boic acid, but they

to make them well

fore I start to milk

to know of a cure—

—Glenora, Ont.

Clip off those

necks, and to the

ter of antimony

there until they

be wise to defer

to dry.

Mam

I HAVE a heifer

which is

in one quarter

and it still can

little thick, yellow

well from other

with some water

sludge (rather poor

grain beforehand,

practical demon-

is treatment—E.D.

Good

the milk becomes

SHIP YOUR BUTTER & EGGS

—to us. We are not commission merchants. We pay net prices and remit promptly.

THE WILLIAM DAVIES COMPANY LIMITED
Established 1854. TORONTO, ONT.

Cream Wanted

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Drop a line for particulars to the

Toronto Creamery Co. Limited
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At a small cost by adding our Attachable Motor, \$7.50 and you are ready to start. Write today for the FREE BOOK describing the BILLY Motor Motor-Bike. Includes Motor, all Machine, Tools and accessories. No extra charge.

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BOOK ON DOG DISEASES

and how to feed

H. Clay Glover, V.S.
118 West 21st St., N.Y.

Mailed Free to any Address by the Author

Prize Butter Makers Use Windsor Dairy Salt

THE CANADIAN SALT CO., LIMITED

Veterinary Department

Blind Test

ONE of our ewes, the mother of two lambs, has gone dry in one test. Would she be likely to be all right another year, or would it be better to sell her.—J. M., Hastings Co., Ont.

It is probable that the half of the mammary that is now dry will again become active after next birth.

Warts

WE have a young Holstein cow whose teats are covered with prickly warts, which look and feel like barnacles on the bottom of a boat or rock by the seaside. I should have treated them with acid was dry, but they were so much worse than anything I had ever seen before that I thought perhaps they had something to do with her being in calf. Now she is treated, I have been treating them with acid mixed with carbolic acid, but they are no better. I have to wash them with warm water before I start to milk her. I would be glad to know of a cure.—Mrs. J. O. M., New Westminster Dist., B.C.

Clip off those with constricted necks, and to the flat ones apply butter of antimony once daily with a feather until they disappear. It might be wise to defer treatment until she is dry.

Mammitis

I HAVE a heifer that freshened about a month ago—her first calf. Milk caked in one quarter a few days before calving and is still caked. The milk is a little black, yellowish milk from it. Milkes well from other teats and is in good healthy condition. Had been feeding ensilage (rather poor quality), hay and grain beforehand. Is on grass now. What is probable cause of trouble and what is treatment?—E.D.S., Missisquoi Co., Que.

The trouble is not unusual, and no doubt is due to the gland becoming active (change of function). Baths the quarter frequently with hot water and after bathing rub well with camellia oil. Milk and massage the quarter four or five times daily, until the milk becomes normal.

Ayrshire Field Day at Norwich

THE gathering of the Ayrshire clan once a year is becoming very popular. Popularity means much when it is far-reaching enough to get results in this way of sales or greater breeding activity, but the chief thing dispensed at the Ayrshire field day in Norwich, Ont., on June 15th, was education. This education was presented by lectures and practical demonstrations with animals from several herds.

That the Ayrshire cow is one worthy of the place she holds in the Canadian dairy field, was learned from Mr. W. P. Stephen, the popular secretary of the Ayrshire Breeders' Association, and Prof. Barton, of Macdonald College, Que. She originated in Scotland, where she was subjected to a climate that demanded a strong, rugged frame of great vitality, and under rough land that did not always produce food as tasty and nourishing as she might desire. This treatment for many generations has established a race of cattle of truly dairy type which are more uniform than any other dairy breed. This well balanced body makes the Ayrshire adaptable to the many conditions of climate, soil and food found the world over. She is a long-lived cow, as many live to be good, economic producers at the age of 16 or 20 years. A dairy form with few defects is generally found in the Ayrshire breed, and an under symmetrical and strong to the last degree. Her milk for human consumption comes nearest the standard set of any of the dairy breeds.

Good records are established every

year and prices received for high class stock are the very best, but poor quality animals of any breed are a drug on the market at all times. The truth that was impressed most forcibly was to breed carefully and largely along the right lines, using bulls of the best families obtainable to head the herd and selecting heifers from the most typical cows in form and production.

The Ayrshire cow has many good points, but that she also has defects was shown, and these were pointed out in a way that should bear fruit. Short teats and small in size could be over come, but care must be taken not to go to the other extreme. The aim of breeders should be to get these good qualities and preserve them uniformly, beauty and type that characterize the breed wherever found.

The animals present were placed according to their merits in the different classes by Mr. Stephen and Prof. Barton. As each class of animals was judged the reasons for their placements were given. This proved to be very profitable, as the living examples were illustrations of the truths taught.

Class Awards.

In the Senior Bull class, Mr. John McEwen's bull, Stonehouse Leamassack Favourite, was the only one shown. He is a large, well-developed animal, of good quality and full deep stock, with the best of breeding.

Tending Bulls—1, Burnside Lucky Master Award, F. H. Harris, Mt. Allison; 2, Snow King, E. D. Hilliker, Burgessville.

Male Awardees—1, Earl of Sunnybrook, Blake Pearson, Norwich; 2, Duke of Chalmers, J. King, Jess, J. McKee, Norwich; 3, Scotch King, T. H. Chant, Burgessville.

Female Awardees.

Mature Cows—1, Sarah of Brookside, John McKee; 2, Cora, R. B. Palmer and Sons, Norwich; 3, Scottie's Sarah, John McKee.

Three-year-old Heifers—1, Queen Jessie of Brookside, J. McKee, Norwich; 2, Douglas Star's Sarah, John McKee; 3, Susanna of Evergreen, E. B. Palmer and Sons.

Yearling Heifers—1, Bessie of Sunnybrook, E. D. Hilliker; 2, Maria of Sunnybrook, E. D. Hilliker; 3, Princess Jess, Blake Pearson.

Piston Ring Troubles

By E. R. Gross.

IF an engine is run on any of the heavier fuel oils much more carbon is formed in the cylinder than when run on gasoline. However, there is always some deposit of carbon upon the piston head and on the cylinder walls. Some of this works its way into the grooves and holds rings fast. Should one or two rings be thus stuck even only at one point, the leakage of gases will destroy the compression. If the compressor is found to be bad or lacking and the valves have been tried and they are not leaky, then the piston must be removed and the grooves and rings examined, cleaned and well oiled. Should the rings be badly worn one or all may

be replaced. The ring must fit snugly into the groove yet be so loose that it will not stick at any point when pressed into the groove. Rings are sometimes bent so they do not spring out and fill the cylinder. This might be caused by over-heating the engine, especially if the ring is stuck in the piston at the time.

Should it be necessary to remove the cylinder-head a new gasket will very likely be necessary. When such a gasket can be obtained from the manufacturer it is very good. It is not an exceedingly difficult task to cut one. Sheet asbestos is the best form of gasket because it is very thin, but on this account it should be handled with care. To cut a gasket, place a sheet of the packing upon the cylinder or cylinder head and with a ball pen hammer tap it down over the edges thus cutting it off. Cut out the bolt holes and openings for the water jacket in the same way.

Plenty of lubricating oil will usually prevent sticking of the rings. Only a small quantity of oil regularly applied is sufficient. This oil also improves compression by filling the cracks between cylinder, piston and rings.

The yearly profit from your business is the difference between the cost of production and the value of the output. To increase your net returns you must widen the margin between cost and selling value.

NO MAGNET HAS EVER
WORN OUT
 The First Magnet is Still Running Perfectly
50 YEARS SERVICE
 The Cheapest Separator in the Long Run



MAGNET CREAM SEPARATORS
 [A CHILD CAN RUN IT]
 There's just the essence of construction in the Magnet—just the careful balance and left in the square gears that makes this long-life separator so easy running that even a child can manage it. No sudden pulsing of speed when the milk is poured into the tank—the left of the gears carries the rotation. Many farmers have written telling us their children do the separating.

EASY TO CLEAN AS A MILK PAN
 Five minutes, no more, is all you need to devote to the cleaning of the Magnet. Skimmer, bowl and spouts are detachable in a moment. The top, is one-piece, so that you can easily clean it with a brush. The bottom is open so you can get at—no cracks, or crevices to reach into. Magnet's saves hours of toil for you in your dairy. Sweet and clean in next to no time.

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MAGNET
FREE Say you are interested and you will receive from us our illustrated catalog telling you about the Magnet, its history, its special features. Also it will show you what other farmers think of this wonder-ful Made-in-Canada separator. And if you like we will gladly send a Magnet to your own dairy and show you just what it can do—this at not a cent of cost to you.

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 Send a Postcard

ASK FOR FREE DEMONSTRATION IN YOUR OWN DAIRY

WRITE TODAY

REGINA CALGARY VANCOUVER MONTREAL ST. JOHN, N.B.

The Wife, The Mother and Life Insurance

MANY women, who realize clearly enough the value of life insurance, hesitate to urge upon their husbands its importance.

The reason is that the suggestion would seem to spring from selfish motives: this feeling has caused many women to oppose life insurance.

This is altogether a mistaken attitude, for a husband who is earning a fair income is worth in money vastly more than any insurance he could carry.

To persuade a husband to insure his life, therefore, is not a matter of self-interest but of self-protection, a very different thing.

If there are children still in the helpless stage, the necessity for life insurance is absolute; no feeling of delicacy should prevent a wife from pleading for protection for them.

Is there a Mutual Policy in your Home?

The Mutual Life Assurance Company of Canada

Waterloo, Ontario

The Illuminated Holy Bible

With 600 Original Illustrations

This Bible is a high art production. The illustrations are exact copies of original drawings and paintings, which constitute a wonderful gallery of Scriptural art. To this branch of the work were called the greatest of living artists, and it is to their intelligent conception of the work of portraying Bible scenes that the peculiar excellence of this Bible is due.

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The famous Tissot collection of paintings is considered by authorities everywhere as the most important contribution to Scriptural illustration. The choice of these pictures have been faithfully reproduced in colors and form the superb series of illustrations in this very unique Bible. These

Wonderful Color Plates

greatly enrich this beautiful edition of the book of books. Every picture is an eloquent sermon on the everlasting truth of Holy Writ. Events that have been imperfectly comprehended become invested with the charm of living reality, and places that have seemed far off are made familiar. The Bible narrative is given, as never before, a present, living, human interest.

Children Will Learn to Love It

Nothing will interest the child so quickly as a picture. Art speaks an universal language intelligible to young and old alike. Accurate pictures, intelligently conceived and artistically executed, appeal to the child mind no less than to the Bible student.

This beautiful illuminated Bible will be sent prepaid for only TWO NEW SUBSCRIBERS TO FARM AND DAIRY of which your own personal may be one.

CIRCULATION DEPARTMENT

FARM AND DAIRY

Peterboro, Ont.

What Makes Milk Yellow?

THAT the rich yellow color demanded by the public in dairy products is primarily due to the character of the cow's feed is demonstrated by recent experiments carried on by the U. S. Department of Agriculture in cooperation with the Missouri State Experiment Station. For some years dairy experts have been studying this question. Their conclusion is that, although to some extent a breed characteristic, the intensity of this yellow color may, within certain limits, be increased or diminished at will by changing the animal's ration. Chemical tests show that the yellow pigment in milk consists of several well-known pigments found in green plants. Of these the principal one is carotene, so called because it constitutes a large part of the coloring matter of carrots. The other yellow pigments in the milk are known as xanthophylls. These are found in a number of plants. Their carotene is especially abundant in yellow autumn leaves.

These pigments pass directly from the feed into the milk. This explains the well-known fact that such green grass and carrots increase the yellowness of milk, the only standard by which the average person judges its richness. On the other hand, a large proportion of the feed which is deposited in the body fat and elsewhere in the cow. When the ration is changed to one containing fewer carotene and xanthophyll constituents, this hoarded store is gradually drawn upon and consequently the yellowness of the milk does not diminish so rapidly as it otherwise would. This yellowness increases, however, the instant the necessary plant pigments are restored to the ration.

Green grass is probably richer in carotene than any other dairy feed. Cows fed on it will therefore produce the richest colored butters. Green corn, in which xanthophylls constitute the chief pigment, will also produce a highly colored product. On the other hand a ration of bleached clover hay and yellow corn is practically devoid of yellow pigments and the milk from cows fed upon it will gradually lose its color. It is, of course, indisputably true that the breed does influence the color of the milk, but vary the ration and there will be a corresponding variation in the color of the milk fat in each herd.—Dairy Record.

City Men Who Want to be Farmers

THE U. S. Department of Agriculture at Washington receives many letters from city people who have read glowing accounts of the wealth that may be made on the farm. A large percentage of these people have already bought farm land. Some of them appear to believe that the reason all the farmers are not rich is because of extravagance, wastefulness, ignorance, and a lack of business ability. To these letters the Department's specialists reply much as follows:

"As a matter of fact, farmers as a class are intelligent, industrious and economical, and many of them are men of good business judgment. Further, those who have made a thorough study of the business side of farming know that it is not an easy matter to make money on the farm. Only the most practical and experienced farmers are making considerable profit out of their business. Much of the money that has been made on the farm in recent years has been made, not by farming, but by the rise of price on farm lands. In the nature of things, this rise can not continue indefinitely, and some one will over this land when the price becomes practically station-

ary or perhaps starts to decline.

"While it is true that occasionally a city bred family makes good on the farm, this is the exception and not the rule. It is always a risk to invest in a business without first making a thorough study of that business. Many city people who have saved up a few hundred dollars and who have had little or no farm experience, but who are imbued with a very rosy vision of the joys and profits in farming, buy their land at high prices and thereby lose the savings they have been years in accumulating. One city family paid \$10,000 cash and assumed a \$12,000 mortgage on a farm worth only about \$11,000. Another paid \$25,000 cash and signed a mortgage for \$6,000 on a farm that was later appraised at \$3,000. A city family that had saved \$2,000 used this money to make a first payment on cheap farm land, and when their eyes were opened found they still owed considerably more than the farm was worth. For seven years they have worked almost night and day to meet the interest, without being able to reduce the principal. These instances could be multiplied almost indefinitely.

"In Purchasing a Means Failure.

A man purchasing a farm great care should be taken to get a good farm at a fair price. To pay or agree to pay more than the farm is worth is to invite failure. From a business standpoint no farm that does not pay interest on the total investment, depreciation on equipment, and wages for all labor performed on that farm is successful.

"Even when great care is taken in making the investment only in exceptional cases should the city bred family attempt farming. Generally the best advice that can be given to the city bred man who desires to become a farmer is that before purchasing a farm he work as a farm hand for two or three years. This will give him an opportunity to learn at first hand many things about the business as well as the practical side of farming. In no other way, as a rule, can he get good farm training and experience at less trouble and expense or without danger from financial disaster."

HILLMAN'S SEEDS		1916
Ontario	Variegated	Per Bus. \$25.00
Mo.	Do.	Do.
Ontario	No. 2, No. 3	16.00
Montana	(Northern Crown)	16.00
Lyman	Griffin	15.00
1 lb.		75c
SEED CORN (bags free)		
1915	70 lbs.	
Wisconsin	No. 42	20.00
Golden Glow	2.00	2.00
Bulley	2.00	1.75
Leaning	2.00	1.75
White Cap	2.00	1.75
Longfield	2.00	1.50
N. Dakota	2.00	1.50
Compton	2.00	1.50
W. Va.	Small above	1.50
for 10c a bus. extra.		
Stowell's Ever-green	150	\$3.50
East	100	2.75
Golden Bantam	250	4.50
MILLETT, ETC.		
Siberian Millet	.....	\$2.15
German Golden	.....	2.00
Common Millet	.....	2.25
Japanese	.....	2.00
Pato Ontario	lb.	.08
Rice (Dwarf Essex)	lb.	.10
1.60 Head	.....	1.50
Sorghum (per 100 lbs.)	.....	6.00
Silverchilled Buckwheat	1.15	
Blue	.....	1.00

Geo. Keith & Sons, 14 KINGSTON ST. TORONTO

Farmers and

THE estimation of the value of farm lands by the banks in the following extract from a Manual of Canadian M. F. Beshard, is the subject.

"The kind of business will be called on depend on the kind of the branch is located in of the country branch the prosperous agriculture in them there are farms with farmers vary in the business agricultural branches Ontario town, for a trust sharply with Manitoba or Alberta. East the bulk of the consists of deposits; lists of loans. With farmers' business. Taking the farmers' bank said that they are not a few hundred or more than a few. The dealings them, therefore, cover their money up over loans to farmers made, comprise one the banks' investment probably less anxiety any other class of loan. Manufacturers.

"Of the other class there are many where this is the case. I that manufacturers bank's capital; they are tentively. The manufacturers' farm deposits, received frequently the to handle.

"Those who have successful in dealing with a case care not to let the surplus liquid a reverse. They are aware that will be regarded as something that could a clearing up of habits.

"The notes offered usually endorsed, backing another, or by produce shortly to head office, but in on a larger scale. I farmers there not in one or two thousand more before their cleared off through the bank.

"Then there are the produce and livestock require advances of to enable them to pay they buy. The advances for short dates, and commodities bought especially the livestock port traders, and great horses, cattle, etc., as cheaply as possible they are careful of at the bank and do ahead of it. For all have to be carefully

As a farmer I have as extending in the employment farm work. One thing is to be a good planner in a year. The reason is simple can be a good planner a desire to excel. So likely to be satisfied only one thing such as a plot to lead him to success other ways as well. Peterboro Co., C.

Farmers and the Banks

THE estimation in which the business of farmers generally is held by the banks may be judged from the following extract taken from "The Manual of Canadian Banking," by H. M. P. Bohmstedt, a standard work on the subject.

"The kind of business the manager will be called on to transact will depend on the kind of district in which he branches. The majority of the country branches are located in the prosperous agricultural districts. In them there are considerable dealings with farmers. There is much variety in the business of the various agricultural branches. A branch in an Ontario town, for example, will contrast sharply with a branch in a Manitoba or Alberta town. In the East, the bulk of the farmers' business consists of deposits; in the West it consists of loans. Wherever it is the farmers' business is highly prized. Taking the farmers as a whole, it can be said that they do not use the banks' capital—they furnish deposits to equal or more than equal their borrowings. The dealings of the bank with them, therefore, consist in its turning over their money at a profit. Moreover, loans to farmers, when properly made, comprise one of the safest of the banks' investments, and cause probably less anxiety and trouble than any other class of loan.

Manufacturers' Big Borrowers.
"Of the other classes of dealings there are many where the opposite of this is the case. It cannot be said that manufacturers do not use the bank's capital; they do, and most extensively. The amount of loans to manufacturers far overbalances the deposits, received from them. And quite frequently the loans are difficult to handle.

"Those who have been most successful in dealing with farmers exercise care not to let their loans exceed the surplus liquid assets of the borrower. They avoid making advances that will be regarded by the borrower as something that can run on indefinitely—like a mortgage. They require a clearing-up of liabilities every year. "These notes offered by farmers are usually endorsed, one good farmer backing another, or else notes secured by produce shortly to be sold. In the East the loans are not usually large enough to be especially referred to head office, but in the West they are on a larger scale. Loans of the big farmers there not infrequently amount to one or two thousand dollars or more before their liabilities are cleared of through sales of produce.

"Then there are the accounts of the produce and livestock buyers. They require advances of the bank's money to enable them to pay cash for what they buy. The advances are usually for short dates, and are secured by commodities bought. These men, mostly the livestock buyers, are expert traders, and pretty keen on getting horses, cattle, etc. from the farmers as cheaply as possible. As a rule, they are careful of their reputation at the bank and do not try to get ahead of it. For all that, the loans have to be carefully watched."

As a farmer I have had an experience extending over 40 years in the employment of men for farm work. One thing I have noticed. Whenever a hired man proves to be a good plowman he practically invariably is a good all-around man. The reason is simple. Before a man can be a good plowman he must have a desire to excel. Such a man is sure to be satisfied with excelling as only one thing stands pleasing. It is very success as a plowman is certain to lead him to desire to excel in other ways as well.—Joshua Smithson, Peterboro Co., Ont.

For Heavy Tangled Fields, Trust Your FROST & WOOD BINDER

Many binders will cut grain that is standing nice and clean, but for tangled, heavy, rough and tumble cutting you certainly need the strength and light draft of the Frost & Wood Binder.

Bear in mind that the crop you lose through bad cutting may well represent your net profit. Most of the crop goes to pay expenses—it's the last few bushels that represent your PROFIT. You can't afford to lose a head of grain.

The Frost & Wood Binder is built of the toughest, strongest, yet lightest materials that money can buy. We use wonderful, dust-proof, roller-bearing

The shaft compressor and elevator is worked by a smoothing eccentric sprocket that does its work without jerking or strain. Hardly know it is at work—except on the binder and the horse.

Big power wheel, strong bracing, improved cutters, bar construction and many other good features. You ought to have our new catalogue at once and make a careful study of the Frost & Wood Binder. Don't take chances with your crop. See our nearest dealer at once or write us to-day for Catalogue.

The Frost & Wood Co. Limited
Montreal, Smith's Falls, St. John

ings at every friction point which makes long life and easy work. The elevation is worked out on new lines, it can handle any crop, no matter how choked or heavy.

Handy levers work the reel to any position and bring the grain to the cutters no matter how tangled or short it is. The Frost & Wood Knouter is very simple, and get-atable. Needs no adjusting, and it won't fail you.



Sold in Western Ontario and Western Canada by:

The Cockshutt Plow Co. Limited
Brantford, Ont.

Market Review and Forecast

TORONTO, June 19th.—The financial statement of the Dominion for May shows a revenue for the month of \$18,477,707, an increase of \$1,000,000 as compared with May of last year. For the first two months of the present fiscal year the revenue showed an increase of \$12,000,000 over the corresponding period of last year. Increased importations and increased custom revenue also show marked increases. War expenditures for May totalled \$3,989,484, although the amount represents only the items which are entered for the month. The monthly war expenditure is now averaging about \$36,000,000.

Wholesale business continues to be very active, many firms reporting an overflow of orders and factories working overtime in consequence. There is a good demand for such staples as typewriters, hardware, footwear and clothing. Groceries report good trade, but imported products of all kinds are difficult to obtain. The flour trade continues abnormally dull with little hope of revival until late in the summer.

WHEAT.
Reports from the West state that there is no dissipation of the fact that the crops are late and very short for this season of the year. It is hoped, however, that a large proportion of the last ground will be harvested as the weather is already in some sections, germination has been uneven and the ravages of cut-worms are also reported. There are some indications that ocean freight rates are lowering to some extent. The Ontario wheat price of wheat showed a weakening tendency. No. 1 Northern is quoted at \$1.17; No. 2, \$1.17; No. 3, \$1.15; Ontario wheat, No. 1 commercial, per car lot, \$7.00; No. 2, \$6.75; No. 3, \$6.50; No. 2, \$6.00 to \$5.75; foot wheat, \$5c to \$5c.

COARSE GRAINS.
Oats, C.W. No. 2, are quoted on this market at 55¢; No. 2, 53¢; No. 1 extra foot, 52¢; No. 1, food, Ontario, 48¢; No. 2 white, 45¢ to 46¢; American, 45¢; yellow, 43¢, on track Toronto; 75¢ on track, 80¢ normal, 85¢ normal, per car lot, \$1.70; according to sample,

\$1.25 to \$1.50; barley, malting, outside, 65¢ to 65¢; No. 2 feed, 60¢ to 65¢; buckwheat, 70¢ to 75¢; rye, No. 1 commercial, 55¢ to 60¢; Montreal, oats, C.W. No. 1, 54¢; No. 2, 52¢ to 53¢; extra No. 1 feed, 52¢ to 53¢; No. 3 feed white, 52¢; No. 4 local white, 51¢; No. 4, 50¢; barley, malting, 75¢ to 76¢.

MILL FEEDS.
Quotations show a small decline from last week's prices. Bran, \$20 to \$21; shorts, \$24 to \$25; middlings, \$25 to \$26; good feed flour, 95¢ to \$1.00; 17½; linseed meal, No. 1, \$4 a cwt.; No. 2, \$3.50; milled oil cake, \$24.50; gluten feed, \$30. At Montreal bran is quoted at \$21; shorts, \$25; middlings, \$25 to \$27; meal, \$25 to \$28.

HAY AND STRAW.
Local merchants are now buying on track at the following prices: Best grades of baled hay, \$18 to \$20; low grade, \$15 to \$17; baled straw, \$7 to \$8. On the Montreal market hay No. 2 is quoted at \$20.50 to \$21.50, in car lots.

POTATOES AND BEANS.
Potatoes on this market are quoted as follows: Ontario, \$1.50; Delaware, \$2.15; Worcester, bag, out of store, \$1.95; in car lots, 10¢. Beans, hand-picked, \$4.75; primes, \$4.25.

EGGS AND POULTRY.
Quotations for eggs are higher than last week, prices being as follows: Special candied (out of store), \$2.25 to \$2.50; new laid, candied, ex-carolina, 25c to 25c. Poultry—Live. Dressed. Spring leaders (1½ lbs. and over) . . . 40c to 50c to 55c Old fowl, pound . . . 17c to 18c to 20c Chickens 17c to 19c to 21c Milk fed 18c to 20c to 24c

The butter market is easier owing to heavier receipts and a less active export demand at present prices. It is felt that the market must go lower before a great deal can be done in the way of export. There is some difficulty in obtaining cool air space for butter on the steamers, and the dairy has a tendency to keep the market low, as dealers think that present prices are too high for storage purposes. Creamery prices, 25¢; creamery solids, 50¢ to 55¢; choice

dairy prints, 25c to 30c; ordinary dairy prints, 24c to 26c; bakers', 23c to 24c. The cheese market seems to have touched bottom and prices are now on the upward trend, whether temporarily or not remains to be seen. A good export inquiry at higher figures which has led to considerable business, accounts for the favorable change. Prices both at Montreal auction sales and country boards have shown a steady advance all through the month. From present prospects dealers are generally feeling that cheese will maintain pretty firm throughout the summer. Receipts to date are under those of last year. The English demand is very active as the production in the United Kingdom has fallen off considerably. A shortage of remmet, both in Canada and Great Britain, is causing difficulty, but experiments are being made at French, Ontario, to replace it with poplar. Wholesale prices are: New, large, 18¢; twins, 15¢; triplets, 15¢; old, June and September, large, 22¢; twins, 18¢; triplets, 15¢.

LIVE STOCK.
During the week cattle prices registered a new high level, extra select 3 yr. old butchers' veal changing hands at \$11.10, a price never approached before on the local market outside holiday price cutting. The run throughout the week was light. Quotations are about as follows: Heavy choice steers, \$5.50 to \$10.50; do export, \$5.50 to \$6.50; handy choice steers, \$5.50 to \$6.50; butchers' cows, \$5.50 to \$6.50; medium, \$5.50 to \$9.10; do canners, \$5.50 to \$5.50; butchers' cow, choice, \$7.50 to \$7.75; do export, \$7.75 to \$7.75; do medium, \$5.50 to \$7.25; butchers' bulls, choice, 77¢ to \$1.00; do export, 75¢ to \$1.00; do medium, \$5.15 to \$5.15; feeders, 50¢ to 1.00 lbs, \$5.15 to \$7; do bulls, \$5 to \$6.50; stockers, \$5.15 to \$7.75; do export, \$5.50 to \$8.00 lbs, \$7.50 to \$7.50; do medium, \$7.50 to \$7.50; do export, \$8.00; do heavy light, \$5.50 to \$6.50; cuttons, \$5 to \$5.75.

Much cows were in fair demand, choice going as high as \$10.25; common to medium, \$6 to \$8; springers, \$6 to \$11.50. The calf trade was active, veal, good to choice, \$10 to \$12.50; medium, \$7.50 to \$8.50; common, \$6 to \$7.75. \$7.75 to \$8.50.

CORRECTION.
In our issue of June 15 the name of one of our live stock advertisements was given as F. Ringling, Sons, London. This should read Ringling & Sons, Breeders will kindly note the writing in this advertisement.

Farmers and Butchers

You Must Not Throw Away Your

CALVES' RENNETS

(Part of the Stomach Section)

They are needed to keep up the industry of the

BRITISH EMPIRE

Owing to the wastage of war and the great reduction in the herds of Europe, calves' rennets are so scarce that the dairy industry is threatened. The VIKING RENNET COMPANY pays good prices for this article and their agents in Canada take in any quantity, either sated or dried. Write for particulars to the head office.

THE VIKING RENNET CO., LTD.

19 Clapton Square - London, England

World's Champion Blood

You know that "MAY ECHO SYLVIA" is the World's Greatest Producer. Her record of 1,066 lbs. milk, 42 lbs. butter in seven days; 153 lbs. milk in one day, are WORLD'S RECORDS.

"MAY ECHO PRINCE" is a SON of "MAY ECHO" and a BROTHER to the great "MAY ECHO SYLVIA."

We have three of his sons for sale. They are splendid individuals and are PRICED TO SELL. Write us before you buy. IT WILL PAY YOU.

Jos. O'Reilly - R. R. 9, Peterboro, Ont.

RIVERSIDE HOLSTEINS

For Sale, Choice Young Bulls, sired by King Johannes Pontiac Kordyke, a grandson of Pontiac Kordyke, and a brother of Pontiac Lady Kordyke, 58.92 butter in 7 days, 166.92 lbs. 30 days—world's record when sired. Also females bred to "King." J. W. RICHARDSON, CALEDONIA, ONT.

CHOICE HOLSTEIN BULL FOR SALE

Francy Harton Ormsby. Four years old-kind and gentle and stock getter. Dam's record as a two year old, 111.25 lbs. milk in 7 days, the famous Platt cow "Francy 3rd." Must sell to avoid inbreeding. Will sell at bargain price. Write, DAVID GRESS, WALKERTON, ONT.

KORGOLD STOCK AND DAIRY FARM

Improved English Yorkshires, either sex, all ages. Choice young sons of breeding age. F. J. McCALPIN, Korgold Stock Farm, GANANOQUE, ONT.

Fairmont Holsteins

Young bulls for sale, all sons of King Regis Alberta Gaintinity, the famous son of the \$50,000.00 sire. One is about ready for service. All from every inch a show bull. All from tested Dams. Prices reasonable and terms to suit purchasers. PETER S. ARBOGAST, R. R. No. 2, Mitchell, Ont.

A Holstein Bull Calf

Five months old, sired by King Pontiac, Arka Canada, out of the great sire, King of the Foes (5454), who is a half brother to the Canadian champion King of the Foes De Kol (58.53 lbs. butter in seven days), and the sire of some of the most famous Holsteins in America. One of his daughters, May Echo Sylvia, is Canadian champion cow, 111.25 lbs. milk in 7 days, producing 611 lbs. butter and 97.8 lbs. milk. She has produced 147.75 lbs. milk in one day, and has a record for milk from 1 to 129 days. Lorraine (58.53 lbs. butter in 7 days), and Lawncrest May Echo (57.17 lbs. in 7 days), and others, are daughters of this famous sire.

The dam of Lawncrest Rosa Poach is May Echo Barbara (50.92), with a record of 51.67 lbs. butter in 7 days, and a record of 100 lbs. milk in 7 days after twins in her turn is a daughter of Sir King Markness Keya (52.7), the sire of the great cow, Lulu Keya (50.33), (78.54 lbs. milk, 58.92 lbs. butter in 7 days; 212.8 lbs. milk, 144.3 lbs. butter in 30 days) and is out of May Echo Verbeile (52.9)

The dam of May Echo Sylvia is the greatest breeding daughter of the famous cow, May Echo Barbara (50.92), who has both produced over \$2,000.00 in one year, 100 lbs. milk per day, and average over 20 lbs. butter per day, and average 10 years of age.

On the dam's side she six nearest dams of May Echo Poach average 34.38 lbs. butter in 7 days, and all records made

LAKE-SIDE AYRSHIRES

A select lot of young bulls, all ages, sired by Auchanbrain Sea Foam (Imp.) 1755 (1865), Grand Champion at both Quebec and Sherbrooke, from Record of Performance Dams. Write for catalogue.

Proprietor: GEO. H. MONTGOMERY, Dominion Express Bldg., Montreal.

Manager: D. MCARTHUR, Phillipsburg, Que.

46.25; bob calves, each, \$1 to \$7.50; lambs, C.W.T., were quoted at \$7.50 to \$12; spring calves, per lb., 12c to 14c; ewes, light, \$3 to \$10; heavy ewes and bucks, \$7 to \$11; calves, \$5 to \$6.

With several outside buyers the swine got away from the pokers. One Montreal firm paid as much as \$1.15 per lb. of carcass. Sellers have had thence pretty much their own way during the past few days. Weighed of cars, \$10.75 to \$11; fed and watered, \$10.60 to \$10.85; f.o.b. country prices, \$10.10 to \$10.35; heavy and light, f.o.c. lower; swine, \$3.50 less.

CHEESE BOARD SALES.

St. Pascheo, Que., June 13.—Five hundred and eleven boxes of cheese offered; all sold at 7-16c; 113 packages of butter sold at 23.8c.

Striving, June 13.—At to-day's Cheesemongers Board one thousand boxes were offered; all sold at 17c.

Cambridgeford, June 13.—Seven hundred and ten boxes of cheese were offered; 100 sold to Walkins at 17-1-16c; 250 to Fife at 17-1-16c; 175 to Fife at 17c, and the balance refused at 17c offered; white new, Kensington, June 13.—470 boxes of white and 626 boxes of wheaten were offered; 197 boxes sold at 16 1/2c.

Madoc, June 13.—440 boxes were offered; 50 boxes sold at 17c, balance at 16 1/2c.

Brookville, June 13.—3,015 boxes of white and 3,961 boxes of colored cheese were offered. The highest bid on the board was 16 1/2c, which was refused. The ruling price on the street was 16 1/2c; all sold.

HOLSTEIN-FRIESIAN NEWS

Farm and Dairy is the leading exponent of dairying in Canada. The great majority of the members of the Canadian Holstein-Friesian Association are members of this paper. Members of the Association are invited to send items of interest to Holsteiner breeders for publication in this column.

GOOD HOLSTEIN RECORDS.

DURING the months of February and March, 1914, two two-year-old Holstein heifers at the Central Experimental Farm, Ottawa, made very creditable records. The highest, 60 lbs. milk, follows:

1. Echo Poach (36074) freshened January 31st, calving twins at 3 years, 29 days, produced 7 lbs. 61.5 lbs. milk, 26.95 lbs. fat, 26.47 lbs. butter; 14 days, 1.284.5 lbs. milk, 23.11 lbs. butter; 30 days, 2.865.25 lbs. milk, 35.43 lbs. fat, 184.207 lbs. butter; 60 days, 4.969.25 lbs. milk, 158.914 lbs. fat, 174.512 lbs. butter; 90 days, 7.097.75 lbs. milk, 331.535 lbs. fat, 359.419 lbs. butter.

This heifer had previously calved at 2 years, 1 month, 11 days, and produced 15.42 lbs. butter in 7 days; record of 118.82 lbs. milk, 38.05 lbs. fat. Record of Performance: 1st year, 118.82 lbs. milk, she calved twin bulls weighing 79 lbs. each, only 354 days after first freshening. Although very old at calving, she easily reached 97 1/2 lbs. milk per day. May Echo Poach (36075) freshened January 31st, the sire also calved twin bulls, who calved 2 years, 1 month, 20 days, and produced:

7 days, 641 lbs. milk, 21.13 lbs. fat, 26.42 lbs. butter; 14 days, 1,289.0 lbs. milk, 41.93 lbs. fat, 62.15 lbs. butter; 30 days, 2,629.3 lbs. milk, 86.90 lbs. fat, 107.60 lbs. butter.

He is also the sire of several other very creditable records. The sire of the famous bull, DeKol and Butter Boy 3rd.

The dam of May Echo Poach is Lawncrest Rosa Poach (18467), with a record, also under unfavorable conditions, of the famous bull, DeKol and Butter Boy 3rd.

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2. Lady Waldorf Pielke, 22778, 4y. 1m. 25d., 792.7 lbs. milk, 25.13 lbs. fat, 32.73 lbs. butter.

3. Black Plus Burkeye, 17621, 4y. 8m. 20d., 461.0 lbs. milk, 21.23 lbs. fat, 26.47 lbs. butter.

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under unfavorable conditions or when over 10 years of age. An excellent 1st record, per lb., 12c to 14c; ewes, light, \$3 to \$10; heavy ewes and bucks, \$7 to \$11; calves, \$5 to \$6.

With several outside buyers the swine got away from the pokers. One Montreal firm paid as much as \$1.15 per lb. of carcass. Sellers have had thence pretty much their own way during the past few days. Weighed of cars, \$10.75 to \$11; fed and watered, \$10.60 to \$10.85; f.o.b. country prices, \$10.10 to \$10.35; heavy and light, f.o.c. lower; swine, \$3.50 less.

OFFICIAL RECORDS OF HOLSTEIN-FRIESIAN

TO MAY 31ST.

Mature Calf, Over 31 lbs. Butter, 1. Soudan Beauty 2y. 1m. 25d., 6m. 9d., 654.4 lbs. milk, 26.02 lbs. fat, 32.13 lbs. butter.

2. Lady Waldorf Pielke, 22778, 4y. 1m. 25d., 792.7 lbs. milk, 25.13 lbs. fat, 32.73 lbs. butter.

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ARBOGAST BROS.

milk, 64.81 lbs. fat, 81.01 lbs. butter. J. W. Hensler.

1. Pontiac Inka Pieterick 27005, 2y. 11m. 1st. 28.0 lbs. milk, 31.18 lbs. fat, 28.89 lbs. butter. W. W. Brown.

2. La by Lyons Florio, 29576, 2y. 11m. 1st. 28.4 lbs. milk, 34.7 lbs. fat, 18.45 lbs. butter.

3-year record: 2y. 9m. 2d. 166.0 lbs. milk, 65.15 lbs. fat, 75.19 lbs. butter. Dir. E. Parma, Aramis, B.C.

4. Mutual Lady 3884, 2y. 11m. 2d. 40.5 lbs. milk, 14.49 lbs. fat, 18.10 lbs. butter. Lewis Kelly, Kelowna, B.C.

Jr. Two-Year-Class, Over 20 lbs.

1. Belle DeKok Pontiac, 30389, 2y. 9m. 2d. 297.1 lbs. milk, 18.92 lbs. fat, 23.25 lbs. butter.

14-day record: 2y. 9m. 16d. 174.9 lbs. milk, 25.97 lbs. fat, 46.73 lbs. butter. A. C. Hardy.

2. Kentucky Queen 2nd, 30674, 2y. 9m. 2d. 280.5 lbs. milk, 18.29 lbs. fat, 23.13 lbs. butter. A. C. Hardy.

3. Tiele Beets Dakota, 34228, 2y. 11m. 4d. 416.1 lbs. milk, 17.44 lbs. fat, 21.81 lbs. butter. A. C. Hardy.

4. Kentucky Sire Sylvia, 29236, 2y. 9m. 1d. 442.2 lbs. milk, 17.11 lbs. fat, 21.40 lbs. butter. E. J. Leavens.

5. Avondale Pontiac Pauline, 27372, 2y. 11m. 17d. 375.5 lbs. milk, 17.11 lbs. fat, 21.49 lbs. butter.

14-day record: 2y. 11m. 17d. 453.7 lbs. milk, 23.13 lbs. fat, 28.15 lbs. butter. A. C. Hardy.

6. Echo Pontiac Prescott, 6621, 2y. 11m. 15d. 351.3 lbs. milk, 14.43 lbs. fat, 26.94 lbs. butter.

15-day record: 2y. 11m. 15d. 735.3 lbs. milk, 14.43 lbs. fat, 26.94 lbs. butter. E. J. Leavens.

7. Avondale Pontiac Griselda, 28477, 2y. 11m. 18d. 254.8 lbs. milk, 16.16 lbs. fat, 20.20 lbs. butter. A. C. Hardy.

Postal Card Reports
Correspondence Invited.

KINGS CO., P. E. I.

HERMANVILLE, June 2.—While the month of May was splendid for working bright sunny days and quite cool as a winter, though without exception been cold in the very backward. There is no growth has been made. Oats sown on 15th May is not yet down above ground. Pasture and hay are very poor and animals have to be housed. All animals cows fed night and morning. Milk is not necessarily have had a large stock of feed on hand and it is not likely to last for the other few buying, notwithstanding the cautious feeding since last October. This only leaves a few days of feeding with a month of stabling, pretty bad for winter-dairies.

We are pretty far North here for winter-dairies. Winter eggs sown for week. Farmers are about through plant-fruit crops as yet in the ground, about as much as usual.

Farmers have a year's gains greatly improved their tillage operations. Plowing in the spring they begin sowing, which after a week or ten days, they sow the grain and sow mixed crops to finish up with the tooth-barrow, making them will mix. A good many farmers here will mix mixed crops to finish up with the prospect of the hay crop is so bad. Farm products are not very good. Potatoes, 70c; oats, 67c; eggs, 23c. There is a time when a bushel of pork-pork would purchase so many groceries as the city-man would purchase for a "high cost of living," but the farmer's crop is certainly the "farmer's crop." The purchasing power of the farmer's product never, in all history, was so great as now.—J. A. M.

KINGS CO., P. E. I.

HERMANVILLE, P. E. I., June 7.—Since the drastic change in the weather, on June 2nd, from cold and drought to growing showers and heat, there is an extraordinary sudden and highly satisfactory change in the crop outlook. The grain and 4 and 4 there followed more light showers of rain with pleasant weather. The early sown oats which were so backward, took some in the pasture and hay was also remarkable. The long withered for heat and moisture, which now obtains, is doing the trick, and it came none too soon, to June 2. On the night of June 5 our cattle and other stock were allowed to remain in the pastures for the first time since last October. June 5 will be remembered by our farmers. These weather-forecasters who predict the Moon, say that the present new moon is going to be a "good moon" and that it will be correct in their prediction, if so, our bright moon for good crops this year are assured.

NORSE HILLS DISTRICT, ALTA.

NORSE HILLS DISTRICT, June 18.—We have had a fine spring here and the crops never looked better. We started our spring work in April and finished May 29, only losing one day from the start to the end of rain, but it mostly came at night. The crops at present is up about four inches, and the pasture is never looked better. Pasture is 90c, and the cattle are in good shape. The milk is selling well. Butter is 30c, and eggs 25c. Oats are worth 30c a drop and at present are worth 35c a bushel. The price for 37 1/2 lbs. Oats are down a little, selling at 32c; and hay is 1 1/2 a ton. The price for 37 1/2 lbs. Oats are good for a bumper crop.—G. E. T.

FARMERS OF CANADA BREED YOUR MARES

WHY? Horse Stock Depleted
World Wastage by War, increased Commercial demand and past neglect to breed all suitable mares.

Prepare now to get your Share of an Assured Higher Market.

Breed Every Good Mare in 1916

Horse Breeders' Associations Canadian National Live Stock Records

Avondale's Holstein Bulls

We have for sale a number of extra well bred young bulls, which we want to clear as early as possible in reducing our herd. Several are ready for service. One is the high record daughter of King Segla. She has one 29-28 lb. 4-yr.-old daughter.

No. 1—A 13 month old from 33.74 daughter of King Segla. She has one 29-28 lb. 4-yr.-old daughter.

No. 2—A 12 month old from a 29-29 lb. 3-yr.-old daughter of Prince Hengerville Pieterick—she has the Canadian 3-yr.-old record with over 27 lbs. milk.

No. 3—A 6 mos. old son of a 29-28 lb. cow at 4 years—a ring winner, and the calf sired by MAY ECHO SYLVIA's son by King Pontiac Arlis Canada.

No. 4—A 13 mos. old son of a 22-1b. 3-yr.-old daughter of Prince Hengerville Pieterick—she has the Canadian 3-yr.-old record with over 27 lbs. milk.

These are not cheap bulls, but their fine quality considered will be sold at bargain.

We have a lot of others from 2 1/2-yr.-olds with records from 17 to 21 lbs. to edge ones up to 28 lbs. record at \$100 to any price. EVERYTHING GUARANTEED.

We have one special to offer—Dan, Belle Model Johanna 2nd, a twice 27-lb. cow (145 in 30 days) with a 26-lb. 4-yr.-old daughter. SIRE, a son of the great MAY ECHO SYLVIA, with 145 lbs. in 30 days. This is one of the best offerings now and world's the public a beautiful calf 4 mos. old, nearly white.

Address correspondence: H. LYNN, Avondale Farm - Brockville, Ont., Canada

Lynden Herd Holsteins

Offers the grand jr. bull Victor Paul Pieterick, dam, Daisy Pauline Pieterick, 28.60 lbs. butter 7 days, 116.7 lbs. milk 1 yr. 23.87 lbs. milk, 197.50 lbs. butter 1 yr. 29.78 lbs. butter, 326.1 lbs. milk 7 days, 8 mos. after calving—Can. record. He is prompt and very sure. Price \$250; another bull 19 mos. old, sire's dam 23.90 lbs. milk 1 yr. 24.18 lbs. milk 7 days, 157.97 lbs. milk one yr. Price \$100.00; also heifers with 20,000 lbs. breeding.

L. & M. A. SONS, LYNDEN, ONT.

HAY BAY HOLSTEINS

For sale, a two-month-old son of Segla Marcella Poach, Canadian Champion cow two-year-old for milk production—23.5 lbs. in one day, 216.3 lbs. in seven days, 2,644 lbs. in 39 days; butter, 1.54 lbs. one day, 23.44 seven days, to May Echo Sylvia. World's Champion—183 lbs. milk in one day, and 2,644 lbs. in 39 days. Sire by Segla Lindegarde Ottilie, a half brother is sister to World's Champion senior four-year-old Princess Selva W. Dan Ottilie calves from high-record dams. For prices, breeding, and photo, write or phone L. F. BOAGART R. R. No. 3, NAPANE, ONT.

Lakeridge Stock Farm, Brant, Ont.

The home of Deutschland Galantha Led, 181 A.R.O. daughters, 4 under 23 lbs., and 7 over 28 lbs.; 2 of them now Canadian records. Sire, Sr. 3-yr.-old, 34.44 lbs. Choice young bulls for sale. MAJOR E. F. OSLER, T. A. DAWSON, Mgr.

18 HOLSTEIN BULLS

Grandsons of "King Segla Pontiac," "Red Apple Kentucky 1st," and others. Dams have milked from 100 lbs. a day down. Aged from 18 months to 1 year 5 days. Write us to-day if you want a bull. R. R. No. 6, PORT PERRY, ONT.

FOR SALE BULL CALF

Six Weeks Old, Sired by MAY ECHO CHAMPION Full Brother MAY ECHO SYLVIA 1008 LBS. MILK 41 LB BUTTER in 7 days. Out of an R.O.P. cow, with almost 12,000 lbs. milk as a two-year-old, and almost 18,000 lbs. last year under ordinary farm conditions. This youngster is a good individual. Write for particulars to HENRY RISEBROUGH, NEWTONBROOK, ONT.

A. C. HALLMAN'S YOUNG BULL.

SIR ECHO PORCH, the young bull owned by A. C. Hallman, Brant, Ont., is a very fine individual as will be seen by referring to the cut of Mr. Hallman's farmstead on page 5. He is now about 15 months old and is sired by Inka Sylvia Beets Fench, sire of May Echo Sylvia. His dam is May Darkrose Echo with a 3-yr.-old record of over 70 lbs. milk and 23 lbs. butter in 7 days, her average test being 41.8. This record was made without any preparation. This makes Sir Echo Porch almost the same breeding as May Echo Sylvia. It is Mr. Hallman's intention to use this young bull on the get of Sir Korndyke Bloon, his own best sire, that will be retained in the herd.

BIG SHORTHORN SALE.

SEVENTY head of cattle, averaging \$400 each were sold at J. A. Watts' sale on June 10. This was one of the largest short-horn sales ever held in Canada, and the prices being paid by many buyers were seen from across the line. Hon. Duncan Marshall, Minister of Agriculture for Alberta, was present. The highest price was realized for Clipper the Bull, a two-year-old, bought by J. M. Garbush, Weston, which brought \$115. Four or five cows brought over \$100 each. The sale was carried on despite a heavy rainstorm.

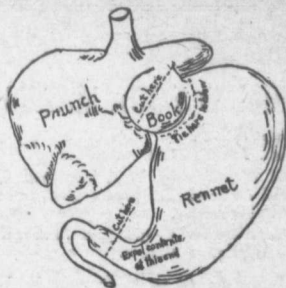
GREAT JERSEY SALE.

AN average of \$641 was obtained for 125 head of Jerseys at the sale of Messrs. T. B. Cooper and Sons, at Cooperburg, Pa. The first fifty sold averaged over \$800.

PREPARE FOR THE DAIRY STANDARDS ACT

by placing at the head of your herd a son of King Beets Marcella Calanthy, one of the best and the only bull in Canada whose test nearest dam average. Satisfaction guaranteed.

ABOGAST BROS. SEBRINGVILLE, ONT.



Wanted---Calf Rennets

TO THE CANADIAN PUBLIC.

We are in the market for large quantities of Domestic Calf Rennets, preferred for shipment by blowing and drying or in the green state, cut open and packed in salt. Butchers and farmers will find it profitable to save the stomachs of all young calves slaughtered, and we will be pleased to hear from any party having a quantity of such goods to offer. Rennets are a non-odible by-product; there is no tariff on them, and we pay freight charges on all shipments. Circulars giving the most approved methods of handling rennets in either the dry or salt form will be sent on request.

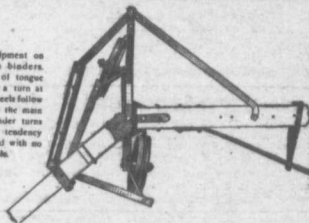
Yours truly,

CHR. HANSEN'S LABORATORY INC.
LITTLE FALLS, N.Y., U.S.A.

MANUFACTURERS OF—

Chr. Hansen's Danish Rennet Extract, Danish Butter Color and Danish Cheese Color, Lactic Ferment Culture for ripening Cream in Butter Making and Milk in Cheese Making, Rennet Tablets and Cheese Color Tablets for Farm Cheese Making.

Auto tongue truck equipment on Deering and McCormick binders. Illustration shows position of tongue truck when making a turn at end of row. Note that wheels follow a natural circular track with the main wheel as a pivot. The binder turns equally and easily with no tendency of wheels to drag or lift and with no twisting strain on binder pole.



Binder Details That Count

A BINDER will work with a main wheel 8 inches wide, but a 10-inch wheel gives the machine a better motion and makes it pull easier, therefore that extra 2 inches on the face is important. Deering and McCormick binders have main wheels 10 inches wide.

An inch or so added to the depth of a main wheel lug is a small thing unless it gives the machine needed tractive power; then it is a big thing. Compare the depth of lugs on our main wheels and on others.

Deering and McCormick auto tongue trucks have removable bushings equipped with hard oil cups, which save throwing away the whole wheel when the bearing is worn. The canvases are loosened and tightened by the simple throwing of three levers, and are kept running true by an equalizer bar. This adds to the life of the canvases.

Buy Deering and McCormick binders—you can't do better. Your local agent will give you good service on the machines on sale. If you would like to have printed descriptions, write the nearest branch house.

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SYDNEY BASIC SLAG

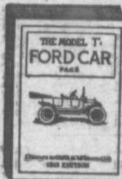
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