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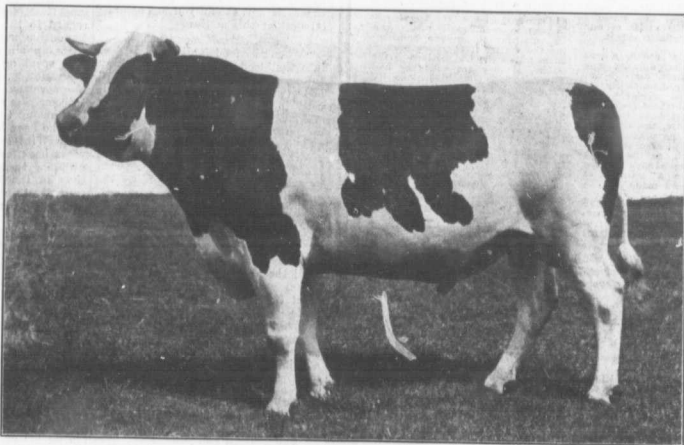
FARM AND DAIRY

RURAL HOME

PETERBORO, ONT.

FEBRUARY 27

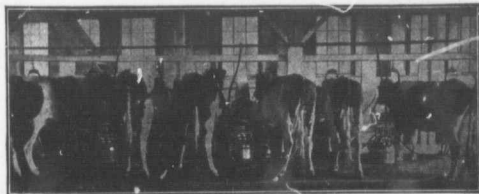
1913



A MOST EXCELLENT TYPE OF A HOLSTEIN SHOW BULL

There is a great deal in this illustration that will merit the careful study of all Farm and Dairy readers who are interested in a superior type of a dairy sire. Note the great substance and general scale of this bull; his great constitution as indicated by depth and fullness of heart-girth,—also in head, which is broad in muzzle and typifying the of masculinity make-up throughout the animal. Note the full bright prominent eye, the well-developed appearance marked evidences of quality. He is Hillside Pietje, formerly heading John Arfmann's herd, in Orange Co., N.Y., and now owned by Mr. T. H. Russell, at Geneva, Ohio. His ideal characteristics are manifest in his progeny, some of which was inspected last summer by an editor of Farm and Dairy, while visiting Holstein breeders in New York State.

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CANADIAN COUNTRY LIFE



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Read this Testimony of the B-L-K Milker, which it will pay you to have to milk your cows and be independent of hired help.

Q Your enquiry as to success we have had in operating the B-L-K Mechanical Milker, replied by you, received, and in reply would say that we are well pleased with them. We have kept records of our herd yields for some time, and find that the machine does not affect the yields of our cows in any appreciable extent.

Q There have only been four cows in our herd that did not take kindly to the Milker, and we are milking something like eighty to one hundred cows regularly. The best results are obtained from heifers, that are started on the machine in this case the stripping, while we follow the practice with them as with the older cows, might be dispensed with, as the heifers in all cases have always milked out clean, unless by mistake of some kind has been made.

Q As to the economy of the installation, I figure that with average milkers in a herd the size of ours, the outfit will pay for itself in ONE YEAR.

Write us for an estimate of just what it will cost you to have a B-L-K Milker in your stable. Our books describing these machines will interest you. Send to-night for your copy.

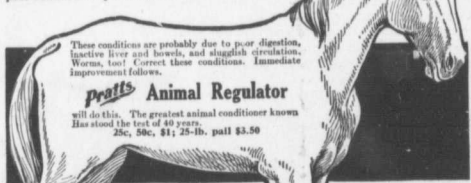
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WE WANT AGENTS IN A FEW UNREPRESENTED DISTRICTS

Build Up Run Down Stock

Are your horses thin, rough-coated, unable to do heavy work, cows scrawny, weak, producing little, sheep in poor flesh, with uneven fleeces; hogs stunted, making no gains? Rather poor outlook for a profitable season!



These conditions are probably due to poor digestion, inactive liver and bowels, and sluggish circulation. Worms correct these conditions immediately.

Pratt's Animal Regulator
will do this. The greatest animal conditioner known
25c, 50c, 81; 25-lb. pail \$3.50

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Rids livestock of all kinds of worms.
"Your money back if it fails"

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Toronto, Ont.

The Importance of Ventilation

The importance of good ventilation in the stable was recently brought home to his constituents by Mr. J. F. Metcalf, District Representative of the Ontario Department of Agriculture on Manitoulin Island, when he sent each one of them the following letter:

February 7th, 1913.

"This winter you are, no doubt, feeding a lot of stock and probably have a large number of animals crowded into a comparatively small space. If your stables are at all close and warm, you will find your cattle sweating a good deal. In that case you are not getting nearly the value that you should from the feed given because it takes a lot of internal heat (produced by food) to evaporate the moisture from the animals' bodies. Whether your stable is warm or not, if it is close and tight, you will find that the air there is especially when first entering in the morning—is quite foul. That simply means that there is a lack of ventilation, since in leaving a well ventilated stable, you should not carry the smell of the stable in your clothes. Is your stable as well ventilated as that? If not, should you not seriously consider this matter?"

WHY OXYGEN IS NEEDED

"When the food is digested it goes into the blood and is in making the necessary repairs in the animals' body (the upkeep) and any balance is used in adding flesh or producing milk. A large amount of oxygen is used up in this process (in the blood) and has to be added from the supply of air in the lungs. If the air in the lungs is foul air that has been breathed over and over again by the animals there will be no oxygen left, and the repairing and building up process cannot proceed with any advantage until fresh air, with plenty of oxygen, can be obtained. This condition of affairs will not exist until the animals are turned out for water, and then passed on for a short time. The consequence is that while you may be feeding plenty of good food, yet your animals are not laying on flesh or producing milk as they should—in other words you are wasting good food for the lack of a little pure air, which is much cheaper to get than food. This statement applies to all kinds of farm stock, and is one of the reasons why you don't get many eggs in the winter. It applies to yourself and your family too.

"The point I want to make is that in all probability you are closing up your stables tight this cold weather in the belief that you are making your animals more comfortable, and that less food will be required, when, as a matter of fact, you are probably making them more uncomfortable, and feeding more food, besides running the risk of getting tuberculosis in your herd. Better have your stables cool, but with fairly pure air, rather than having them too warm and close.

A SIMPLE VENTILATING SYSTEM

"In order to have good ventilation it is neither necessary nor advisable to have chinks in the walls that will make drafts. Have several good sized holes in the walls on various sides of the building and when the wind is blowing from one side close all the holes on that side with straw or rags. It would be well, too, to have one or several holes in the ceiling to take off the foul air which always rises. Of course it would be best to take this foul air in shutters up to the roof and let it out there, but better let it loose in the barn than keep it in the stable. Fixing the upper halves of your doors so that a framework covered with cheese cloth or linen sacking, can be used for a part of the day

at least instead of the closed door will help to ventilate the stable and will also add light, which is another essential to good health. The addition of more window space to your stables is almost as important as fresh air.

"Of course if you are building a new stable or altering the old one, there are different ventilating systems that can be made use of with very little expense, and if you are interested in going deeper into this matter, I will let you have further information if you will write to—or, better still, call at the Department of Agriculture Office."

National Show Endorsed

At the recent annual meeting in Montreal of the Canadian Ayrshire Breeders' Association a proposal to hold a provincial dairy show or live stock show in Toronto was endorsed as it has been by the other dairy live stock and dairymen's associations of Ontario. The loan of directors of the association, which had considered the question the day before, recommended the appointment of Mr. W. W. Ballantyne, of Stratford, and Mr. A. C. Hammill, of Box Grove, as a committee to confer with the representatives of the other associations in regard to this matter. The recommendation was adopted and the committee appointed.

In speaking to this resolution Mr. John K. Kee, of Norwich, stated that the movement to hold this show is the outcome of a great deal of dissatisfaction among the breeders of dairy cattle who have been showing at the Ontario Winter Fair for a number of years back. A few years ago it was proposed to hold a provincial dairy show in Toronto. The idea met with general approval among the dairymen but did not receive the approval of the Ontario Government, and finally was dropped. Recently, however, it has come to the front again and the time seems to be opportune. Many prominent people are advocating the holding of a grand live stock exposition in Toronto, and it is believed that the Dominion Government would be willing to favor such a proposal.

Others would prefer to see a dairy show held there by itself. It is believed that Kee also believed that the dairy features of such a show should be given special prominence, but he also believed that in union there is strength and that it might be possible to do better by combining the dairy features with live stock exposition in which several classes of live stock would be included. It is proposed, he explained, to erect suitable buildings on the grounds of the Canadian National Exhibition.

The Eastern and Western Ontario Dairymen's Associations and the Holstein, Jersey and Ayrshire Cattle Breeders' Associations have now appointed committees to consider the proposal. It is probable that a meeting of this committee will be held some time soon in Toronto.

White pine may be introduced into a wood lot where grass will grow with a certainty that they too will grow.—Prof. E. J. Zaritz, O. A. C., Guelph.

Potato growers who are also fruit growers would like to use lime-sulphur sprays for both fruit diseases and potato blight; but researches made by the Station at Geneva, N.Y., prove it unsafe to spray potatoes with the lime-sulphur solution. In 1911 and again in 1912 the use of the newer fungicide resulted in dwarfing of the potato plants, while Bordeaux mixture apparently increased the vigor of the plants and was an efficient protector against blight.

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a Year

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FOR WEEK ENDING FEBRUARY 27, 1913.

No. 10

SHALL WE BREED HEIFERS YOUNGER OR OLDER IN FUTURE?

Leading Dairy Cattle Breeders Express Their Opinion—Many Warnings Against a System of Breeding That is Endangering the Health and Vigor of Cattle of Every Breed

"WHAT will account for so many small, undeveloped, miserable looking specimens of cows with poor constitution, little capacity and less appearance of milk?" This question, asked by Prof. H. Barton of Macdonald College in the New Year's issue of Farm and Dairy, opens up a question as far-reaching as the dairy industry itself. In many herds where both breeding and feeding apparently have been right we find undersized cows of poor constitution and not giving anything like the amount of milk and butter fat that we have a right to expect from cows of good breeding. Many grade herds, perhaps the majority, are composed of smaller and more weakly constituted cows than were found in the same herds ten or twenty years ago. And in the meantime feeding methods have improved. Why is it? Prof. Barton attributes this decreasing size and vitality primarily to the practice, which he considers altogether too common, of breeding heifers to come in for the first time when too young to stand the strain that maternity imposes upon them. Consequently they receive a check in their development from which they never recover. Prof. Barton's conclusions attracted much attention among Farm and Dairy readers. To get the opinion of other successful cattle breeders on this question that is of such vital interest to every dairyman, an editor of Farm and Dairy recently discussed the question with many of our leading breeders: We give herewith the opinions expressed by a few of them:

AN AYRSHIRE BREEDER'S OPINION

"And what do you think of Prof. Barton's conclusions?" we asked Mr. Hector Gordon, the President of the Ayrshire Breeders' Association. Mr. Gordon was standing in front of his cattle at the recent Ottawa Winter Fair.

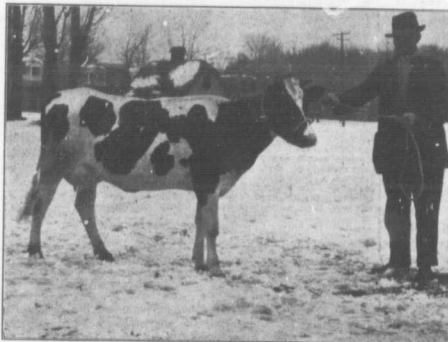
"It is time that a note of warning was sounded on this subject," answered Mr. Gordon, as he threw a few more mangels in front of the cow that he was about to take out to compete for the De Laval Cup. "His ideas are just about O.K. Too many of our Ayrshire breeders are breeding their heifers when they are mere calves, and as you remarked in Farm and Dairy, when the heifer freshens, it is a case of one calf having another calf. In our own herd, our cows all freshen from August to December, dropping their first calves when about three years old."

"Have you had any personal experiences that would justify your conclusions?" we next asked.

"Yes, we have had the evil of early breeding

demonstrated to us conclusively, though not purposely. We had a bunch of six heifers of similar breeding, size, and age. Two of them were accidentally bred in June and came in when 26 months old. The other four did not freshen until 30 to 32 months old. I have the six yet, and the four that freshened late, without exception, are bigger, stronger cows and better milkers than are the two."

"I have seen evil results of early breeding in



Is the System of Breeding That This Heifer Represents Advisable?

Princess (Grandine, the Holstein heifer here illustrated, competed in the class for heifers under 24 months in a dairy test at Ottawa. Prof. H. Barton, of Macdonald College, forcibly condemns such early breeding. Mr. E. Dowler, the owner of the heifer, is only experimenting with the system and is not any too sure of its ultimate success. The question is, will this heifer develop into an large and strong a mate as she would have under other conditions. Read the opinion of several leading breeders on this question as expressed in the article adjoining.

—Photo by an editor of Farm and Dairy.

many herds," continued Mr. Gordon. "In following up the fall fairs and the winter dairy tests, I find that when a breeder gets right down and tells the truth about his breeding experience, he will agree that it is a mistake to breed a dairy heifer to come in under two and one-half years old at least."

As we were leaving the dairy stable, we ran across Mr. R. Dowler of Ottawa. Mr. Dowler informed us that he has always been breeding his heifers to freshen around two and one-half years old, but recently he has been testing the efficiency of earlier breeding, and while he is not yet sure of results, he has about come to the conclusion that later breeding is more advisable. "I have two cows," said he, "that are half-sisters and which I expected to do about equally well at the pail. One freshened at two years and the other at two and one-half years old. I have both cows yet. They have passed through several milking periods, and the second is by all means the biggest and best cow."

"If a heifer is in good heart and large I would rather have her come in at two and one-half years old than later," remarked Mr. N. Dymont of Hamilton, who for 16 years has been a prominent figure at our Winter Fair dairy tests. "That is, providing she calves in the fall or winter," hastily added Mr. Dymont. "A spring calf has a hard row to hoe with the hot weather of July and August militating against it, to say nothing about the flies and short pasture. If not well cared for, the spring calf is nearly spoiled before it gets into the stable. My observation is that a heifer freshening at two years will have a weakened constitution. Our idea is to breed strong dairy cows, and these cannot be secured where the constitution is weakened by early breeding. As good cows as I have ever owned have come in nearer four years old than two."

"Do you think that letting the heifers run so long would give them an inclination to be beefy," we asked.

"If a heifer is inclined to be beefy she would be beefy earlier, as well as later; if she is bred for milk, deferred breeding will not hurt her," answered Mr. Dymont with the wisdom born of experience.

MR. CHERRY'S TESTIMONY

"I was much impressed with the article written by Prof. Barton in your issue of January 2nd, 1913," writes W. H. Cherry, Garnet, Ont. "For those farmers in Canada who do not feed their young stock quite so liberally as some of we Holstein breeders, Prof. Barton's suggestion to delay breeding a few months until the heifers have attained some proportions should be doubly valuable. There are, however, some exceptions where a man must use his own best judgment when to breed. With the Holstein cow, the case,

is rare where a good cow, made to freshen at two years of age, would not have made a more profitable animal had she been left to freshen at, say, 30 months.

"I have a cow, Queen Wilhelmina (8193), six years old on February 28th, 1913. She has given birth to four different calves, and is due now to freshen again the fifth time. She freshened at just two years, and last year gave as high as 84 lbs. of milk a day in making an A.R.O. record. I weighed her to-day, and she tipped the beam at 1,760 lbs.; a heavy and persistent milker and a show cow. One of her heifers, not two until April, will weigh over the one-half ton.

"I have been like most young breeders, a little over anxious to get a herd quickly, which accounts for breeding heifers to freshen at two years of age. I believe that if every pure bred heifer of the Holstein breed in Ontario were to freshen not later than two and one-half years for the next 10 years, it would be a great step for the advancement of our great dairy breed."

"What do you think of a class in a dairy test for heifers under two years old?" we asked Mr. Leggett of the firm of McMillan & Leggett, by way of introducing the subject.

A DANGEROUS CLASS

"That two-year-old class is an inducement to breeders to ruin their heifers," was the unhesitating answer. "It is worse than the class for two-year-old heifers at our fall fairs. It would be to the advantage of the dairy breed to get rid of both classes."

"At what age would you breed?"

"At not less than two and one-half years, although I would not like to let a heifer go for three years. In no case would I have a heifer freshen at two years or under."

These are only a few of the many opinions that we heard expressed on this subject. A few were inclined to disagree with the conclusions expressed by Prof. Barton, but for the most part dairymen agreed that Prof. Barton was just about right. Even those who disagreed referred only to exceptional cases and all expressed the opinion that in the long run it would be better for both breeders and their cattle were heifers not allowed to freshen under two and one-half years at the least. We invite the opinion of other Farm and Dairy readers on the subject of "Age to Breed Heifers."—F.E.E.

Cooperation in Eradicating Bad Weeds

T. G. Raynor, Seed Division, Ottawa

A year ago last January, the Experimental Union of the Ontario Agricultural College, at its annual meeting appointed a committee, under the chairmanship of Prof. Howitt of the Botanical Department, to formulate some line of experiments in destroying weeds. Accordingly, some experiments were outlined and a few farmers carried the plans out. Results were remarkably successful considering the year. It augurs well for the future. It means that we need not be terrorized by the rapid spread of some bad weeds. In fact, there is a most hopeful outlook for dealing with the worst of them.

For instance, both couch grass and perennial sow thistle were successfully treated by handing the land in a similar way. The soil was well worked up in the spring after the spring seeding was done. It was then thoroughly manured and worked over again to secure a fine seed bed. Rape was sown in drills, 1½ lbs. an acre, and thoroughly cultivated. The rape was pastured off, and on examination in the autumn, experimenters reported an effectual clean-up of the weeds in question.

A large number of farmers should try this experiment this year. Prof. Howitt, O.A.C., Guelph, will be glad to correspond with farmers desiring information on methods of procedure.

To Get Good Seed

R. A. McG., Perth Co., Ont.

I believe that the best place to plant seed is the farm on which it is grown. There are many farmers, however, at least in our neighborhood, who have undesirable varieties of various grains and in this case it is inadvisable for them to plant their own seed. Many of these men do not think that they can afford to go out to buy enough seed of the desirable varieties to plant their whole farm and accordingly they let it go from year to year and in the aggregate lose hundreds of dollars through continuing with, say, oats that yield eight or 10 bushels an acre less than would such varieties as the Siberian and O.A.C. No. 72 under the same conditions. I will describe a plan that I have used for introducing a good variety of barley on my farm, and of maintaining its high standard.

When O. A. C. No. 21 first became known a few years ago, the yields reported to me were

almost unbelievable. I wrote to Prof. Zavitz and discovered that the tests at the College proved the variety that I had always had to be one of the poorest. I immediately secured a peck of the new seed and sowed it on a quarter of an acre of carefully prepared land. In the fall just before the barley was ready to cut, I went through the field and selected enough of the best heads to make a peck of threshed grain. In selecting these heads I paid attention to the strength of straw, length of straw, strength of head and number of heads per plant. When I had made this selection, I cut the field and



Getting Ready for the Sap Flow

Quebec maple sugar makers are fully alive to the importance of their industry. They have recently formed a Provincial Organization of Maple Sugar Makers. The evaporating house of one of these live Quebec men, Mr. Fred Schwartz, Pontiac Co., Que., may be here seen as it looked just before its first sugar making season.

threshed that quarter acre by itself. This I used for seeding my farm the following year. Needless to say, the seed patch was kept clear of weeds.

I have followed this system ever since, always seeding a quarter of an acre of the hand selected seed and using the balance of seed from the plot for the general seeding of the farm. I find this a cheap and efficient manner of getting the best varieties at little price, and then of maintaining the quality and improving it from year to year. It is not half as much trouble as some people seem to think it is. The main thing is to get started.

We must have conveniences in the farm home, the same conveniences as are in the city. If we would keep the boys on the farm we must keep the girls there also.—T. G. Raynor, Ottawa, Ont.

It has been made an understood thing that poultry plants on a large scale cannot be made to pay. This has been proved a fallacy. It is possible and is being demonstrated in at least three big plants which I know of and have visited.—John I. Brown, Montreal, Que.

With two grade Holstein cows I have produced 18,234 and 17,020 lbs. of milk a year respectively. I do not lay so much stress on the variety of feed or on the quantity as I do on regularity of feeding, watering, grooming, milking and general care. I do not think we have varied 10 minutes in milking or feeding while these cows were milking in their last milk period.—J. W. Waring, Oxford Co., Ont.

Expert Advice on Maple Sugar Making

M. F. Goddard, Shefford Co., Que.

I will divide the process of making maple syrup into four grades or classes, Nos. 1, 2, 3, and 4, and each of these classes represent a certain percentage of makers.

After a long experience as a maker of maple sugar myself, and also as a buyer, I contend that to-day not more than 30 per cent. of maple sugar producers belong to No. 1 class; 30 per cent. to No. 2; 30 per cent. to No. 3; and 10 per cent. to No. 4. If I have erred in these figures, it is classing too many in Nos. 1 and 2 grades. It is easy to change from No. 4 grade to No. 2, as I have seen it done many times when as a buyer I have paid 40 cents more a gallon to one man than another. These men were neighbors, and the next week, and ever afterwards, the No. 4 man had No. 2 syrup.

HOW THE POOR MAN WORKS

In these four separate classes each maker that belongs to them has a different way of producing his maple sugar and syrup. I will take up No. 4 grade, or first class. Those that make this grade do not look upon their sugar bush as of much consequence. There fore they do not spend much time on it. Any old boiling apparatus will do them. Wooden buckets put away without washing, a West India molasses barrel for a gathering or storage bucket never strained and allowed to stand in the sap, perhaps a couple of days at a time, and the result is hardly any of this maker's products bring more than six cents a pound for sugar.

Next is No. 3. His way is much better than No. 4. He has a modern evaporator, tin buckets, and other utensils up-to-date, but he is not particular, not clean enough, and while he may be one of the best farmers in his neighborhood, as far as his land is tilled, and care of his stock is considered, he does not use the same methods in his sugar orchard, and the result is an inferior grade of sugar, a strong syrup, and he, too, takes a lower price for his products.

WHERE NO. 2 FAILS

And now for No. 2. His sugar orchard is equipped in the most modern manner, his buckets are all tin, his sap spouts are all modern, he uses the latest storage and gathering tanks. But he has made a mistake to start with which makes it almost impossible to make much of No. 1 grade, unless the sap runs very slow. It is this. He is trying to make his evaporator do more than it was made to do. He has a 3x12 evaporator, when he should have a 4x14 or a 4x16! In all of his other methods he is the equal of No. 1, but he works more hours, burns more wood, and this adds to the cost of his product.

I will now try to explain thoroughly the methods of the No. 1 class of sugar and syrup makers. To start with, he taps no maples but rock maples. If there are any soft maples in the orchard he cuts them down for fuel. When tapping his trees he does not bore them deeper than one inch into the wood of the tree, being very careful not to strike a decayed or colored part of the tree. He uses the most modern spout and prefers a small second growth tree to the large first growth. His buckets are thoroughly washed when they are put away in the spring, and when taken out the next spring are rinsed out again before hanging to the tree.

"RIGHT ON THE JOB"

When the sap commences to flow this class of maker does not wait until the buckets are full, or even half full, to gather his sap, but is after it when there is barely a quart in the bucket and it is carefully strained into the drawing

(Continued on page 17)

THE PRINCIPLES AND PRACTICE OF FEEDING DAIRY CATTLE

G. A. Brethen, Peterboro Co., Ont.

Buying Feed a Profitable Proposition when the Principles of Feeding are Understood. What these Principles are. Some Practical, Personal Experience.

DOES it pay to feed well? Among practically all the more successful breeders and dairymen this question has been answered in the affirmative. Other than the regular home-grown feeds of the average Ontario farm, large quantities of concentrates in the form of gluten, oil meal, cotton seed meal, etc., are finding their way to the dairy farms of these men, thereby ensuring largely increased production, and if fed intelligently, increased profit.

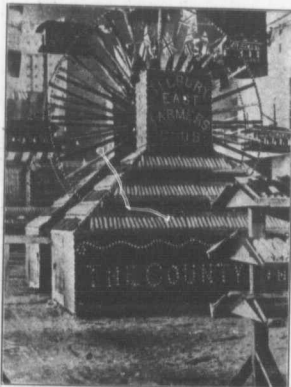
But it is not to this class that I wish to write, but to that large company of Canadian farmers who may be fittingly called the rank and file. It is upon these farmers, however, we must depend for any noticeable increase in the Canadian output of milk, butter and cheese.

THERE IS "CHOP" AND "CHOPS"

This class of farmer knows "chop" as "chop," but has not yet learned that chops that may be good for feeding horses or pigs or beef cattle, may be of very little value for encouraging the production of milk. Talk to him of oat chop and wheat bran and you have reached the limit in his estimation of food material that it would pay to feed milk cows. Talk to him of oil meal or gluten, costing over \$30 a ton, and he will tell you that no feed is worth over \$25 a ton.

With a desire to be helpful to dairy farmers of this description (and I am free to confess I have not long been out of the ranks) I submit the following principles and by adding thereto some little experiences of my own I hope some at least may look upon this feeding question a little more broadly, to their increased interest and profit.

It is not true that no feed is worth over \$25 a ton; as a food for dairy cows. Farmers often



The First Attraction of the Fair

The award for best district exhibit at the recent Corn show at Windsor, Ont., was won by the farmers of Tilbury East, with the Ferris Wheel here illustrated. This wheel was continually rotating, the power being supplied by a gasoline engine in the base.

lose money buying medium priced feeds in their endeavor to keep within the \$25 limit.

Different cows need different combinations of feeds. For instance, a cow that is inclined to be beefy, should be fed a comparatively narrow ration that will force milk production. Other cows will milk themselves thin and these should be fed a wider ration or one containing more flesh-forming feed, such as corn meal.

The farmer should not hesitate to buy such feeds as he cannot raise. This means that he should usually buy concentrated feeds. If he needs protein let him get it in protein feeds. It is mighty expensive buying protein in such starchy feeds as barley, oats and corn.

Peas is probably the best home-grown feed, but whole peas are out of reach this year for feeding to dairy cows. Split peas, however, may be fed to advantage.

It will pay us to mix our own feeds. Commercial mixtures of feed are apt to contain too much filler and by giving somebody else the privilege of mixing our feeds is to leave ourselves open to buying out hulls at grain prices.

For heavy production a cow must have a ration composed largely of milk forming food. If a cow has in her the possibility of making a big record it is foolish to feed her with bulky feeds such as hay and ensilage, so that she cannot eat enough grain to supply the nutriment for milk production.

This sounds complicated, but if we keep these principles in mind in our feeding, we will soon learn how they may be applied. Here is what our feed amounts to in practice. We sweep the floor of the feed-way clean, dump down 100 weight of bran and 100 weight of mixed home-grown grains, and half a hundred weight of cotton seed meal or whatever mixture we happen to be feeding, and then feed it to the cows in proportion to the amount of milk that they are giving, say, one pound of grain to three, four or five pounds of milk.

There seems to be an impression among farmers generally that there is something mysterious, uncanny, almost supernatural in the production of the very large milk records that we hear of now-a-days. This idea I have heard advanced in many different forms and in many different places. Just recently when in Institute work, farmers have told me that the production of such large milk records as I told them of was almost unbelievable. In reality, record making is just an ordinary application of a few grains of common sense in feeding and handling the right kind of cow. It simply means getting a good cow, keeping her happy and feeding her the right quantities of the right feeds to make the greatest amount of milk.

SOME PERSONAL EXPERIENCE

Until the last three or four years my standard feeding mixture was 100 lbs. of bran to 100 lbs. of barley and oat chop. Having heard of balanced rations and different feeds that were being used with cows producing large quantities of milk, I decided to experiment a little. Investing a little money in a few bags of oil cake meal and cotton seed cake, I mixed them with my bran and chop in the proportion I had seen recommended. What happened? At that time my cows were averaging about 40 lbs. of milk a day. About the third day I began to get results. All showed a noticeable advance in the weight of their milk, some going up 10 lbs.

above daily production before the change in feed. As quantity and quality of ensilage, hay, roots, etc., remained unchanged, I naturally attribute the increase to the alteration in the composition of the real value ration. In order to get an idea of the real value of the change, I fed the same quantity of the meal in each instance, about 10 lbs. a day.

From this experiment I drew the conclusion that it paid me well to buy these concentrates, thereby getting a meal ration better suited to milk production. In the case of some cows, the 10 lbs. additional milk daily at \$1.43 net (the price I was receiving) practically paid the gross cost of the meal fed. The cows showed no loss in weight or condition.

Result: I am a convert to the balanced ration and economical production of milk.

TO THE MAN WHO HAS NEVER TRIED

I would say to the man who has never fed any



Making Good Use of a Cold Snap

The too crop is a difficult one to harvest this winter, particularly in South Western Ontario, where there has been little cold weather. D. W. Clark and F. T. Stewart, the two Oxford county young men, here illustrated, were taking advantage of the recent cold spell when an editor of Farm and Dairy happened along with his camera.

feeds except those grown upon his own farm—experiment a little. Use the scales at both ends of the cow. If the increase is profitable seek further knowledge in feeding. If the results are not encouraging the first time, try once more or twice again, before giving up, and remember there is practically not one dairyman producing large quantities of milk a cow but it is making use of some one or other of these high protein feeds to balance up the home-grown ration. It means money to them. It spells cash to you. Try it!

Jottings from Farmers

Never let the colt lose its colt flesh. It will never get it back properly. It never pays any man to raise an animal on too little feed.—John Gardhouse, York Co., Ont.

It seems unreasonable that the farmer's stock should have water bowls and the farmer's wife carry water from the distant spring.—F. W. Gobble, Oxford Co., Ont.

We are going to stay with stallion inspection and similar legislation until every grade stallion in Canada is put out of business.—John Bright, Dominion Live Stock Commissioner.

"The average farmer is working a little more land than he can manage. If he would keep the boy on the farm he must keep down his area and work his land well instead of in the half-way method he now too often practices."—W. J. Lennox at Experimental Union.

Agriculture in the newer sections is carried on at the expense of the fertility in the soil. A 30 bushel crop of wheat removes from the soil in the straw and grain \$9.30 worth of plant food per acre, or 46¢ cts. a bushel. In selling wheat and burning straw this is actually removed.

Good Seed Barley

O. A. C. No. 21

50c per bus., f. o. b. in lots of 10 bus. or over, 50c.

Special price for large quantity. Good cotton bags, 50c each.

R. B. BROCK - BOX 10, JARVIS, ONT.

WANTED

Man, experienced in land clearing, and preferably in dairying, to develop New Ontario farm, one mile from Englehart, food wages and additional future opportunity to the man who can produce results. None other need apply. Address, with full statement of experience, with references, E. RICHARDS, 29 EUCLID AVE., OTTAWA

A Dominion Milk Standard

At the recent annual meeting in Montreal of the Canadian Ayrshire Cattle Breeders' Association the Secretary reported the result of correspondence that had been conducted by the Association with the Dominion and Provincial Ministers of Agriculture in regard to the establishment of a Dominion Standard, which would set a certain percentage of butterfat in milk. The Association had suggested to the ministers that this standard should be at least 3.50 per cent.

Of the eight ministers written to only four replied. Hon. Mr. Burrell, the Dominion Minister of Agriculture, expressed the belief that it was properly a provincial matter. The Provincial Minister for the province of Quebec stated that it was purely a Dominion matter. Hon. Duncan Marshall, of Alberta, and Hon. Prince Allison, of British Columbia, were non-committal in their replies. The Association decided to push the matter and to continue the correspondence.

Veterinary Notes

Cattle breeders should not forget that manure may be contaminated with the virus of infectious abortion and that the disease may be spread in this way.

We should quit thinking of tuberculosis as a hereditary disease and realize that it is an infectious disease. In extremely rare instances a calf may be born with tuberculosis, but such instances are so rare that they are unimportant.

In buying young cattle for breeding purposes it is decidedly safer to buy subject to tuberculin test from a herd where little or no tuberculosis exists, than to buy from a badly affected herd, even though the diseased animal does not react on test.

Serum-only treatment does not give permanent protection against hog cholera. Serum alone should not usually be used in healthy, unexposed herds because the protection given is too short to be practical, but is very useful in recently affected herds where it usually gives fairly permanent protection.

Items of Interest

In the February 13th issue of Farm and Dairy it is stated that the two cows illustrated on page four were purchased from G. W. Pearce. It should have read "W. M. Pearce."

A few of the Farmers' Clubs are doing something along cooperative lines chiefly in the matter of buying supplies. The Willisford Club, at their last meeting on the 14th inst., decided to order a car-load of salt and 13 tons of flour and feed, besides 40 bushels of seed corn. Several of the Farmers' Clubs in the vicinity of Ladownow are cooperating in the matter of collecting and marketing eggs. This spirit of mutual helpfulness and cooperation is spreading among the farmers of Ontario.

J. H. Hare, B.S.A., District Representative in Ontario county, Ont., has been appointed by the Live Stock Branch of the Department of Agriculture to conduct an investigation into the conditions surrounding the egg trade in Canada. Mr. Hare's work in connection with the cooperative egg circles that he has organized in Ontario county, makes him admirably fitted for his new position. His first duty will be the collection of all data available on the grading of eggs. This information will be used as a basis for such action as may be taken by the Government in initiating a movement to improve and properly regulate the egg trade in Canada.

Government Standard SEEDS

We buy most of our seeds directly from farmers here who grow them. We can then give you our guarantee in that if you do not satisfy on arrival you may ship them back at our expense.

- SILVER MINE OATS, 60c bushel
- SIBERIAN OATS, 60c bushel
- BANNER OATS, 60c bushel.
- O. A. C. No. 21 BARLEY, 90c bushel.
- GOLDEN YINE PEAS, \$2.00 bushel.
- ALFALFA, imported, \$12.00 bushel.
- RED CLOVER, \$15.00.
- ALSKIE, \$15.00.
- TIMOTHY, \$3.00.

Bags, seven cotton 55c, jute 10c. Ask for samples. Cash to accompany order.

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- Farm Machinery June 5
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- Women and Household . . . Oct. 9
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A WARNING To Canadian Farmers

Do not starve your crops! Wherever there is a lack of Plant Food in the soil, plants cannot attain normal development; in other words, they starve! It is, therefore, necessary to provide the plants with the nourishment required, by judicious fertilizing. But in fertilizing be sure to use sufficient POTASH since all Plant Food is not POTASH. POTASH is most heavily drawn from the soil. POTASH improves the quality, promotes the maturity and increases the yield of all crops.

This is a Recognized Fact in both Science and Practice. Further particulars and Free copies of illustrated Bulletins may be obtained from

THE GERMAN POTASH SYNDICATE
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THIS is the story that can be told by hundreds of happy farmers in Canada who have used a 10% Potash Fertilizer. One farmer in Nova Scotia who ordinarily raised a crop of 120 bushels of potatoes with no fertilizer, managed to raise 302 bushels with a low-grade fertilizer, but with a 10% Potash Fertilizer he raised 442 bushels per acre of his land. We can tell you of many other cases just like this.

If you want to do the same on your farm, you must learn quickly that

"POTASH PAYS"

Every crop you raise takes from your land just so much Nitrogen, Phosphoric Acid and POTASH. This is the food the plants eat. You must help Nature put back this plant food into your soil if you wish to raise good crops each year. You probably understand this, and it is likely you use some sort of fertilizer, but if you are not using a 10% POTASH Fertilizer you are not getting the best crops from your land. This is because every plant eats three times as much POTASH as it does Phosphoric Acid. Ordinary low-grade fertilizers contain from 6 to 8% Phosphoric Acid and but 2% POTASH. Certainly this is not three times as much POTASH. Therefore, you want to raise this percentage to 10% of POTASH.

If YOU want to raise a bumper crop this year, do this. Insist that your dealer provide you with a 10% POTASH fertilizer. If he can't do this, and you have to buy a low-grade fertilizer, add enough POTASH to it to raise it to 10% POTASH. We will tell you exactly how to do this, free. You can mix your own fertilizer at home if you want to and our experts will tell you how to do this too, without charge.

Get in touch with your fertilizer dealer NOW, so that he will be sure to have POTASH on hand for you when you need it. Send us your dealer's name and we will send you a free booklet telling how to properly raise the kind of crops you deal in. It is written by some of the very best Agricultural Experts in the world, and will surely be of great interest to you. Simply write us stating your dealer's name and telling us the kind of crops you raise.

If you want your POTASH now and your dealer has not got it, we will sell it to you direct. Simply let us know your requirements. The main thing to do is to act now. Write us to-day.

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We have Muriate and Sulphate of POTASH stored ready for immediate shipment at St. John, N.B., Montreal and Toronto.

The Feeders' Corner

The Feeders' Corner is for the use of our subscribers. Any interested are invited to ask questions, or send items of interest. All questions will receive prompt attention.

Cow Feed From an Acre

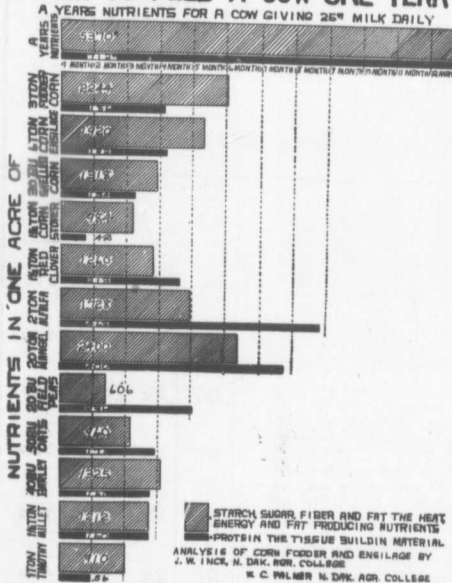
By W. C. Palmer

How many acres will it take to feed a cow for a year? The answer to this problem depends on a good many things as kind of crops, climate, soil, etc. By assuming that the crops will give a certain yield it is possible to get the answer. In the accompanying diagram this has been done. The diagonally shaded columns represent the starch, sugar, fibre and fat which are the heat, energy and fat producing nutrients. The solid black

represents the nutrients in an acre of the different crops; three tons of corn fodder will furnish enough starch, sugar, fibre, and fat to feed the cow five months and protein enough for but three months. Two tons of alfalfa furnishes enough of the first for four months and protein for eight months. A ton of timothy has enough of the first for two months and protein for one month. The space between each dotted line represents the nutrients for a month.

The plan is not to give an exact guide but rather to give a general idea of the comparative value of the different crops. It will also give some idea as to how to combine the foods to form a balanced ration. When the foods are combined so that both columns are equal in length the food is balanced. It must also be kept in mind that variety adds to the value of a food. Another point is that

ACRES TO FEED A COW ONE YEAR



STARCH, SUGAR, FIBER AND FAT THE HEAT ENERGY AND FAT PRODUCING NUTRIENTS. PROTEIN THE TISSUE BUILDING MATERIAL. ANALYSIS OF COWS FEEDING AND ENSILAGE BY J. W. INCK, N. DAK. IRR. COLLEGE. W. C. PALMER N. DAK. AGR. COLLEGE

column represents the protein which is the nutrient that builds tissue and replaces worn out tissue. The cow needs about seven times as much of the first as of the second in order to furnish the food that she needs for keeping up her body and for producing milk. If the food nutrients are not fed in about this proportion there will be waste.

At the top of the drawing are represented the nutrients that a cow giving 25 pounds of four per cent milk daily will require for a year. Notice that both columns are equal in length. This is made possible by making one seven times as wide as the other. The same relation of width of the columns are used below so that when both columns are equal in length the food is balanced. In case one column is longer it indicates that there is an excess of that nutrient as the protein column in alfalfa. This food should be combined with a food that has the other column longer as corn for instance.

The lower part of the chart repre-

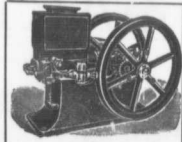
sents there must be roughage and concentrate as grain in order to furnish the proper bulk. A ration made up of one and a half tons of clover hay, 50 bushels of oats and six tons of corn ensilage would be a balanced ration and sufficient to feed a cow for nine and a half months. As the yields given it would take one acre to produce each of these or three acres to feed a cow for nine and one-half months.

This ration could be improved by increasing the variety. It will be plain that feeding a ration made up of timothy and corn for instance would not furnish the nutrients that the cow needs. Both the timothy and the corn are low in protein, while milk is fairly high in protein. This is a difficult problem. The chart contains a number of the facts that need to be considered in the feeding of the cow.

I would just as soon allow a horse to grind its own grain if its teeth are good.—J. Gardhouse, York Co., Ont.

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POULTRY YARD

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Our flock is composed of pure bred Buff Orpingtons. During the winter we keep from 75 to 100 hens for layers. About 20 birds from this flock are reserved for breeding purposes. In the spring we have on hand eight males, a few of which I hold for sale later on.

To keep our hens laying through the winter the chickens are hatched early in the spring and kept thriving all summer. The future layers are separated from the rest of the flock and placed in their winter quarters in October. These winter quarters are dry and airy but not drafty. We use a foot or so of litter to cover the floor. We take care to change this litter before it shows dampness.

We keep before these layers a constant supply of skim milk, water, grit, oyster shell and mangles or cabbages. They are fed a good variety of grain and wheat in the litter. We

have used both incubators and followed natural methods in hatching. At present we confine ourselves to natural methods. We aim to hatch about 825 chickens. These are reared in colony houses accommodating about 25 each. The choicest cockerels are selected and of these this season we have sold about 30 at prices ranging from three to \$25 each. Those not intended for sale in this way and those not intended for winter layers are put in the crate and fattened for market. Some birds thus prepared weighed 10½ pounds. Seventeen cents to 20 cents per pound are the lowest prices we have received this season.

We find it a good plan to exhibit at fairs as this helps to make known the quality of our stock. There too we learn a good deal from observing other men's results and methods.

As regards to marketing the winter eggs: We market the eggs in boxes holding one dozen each. My name and address are printed on the box. Eggs are marketed every week at least. No eggs are sold that are over seven days old. We have sold to one dealer for eight years. During December we received from 60 to 65 cents a dozen, wholesale.



If All Poultry in Canada Were Dressed Like This?

We in Canada have much to learn on the killing and dressing of poultry for market. Much of the dressed poultry placed on the Canadian market could not be sold at all in other lands, and in Canada the prices that producers realize could be considerably augmented were our fowls well finished, starved before killing and dressed in the approved fashion shown in the illustration.

exercise every precaution to keep our nests free from lice and kindred pests. Lice and dampness are foes of the full egg basket. We aim to keep the hens as quiet as possible. The visit of an inquisitive dog or of any other animal that frightens the hens is always followed by a decrease in the egg yield. Should any hen show signs of being sickly we separate her from the flock at once and unless she has some specially good points, destroy her.

TWO SOURCES OF PROFIT

Our laying pen is worked for all it will stand during the winter months and then when the price for dressed fowl is highest in the spring they are sent to the market. We reserve about 20 of this flock for next year's breeders.

The breeding pen is not forced to lay at the rate that the laying pen is forced. They are fed in very much the same way, and the same general precautions are observed regarding cleanliness as are observed in the case of the layers, but the proportion of oats is greater in their grain ration and the supply of beef scrap is decidedly smaller. Breeders and layers have plenty of clover chaff to pick over.

NATURAL INCUBATION PREFERRED

We have had a good deal of success in hatching chickens in February, though success in this regard is won only by constant watchfulness. We

Hens Eating Eggs

How can I stop my hens from eating their eggs? Many of them are doing it. -Subscriber.

The egg eating habit may start from some very simple cause, such as an egg being accidentally broken in the nest. Some people say that feeding dried egg shells that are not thoroughly dried is conducive to the egg eating habit. Where the habit is firmly established nothing short of killing the offender will stop it. Darkened nests are a good preventative and we do not believe the habit has ever been contracted where the nests are almost dark. A remedy sometimes recommended is stuffing an egg shell with mustard or cayenne pepper. This remedy is probably effectual, but will not be needed where darkened nests are used.

Whilst western methods are not yet by any means what they ought to be, indeed are crude and harmful in many ways, yet the richness of the arable lands offsets for the present the loss from the present farming and gives the westerner a considerable advantage over his eastern competitor. The westerner, however, cannot continue much longer in impoverishing the land by constantly cropping it and failing to restore its richness by the use of fertilizers. He will, we hope, soon learn by experience that only by proper methods can the best results be obtained.—H. R. Smith.

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Poultry Feeds Scratch feed and grit, beef scrap, ground bone, oyster shell, etc., and all Poultry supplies. Prices no lower than others can meet. Write.
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Hot water, double walls, dead-air space between double doors, copper tanks and boilers, self-regulating. Nursery under egg tray, specially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Five year guarantee—30 day trial. Incubators finished to natural color. Incubator and Brooder force hardwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you have seen them.
It pays to investigate before you buy. Remember our price of \$13.75 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE literature and see them.
Write us today.
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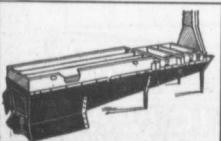


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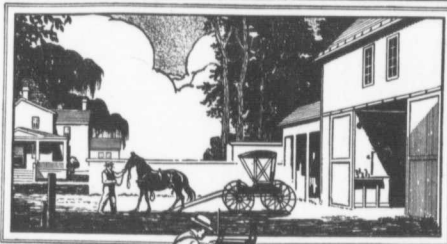
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The competition will take place during the last two weeks of April, and the samples of syrup and sugar received will be placed on exhibit in the show windows of the "Montreal Star." Every purchaser and user of the Grimm "Champion" Evaporator may take part in this contest. **Now is the time to properly equip yourself to make high grade syrup and sugar—high priced and therefore profitable.** Do it now before the sap runs. State the number of trees you will tap and we will give you a price on a suitably sized outfit.



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In Breeding—is it Safe, Desirable?

By Zenos.

The reader of the farm magazines might well be inclined to suppose that in certain favored spots in Canada, somewhere else than where the reader lives, the farmers all keep pure bred stock with udders like those shown in the pictures and each cow milking several pails of milk a day. But alas, travel though we may, we can never find the pot of gold at the foot of the rainbow. For the ordinary farmer, there is no money to invest in such high priced stock. But must he therefore despair because so often disappointed? Consider the usual thing that happens.

The Agricultural Society decides to import a pure bred bull. "The man with the pull," possibly the president, wants Holstein, just because he is the happy possessor of a pure bred cow of that strain. The bull arrives; a first rate animal. But in two years' time Mr. A. wants him sold for beef; and then a Jersey instead of Holstein is got next time. Mr. A. explains that it would never do to keep the same animal over two years; because, of course, it would result in in-breeding. But is that a sufficient reason?

WHY IN-BREEDING IS ADVISABLE

Circumstances alter cases, as the lawyer said. With pure bred stock of an ancestry that has been pushed to the limit, in-breeding will weaken and cause abnormal developments—usually evil—but not always. But with "ordinary" cows bred to a pure bull, and their heifer calves again bred to him, this is not so. Take cows bred to a Holstein for instance. Notice how the calves of nearly all the "scrub" cows show the Holstein black and white; whereas a calf from, say, a pure Jersey, or Ayrshire cow, will usually show a brown or reddish tint. Assuredly the color and probably other but less visible characteristics in the pure bred mother are so fixed that the Holstein bull cannot overcome them. I do not say that the calf from, say, a pure Jersey and Holstein, is less valuable than from a "scrub" mother; that is not the point. The point is that the pure bred dam is the result of generations of in-breeding within the circle of the breed. Twelve inches are the same eventually as one foot. How many successive breedings, say of third cousins, would ultimately equal one in-breeding direct of sire and daughter.

WHEN IN-BREEDING IS ADVISABLE

My claim is that if the ordinary farmer wants good stock at a reasonable price he must in-breed. He will certainly not have pure bred; but he may have what for him is much better. In illustration; we can fairly admit that the Holstein is a great "star" cow; but a poor forager in a rough pasture. The Jersey is a rich milker; but tender. And so on; each breed has its faults as well as its special merits. But the ordinary farmer, and that takes in most of us, has some cows that are no particular breed, but are good feeders, hardy, and acclimated. However, they are not heavy milkers. So a pure bred bull comes into the neighborhood; let us say, Holstein, for instance; and the farm cow are bred to him. The heifer calves have the color; they show a suspicion of being better milkers; but that is all. What next; breed the calves to another Holstein? No indeed; but to the same Holstein. By Mendel's law there are four chances to one in favor of in-breeding to "fix" the characteristics of the repeated sire; as against breeding from a similar but not the same sire.

When Robert Barlow, of England, years ago started to improve the Shorthorn breed, he chose certain

animals with the characteristics particularly desired; and persistently in-bred them. It must not be forgotten that the things we specially value in the cow today are really abnormalities. The wild cow in the condition of Nature was not in fact in a barn. But Nature, while allowing some latitude, only permits the abnormal to develop so far, and then something breaks. Among pure breeds, in-breeding causes a too "fixed" coming up of the individual characteristics; and hence, frequently disaster. But with scrub cows, in-breeding with a bull strongly potent in valuable points is the quickest, and best, and perhaps the only way for the ordinary farmer to advance his stock.

As a side illustration, take the human race. Today the highly nervous natures of humans tends to make even marriage between second cousins risky. But away back, when the three sons of Noah separated; their children surely intermarried, repeatedly so within close degrees of relationship; and so "fixed" certain characteristics that show even today in the three great branches of the whole human race. Again, Abraham married his half sister; their son Isaac married his first cousin and one of their sons, Judah, married his niece. That was surely in-breeding with a vengeance; but it certainly "fixed" the characteristics of the Jew so permanently that they remain even till today. None the less; it did not tend to degeneracy or feebleness; for history shows no abler, braver, or wiser men than the ancient tribes descended from those Patriarchs.

This bit of ancient history is germane to my subject as an illustration; and possibly it may help to lessen a certain innate hostility my audience may meet.

IN-BREEDING SUMMARIZED

My contribution then comes down to four principles: First, that in-breeding in itself is not within limitations, contrary to nature; second, that between high bred stock of the same breed, it is unwise, because too violent; third, that it can safely and with great advantage be used to fix in ordinary stock very valuable characteristics of some choice sire; and finally, that it is "the open way" for us common farmers to build up our herds at a cost within our limited means.

Sugar Cured Meat

When the meat is cooled, rub each piece with salt and allow it to drain overnight. Then pack it in a barrel with the hams and shoulders in the bottom, using the strips of bacon to fill in between or to put on top. Weigh out for each 100 pounds of meat eight pounds of salt, two pounds of brown sugar, and two ounces of saltpeter. Dissolve all in four gallons of water, and cover the meat with the brine.

For summer use it will be safest to loil the brine before using. In that case it should be thoroughly cooled before it is used. For winter curing it is not necessary to brile the brine. Bacon strips should remain in this brine four to six weeks; hams six to eight weeks.

This is a standard recipe and has given the best of satisfaction. Hams and bacon cured in the spring will keep right through the summer after they are smoked. The meat will be sweet and palatable if it is properly smoked, and the flavor will be good.

The time to prevent joint ill is when the foal is dropped. Keep all surroundings perfectly clean and it is wise to syringe the navel with an antiseptic of five to 10 per cent. formalin. Do not touch the navel with the hands.—John Gardhouse, York Co., Ont.

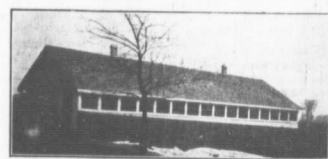
SWINE DEPARTMENT

Our readers are invited to ask questions in regard to swine. These will be answered in this department. You are also invited to offer helpful suggestions or relate experience through these columns.

Rotation for Hog Raisers

A system of rotation of crops which will bring best results to the land and to the pocket-book at the same time is given thus by Prof. H. D. Scudder, of the Oregon Agricultural College agronomy department:

"On the 160-acre farm where the farmer is raising hogs and wishes to



Professor Day's Latest Idea of a House for Brood Sows

This illustration gives an idea of the exterior appearance of the new house for brood sows at the Ontario Agricultural College. The Rutherford ventilating system and the large amount of wall space devoted to window glass are the most noticeable features.

turn off 100 head a year weighing 250 lbs. each, there would be a production of 25,000 lbs. of pork to reckon on," said Mr. Scudder. "At 7 cents a lb. this would bring him a cash income of \$1,750 a year. It would require 4½ lbs. of barley for every lb. gain, or 1,450 lbs. of barley for each 100 lbs. gain in a 60-day fattening period, which would be five to 10 lbs. a day a hog.

"How can the farmer do this and at the same time increase the fertility of his land so that in a few years he can raise the same crop of hogs on 100 acres, and thus economize in expenditure of time, labor and money and increase his profits proportionately?"

LAYING OUT THE FARM

"He might divide the farm into four 40-acre fields. No. 1 might be put in clover, part pasture and part hay. No. 2 might be planted to field peas, rape, corn and kale for 30 acres, the other 20 in clover. No. 3 would be put in vetch for pasture and hay, and No. 4 planted 10 acres in oats and the other in barley.

"This would furnish the hogs continuous pasture through the year of vetch, then early clover, the field peas, then rape, then second crop of clover, then corn, with kale for the brood sows over winter and plenty of barley to put the hogs through the fattening period. This would require about 100 bushel for 100 head in 60 days, a total of 1,500 bushel grown easily on 30 acres with this rotation.

"The clover hay, vetch hay and excess soiling crops that might be cut from the vetch, clover, corn and kale would take care of 20 or 30 cattle, cows, or still more sheep.

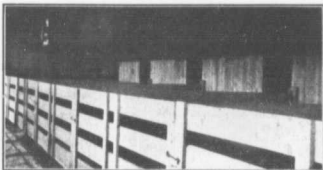
"What would it do to the land? This is an ideal rotation to restore nitrogen and organic matter through the clover and vetch, while the kale, rape and corn utilize the manure and

allow cultivation for the aeration of the soil without loss. The barley and oats permit seeding the ground again to clover without loss of time. The pork and other livestock products are the money crops. These continually increase fertility and profit."

Quebec Stock Breeders Meet

The pure bred live stock interests of the province of Quebec are of more importance than many who live in the other provinces of Canada are inclined to believe. At the 19th annual meeting of the General Stock Breeders' Association of Quebec, held at Montreal, February 11th, it was pointed out that in Quebec there are more breeders of pure-bred Ayrshire cattle than in any other province of Canada. There are more breeders of pure-bred sheep than in any other province and it holds second place for the number of pure-bred swine. This association, which is a combination of the French Canadian Cattle Breeders' Association, the French Canadian Horse Breeders' Association and the Associations of Sheep

and Swine Breeders, now has a total membership of 490, of which 80 were present at the annual meeting. The association shows a satisfactory growth from the membership of 40 with which it started. In his report, the Secretary, Dr. J. A. Couture, gave the registrations for the past year as follows: French Canadian cattle, 323; horses, 383; swine, 1,866, and sheep, 957. The receipts in 1912 were \$4,688 and the expenditures, \$2,137.64. During the past year the society had distributed throughout the province 73 head of pure-bred Ayrshire, French Canadian



An Interior View of the 'Same' House

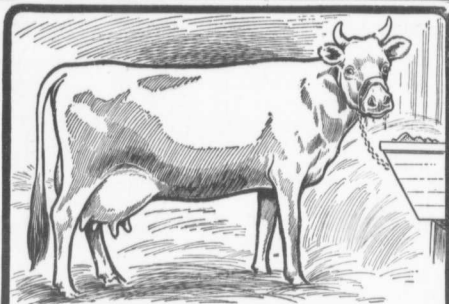
in the interior of Professor Day's newest house for brood sows, the feed passage is along the front. Next to the passage are open pens as illustrated and at the back are closed-in sleeping pens. The sleeping pens are rather low and the ceiling is of straw.

—Photos by an editor of Farm and Dairy

and Jersey cattle; 179 head of sheep, and 60 of swine.

The election of officers resulted as follows: Pres.—Hon. N. Garneau, Quebec; 1st Vice-Pres.—Arsene Denis, St. Nerler Station; 2nd Vice-Pres.—James Bryson, Brysonville; Secretary—Dr. J. A. Couture, Quebec; Directors—Mr. Joseph Deland, L'Acadie, representing the French Canadian Horse Breeders' Association; Mr. Victor Sylvestre, Clairvaux, representing the French Cattle Breeders' Association; Mr. Nap. Lachapelle, St. Paul-L'Ermitte, for the Sheep Breeders' Association; Mr. I. Lavallee, St. Guillaume, for the Swine Breeders' Association.

A hog is popular with no one but himself. And sometimes he gets on bad terms with even that last friend.



The Feed That Makes The Cream

Livingston's Oil Cake is the cheapest feed for cows—cheaper than corn, shorts or even hay. Because it actually increases the richness of cream—and also increases the amount of butter that you get out of the milk. Test your cows before and after feeding Livingston's Oil Cake for a month—and your "butter money" will show its economy.

Livingston's Oil Cakes contain from 8 to 12% of pure Lined Oil—are soft enough to break into small bits—and are completely and easily digested. Write us for sample and prices if your dealer cannot supply you. Dominion Lined Oil Co., Limited, Baden, Toronto, Montreal.

Livingston's Dairy Oil Cake

**A Big Crop
A Good Market**

In these times of high prices and big demand, the farmer who has anything to sell will have no trouble in selling it. A good market is waiting for everything he can raise. Parcels Post will help, and the effort that is being made to regulate the commission business and to better transportation facilities. There never was a brighter prospect of a larger share of the consumer's dollar than 1913 offers to every farmer who has the crop and the quality.

A good fertilizer is a very essential aid to a big crop of best quality.

Wherever you live, we can reach you with the right fertilizer, the right service, and the right price. Write today for copy of "Plant Food," a practical hand book on fertility. No advertising in it; sent without cost, while this edition lasts.

Agents wanted in unoccupied territory. Liberal terms and goods that sell. It pays to sell our fertilizers as well as use them. Ask for agency proposition.

The American Agricultural Chemical Co.

Makers of brands with fifty years of quality and results behind them.

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P. O. Box 814 - F, - Detroit, Mich.

**Pay the Price of the Best
—No More—No Less**

ECONOMY in buying a cream separator does not begin nor end with the price. You may easily pay too little and just as easily pay too much.

Learn the difference between gears that work without back lash and those that have it or develop it soon. Learn the importance of a self-adjusting bowl spindle bearing, and learn to know one when you see it. Discover the difference between brass and phosphor bronze as a material for bearings. Buy a separator with an oiling system that cannot fail you even for a few minutes of a run. When you find the separator that comes up to your specifications—one that with proper care will do good work for a long time—buy it. You will find it marked

I H C Cream Separator Dairymaid or Bluebell

I H C cream separators turn easily and they are easy to run because the working parts are accurately made and the bearings are sufficiently lubricated. The shafts and spindles are the strongest used in any separator. The shaft and spindle bearings are supported by the frame, but have no contact with it. The contact is between the steel spindles and phosphor bronze bushings. The gears are spirally cut so that there is no lost motion between them. They are entirely protected from grit, milk, and at the same time are easily accessible for cleaning.

See the I H C local agent and ask him to give you a demonstration of the efficiency of the machine as a skimmer and to go over with you and explain carefully all of its good, mechanical points. You can get catalogues and full information from him, or write the nearest branch house.

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International Harvester Company of America

(Incorporated)

At Brandon, Calgary, Edmonton, Estevan, Hamilton, Lethbridge, London, Montreal, North Battleford, Okla., Regina, Saskatoon, St. John, Winnipeg, Yorkton



BASIC SLAG

**RENOVATES OLD
WORN OUT PASTURES
WITHOUT RE-SEEDING**

THERE are thousands of farmers in Ontario whose pastures have been worn out by the continued grazing of dairy stock.

Such lands have been drained of fertility and now grow only poor, worthless vegetation. Clover has entirely disappeared. This need not continue. A dressing of Basic Slag applied broadcast at a rate of 1,000 lbs. per acre will bring such pastures back into good heart and double or treble their capacity for stock carrying. The effect of such an application should be apparent for four or five years.

Basic Slag is being used in thousands of tons in the Maritime Provinces and Quebec, and the consumption in Europe amounts to over two million tons per annum. It is therefore no untried fertilizer. Every farmer from the Old Country knows about Basic Slag, but for your own satisfaction ask the Dept. of Agriculture Instructor for your district, or the editor of any farming journal as to its merits. Basic Slag is the ideal fertilizer to apply to stony lands, to wet marshy fields and to all soils which have become sour. If you have any such pastures buy one ton of Basic Slag and broadcast same over two acres, applying it at the earliest opportunity—the sooner the better.

Until our selling arrangements in Ontario are completed, you can be supplied direct from the factory at \$39.00 per ton, freight prepaid to your nearest station—cash with order.

Make this experiment and you will feel grateful to us for bringing the merits of Basic Slag under your notice. An interesting pamphlet, giving particulars of the results obtained by leading agriculturists from the use of Basic Slag will be forwarded by post on application to

THE CROSS FERTILIZER CO., Ltd. SYDNEY, N. S.

Or to their Sales Agents:

For Western Ontario, MR. A. E. WARR, Waukegan

For Eastern Ontario, MR. A. L. SMITH, 220 Alfred St., Kingston

Dairy Situation in Saskatchewan W. A. Wilson, Dairy Commissioner

The development and extension of dairying in Saskatchewan continues to show splendid results. While others are endeavoring to establish the wisdom of purchasing farm lands upon which to grow wheat exclusively and by various methods are influencing settlers to come to Saskatchewan, the Dairy Branch of the Department of Agriculture is quietly but effectively doing work of a very practical nature among those settlers, with the result in mind that the attention is being directed to the advisability of a more diversified course of farm work and the profits obtainable by those who conduct their dairy work on business principles and with due regard to the market demands.

The scope of this work embodies a combination of educational and commercial enterprises. The doctrine of "Dairying for Profit" is exemplified in no uncertain way. Not content with telling the farmers that certain things can be accomplished the Dairy Branch sets about to do it and hands over to the farmers the results of this work in dollars and cents. This practice presents a more forcible appeal to farmers than would a supply of printed matter, and it has the distinct advantage of requiring no argument, or substantiation of its results, neither can they be disputed.

HOW THE WORK GROWS

Accounts have been kept for approximately 1,700 farmers, whose cream was made into butter and marketed through the Dairy Branch. Over 700,000 pounds of butter was made and disposed of in the best markets, realizing for the summer season an average gross price of 27.20 cents a pound, equivalent to about \$200,000, which is distributed among the number of farmers mentioned previously. In contrast with this work was first commenced six years ago, it may be stated that only 218 farmers marketed their goods through this channel. Here again the results of the work are accountable for the splendid increase. In an educational way it affords an effective means of a practical turn, administering justice and thereby making progress, namely, paying each producer according to the quality of the cream he delivers and on the basis of flavor.

Flavor is the most important factor in dairying and the wisdom of paying according to the merit of the work done by the producer, which is reflected in the flavor of the cream, is a very effective means of bringing to the attention of each just what is required of him. In this regard it has led to the improvement of conditions and a desire for information as to how further improvements may be made. It is with the hope that other manufacturers and dealers will follow the example of the Dairy Branch in putting this system into practice.

PAYMENT BY QUALITY IS JUST

It's justice cannot be disputed. Reward one for good service and an interest is awakened which cannot fail to lead to better things. Similarly, pay everyone the same price, regardless of quality or merit of service, and immediately their interest is detracted and laxity is in evidence because it is equivalent to placing a premium on indifference, carelessness and greed. Dairy production is about the only farm commodity bought and sold without due regard to its value as a human food. Being convinced of the justice of the classification and quality payment on milk and cream, it was introduced by all government creameries after several months of careful investigation and a

premium of two cents a pound of butter-fat is now paid on cream grading according to a fixed standard. Since it has not been in effect one year the degree of efficiency in bettering the conditions under which the article is produced cannot be made a basis of comparison but the evidence remains, nevertheless, that many farmers have improved their methods of handling the product upon the farm and also the conditions obtaining in the stalling and milking of the stock.

Winter dairying is not making the progress one would wish to see. The immediate future may show different results as special emphasis has been placed upon the advantages of winter dairying, but the change from summer to winter work cannot be effected at once. The matter of quality is also a troublesome question in the winter, chiefly because of the stables in which the cows are kept and milked. Because of the cost it will take some time to overcome this defect, and there will always be some one who will not try or who really has no conception of what is sought to be. Those will be replaced gradually by the best dairymen and eventually left to shift for themselves.

WINTER SCARCITY OF MILK

Winter production is particularly important in the matter of cream and milk supply for the city of Regina, and in this respect the Dairy Branch has done considerable work during the latter part of 1912, having under their direct supervision the business of the Dominion Dairy and Produce Company, Regina. To the end of 1912 the city had not experienced any particular shortage in milk or sweet cream, and every effort will be made to maintain this position throughout the winter as the supply is not yet uncertain. Special attention has been given to the standard of butter-fat in both milk and cream. In the former the city standard is 8.5 per cent, but butter-fat while the average daily test from the Dominion Dairy is from 4.2 to 4.8 per cent. The city standard for cream is 18 per cent, while that sold by the above company is from 26 to 30 per cent.

The observance of the latter standard, while important, is secondary to the sanitary conditions, and as a precaution in this respect every-thing is first clarified and then pasteurized. The former removes impurities by centrifugal force and the latter destroys germ life injurious to the public health. The entire equipment of the Dominion Dairy Company is designed to enable the operators to place before the citizen a wholesome food product second to none in the matter of quality.

A Name for the Farm

E. McLaughlin, Peel Co., Ont.

Who has not heard of "Homestead Holsteins," or "Burnside Ayrshires"? The farm names of Messrs. Logan and Ness are household words among admirers of their respective breeds of cattle. I know of many farmers whose farms have not a national reputation, but in their own localities the name of their farm branded on anything, from a cow to a pound of butter, is a guarantee of its quality. I am not a farmer. I am a merchant. I know the brands of hundreds of farmers with whom I deal, and invariably I find that the very best farmers have named their farms after the brand of milk they market. This is a big recommendation for me to buy them. Name your farm and make it stand for something.

A deep, sandy loam is ideal for walnuts.—Prof. E. J. Zavitz, O. A. C., Guelph.

Tuberculosis Spreading

The statement was made at the recent E.O.D.A. Convention by Dr. F. Torrance, Veterinary Director-General, of Ottawa, that during the past four years tuberculosis has increased among the live stock of the coun- try by two per cent. Dr. Torrance claimed that tuberculosis is more prevalent in the dairy districts of Ontario than in the beef districts. He explained this by saying that dairymen keep their cows longer than the beef breeders do. Disease spreads more rapidly among the older animals than it does where younger animals are kept. Many dairymen, also, in order to keep up their milk supply, are forced to buy animals each year, and thus disease is introduced into their herds. When Dr. Torrance commenced quoting figures to show the prevalence in dif- ferent counties of Ontario of tuber- culosis it was seen that this conten-

semination of the disease, Dr. Torrance advised the passing of a law which would compel the officers of every creamery and cheese factory to sterilize their whey and skim milk. He also advised farmers not to allow their animals to browse over the manure pile.

Recent Publications

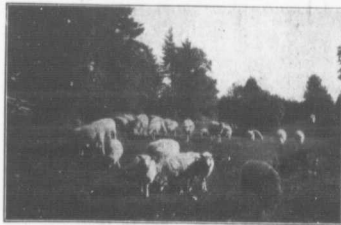
The scientific and practical aspects of the feeding problem are discussed and interpreted in an interesting and understandable manner in "First Principles of Feeding Farm Animals," a book just issued by the Orange Judd Co., the author of which is Charles William Burkett, Editor of the American Agriculturist, and formerly a Professor of Agriculture in the colleges of New Hampshire, North Carolina and Kansas. The scientific aspect of the feeding ques- tion with which every good feeder must be more or less familiar, is dealt with in a way that all can un- derstand and made unusually un- derstandable by the use of diagrams. These principles of feeding are the same the world over.

Mr. Burkett has covered a wide terri- tory in getting his information on the practical side of the question and here too prob- lems are made easy by the use of illus- trations and diagrams. Explicit instructions are given for the feed- ing of cattle, horses, sheep, hogs and poultry. Every farmer could well make a place for this book in his library. The book is handsomely bound in cloth covers and contains well over 300 pages of read- ing matter and illustrations. Price through Farm and Dairy, \$1.50 net.

Another Orange Judd publication that has recently reached our desk is "The Young Farmer: Some Things He Should Know," by Dr. Thos. F. Hunt, of the University of Califor- nia. In addition to the practical in- formation contained in this book on the rotation of crops, farm book-keeping, animal husbandry, etc., there is also much information on the less un- derstood subjects of shipping, market- ing, rural legislation and the laws affect- ing land and labor. The book is written in an inspirational manner all through, and is well calculated to give the young farmer a new appre- ciation of the dignity of his calling and of the responsibilities that are his. This is a book that we can re- commend to every young man who is farming or thinking of farming. It, too, is well bound and illustrated, and the price the same, \$1.50 net.

To Flower Lovers.—Write the De- partment of Agriculture, Ottawa, Ont., for a copy of W. T. Macon's re- cent bulletin, "Hardy Roses, Their Culture in Canada."

Three or four years ago we con- ducted an experiment in fattening steers. It was quite common for sev- eral pounds of carcase to be gained of three and four pounds a day for a period of three and four months. I do not hesitate to say that these gains were due in no small degree to the feeding of alfalfa.—J. H. Grisdale, Director, Experimental Farms, Ot- tawa.



In Pastures Green

The heavy-bodied sheep of the long-wool breeds, such as the ones here illustrated, are well adapted to heavy land where a great amount of moving about to obtain sufficient food is not necessary. It would hardly be advisable to have this type on the rougher land of Canada.

—Scene in Prince Edward Co., Ont.

tion that it was most prevalent in the dairy counties was not borne out by the figures that he gave, inas- much as the inspection of animals slaughtered at the abattoirs during the past three years revealed a smaller percentage of affected animals in such pronounced dairy coun- ties as Russell, Leeds and Frontenac, than was the case in such well known beef counties as Ontario, Victoria and Grey.

Dr. Torrance stated that tubercu- losis is more infectious than was for- merly supposed. It is now known that when a diseased animal enters a herd, it may not take more than a few months before a large proportion of the herd will be infected.

HOW DISEASE SPREADS

The idea that tuberculosis was spread through the breath of the animals is not now held by the lead- ing authorities, who are now con- vinced that most of the infection takes place through the mouth and stomach by means of the food con- sumed, and that it is carried from the stomach to the lungs, and other organs. At one time it was thought that the animals that coughed the most were the ones that were sure to have the disease. It is now gen- erally believed that this is not neces- sarily a sign of disease. The germs pass out of the system in the man- ure. The manure of one animal may contain many millions of germs. Cat- tle that are allowed to walk around a dirty barnyard, or pick over the manure piles, are very apt to be diseased.

In answer to a question, Dr. Tor- rance stated emphatically that milk very often carries germs, and that the milk of the diseased animal is dangerous, not only when fed to calves and hogs, but when consum- ed by people as well.

As a means of preventing the dis-

CALDWELL'S MOLASSES MEAL

is a decided Economy and an excellent Investment—



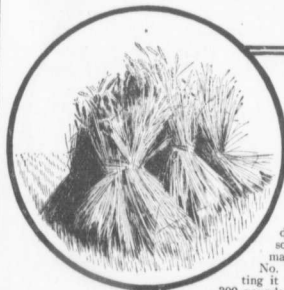
Because it makes other feed more palatable and digestible. It also puts stock in first-class condition very quick. Caldwell's Molasses Meal is 84% Pure Cane Molasses with 16% a special variety of edible most possessing unique digestive action. Thousands of stockman and farmers are consistent users of Molasses Meal because they have proven it to be the best conditioner on the market. Your feed- man likely has it. If he hasn't, it would be well worth your while to write for prices.

THE CALDWELL FEED CO., LIMITED,
DUNDAS, ONTARIO.

CALVES RAISE THEM WITHOUT MILK
Booklet Free.
Steele, Briggs Seed Co., Ltd., Toronto, Ont.



YOUNG MEN WANTED to rear VETERINARY profession. Catalogue free. Grand Rapids Veterinary College, Dec. 16, Grand Rapids, Mich.



I KNOW of farm lands in Ontario, and in the West, too, that are now yield- ing only 10 to 15 bush- els of wheat to the acre. They used to yield 30 to 40. What a loss to their owners!

I wonder if you have any wheat land that is not doing its duty by you. If so, I strongly advise you to make an application of Harab No. 6 (cereal) Fertilizer, put- ting it on at the rate of about 300 pounds to the acre.

Progressive Jones Says:
"Get More Bushels Per Acre"

Harab FERTILIZERS

will put back into your soil the plant food that continual cropping has taken out. Your worn-out land will become the rich, profit- making soil of former years. And all at a small cost.

Harab Fertilizers are natural Fertilizers. They are manufactured from blood, bones, etc., from the Harris Slaughter Houses, with the addition of Potash and just enough quick-acting Nitrates and Superphosphates to produce well-balanced Fertilizers, which feed the plant as required and develop it to early maturity in a natural way.

But what you want first is the Fertilizer Booklet issued by the Harris Abattoir Co. It gives com- plete information about choosing the correct Fertilizers for barley, oats, rye and other crops, and the quantities to use. It's a mighty interesting booklet. I know, for I've read it myself. The Harris people assure me they'll gladly mail you a copy free. It's up to you to show you're "A Progressive."

Means for bigger grain crops
Progressive Jones



The Harris Abattoir Co., Limited
TORONTO, CANADA

FREE STYLE BOOK FOR 1913 OF
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Our Catalogue will help you to choose just the Vehicle or Harness you require, and SAVE YOU MONEY. It describes and pictures many styles, giving prices, FREIGHT PREPAID, and fully explains our method of Selling Direct and saving you the Middlemen's Profit. Remember, we pay the freight in Ontario and Eastern Canada. The Catalogue is Free, for the asking. Send it to-day.

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are at all interested in

Home-Mixed Fertilizers

I would like to send you my book on the subject. It contains formulas and plenty of information for farmers who want to get the most and the best for their money. The book will be sent free upon request.

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**MAPLE LEAF CANADIAN
LINSEED OIL CAKE BRAND**



"Maple Leaf" Brand
OLD PROCESS

OIL CAKE MEAL

is the Best Food to fatten an animal in the shortest time; it multiplies the feeding values of all grains, and fodder fed with it, and leads all other feeds in manurial value for fertilizing the soil.

A ton of MAPLE LEAF OIL CAKE MEAL contains three times the digestible protein or muscle making element, contained in a ton of corn, and protein is the most costly, necessary and valuable element in food.

Feed MAPLE LEAF OIL CAKE MEAL—
and—

Watch the Result

If your dealer cannot supply you, write us direct.

The Canada Linseed Oil Mills

Mills at LIMITED

MONTREAL and TORONTO

APICULTURE

Notes on Bees

Morley Pettit, Provincial Apiarist,
Guelph

The winter so far has been a remarkably easy one on bees wintered out of doors. What is causing un-usualness at present is the naked condition of the clover. It remains to be seen how it will come through the freezing and thawings of spring.

Mice are reported to be had in some parts and the little rascals can do a lot of harm in boxes where bees or combs are packed. They are very fond of honey and dead bees and will destroy combs to get access to either.

They also find the packing material nice for making nests right close to the cluster of bees. Of course this kind of thing would not be tolerated by the bees in summer, but now they are asleep and will not defend themselves but suffer heavy loss from being so disturbed. Wintering boxes should, by rights, be mouse-proof, but is not always easy to have them so. The alternative is free use of mouse traps and poison.

Out-of-door wintered bees must by all means be sheltered from cold winds. This is especially necessary on the approach of spring when brood rearing will be starting and all the heat possible must be retained in the hives to aid incubation. Remember that the brood chamber of a hive is an incubator whose temperature is kept up by natural heat generated by the nurse bees who sit on the eggs and young larvae. If the hive is cold the brooders have to sit closer together and cannot cover so many eggs or larvae.

If the hive is warm they can spread out and cover more brood. This means more young bees will be hatched in the same time. Then when summer comes there will be more workers in the hive to gather honey. Anyone who thinks about this for a moment will see why all hives should be kept warmly packed and sheltered from cold winds during what beekeepers call the spring breeding up time, right up to settled warmer weather.

On the other hand entrance must not be closed. There is that about bee nature which does not brook confinement and except when bees are screened in for moving they must have "free ingress and egress" to their hives. On bright, cold days it is well to shade the entrance however lest the sunshine tempt some to come out and be lost on the snow.

The winter is the time for purchasing and preparing next summer's supplies. New hives can be nailed and painted and old ones repaired. Loose joints in supers should be given extra nails, and, above all, every part of the hive which is exposed to weather should be well coated with a light colored durable paint. For covers, the most durable and satisfactory water-proofing is galvanized iron. Then for protection from hot sun in summer and cold spring and fall a cover should be packed.

I attribute my good success with the orchard to the bees in the orchard, especially in wet seasons.—
J. W. Clark, Brant Co., Ont.

Milk is just like a sponge when it comes to absorbing foul odors. Hurtle the pails out of the stable right after milking.

The Famous Spray Pump Contest



"This is to certify that at the Contest of Spraying Apparatus held at Grand Ont., under the auspices of the Board of Control of the Fruit Experiment Stations, of Canada, and by Approval of the Dept. of Agriculture in which there were 11 contestants, the Spramotor, made by the Spramotor Co., was awarded first place.

H. L. HURT, Professor, O.A.C. Judges M. PETTIT, Pres. O.F.C.A. You can learn all about the Spramotor from reading our handbook.

A GOLD MINE ON YOUR FARM
This book tells you all you will need to know about all of the insects affecting your apple trees and your orchards, tells you how to combat them, how to prepare the sprays, when and how to apply them.

There is a Spramotor made specifically for your needs; we will tell you about it when you tell us what you grow.

Spramotors are used the world over. You will want a Spramotor. Write tonight for your copy of "A Gold Mine on your Farm." Address me personally—

W. H. HEARD
c/o SPRAMOTOR CO.
1703 King St., - - - London, Ont.
Largest manufacturers of Sprayers and Accessories in the world.

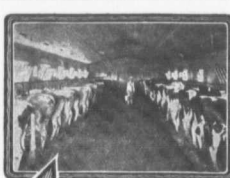
SAMPLE ENGINES AT SPECIAL PRICES.
1½, 3½, and 6 H. P. sizes. They have been only slightly used. They will be adjusted and in perfect condition and just like new before leaving our factory. Prices and further particulars on request.—The Page Wire Fence Company, Limited, Walkerville, Ont.

**FOR SALE
SEED CORN THAT WILL GROW**

Send for Prices.
P. D. CAMPBELL,
AMHERSTBURG, ESSEX CO., ONT.

Write us to-day for our favorable terms to rates of Farm and Dairy, who will bustle for new subscriptions Application blanks and sample copies sent free on request.

Seed Grain
Clover Seed, Alfalfa, O.A.C. No. 21 Barley, O.A.C. No. 30 Buck Wheat, etc. We buy; also sell. Write for prices and quotations. Eight years at it. Satisfaction assured.
GRAMPSEY & KELLY, DUFFERIN RD., TORONTO, ONT.



FIX UP YOUR BARN LIKE THIS

Let Us Tell You Why and How
When your cows are lined up like this, the manure falls into the gutter and makes barn cleaning easy. Keeps cows cleaner and healthier, improves quality of milk, increases your profits.

THE BT SANITARY BARN EQUIPMENT

Helps prevent tuberculosis, big knees, raised udders, abortion, etc. Put Dairying on an improved business basis. Pays for itself every year.

FREE Our two books tell all about BT Equipment, Stalls, Stations, Pens, etc. described in Stall Book & Field, Manure Carriers, and Feed Trucks sold about Carriers & Book sent on request. Plans and drawings on remodeling. Best Bros., 163 Hill St., Fergus, Ont.



FARM MANAGEMENT

Supply of Seed Oats for 1913

T. G. Inaynor, Seed Division, Ottawa

Owing to the very wet, and at times warm season for harvesting the crop of 1912, much of the grain sprouted in the sheaves as they were shocked in the fields. All oats which

would be used is of no use for seed.

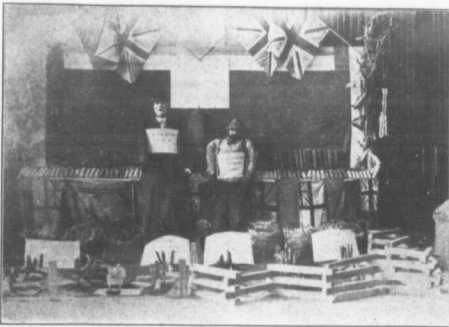
Eastern Ontario and Quebec suffered the worst in this respect. There is a large market already opening up for good seed oats in carload lots. Farmers who have oats in quantity in a neighborhood free from noxious weed seeds of good germination should seek through the Seed Branch, Department of Agriculture, Ottawa, or L. H. Newman, Secretary of the Canadian Seed

management of bees to the protection of crops from insects and disease, and so on throughout the whole range of farming.

This report, which provides much useful matter for study during the winter months, is available to all who apply for copies to the Publications Branch, Department of Agriculture, Ottawa, and is now being sent to all those on the mailing list of the Experimental Farms.

What Roaring Really Is

Editor, Farm and Dairy.—I have just received Farm and Dairy of Feb. 13th, in which appears the first article on "Tricks of Horse Traders." I must have been dreaming when I wrote that as there is a glaring mistake and the mistake must be mine and not the typesetters. I am very sorry, and I may say humiliated, and will ask you to kindly make a note



Prosperity and First-Class Seed Are Boon Companions

The farmer to the left of this illustration represents the class of farmers in South-Western Ontario who are producing first-class seed corn and selling it at a good price. The farmer to the right is typical of the class who have no use for pedigreed seed and would be attending a Corn Show. This exhibit was staged at the Corn Show at Windsor, Ont., by the Essex Farmers' Club.

Growers' Association, Ottawa, to get in communication with farmers' clubs or retailers of grain for seeding purposes, who want seed oats.

It pays to have good vital seed grain to sow in the spring, and it should be available at a small advance over commercial prices. Those who fan their seed well, and have the large plump oats which have a wide bosom covered with the thin layer of hull to sow, are the ones who usually reap the best harvests. Here and there farmers are found who always make a practice of making a good fanning mill selection by taking out 25 per cent, as it comes from the machine in chaff, and small seeds, etc. Such farmers are always known as good farmers, and as those who grow paying crops. They have no trouble in disposing of any surplus seed stock to their neighbors. There is room for many more. Fill up the ranks.

The Experimental Farms Report

The report of the Experimental Farms for the year ending March 31st, 1912, is out. Of all the many publications issued from time to time by the Department of Agriculture at Ottawa this annual report is by far the most comprehensive as it deals with practically every phase of Canadian agricultural activity, ranging from the cultivation of fruits and ornamental plants to the growing and preserving of corn for stock food; from the hatching and rearing of fowls to the rearing and feeding of cattle, sheep and swine; from the

of it in as early an issue as possible.

In roaring the noise is made during inspiration. By reading the whole article it will be seen that it is contradictory and those who know will wonder how I could have made the mistake. In the portion of the article headed "Where Deception is Common," in the eighth line from the top it reads, "Whistling, or roaring sound during expiration." It should read "during inspiration." Then in the next paragraph it reads "The air enters the windpipe without causing the noise, but during its expulsion the sound is audible." It should read "The air is expelled from the windpipe without causing the noise, but during its entrance through the larynx the sound is audible." I am sure no further mistakes will appear in the series, and am very sorry about this one.—Dr. J. Hugo Reed, Guelph, Ont.

The foregoing letter, which we have just received from Dr. Reed, is self-explanatory. We are sure that "Our Folks" will understand how easy such an error might creep into a busy man's copy.—Editor.

In comparing a ration consisting of a heavy feed of corn-meal, alfalfa, and a light feed of silage, with a ration consisting of a medium quantity of each feed and a ration consisting of a light feed of corn, alfalfa, and a heavy feed of silage, yearling steers being fattened for market made cheaper and more profitable gains on the larger feed of corn and smaller feed of corn silage.—H. R. Smith.

"BROWNS TREES"

WRITE FOR CATALOGUE WRITE FOR AGENCY

BROWNS NURSERIES,
WELLAND COUNTY, ONT.

MAIL CONTRACT

SEALED TENDERS, addressed to the Postmaster General, will be received at Ottawa until Noon, on Friday, the 4th April, 1913, for the conveyance of His Majesty's Mails, on a proposed Contract for four years, six times per week, over Rural Mail Route No. 12, from Peterboro, Ontario, to commence at the pleasure of the Postmaster General.

Printed notices containing further information as to conditions of proposed Contract may be seen and blank forms of Tender may be obtained at the Post Office of Peterboro and at the office of the Post Office Inspector, Kingston.

J. MERRICK,
Post Office Inspector,
Post Office Inspector's Office,
19th February, 1913.

FERTILIZERS

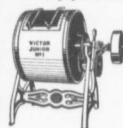
For information regarding all kinds of mixed and unmixcd fertilizers of the highest grade write
THE WILLIAM DAVIES CO., LTD.
West Toronto Ontario

Money Makers and Savers for Dairymen

Up-to-date dairy equipment brings bigger profit to users, because it saves time and insures higher grade products.

We carry a very complete line of all requisites for the creamery, cheese factory, dairy and milk depot, all of the highest grade, because we know it does not pay the dairymen to buy equipment of any other kind.

The De Laval Line of Dairy, Creamery, and Farm Supplies



VICTOR CHURNS. The best butter with the least work can be made with the "Victor Churn." Both churns the butter and works it. Years of churn building experience back of it. Large sizes for creameries and smaller sizes for farm dairies.



No dairy without a silo is fully equipped. The Ideal Green Feed Silo has been longest on the market. The best and most popular silo made in Canada. All sizes.



BOTTLE FILLERS. A good bottle filler is an absolute necessity in every milk plant. Our "Climax" line of fillers are well made and finished, and we unhesitatingly recommend this filler as the best on the market. Furnished in various sizes.

DE LAVAL MILK CLARIFIERS.

With the installation of the De Laval Milk Clarifier you are able to offer your customers absolutely clean milk. Up-to-date milk plants everywhere are installing them. See for special catalog.



MILK VATS. Our "Paragon" vats are made of extra heavy copper, lined on both sides, and all seams are double rivetted and joints, corners, etc., soldered thick. Sizes, 100 gallons to 1000.



SANITARY MILK PAILS. We carry a very complete line of Sanitary Pails. The Gurler Pail illustrated above we especially recommend.



BUTTER PRINTERS

We carry various styles and sizes to cut from one print every few seconds. All in impression, every brick square and true. These are fully described in our catalog.

DE LAVAL WHEY SEPARATORS turn waste into profit. Every cheese factory should install one. Butter made from whey cream brings a good price and the butter-fat recovered from the whey will more than pay for the machine the first year.

Our line of creamery, dairy, cheese factory, milk dealer's and farm equipment is most complete. Only a few items are mentioned and illustrated here. We shall be pleased to mail complete catalog if you will write advising what supplies you require.

DE LAVAL DAIRY SUPPLY CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA
Exclusive Canadian distributors of the "World Standard" De Laval Cream Separators
173 William Street, MONTREAL 128 James Street, WINNIPEG

FARM AND DAIRY

AND RURAL HOME

Published by the Rural Publishing Company, Limited.



1. FARM AND DAIRY is published every Thursday. It is the official organ of the British Columbia, Eastern and Western Ontario, and Idaho, Dairy, and Cattle Breeders' Associations, and of the Canadian Holstein Cattle Breeders' Association.

2. SUBSCRIPTION PRICE, \$1.00 a year. Great Britain, £1.00. For all countries, except Canada and Great Britain, add 50c for postage. Notice of the expiration of subscriptions are sent to all subscribers, who then continue to receive the paper until they send notice of discontinuation. No subscription is continued for more than one year after date of expiration. A year's subscription free for a club of two new subscribers.

3. REMITTANCES should be made by Postal Office or Money Order, or Registered Letter. Postage stamps accepted, for amounts less than \$1.00. On all checks add 25 cents for exchange fee required at the bank.

4. CHANGE OF ADDRESS.—When a change of address is ordered, both the old and new addresses must be given.

5. ADVERTISING RATES quoted on application. Copy received up to the Friday preceding the following week's issue.

6. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles.

CIRCULATION STATEMENT

The paid subscriptions to Farm and Dairy exceed 14,778. The actual circulation of each issue, including copies of the paper sent subscribers who are not strictly in arrears, and sample copies, varies from 15,425 to 17,300 copies. No subscription is accepted unless the full subscription rates.

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

OUR GUARANTEE

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 unprofitable advertising. Should any advertiser herein deal dishonestly with you as one of our subscribers, we will guarantee, we will make good the amount of your loss, provided such transaction occurs within one month of the date of this issue, that it is reported to us within a week of its occurrence, and that we find facts to be as stated. It is a condition of this contract that in writing to our readers you state "I saw your advertisement in Farm and Dairy."

Rogues shall not ply their trade at the expense of our subscribers, who are our friends, through the medium of these columns; but we shall not attempt to adjust trifling disputes between subscribers and honorable business men who advertise, nor pay the debts of honest bankrupts.

FARM AND DAIRY

PETERBORO, ONT.

TUBERCULOSIS LEGISLATION

Through a recent ruling of the Federal Department of Agriculture, pure bred cattle cannot now be shipped into British Columbia unless they have successfully undergone the tuberculin test. The action of the British Columbia Department of Agriculture in calling for such a measure and of the Federal Government in acceding to their request, has been severely criticized in many quarters. It is claimed that such action will prove a serious hindrance to interprovincial trade, and that, moreover, it is not fair that pure bred cattle should be subjected to such a ruling when grade cattle are exempt. We believe, however, that the farmers of British Columbia, who in the first place demanded this legislation, are on the right track and that their action is worthy of all commendation. It shows that Brit-

ish Columbia farmers realize that tubercular cattle are not only a great source of loss to the farming community, but a menace to the health of all who consume dairy products—and that includes all humanity.

The opposition with which this regulation has met would almost make one believe that the principle involved was new and altogether radical. As a matter of fact, several states of the United States have had similar legislation in force for years. In the State of Maine, for instance, all cattle brought in from other states must pass the tuberculin test after they arrive. If an animal fails to pass this test it is promptly killed. Pure bred cattle over one year old are subjected to the tuberculin test whenever they are sold. Cattle used for dairy or breeding purposes over one year old, must be tested before they can be accepted at any fair in the State of Maine that is partially maintained by a state appropriation.

The fight against bovine tuberculosis is one that will be waged with ever-increasing vigor, and British Columbia farmers are doing their part. In prohibiting the importation of tubercular animals, they are but following a plan, the efficiency of which has already been well tested by our neighbors to the south. We believe the day is not far distant when the other provinces of Canada will be requesting the Federal Department to issue similar regulations for their provinces.

ANENT FERTILIZERS

"Can I afford to use commercial fertilizers?" This question was recently asked of us in a manner which indicated that the questioner was sure that he was dealing with some brand new subject that had hardly yet reached the experimental stage. And yet commercial fertilizers have been in common use in practically every country in the world for the last 100 years and the number of favorable experiments with fertilizers in Canada alone runs into the thousands.

The particular crop about which our friend was inquiring was potatoes. He had been told that down in Nova Scotia fertilizers are commonly used and their profitableness endorsed. He asked us if we knew anything about the value of fertilizers for potatoes. He said that there had never been a pound of fertilizer used in his community, but that he was willing to experiment with them for one season at least. Here are some of the facts that we were able to present to our questioner:

The average gain from seven hundred and fifty pounds of complete fertilizer used in one hundred and seven separate experiments in Canada was eighty-five bushels an acre, which at fifty cents a bushel for the fertilizer, would leave a gain of twenty-eight dollars after deducting the price of the fertilizer. The fertilizer used in these experiments was one hundred and fifty pounds of nitrate of soda, four hundred pounds

of acid phosphate and two hundred pounds of sulphate of potash. This is a good all-round potato fertilizer.

The State of Maine has the highest average production of potatoes of any state in the United States, and practically every potato grower of the State uses and believes in the profitableness of commercial fertilizers. They apply from 1,500 to 3,000 pounds an acre of fertilizer yielding four per cent. nitrogen, six per cent. phosphoric acid, and ten per cent. potash. That they get profitable returns is proved by the fact that they keep on using it year after year.

We could have arrayed considerably more data proving the value of commercial fertilizers in connection with the potato crop, but our friend was satisfied that there must be something in commercial fertilizers and decided to give them a trial. It may be that none of the formulas mentioned above will give the best results on this man's farm, but we are confident that with a little experimenting it is possible to find some combination of fertilizers that can be profitably applied to the potato crop on almost every farm in this country.

THAT DITCHER DUTY

There is no mistaking the attitude of the members of our farmers' organizations toward the present customs duty on traction ditching machines. The advisability of removing this duty, which does not protect any home industry and adds so decidedly to the cost of the machines that few are imported, has been discussed at numerous farmers' meetings in the last couple of months, and without exception the McCoig resolution, now before the Dominion House, asking that the duty be rescinded, has been endorsed. The following resolution, approved of at the annual convention of the Ontario Association of Fairs and Exhibitions, is but one of numerous similar resolutions on the subject that have been reaching Ottawa recently:

"That whereas drainage of our farms is one of the most important lines of work required to be done in order to secure the best results from our labors, and with the proper drainage of our farms the productive values of same would be increased many millions of dollars, and in view of the high cost and scarcity of labor, it is of vital necessity that we get such necessary work performed in as economical a manner as possible. Within recent years there has been invented a traction machine which has to an enormous extent lessened the cost of draining. These machines are not manufactured in Canada, and the duty on them amounting to several hundred dollars on each machine, renders their importation almost prohibitive. We would, therefore, respectfully request the Dominion Government to remove the duty on these machines and phosphorus required by us until such time as they are manufactured in Canada."

About the same time the members of the Ontario Plowmen's Association voiced their sentiments on the same subject as follows:

"We are in agreement with the several farmers' organizations that have passed resolutions re the re-

moval of duty on traction ditching machines, which are not manufactured in Canada. As plowmen we are vitally interested in the cultivation of the soil, and are of the opinion that proper drainage is necessary thereto. We, therefore, join with the other organizations in requesting the Federal Government at the present session of Parliament to place traction ditching machines on the free list."

Every farmer who has an acre of land in need of underdrainage has a vital interest in the success of the McCoig resolution. If we let our representatives at Ottawa know that we farmers, as a body, are in favor of this proposed legislation, the McCoig resolution will be made law. It is up to us. Let us write our members immediately.

The Influence of the Sire

(Hoard's Dairyman)

Some time ago Hoard's Dairyman in commenting on the failure of the Maine State to produce hens of increased laying capacity by depending upon the mother alone, called attention to the fact that they were violating a well-known principle of breeding in so doing. We advised that more dependence be had upon the male side than the female side. We notice now that Prof. Raymond Pearl makes this statement:

"How then does a hen ever get to be a high layer if she cannot inherit this quality from her mother? The answer is simple; the high laying hen gets the excess production factor, which is necessary to make it a great producer, from its sire."

Whether we are breeding hens or cows, we must keep constantly in mind that "daughters take from their father and sons from their mother." But there must be long lines of good producing mothers behind the son and that line re-inforced at every generation by a prepotent sire of a good mother.

The farmer who breeds from a grade bull shows at the outset that he knows nothing of the laws of heredity.

How a Dairyman Did It

(Breeder's Gazette)

One farmer solved the problem of his sandy soil thus: Ideal in texture, it was still so leachy that corn would not pay unless it had manure every year. Having a dairy, and needing alfalfa, he first used the manure locally, using the unturned ground limestone, applied phosphorus liberally and sowed the land to alfalfa. It has made a notable success on that soil. Year by year he removes the phosphorus needed; occasionally he adds a little potash. There is now no leaching because the living plants hold the nitrogen. There is no need of manuring because the bacteria, fortified by limestone and phosphorus, find the nitrogen in the air. Thus the sandy land that was a drain on the fertility of the place is now helping enrich the other fields. Supplies of nitrogen come from it and it is a producer, not a consumer, of farm manure.

Once in five or six years this man plows the alfalfa sod and plants it to corn, which grows richly. Then the land is given additional limestone and manure to alfalfa. It is in dairy man. Alfalfa and corn, supplemented with wheat bran and cottonseed meal, constitute the ration for his cows.

Worry kills more people than work, because more people tackle it.

Milking Machines Tested

"Milking machines of at least one type do not reduce milk flow." This statement is based on work done by the Experiment Station at Geneva,

**AD. TALK
LXVII.**

Interesting sidelights develop from time to time as regards our policy of not accepting advertising of Patent Medicines, etc., which we are not prepared to stand back of and guarantee to "Our People."

Last week a prominent business man in Toronto raised the question as to whether we were not doing a positive injustice to "Our People" in refusing to carry to them, through our advertising columns, news of certain proprietary remedies of known worth. He cited the case of an ointment, which he claimed had cured a stubborn complaint which Doctors had failed to relieve.

Were it not for the undue publicity, which in connection with it he might be given, he asserted that he would gladly give the manufacturers a testimonial. As it was he was doing all he could by word of mouth to make known to his friends the virtues of that remedy.

The point as raised is well taken. We have long realized our moral responsibility in this matter as publishers. We feel that in certain cases an injustice may be done.

But when we consider how Patent Medicine fakirs have fattened on their hellish business, brought destruction where lives might have been saved under proper treatment—when we consider how the sick and ailing fall easy victims to the seductive arguments and assertions of some Patent Medicine advertising, and have taken remedies, later to find themselves undone and their chances of life despaired of because of it,—do we not feel inclined to take any part with such business and share in their responsibility.

Experience has demonstrated to us that it is impracticable to make distinctions. Who shall separate the just from the unjust in this kind of business? Who will be the sponsor? We have tried it. No more of such attempts for us.

In these matters we have decided to abstain from the appearance of evil. Thus we have sought to best serve the highest and best interests of the great majority of "Our People."

We will carry the advertisements of any and all reputable parties whose business is not objectionable and which is in harmony with our policy, and which we can stand right back of and absolutely guarantee to "Our People" through Farm and Dairy.

"A Paper Farmers Swear By"

where hand milking and machine milking were compared using them in alternation in 71 full lactation periods.

Several years ago the New York Experiment Station (at Geneva) announced, after extended researches, that clean milk could be produced by the milking machine if simple precautions were observed. Now, in Bulletin No. 333, the Station reports extended tests of the efficiency of the machine as compared with hand milking, and finds that it does not measurably influence the yield of milk. That is, cows in the Station herd milked alternately by hand and by the machine in 71 full lactation periods showed no more fluctuation in yield due to the method of milking than would naturally occur from year to year in a herd milked by hand.

As the Station has already proved that clean milk can be produced by the machine if simple precautions are observed, the use or non-use of the machine would seem to be merely an economic question whose factors are cost of installation and upkeep, availability and cost of labor, size of herd and general convenience. The bulletin does not discuss many of these factors, but gives some carefully collected data regarding the time necessary in milking by the two methods, figures which should be useful to any dairyman carrying 15 cows or more, and in exceptional instances, to some with smaller herds.

Expert Advice on Maple Sugar Making

(Continued from page 4)

tank and then taken to the sugar house, where it is again strained as it runs into the storage tank, which is kept iced all through the season. It then passes into the evaporator to do his part. He must not and does not allow his corrugations to be covered with more than three-quarters or half an inch of sap, and thus his syrup compartment is the same depth. In one hour from starting his machine he has syrup, and he commences to draw off at intervals of five minutes each. He only gets a couple of quarts at a time. The operator can get at least 10 or 15 colors of syrup in one day from the same sap, simply by running his evaporator at different depths and slowing up his fire.

"The fuel he uses should be dry and part soft wood to get a quick blaze. He also will have an extra pan for his arch, so he can get the more on the bottom and thus guard against burning his pan and syrup. His syrup is put into a settling can, with a faucet three inches from the bottom, so as to allow the settlings if any, after being again strained, to go to the bottom.

This method, while it may seem to be very exacting, is absolutely necessary to produce the sugar and syrup you see in high class exhibits. These products bring from five to 10 cents more a pound than the other grade, which is more than sufficient for the extra time and care taken to get this quality. There are many other little things necessary for this class of sugar maker to do, but space forbids me to mention them. According to our own last census, the quantity of maple sugar and syrup has decreased and with a growing population the makers, which number 55,000, should reap a more profitable harvest if they are given a fair show and this industry receives the protection it deserves.

Wherever the rock maple grows in Canada, no matter whether the land be rocky, sand or clay, or black muck, the same person using the same machine and the same utensils, and giving the same care, will produce the same grade of syrup or sugar.

**SEE AND TRY A
DE LAVAL
CREAM SEPARATOR****Be Your Own Judge**

We cannot believe that there is a sensible man living who would purchase any other than a DE LAVAL Cream Separator for his own use if he would but SEE and TRY an improved DE LAVAL machine before buying.



It is a fact that 99% of all separator buyers who do SEE and TRY a DE LAVAL machine before buying, purchase the DE LAVAL and will have no other separator. The 1% who do not buy the DE LAVAL are those who allow themselves to be influenced by something other than real genuine separator merit.

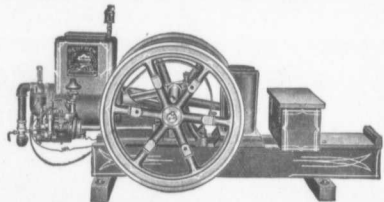
Every responsible person who wishes it may have the Free Trial of a DE LAVAL machine at his own home without advance payment or any obligation whatsoever.

Simply ask the DE LAVAL agent in your nearest town or write direct to the nearest DE LAVAL office.

DE LAVAL DAIRY SUPPLY CO., Limited

175 William St., MONTREAL

128 James St., WINNIPEG



2½ to 60 h.p. Semi-Portable as Illustrated: Stationary and Portable.

Tested With Boiling Water

Every Renfrew Standard Gasoline Engine is thoroughly tested before shipment. It must show at least 10% more horse power than it is rated, by an actual brake test, with boiling water in the hopper. This test also proves the soundness of the workmanship. Every

Renfrew - Standard

Engine is also tested for balance. It must be so perfectly balanced that it will run with clock-like precision and smoothness. It must start easily without cranking. In short, the engine must be absolutely right in every particular before our Inspectors affix their O.K.'s. If you were at the factory, you might think we were over-particular. But just think what our painstaking care means to the purchaser of a Renfrew Standard Engine. It assures him getting an engine whose reliability has been proven under test—one that will give him great satisfaction.

Write for our Engine Catalog. It describes the Renfrew Standard in detail, and contains information about Gasoline Engines that every progressive farmer would like to know.

THE RENFREW MACHINERY CO., Ltd.

Head Office and Works: RENFREW, ONT.

AGENTS EVERYWHERE IN CANADA

Write for particulars about our 1½ H. P. Gifford Engines

GOOD PRICES FOR CHEESE

Canadian Cheese
MAKE no mistake about it - the better the cheese you make the better the price your cheese will bring. Keep quality up if you want to keep price up. You can make the very best quality of cheese if you use

"Tweed" Sanitary Steel Cheese Vats

Made entirely of steel. No wood to rot in a season. Easy to keep clean and sweet. No places for the milk to lodge in or decompose. "Tweed" Vats have no corners or cracks and drain out thoroughly.

The lining laps over and under underneath the edge making an ideal surface to work on. The "Tweed" Vats are fitted with gears at each end. These can be lowered inch by inch by levers.

"Tweed" patents have been infringed and we have been compelled to protect our interests. To do so we have felt it needful to issue the following announcement and warning:

We own the patent rights for Steel Cheese Vats for Canada. Anyone buying any other Steel Vat will be promptly prosecuted.

Cheese makers and directors of cheese factories are invited to send for catalogues and quotations. Address:
Steel Trough & Machine Co., Ltd., 6 James St., W. Tweed, Ont.

Creamery Department

Butter makers are invited to send contributions to this department, to ask questions on matters relating to butter making and to suggest suitable for discussion. Write direct letters to Creamery Department.

Styles of Cream Wagons

In a choice of a wagon for cream gathering much will depend upon the length of the route to be covered, the size of the load, the condition of the roads and the local climatic conditions; also whether or not cream is the only product gathered. In any case the wagon should be as light as consistent with the safe carriage of the cream, and the protection afforded the cream from heat in summer and cold in winter must be adequate to preserve quality. Provisions for such protection will of course depend on the length of time the cream is on the road and the extent of the variation of temperatures from those favorable to a preservation of the cream. Good springs are essential, and the poorer the roads the better the springs must be, in order to avoid undue agitation of the cream.

Dimensions that will minimize waste floor space are important and to this end the width and length of the wagon box should be determined on the basis of the style of can to be carried, or the jacket for the cans carried, than entirely on a wagon cover or loose canvas cover for protection.

Convenience in loading is an important consideration, for time saved at stops is as valuable as that saved by greater speed on the road.

Experience of members with motor trucks is evidently limited. These are used quite extensively to-day by our gathered cream plants, and frequently a considerable saving is credited to them. Their value to a creamery depends on local conditions somewhat, but any plant running routes should carefully investigate their cost and adaptability in its territory.—N. Y. Produce Review.

but if he dumps in a can of sour, stale, old cream it infects the whole batch, and you can thus see that if your cream is poor, you do not only reduce the price you get for fat, but the price you get for milk as well. So to insure good prices always bring good cream and tell your neighbors to do likewise, and then sell this cream to your local creamery. Don't ship to outside concerns who have no interest whatever in you, or the prosperity of your community.

The Cooperative Laundry

Cooperative creameries and cheese factories have removed from the farm home the drudgery of butter making. It is quite possible that cooperative laundries in connection with our dairy factories will solve the home laundry question also. The following from the local paper at Hatfield, Minn., tells of what our American brethren are planning to do in this direction:

"The farmers in the vicinity of Hatfield are the pioneers in the matter of a cooperative laundry. While it is really not a cooperative creamery, it is a separate organization and still very closely allied to the creamery.

"The creamery association having sufficient funds to build the necessary building, which it proposes to rent to the laundry association. The building is an addition or wing on to the creamery. The cost of the building will be about \$1,500, and the cost is supposed to about equal the interest of the original investment. It is also arranged so that the same power or engines will be used for both the creamery selling the power to the laundry. A gasoline engine will be installed, which together with the steam engine already in the creamery, will furnish power, hot water and steam for both.

A JOINT STOCK LAUNDRY

"The outfit of laundry machinery has been purchased by the laundry association and cost approximately \$3,000. The laundry association is capitalized for \$5,000 and stock will be issued in shares of \$5 each. Enough of this stock will be sold to furnish the necessary capital to equip and run the laundry. It is proposed to pay a dividend on this stock of such amount as will equal interest on the money. No restrictions have been placed on purchasers of stock, and city people are becoming interested in the purchase of it. This was the principal reason for making the laundry association a separate organization, people who are not interested in dairying might become interested in the laundry.

"It is organized under the cooperative laws of Minnesota, and is a cooperative association as nearly like a creamery association as it is possible to make it, considering the different nature of the business. A stockholder has one vote regardless of the amount of stock he holds. It is proposed to give the stockholders the service of the plant at cost, after deducting the operating expenses, and dividends on the face value of the stock as before mentioned. In order to arrive at this cost they propose to charge a reasonable price for the work, governed by the work of other laundries, and after the year's work is done, the surplus, if any, will be prorated back just in proportion to what has been paid for service, regardless of the amount of stock that any patron holds. These methods will bring the association at a purely cooperative basis, and no large profits will accrue to the capital stock."

Do not allow the cream to freeze in winter.

Creamery For Sale - Seed Corn, Barley, Oats

Creamery, running summer and winter. Very large make. Every thing in first class order. Large house. Good loss house and refrigerator. Large stable with sheds and other buildings. 2 acres good land. Close to town and railroad. This is one of the best dairy districts in Ontario. Write to:
NELSON SCHATZ, WINDSOR, ONT.

High Grade Seed of Improved Leaming Corn, Newmarket Oats from Pedigreed high-selected stock, and O.A.C. No. 25 Barley. Satisfaction assured. Write for samples and prices to
W. A. BARNET, Mgr., Gov. Exp. Farm, Harrow, Essex Co., Ont.

The Worlds Finest Dairy Cows are Milked by the SHARPLES MECHANICAL MILKER

After considerable use of your Mechanical Milker, you will say it is a **decided success**. I feel justified in saying I could hardly get along without it. We understand that it is proved to be from every point of view. It is merely necessary for the dairyman to know any acquainted with the **Sharple's Milker** to know the perfect reason for it. Write for literature to:
W. W. SHARPLES AGRICULTURAL Mfg. Co., White Horse Farm, Pa., U.S.A.

Owners of the highest priced dairy cows in America use the Sharple's Mechanical Milker. One of the world's highest priced dairy cows, Imported Billy's Lady Frances Gascelle, owned by Bradford Farms, Grotton, Conn., is an example. Another, the 78 Dairy Cow on the famous "White Horse Farm" at Paoli, Pa., none of which is valued at less than \$1,000. Read this letter:

When owners of these high-priced animals use and endorse the Sharple's Milker, surely you need have no fear of the slightest injury to even the most sensitive animal. Further, it will enable you to add \$50 to \$1,000 extra to your dairy profits each year. It will do away with the most disagreeable job on the farm: enable you to double your dairy capacity with the same help; give you absolute freedom from worry, and independence from shiftless, unreliable workmen.

Send this coupon for free catalog. We will give you ample time for trial. If the Sharple's Milker does make good, if it don't more than satisfy you, there will be no sale. Guaranteed by The Sharple's Separator Company, which has been making high-class Dairy Machinery for 37 years. Write today for free catalog N.

THE SHARPLES SEPARATOR CO.
 TORONTO, ONT. WINNIPEG, MAN.

THE SHARPLES MECHANICAL MILKER

Name _____
 Address _____
 City _____
 State _____
 Post Office _____

Principally for Patrons

By A. H. Hall

One of the greatest drawbacks, not only in the creamery and dairy business, but in all lines, is that we do not feel our individual responsibility. We think that the same party we play does not amount to much, and we are inclined to be careless on that account. We need more individual effort on the part of creamery patrons. To have a successful creamery we must pay good prices for butter-fat. In order to pay top prices we must get the top prices for the butter manufactured; and, to get this top price for butter, we must have a good raw material. Because this is not a buttermaker living, or never without one, who can make good butter out of bad cream. That would be about the same as to try and build a good, solid house out of rotten lumber.

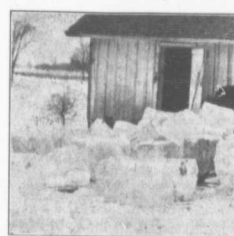
It is very important that you bear in mind that the price you get for butter-fat is regulated by the price the butter sells for. Quite a few patrons think it does not make so very much difference in the price they can obtain on a whole, because when they mix it in with that big batch you have in the vat before, it does not hurt any; but let me tell you, it does hurt. Your buttermaker might have a vat almost full of nice cream,

Cheese Department

Makers are invited to send contributions to this department, to ask questions on matters relating to cheese making and to suggest subjects for discussion. Address letters to The Cheese Maker's Department.

Pasteurizing for Cheese Making

Most of the defects observed in cheese factory milk are of bacterial origin. In other branches of the dairy industry than cheesemaking, pasteurization is successfully employed to overcome these faults. The desirability of pasteurization of milk for cheese making has been tested at the Wisconsin Experimental Station by J. L. Sammis and A. T. Brulin, in a series of tests running over five years. Their results, which are summarized in following paragraphs, are interesting and indicate the desirability of still more thorough research work along this line.



The Best Guarantee of Good Quality Milk Next Summer

What a relief it would be to every cheese-maker to find that sooner such a time was becoming common among his patrons. This illustration is from a photo taken by an editor of Farm and Dairy at home of Mr. J. C. Harris, Oxford Co., Ont.

The work started in 1907, and continued through the years 1908, '09 and '10.

In 1911, better facilities were provided for weighing large quantities of milk and cheese, quickly and accurately, and the yields of cheese obtained from raw and pasteurized milk were carefully determined. The accuracy of the experimental methods was such that in making duplicate vats of cheese from pasteurized milk, the yields differed by only .58 per cent. on the average. A greater yield of cheese was always obtained from the pasteurized milk than from raw milk; and during the year 1911, the average gain in yield of green cheese was 5.37 per cent. The green pasteurized milk cheese shrink a little more than the raw milk cheese, so that when pasteurized the average gain in yield from pasteurized milk was 4.76 per cent. After curing at 60 degrees to 70 degrees F., for about 100 days, the gain in yield of pasteurized milk cheese over raw was 4.22 per cent.

LESS LOSS IN WHEY

The average loss of fat in whey from pasteurized milk is about .17 per cent., measured at the time the whey is drawn from the vat. This is less than half the loss in average factories using raw milk. The total loss of fat in whey and drippings from vat and press, using pasteurized milk, averaged 1.38 per cent. of the weight of the cheese, or less than half that of the usual loss in handling raw milk.

In addition to this saving of fat, it is found that a somewhat larger proportion of moisture is incorporated in pasteurized milk cheese than in ordinary cheese, without damage to the quality. The gain in yield of pasteurized milk cheese is therefore

due partly to fat and partly to moisture.

PASTEURIZED SCORED HIGHER

Scores and criticisms given by competent cheese judges show that the pasteurized milk cheese varied less in quality, and averaged better by 3.7 points of total score, than the raw milk cheese made from portions of the same milk supply. The pasteurized milk cheese scored higher than the raw milk cheese in 96 per cent. of all cases.

Duplicate sets of cheese were cured at New Orleans, for one month, at 70 degrees to 83 degrees (monthly average figures during the summer), and here the raw milk lost more in weight than the pasteurized, so that the average gain in yield of pasteurized over raw rose to 6.21 per cent. From other cheese cured at Madison in a warm room, it was learned that the raw milk cheese lost considerably more amounts of fat, at 75 degrees to 85 degrees, while the pasteurized milk cheese lost none.

Storage for a month at 75 to 80 de-

grees average temperature, as at New Orleans, is not recommended for any cheese, yet it was found that the pasteurized milk cheese averaged three to eight points better in total score, after such storage, than the raw milk cheese.

AS TO COST

The extra cost of making pasteurized milk cheese is being studied, with a view to finding out accurately what the net profit is in making this cheese. Preliminary estimates show that the maximum extra cost may be 45 cents for 2,000 pounds of milk, with many chances for reducing the cost, in handling larger quantities.

Because of the increased yield of cheese, the saving in rennet, and in cold storage charges, there is a saving of about \$9.23, in handling 2,000 pounds of milk. Deducting the extra costs of making from this figure, leaves a net profit of \$1.78, as a result of using the pasteurization process here described, instead of the usual raw milk process. This is equal to a gain of seven-eighths of a cent a pound on the selling price of cheese.

Allowing \$1.00 for cold storage charges on 200 pounds of cheese, and there is yet a profit of about three-eighths of a cent a pound through pasteurization. The profits per pound will be increased where larger quantities of milk are handled, and the losses in yield, quality and selling price, which factories often suffer because of defective milk, will also be avoided through pasteurization.

"Keep going" is a worthy motto. But be sure of the direction you are going.

CURED CAKED UDDERS

Douglas' Egyptian Liniment Did it In One Day.

Clear proof of the efficacy of Douglas' Egyptian Liniment is offered in the report given below - one of many endorsements constantly being received. D. S. Shae, Esq., a prominent stock owner of Odessa, Ont., writes:-

"I have used Douglas' Egyptian Liniment for cattle with caked bags or udders, and consider it a marvellous remedy. In 24 hours after applying this liniment, our cows milked freely. No farmer or cattleman can afford to be without Egyptian Liniment on his premises."

This statement, seconded by many other stockmen, indicates only one of many uses for this reliable remedy. It cures all cuts, sores, swellings, sprains, bruises and congested conditions, and has prevented blood poisoning or lockjaw.

Douglas' Egyptian Liniment has also proved a blessing in human troubles. Not only has it healed wounds of all sorts, but it has immediately relieved muscular rheumatism, sciatica, neuralgia, boils, chilblains, etc. after other things had failed.

See at all dealers. Free sample on request. Douglas & Co., Napanee, Ont.

CREAM WANTED Highest City prices. We furnish cash, pay all charges, remit promptly. Haven't paid less than 30c for two months. **TORONTO CREAMERY CO., LTD., Toronto**

Agents Wanted

A man wanted in every dairy district to collect renewals and get new subscriptions. Hustlers needed who will cover the district thoroughly by spring. State occupation and if can work entire territory.

FARM AND DAIRY, Peterboro

MORTGAGE SALE

Valuable Butter and Cheese Factory, Plant, etc. Under the Powers of Sale and Seizure contained in mortgage which will be produced at the time of sale, there will be offered for sale by P. A. McVicar, Auctioneer, at the Law Offices of J. S. Robertson, in the Free Library Building, in the Village of West Lorne, Ont., on

FRIDAY, MARCH 7th, 1913.

at 2 o'clock p.m., the Land, Building Plant, including Fixtures and Chattels of The West Lorne Cheese and Butter Works." These consist of 1st.-One fifth of an acre in West Lorne, on above described premises, a brick cement building (single roof, cement floor and foundation), 20 x 60 feet, about 30 feet high. Leaseman, 15 x 14 feet. Rented tank and well.

2nd.-Fixtures, consisting of boiler and engine, piping and drives, cutting belts and pulleys, rotary and plunger pumps, 800 gal. Richardson churn, Babcock cream separator and others.

3rd.-Loose articles, as scales, tanks, cheese press and hoops, vats, bottles, curd mill, sink, agitator, counter-shaft and paddles, jars, butter boxes and others.

The whole going to make up a complete plant. The property will be offered in one parcel, first, and, if not sold, then in parcels above or separately, all subject to reserve bids.

The location of this plant is in midst of a good farming and cattle country, the nearest factories being Crinan to north and Dutton to west. West Lorne is on the Pere Marquette and Michigan Central Railroads, affording excellent shipping facilities.

Full lists of plant may be obtained from Mr. G. C. Robertson, Union Bank, Millbrook; M. W. H. Bale, Manager, Union Bank, West Lorne; or the undersigned. Solicitor. Plant can be seen on application to Mr. Bale at any time. Terms: 25% of purchase price at time of sale to Vendor's Solicitor. Balance 20 days, without interest, satisfactorily secured to chattels. Other terms on day of sale. Dated February 11th, 1913. J. S. ROBERTSON, Vendor's Solicitor. P. O. Box 15, Thomas.

95 AND UPWARD

AMERICAN SEPARATOR

THIS OFFER IS NO CATCH. It is a solid proposition to send on trial, fully guaranteed, a new, well made, easy running separator for \$12.50. Runs hot or cold cream, making butter or light cream. Also separates for families, infants and private use. Also separates and greatly improves milk for use in factory machines. The best separator made. **W. J. P. CO., 57 W. A. TORONTO, ONT., CAN.** Write for your daily 14 large or small, write us and obtain our free 20 page free catalog. Address: **AMERICAN SEPARATOR CO., 32 BALMOROE, N.Y.**

WANTED
Capable Headman for Farmers' Union Cheese Factory. Married. Free house and garden to board help. Apply **F. J. HUMPHREY, UNIONDALE P.O., ONT**

Cheesemakers
Make big money in your spare time getting subscriptions for Farm and Dairy. Write our Circulation Department now for full particulars.

WANTED
A Man as second hand to work in cheese factory for 1913. One or more years experience preferred. Apply to **W. FITZPATRICK, Box 32, BELMONT, ONT**

MODERN UP-TO-DATE CREAMERY FOR SALE
Situated in the Banner Dairy District of Central Alberta.
For quick sale, cheap
P. C. HEPBURN, Lakewick, Alta.

Sweet Cream Wanted
Full particulars on application to
The Farmers' Dairy Co. 367 Queen St. W. TORONTO - ONT.

BEAVER DAIRY SUPPLIES

Are Your DAIRY SUPPLIES Stamped With This Crest?
When buying new Dairy Apparatus and Supplies see that they are stamped with the Beaver Crest. This Crest is stamped upon all that is best in Dairy Supplies and stands for the highest quality obtainable. Perfect workmanship and materials are put into all Beaver Products. Send for our 300 page Catalogue. Full particulars and descriptive list of the Laboratory, send for the same. Write for it today. Address: **Dept. 871**

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THE highest wisdom is continual cheerfulness: such a state, like the region above the moon, is always clear and serene.—Montaigne.

Rose of Old Harpeth

By MARIA THOMPSON DAVIES

©Copyright, 1912, The Bobbs-Merrill Company

(Continued from last week)

FEEBLY Miss Amanda rose to her knees and went on with the digging around the roots of the vine, but Rose Mary knelt beside her and laid her strong arm around the bent and shaking little shoulders. Uncle Tucker rested on his spade and looked away across the garden wall, where the little yard of graves was hid in the shadow of tall pine trees, and his big eyes grew very tender. Miss Lavinia fingered a shoot of the vine that had fallen across her thin old knees with a softened expression in her prophet-woman face, while something new and sweet stirred in Everett's breast and woke in his tired eyes, as across half a century was wafted the perfume of a shattered romance.

And then by the time the vine had been trained Miss Lavinia had thought of a number of other spring jobs that must be attended to along the front walk and around all the clumps of budding shrubs, so with one desperate glance toward the barn, his overhauled lawn, and Uncle Tucker fell to with his spade, while Everett obtained a fork from the tool house and put himself under command. Rose Mary was sharply recalled and sent into the house to complete the arrangements for the festivities, when she had followed the forker down by the lilac hedge, rake in hand, with evident intention of being of great assistance in the gardening of the amateur.

"Pull the dirt up closer around the bleeding-hearts, Tucker," commanded Miss Lavinia from her rocker. "They are Rose Mary's I planted the identical day she was born, and I don't want anything to happen to 'em in the way of cutworms or such this summer."

"Well, I don't know," answered Uncle Tucker with a little chuckle in Everett's direction, who was turning over the dirt near a rose bush in his close vicinity, "it don't do to pay too much attention to women's bleeding-hearts: let 'em go, they'll 'em up in their own course, and you on dusting around the place, while if you notice 'em too much they take to sneezing out more blood drops for your sympathy. Now, I think it's best—"

"Mister Tucker, say, Mister Tucker," came in a giggle from over the front gate as Jennie Rucker's little freckled nose appeared just above the top plank, only slightly in advance of that of small Peggy's. "Mis' Poteet's got a new baby, just came, and she says she is sorry she can't come to Mis' Viney's party! but she can't."

"Now, fly-away, ain't that too bad?" exclaimed Uncle Tucker. "That baby oughter be sent Luck until it has got manners to wait until it's come. Didn't neither one of you all get here on anybody's birthday

but your own." Uncle Tucker's sally was greeted by a duct of giggles, and the announcement committee hurried on across the street with its news.

"Tucker, you Tucker, don't you touch that snowball bush with the spade!" came in a fresh and alarmed command from the rocker most of observation. "You know Ma didn't ever let that bush be touched after it had budded. You apaded around it once when you was young and upfy and you remember it didn't bloom."

"Muster been a hundred years ago if I was ever upfy about this here flower job," he answered in an under-



Making an Early Start on the New Barn

tone to Everett as he turned his attention to the rose-bushes at which his apprentice had been pezzing away. "At weddings and burnings and flower tending man is just a worm under woman's feet and he might as well not even hope to turn. All he can do is to—"

But it was just at this juncture when Uncle Tucker's patience was about to be exhausted, that a summons from Rose Mary came for a general getting ready for the birthday celebration.

And in a very few hours the festivities were in full swing. Miss Lavinia sat in state in her rocker and received the offerings and congratulations of Sweetbriar as they were presented in various original and characteristic forms. Young Peter Rucker, still a bit unsteady on his pink and chubby underpinning, was offered forward to present his glossy buckeye, hung on a plaited horse-hair string that had been constructed by small Jennie with long and infinite patience. Miss Lavinia's commendations threw both donor and constructor into an agony of bashfulness from which Pete took refuge in Rose Mary's skirts and Jennie behind her mother's chair. But at this juncture the arrival on the scene of action of young Bob

Nichols with a whole two-horse wagon-load of pine cones, which the old lady doted on for the freshening up of the tiny fires always kept smoldering in her andironed fireplace the summer through, directed the attention of the company and was greeted with great applause. Bob had been from early morning over on Providence Nob collecting the treasure, and, seated beside him on the front of the wagon, was Louisa Helen Plunkett, blushing furiously and most obviously avoiding her mother's stern eye of inquiry as to where she had spent the valuable morning hours.

The sensation of young Bob's offering was only offset at the unpacking of the complacent Mr. Craltree's gift, which he bore over from the store in his own arms. With dramatic effect he placed it on the floor at Miss Lavinia's feet and called for a hatchet for its opening. And as from their wrappings of paper and excelsior he drew two large gilt and glass bottles, one containing by rum and the other camphor, that precious lotion for fast stiffening joints, little Miss Amanda heaved a sigh of positive rapture. Mr. Craltree was small and wiry, with a hickory-nut countenance and a luscious peach of a heart, and though of bachelor complexion, he at all times displayed sympathetic and intuitive domestic inclinations. He kept the Sweetbriar store and was thus in position to know of the small economies practiced by the two old ladies in the matter of personal necessities. For the months past they had not bought the quantity of lubricating remedies that

by Rose Mary, who was a pink flower of smiles and blushes.

Then it followed that in less time than one would think possible the company at large was busy with a spoon attached to the tray, of which to Sweetbriar represented the height of elegance. Out in the world beyond Old Harpeth ice-cream and cake may have lost caste as a fashionable after-dinner refreshment, having been succeeded by the imported custom of tea and scones or an elaborate menu of reception indigestibles, but in the Valley nothing had ever threatened the supremacy of the frothing cream and white-frosted confetti. The men all sat on the end of the long porch and accepted second saucers and slices and even when urged by Rose Mary, beaming with hospitality, they went to the Swam in camp on the front steps, under the General's management, seconded by Everett, succeeded in obtaining supplies in a practically unlimited quantity.

"Looks like Miss Rose Mary's freezer ain't got no bottom at all," said Mr. Rucker in his long drawl as he began on a fourth white mound. "It reminds me of the old saying, 'I know what falls from Heaven to earth below,' and keeps a-falling." Mr. Rucker was a poet at heart and a husband to Mrs. Rucker by profession, and his flight was regarded by Sweetbriar at large with a mixture of pride and derision.

"Can't," said Mrs. Rucker sternly, "don't you eat more'n half that saucer. I've got no mind to top off this here good time with mustard plasters all around. Even rejoicings can get overfed and peter out into ginger-tea. Jennie, you and Sammie and Pete stop eating right now. Lands alive, the sun was out when we all knew Miss Viney oughter be in the house. Shoo, everybody go home to save your manners!" And with hearty laughter and further good-by congratulations to the happy little company of former folk seated to their own roof trees across and along Providence Road. The twilight had come, but a very bright moon was casting soft shadows from the trees rustling in the night breeze and the stars were lighting up in competition to the rays that shot out from window after window in the little village.

Uncle Tucker had hurried away to his belated barn duties and little Miss Amanda into the house to stir up Miss Lavinia's fire in preparation for their retirement, which was a ceremony of long duration and begun with the mounting of the chickens to their roosts. Miss Lavinia, while her hands folded in her lap over a collection of the smaller gifts of the afternoon and her eyes looked far away across the ridge, dim in the failing light, while her countenance took on softened and very lovely lines. Rose Mary stood near to help her into the house and Everett leaned against a post close on the other side of the rocker.

"Children," she said with a little break in her usual austere voice, "I'm kinder ashamed of accusing the Lord of forgetting 'em this morning when I look at all these rememberers of me here that I'm so glad to have given me. I found friends when I came here eighty-two years ago to-day and as they have died off He has raised up a new crop out their seed for me. This here is the great grand-son of my first beau, and this afternoon I have looked into the kind eyes of some of my friends dead and gone many a day, and have seen smiles come to 'em that have been buried fifty years. I'm so glad to be thankful to be here another summer to see my friends and flowers

(Continued on page 22)

The Upward Look

Our Daily Pathway

God is faithful, who will not suffer you to be tempted above that ye are able; but will with the temptation also make a way to escape that ye may be able to bear it.—1 Cor. 10: 13.

In his letters to the Corinthians, Paul is continually presenting to them many promises of care and protection from God the Father. And these promises are for us to-day just as they were for the Corinthians. Just as a mother when training her child to walk, is ever near to guide the tottering footsteps and save the child if it should fall, so God is ever walking by our side to guide our wavering feet and to help us up when we fall. He places duties before us which seem to us impossible or greater than we can bear, but if we will but trust Him He will be with us all along the way. Many times the waves on the storm-tossed sea of life seem as if they would envelop us but He is ever by our side to calm the storm should it become too great.

If we could plan our own lives we would not place so many difficulties and temptations in the way, but if life was all plain sailing and everything delightful, what weak and nar-

row mortals we would prove to be. Is it not the rough places along the road that make us strong? And not only this, but there is a goal for us all to strive to reach. There lies a Promised Land before us, which is beautiful, more than we can imagine. Christ is the gate by which we may enter. The way may be long and the path rough and steep, but if we will allow God to be our guide we will reach the goal in the end.

Although we have burdens to bear God does not place these upon us all at one time, but they are scattered through our lives through the days and years.

God broke our years to hours and days that

Hour by hour,
And day by day,
Just going on a little way,
We might be able all along
To keep quite strong.

Should all the weight of life
Be laid across our shoulders, and the future, rite

With woe and struggle, meet us face to face

At just one place,
We could not go;
Our feet would stop; and so
God lays a little on us every day
And never, I believe, on all the way
Will burdens bear so deep
Or pathways lie so steep

But we can go if, by God's power,
We only bear the burdens of the hour.

R. M. M.

Imaginary Troubles

By Orin Edson Crooker

It is stated that the engineers of limited trains find it far more nerve-trying to run their engines at top speed on bright moonlight nights than to drive them seventy miles an hour through the blackest midnight. The reason, as expressed by one who speaks from experience, is that on moonlight nights one is always fighting shadows. Every telegraph pole, boulder, or tree along the right of way which throws its shadow across the track suggests a possible obstruction with consequent wreck and loss of life. An engineer comes to dread such nights and much prefers to drive his iron steed through the storm and fog and inky blackness than through the deceptive light of a full moon.

It is not alone engineers who are distressed by the hopeless task of fighting shadows. Most of us spend much precious energy and sacrifice considerable peace of mind over imaginary troubles that never materialize. We worry over a thousand things that seem to foretell evil consequences. We magnify every possible shadow into a catastrophe. In every passing cloud we see a thunderbolt. Our happiness is crowded to one side by the gaunt spectre of impending disaster. The things that may happen are of so much concern to us that we cannot fully enjoy the things that do happen. The satisfactions of to-

day are never entered into wholeheartedly because of the trouble that is visible upon the horizon of tomorrow.

BE OPTIMISTIC

It is well and good to "take thought of the morrow." It is wise and prudent to anticipate certain disagreeable situations, for by so doing we may overcome them instead of being overcome by them. But he who purposely "borrows trouble" is making himself a slave to pessimism and an easy victim of the blues. There is trouble enough in the world that materializes without need of imagining a lot that never develops into anything more tangible than thin air. If one gets in the habit of looking at things through blue goggles, one finds after a time that even the sun has turned to indigo and that genuine happiness has become a thing of the past.

"Sufficient unto the day is the evil thereof." It is a wise man who learns how to find his happiness and his contentment in each day as it comes to him, and who, without allowing to-morrow's cloud to obscure to-day's sun, learns how to extract from each day the best that it holds. Only in this way does one ever learn the secret of true happiness. He who constantly combats imaginary evils gains not even the satisfaction that comes from brushing down cobwebs, for his imaginary foes have neither substance nor form.—Farm and Fireside.



"What's flour *gluten*, Bud?"
"It's what makes your dough *rise*, Rose."

"Yes"—she encouraged.
Added Bud very sagely:
"Makes it *rise* in the mixer and *expand*
"in the oven. It's the *elastic* part of
"flour—*absorbs* all the water and milk
"—and things."

Rose grew interested.
"FIVE ROSES, said Bud, is exceedingly *rich*
"in gluten. I s'pose because it's *all* made
"from *Manitoba* wheat. Takes up a lot
"*more* water — makes those *fat* loaves —
"*lasts longer* too."
"Saves *money*, doesn't it?" asked Rose.
Bud is a big *red* —
"The fat loaf makes the fat pocketbook."
Use FIVE ROSES *always*.
And Rose said YES.

Five Roses Flour

Not Bleached



Not Blended

ETAL AND WOOD

Cleanly
Thoroughly and
Economically
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THIS WASHER MUST PAY FOR ITSELF.

A MAN tried to sell me a horse once. He said it was a fine horse and had done the market with it. I was to buy the horse, but, I didn't know any thing about horses. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right," but I'd pay me first, and I'd give you back the horse when I'd like to sell it.

Well, I didn't like that. I was afraid I'd lose the horse, although I'd paid the money for it. So I didn't buy the horse, although I'd paid the money for it. Now, this set me thinking.

You see I make Washing Machines—the "1000 Gravity" Washer.

I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see I sell my Washing Machines by mail. I have sold over half a million that way, so, thought I, it is only fair to let people try my Washing Machine for a month, before they pay for them; just as I would to try the horse.

I now know what your "1000 Gravity" Washer will do. I know it will wash the clothes, without hurting or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in six minutes. I know no other machine ever invented that can, without wearing the clothes. Your "1000 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it don't wear the clothes, nor break buttons, the way all other machines do.

It just drives away water clear through the fibres of the clothes like a force pump might. So, said I to myself, I will do with my "1000 Gravity" Washer what I would like to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1000 Gravity" Washer on a month's free trial. If you like the freight out of my own pocket, and if you don't want the machine, return it to me in ten days. I'll take it back and pay the freight, too. Surely that is fair and honest. If I'll let you pay for it out of what it saves you. If it saves you 50 cents a week, and me 50 cents a month, I'll let you pay for it out of what that saves you. If it saves you 60 cents a week, and me 60 cents a month, I'll let you pay for it out of what that saves you. I'll take it back and pay the freight, too. Surely that is fair and honest. If I'll let you pay for it out of what it saves you.

Drop me a line to-day, and let me send you a month's trial of the "1000 Gravity" Washer. Last washes clothes in six minutes. Address me personally: F. B. MORRIS, Manager, 1900 Washer Co., 387 Young St., Toronto, Can.



Rose of Old Harpeth

(Continued from page 20)

abloom—entire more, and come next April. I'm a-g-going to want just such another pair as this. Now help me into bed! Young man, you can lift me up, same. I'm stiff with so long sitting, and I'm a-going to want a power of rubbing this night, Rose Mary.

So, thus held her by her duties of ministrations, it was quite an hour later that Rose Mary came out of the house, which was dark and sleep-off, and found Everett still sitting on the front steps smoking and waiting.

"Tired?" he asked as she sank down on to the step beside him and

WHATEVER expands the affections, or enlarges the sphere of our sympathies—whatever makes us feel our relation to the universe, "and all that it inherits," in time and in eternity, to the great and beneficent Cause of all, must unquestionably refine our nature, and elevate us in the scale of being.—Channing.

leaned her dark head back against one of the posts that supported the mass of honeysuckle vine.

"Not much—and a heap happy," she answered, looking up at him with reflected stars in her long lashed blue eyes. "Wasn't it a lovely party?" "Yes," answered Everett slowly as he watched the smoke curl up from his cigar and blow it in the soft little night wind across toward Rose Mary: "yes, it was a nice party. I seriously wish to know more of the known continents there could have been one just like it pulled off by any people of any nation. It was unique—in sentiment and execution; I'm duly grateful for having been a guest—even part honoree."

"I always think of old people as being the soft shadows that sturdy little children cast on the wall. They are a part of the day and sunshine, but just protected by the young folks that come between them and the direct rays. They are strangely like flowers, too, with their quaint fragrance. Aunt Viney is my tall purple flag, but Aunt Amanda is my bed of white cinnamon pinks. I—I want to keep them in bloom for always. I can't let myself think—that I can't." Rose Mary's voice tremled into a laugh as she caught a trailing wisp of honeysuckle and held it up to the ends of her lips.

"You'll keep them, Rose Mary. You could keep anything you — you really wanted," said Everett in a guardedly contented tone. "What are Mr. Alloway and Stonie in your flower garden?" he asked in a bantering tone.

"Oh, Uncle Tucker is the briar rose hedge all around the place, and Stonie is all the young shoots that I'm trying to prune and train up just like him," answered Rose Mary with a quick laugh. "You're my new-fashioned crimson-rambler from out over the Ridge—come, I'm trying to make grow in my garden." She added, with a little hint of both audacity and tenderness in her voice.

"I'm rooted all right," answered Everett quickly, as he blew a puff of smoke at her. "Oh, I'm trying to make grow in my garden." She added, with a little hint of both audacity and tenderness in her voice.

"Oh, no," answered Rose Mary lightly as she longed for a second's glance at him. "I'm just the Rose of these Briars. Don't you know all over the world women are blooming

on lovely tall stems, where they have planted themselves deep in some place and are drinking the Master's love and courage from both sun and rain. But if we don't go to rest soon you'll wilt, Rambler, and I'll shatter. Be sure and take the glass of cream I put by your bed. Good night and good dreams!"

CHAPTER III.

AT THE COURT OF DAME FORTUNE.

"Well, Rose Mary," said Uncle Tucker, he appeared in the doorway of the milk-house and framed himself against an entrancing, mist-wreathed, sun-up aspect of Sweet-briar with a stretch of Providence Road winding away to the Nob and being curiously around red-roofed Providence as it passed over the Ridge. "There are fifty-seven new babies out in the barn for you this morning. Better come on over and see 'em. Uncle Tucker's big eyes were bright with excitement, his gray lavender muffer, which always formed a part of his early morning costume, flew at loose ends, and a rampart, grizzled lock stuck out through the slit on the old gray hat.

"Gracions me, Uncle Tuck, who now?" demanded Rose Mary over a crock of milk she was expertly skimming with thin, old, silver ladle. "Old White has hatched out a brood of sixteen, assorted black and white, that foolish bronze turkey hen just come out from under the woodpile with thirteen little pesters, Sniffer has just got five pups—three spots and two solids—and Mrs. Butter has twin calves, assorted sex this time. They are spry and hungry and you'd better come on over."

"Lovely!" laughed Rose Mary with the delight in her blue eyes matching that in Uncle Tucker's pair of mystic gray. "I'll come just as soon as I get the skimming done. We'll want some corn meal and millet seed for the chirp but-oot and the others we can leave to the maternal ministrations. I'm so full of welcome I don't see how I'm going to keep it from bubbling over when you, Rose Mary, a-welcoming a whole passel of pesters that have deluged down on you at one time," said Uncle Tucker with a dubiously appreciative smile at Rose Mary's hospitable enthusiasm. "Looks to me like a girl tending three old folks, one rampage of a boy, a mollycoddle of a strange man, and a whole petting spoiled village has got enough on her shoulders, without this four-foot but-oot and dandle."

"But it's in my heart I carry you all, old Sweetie," answered Rose Mary with a flirt of her long lashes up at Uncle Tucker. "A woman can carry things as heavy as her heart that might be an awful burden on her shoulders. Don't you know I don't allow you out leftre the sun is up good without your muffer tied down right? There; please go on back to the barn and take this crock of skinned milk to Mrs. Sniff—wait, I'll pour back some of the cream! And in just a few minutes I'll be ready to—"

"Rose Mary, Rose Mary," came a wild, enthusiastic cry as she tried to path toward the Briars and in a moment the General appeared around the row of lilac bushes through which the milk-house trail led down under the hill to Rose Mary's sanctum of the goat-trail. Stonie had taken time before leaving the seclusion of his apartment to plunge into his short blue jeans trousers, but he was holding them up with one hand and struggling with his gingham shirt, the tail of which belloxed out like a sail in the morning breeze as he sped along.

(Continued next week)

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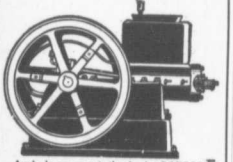
MAIL CONTRACT

SEALED TENDERS, addressed to the Postmaster General, will be received at Ottawa until Noon, on Friday, the 23rd March 1913, for the contract of His Majesty's Mail, on a proposed Contract for four years, six times per week, over Rural Mail Routes, from Guelph, Ontario, to commence at the pleasure of the Postmaster General.

Printed notices containing further information as to conditions of proposed contract may be seen and blank forms of Tender may be obtained at the Post Office of Springbrook, and at the office of the Post Office Inspector, Kingston.

H. MERRICK, Post Office Inspector, Kingston, 12th February, 1913

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France's "First Grenadier"

A French grenadier, in a war with the Austrians, was put in charge of a small fort commanding a narrow gorge, up which only two of the enemy could climb at a time.
The defenders of the fort had heard that the enemy were near, being few in number, they deserted, and left the brave grenadier. But he felt that he could not give up the place without a struggle, so he barred the doors, raised the drawbridge and loaded all the muskets left behind by his comrades.

Early in the morning, with great labor, the enemy brought up a gun from the valley, and laid it on the fort.

But the grenadier made such good use of his loaded muskets that the men in charge of the gun could not hold their position, and were compelled to retire, and he kept them thus at bay all day long.

At evening the herald came to demand the surrender of the fort, or the garrison should be starved out.

The grenadier asked for thought for consideration, and in the morning expressed the willingness of the garrison to surrender if it might "go out with all the honors of war."

This, after some demur, was agreed to, and presently the Austrian army below saw a single soldier descending the height with a whole sheaf of muskets on his shoulder, with which he marched through their lines.

"Where is the garrison?" asked the Austrian commander, astonished.
"I am the garrison," replied the brave man; and they were so delighted with his plucky resistance that the troops saluted and called him the "First Grenadier of France."

The Farmer's Cake

L. A'hmedy Nash.
Norman's mother had sent him to the store for some butter. When he came back she was puzzled at the change he gave her.

"Wasn't the butter down in price—the same as last week, Norm?" she asked.

"No mother, it's what it's been all the winter," he assured her, giving her the nickel out of the half-dollar.

But mother didn't feel quite happy over it. She felt afraid that her boy had put a nickel into his own pocket. But she did not ask him anything further and tried to forget about it.

A few days later, she happened to be at the store, and saw a customer was buying butter just a nickel cheaper than her's.

"O dear, dear, it's a small beginning, but it's a bad one!" she thought. "So she did then what she very often did. She asked God to help her teach her boy better."

A day or two afterwards, Norman had such a heavy cold, that he didn't care to go out and play as usual.

"It's so dull, Mummie, haven't you a story for me?" he begged.

She considered a minute or two, and said, "I'm fond of old Welsh stories Norman, because, I suppose my name was used to be Llewelyn and my grandmother told me so many when I was a little girl."

"Have we heard them all, Mummie? Haven't you one left?" He seemed tired of his long shut-in day.

"It was about a time once when work was scarce, and a man called Llan had to leave his wife and go far

away to hunt some. He was to have what we should call \$15 a year—money had a different value then.

"At the end of the year he told the farmer that he wanted his money to go home and see his wife. But the farmer said he'd give him a good bit of useful advice instead. This he did, together with a cake his wife had baked.

"Take it home to ye good woman, and when ye're the pyourest together, then break the cake — not till then!" said the farmer.

"He met his wife, who could not wait for him to get near her, before calling out 'Home in nick of time! I've found a purse of gold. It must surely belong to the great lord of the castle!'"

"Lan thought of the cake. They both felt so happy. But the next

THE real business of life is the making of a happy home. When you come to sift the whole chaff of existence, everything goes to the wind, but the happiness we have had at home.

moment he said, 'Sure and we must go and give it to the great lord!'"

"He wasn't in, so they left the purse with the gatekeeper."

"One hot day afterwards, the lord stopped at their home for a drink of water, when Lan's wife enquired 'Your lordship found your purse with all your gold in it?'"

"'What purse do you mean?' he asked.

"Llan explained about it, and then he said: 'Come up with me to the castle.' Llan pointed out the servant to whom he had handed the purse.

"You shall take his place said the lord, and live in his lodge and do his work."

"Llan and his wife were both delighted, and skipped about with happiness. He thought of the old farmer's advice, which was 'Honesty was best' and the cake that was to be broke in his happiest day. So his wife broke it. Inside were his wages for the year he had served the farmer. And they were happier still."

"O, Mummie!" said Norman, "I know why that story came— because of that nickel." And he came and hid his face on his mother's shoulder a very much ashamed and sorry little boy.

"It didn't do me any good, for I lost it out of a hole in my pocket, he stammered out at last, "and I've been thinking about it ever so often."

"You'll find out all through your life, son, the old farmer was right— although you mayn't have money baked in a cake. The feeling in your heart that you've done right 'll be better than the cake."

"I'll never do that way again, Mummie," he promised, and Norman kept his word.—Indiana Farmer.

About half a teaspoonful of ordinary moist sugar rubbed into the hands with a soapy lather will clean them and leave them beautiful and smooth.

Cut old stockings or old underwear into narrow strips one inch wide and attach to your mop. Mix one pint of kerosene with four table-spoons of boiled linseed oil. Dip the mop into this, hang up the mop for a day or two, then it is ready to use. This can be used on an oiled or painted floor until it is entirely worn out without washing. The oil gathers and holds the particles of dust, and these can be taken to the door and shaken off.

A Country Club

By C. G. Selvig.

A community in the vicinity of Crookston, Minnesota, is proving that country life can be made much more pleasant and attractive than is commonly believed. Twenty women formed the Fairfax-Anderson Society Circle and later arranged to meet every month in the year and to invite the men as honorary members.

The day of meeting is observed as a holiday and work is over when the chores are finished. The meetings are called to order by the president, promptly at noon. Roll call is not a dull reading of names because each member responds with a choice bit of literature committed to memory since the last meeting. After a program composed of papers and formal talks some one proposes a topic for discussion. The members speak on various phases of the subject and finally some one sums up the arguments presented. This discussion brings the members a good opportunity for better acquaintance and gives excellent training in extemporaneous speaking.

This club has effected an interchange of ideas that brings greater farm profits as well as pleasures to its members. It has helped to make a happy neighborhood, to lighten sorrows of neighbors, and increase the joy of companionship among friendly neighbors, knowing that the country is an ideal place to live when the people make it so.

Greatest Home Convenience

By J. L. Sheppard

Few other home conveniences will save so much labor and add so much comfort as soft water, hot and cold, right at hand. The carrying and lifting of water, and the emptying of tubs are things that are extremely taxing and that could be readily accomplished by mechanical means. To open a faucet and lift a plug is all that should be necessary for filling and emptying tubs and washing machines. Water is needed, not only in the laundry but all over the house, the laundry being mentioned especially because wash day is the hardest day in the week, requiring the greatest amount of heavy lifting, and it is hard on the back. Wash day also entails much danger of sickness because of necessary exposure when water must be carried in and out in cold weather.

The entire family should be interested in this needed improvement, because it would confer a personal benefit on each one. The long winter evenings when the sun is absent cannot be used to better purpose than in devising ways and means for securing these comforts, necessities, and blessings. Soft water is better than any hot water. It is used for washing dishes, woodwork, floors, and also for bodily ablutions. Who enjoys the harsh, sticky feeling of hands washed in hard water, to say nothing of chapping incidents to its use in cold weather.

The wash basin, the wash boiler, everything used with hard water, give silent evidence of this characteristic, consuming time and requiring extra labor in scouring where if soft water alone would be necessary if soft water had been used.

Gistern water is not best for the purposes of drinking and in preparing and cooking. It is the intention of this article to recommend it, but simply to insist that in case but one can be had in the house, let that be soft.

To remove paint and varnish from the hands, first rub well into them a generous quantity of grease or lard, then wash them with soap and water.

Seldom See
 A big loss to you if you have a lamp or light on his **AKKIE**, **ROCK**, **WINE**, **KNOX** or **FLORINE**.

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When Rendering Lard
 Mrs. K. Winger, Welland Co., Ont.

While reading a recent issue of Farm and Dairy I noticed a little job spating that when rendering lard, if an iron kettle was not available, a common wash boiler placed on the kitchen stove would do the work equally as well.

I would like to advise Farm and Dairy readers against the using of a wash boiler for this purpose, as I well remember an accident that occurred when I was quite young where a wash boiler was used when rendering lard. When the lard became hot the seams of the boiler expanded, with the result that the hot lard ran over the stove, and the people were badly burned.

Home Comforts

It is the common idea that country life is isolated, but since the advent of better roads, telephones, and free delivery of everything could be farther from the truth. Social intercourse is often more restricted in the city than in the country, the city woman often not knowing even her next door neighbor.

The real secret in bettering country life and building up country sociality is to give woman a better chance. She is now too much of a household slave and drudge. When her old-fashioned household methods are replaced by modern conveniences and the home fitted up with a few of the comforts which are necessities in the city, then country home life will no longer be barren or isolated.

Man's labor is lessened by many modern tools and appliances, while the woman often still works with her primitive methods. The improvements should go on in the home as well as in the barn and field. But the woman must take the initiative. She should figure up the costs, make her plans and present them as a declaration of independence, if need be.

A Warning to Mothers

The White Ribbon Bulletin, a W. C. T. U. paper, published in North Dakota, has a recent article discussing the many preparations advertised for keeping babies quiet. After pointing out that some popular tonics are really liquor in disguise, the editor says:


Let us look at another class of nostrums, and one of the most heartless of all. I refer to the "baby killers" and here is a list of them:

- Mrs. Winslow's Soothing Syrup—morphine.
 - Children's Comfort—morphine.
 - Dr. Frey's—morphine.
 - Dr. Fabney's Teething Syrup—morphine and chloroform.
 - Dr. Grove's Anodyne for Infants—morphine.
 - Dr. Fowler's Strawberry and Peppermint—morphine.
 - Hooper's Anodyne, Infants' Brand—morphine.
 - Jadway's Elixir for Infants—Cocain.
 - Dr. James' Soothing Syrup—Horcin.
 - Koorn's Baby's Friend—morphine.
 - Dr. Miller's Anodyne for Babies—morphine and chloroform.
 - Dr. Moffet's Teething—powdered opium.
 - Vicor's Infant Relief—Chloroform and Canalis India.
- A goodly list of baby killers indeed. They are properly termed baby killers for they are all that and more. You will notice that they almost all contain opium or its alkaloids, while some contain chloroform, chloral and canebis indica—all dangerous drugs in the hands of the unskilled.


Embroidery Designs

Designs illustrated in this column will be furnished for 10 cents each. Readers desiring any special pattern will confer a favor by writing Household Editor, asking for same. They will be published as soon as possible after request is received.


666 Design for Embroidering Scallops
 with dots, the scallops are One-Half Inch in Width, and Three-Eighths of an Inch in Depth. Five yards and 5 corners are given.




666 Design for a Scalloped Edge.
 The scallops are three inches wide and one- and one-eighth inches in depth. Four yards and four corners are given.



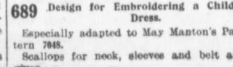
691 Design for Embroidering an Infant's Pillow.
 The design can be used for a pillow 12 inches wide by 18 inches long.



684 Design for an Embroidered Center Cloth.
 Twenty-two inches in diameter. Design can be obtained for doilies 12 in. in diameter (684), 9 in. in diameter (685) and 6 in. in diameter (644).



689 Design for Embroidering a Child's Dress.
 Especially adapted to May Manton's Patterns 7948. Scallops for neck, sleeves and belt are given.



The Sewing Room

Patterns 10 cents each. Order by number, and size. If for children give age; for adults, give bust measure, waist, and waist measure for skirts. Address all orders to the Pattern Department.

GIRL'S NAVAL BLOUSE DRESS, 7629
 Sailor blouses are always pretty and becoming to little girls. This costume combines a very attractive one that has can be either plaited or gathered as liked. In the front view, the dress is made of navy blue serge with collar and cuffs of white handkerchief braid, and this combination is always most satisfactory; but, in the small back view, the dress is shown made of white linen with collar and cuffs of blue and is most attractive.



This pattern is cut in sizes for girls from 6 to 12 years of age.

SEMI-FITTING UNDER OR HOUSE JACKET, 7632

The plain, semi-fitting jacket is a generally useful one. It can be slipped on under the coat when greater warmth is desired and it can be utilized for morning wear. The fronts are fitted by means of single darts, and the backs are seam-tucked at the centre, providing a becoming curve. The sleeves are plain ones with upper and under portions. For the medium size, the jacket will require 3 yards of material, 27, 21-8 yards 36 or 1-34 yards 44 inches wide with 4 yards of braid for binding the edges. This pattern is cut in sizes from 36 to 44 inches bust measure.



BLOUSE WITH SURPLICE FRONT, 7619

There are a great many features combined in this blouse. The fronts are overlapped in surplice style, the neck is finished with the big collar that terminates in points and the sleeves are plain and close-fitting. The blouse can be worn with or without the stock collar with the little turned-over portion, and the shaped cuffs finishing the long sleeves are a smart touch. The separate chemisette is adjusted under the blouse and closed at the back. This pattern is cut in sizes from 34 to 42 inches bust measure.

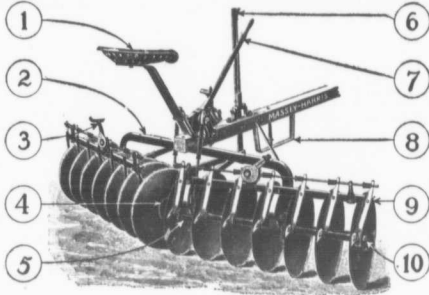


FOUR-PIECE SKIRT FOR MISSES AND SMALL WOMEN, 7610

Skirts that show straight lines and overlapped edges retain all their favor. This skirt is cut in four pieces and the right side of the front is lapped over the left, the left side of the back over the right, thus giving the one-sided effect which is also much in vogue. The skirt is fitted by means of darts and can be finished at the natural waist line or a little above. This pattern is cut in size for misses of 14, 16 and 18 years.



Let us point out some of the Special Features of the Massey-Harris Nos. 8 and 9 Disc Harrows.



1. Comfortable Spring Seat.
2. Heavy, Angle Steel Arch, securely braced.
3. Foot Lever, enables the operator to apply the Scrapers with any desired pressure or move them clear of the Discs.
4. Large Convex Washers take the end thrust of the Gangs.
5. Bearings have oil-soaked, hard maple bushings.
6. Angle of cut is regulated by this Lever.
7. Spring pressure is applied to inner ends of the Gangs by this powerful Lever.
8. The Low Hitch takes weight from the horses' Necks.
9. Steel Scrapers—each made flexible by means of a coil spring—keep the Discs clean in any soil.
10. Durable Discs with keen cutting edges, are mounted on a heavy square steel bar and securely held by means of a Lock Nut.

MASSEY-HARRIS CO., Limited.

Head Offices,—TORONTO, CANADA.

Branches at MONTREAL, MONCTON, WINNIPEG, REGINA, SASKATOON, YORKTON, CALGARY, EDMONTON, — AGENCIES EVERYWHERE —

Dairy Wisdom From Edmonton

"Dairy farming offers so many advantages, the profits to be derived from the industry are so great and the future of this branch of agriculture is so full of promise that the young people contemplating farming cannot do better than to engage in the business, while older people, who are struggling to make both ends meet, should turn to the dairy cow as a means of making competence on the farm." So spoke Dr. V. K. Jindra, Municipal Milk Inspector for Edmonton, capital of the province of Alberta, in the course of a recent address at a gathering of dairymen and dealers. The address was one of a series in the campaign of education which the department is conducting for the benefit of the producers and consumers of dairy products.

"One of the first advantages of dairying," Dr. Jindra continued, "is the fact that it brings a constant income every day or every week in the year, and the farmers can depend upon it. He does not have to wait for a harvest that comes only once a year. Neither does he have to wait until he can market his crop. He has a certain income every week. It is purely a business proposition in the best sense of the term."

"Dairying offers a source of constant employment in contrast to other branches of farming, wherein a man has certain busy seasons and certain times of enforced idleness. The dairymen has his certain work to do each day. The employment is not only constant but it is remunerative."

"Dairying also offers unexcelled opportunities for the exercise of skill and brain. The building up of profitable dairy herds, the scientific feeding to obtain the greatest quantities of milk or of butter-fat, the most profitable handling of the product; all of these tax a man's ingenuity and afford him ample opportunity to display his business ability."

"Dairy farming takes less fertility from the soil than any other kind of farming. In selling \$1,000 worth of wheat, there will go with it \$240 worth of fertility; in \$1,000 worth of beef, \$85; in \$1,000 worth of pork, \$60; in \$1,000 worth of horses, \$35; and in \$1,000 worth of butter, only \$1.25 worth of fertility. It will be seen that butter carries away practically no fertility. Separating the milk on the farm gives the skim-milk directly back to the live stock, and through that back to the soil, thus increasing the fertility and multiplying the saleable products of the farm. Cows on the farm mean a better farm."

COST LESS TO MARKET
"Dairy products are easily marketed, because they are in reality condensed products. Milk, cream and butter bring more per pound than any other farm products, yet there is hardly any other product which can be so easily taken to town. The dairymen actually condenses the tons of farm crops produced on the farm into compact products, milk, cream and butter, which are easily portable."

"Dairying is one of the most progressive branches of farming. It is only within recent years that the cream separator, the Babcock test and other improvements have been given

to the dairymen. We might say that dairying is still in its infancy, if this industry gave last year products to the value of over \$100,000,000, is it reasonable to assume that the future will witness a development which should practice double the value of dairy products. Improvements and advancement are sure to come.

VOLUMES ON CLEANLINESS
Dr. Jindra said that volumes could be written upon the subject of cleanliness and its relation to the model dairy. There are, he added, thousands of arguments in its favor, and the statistics covering the point cannot well be ignored by the farmer or the dairymen. Clean cows, clean udders, clean hands, clean pails, sterilized utensils and separators, clean and thoroughly ventilated, sweet smelling dairies—these are some of the conditions under which milk, cream and butter can be best processed and utilized for home use and for the market.

"The stable," Dr. Jindra said further, "should be provided with brushes readily attached to the milking stools or accompanying them. The milker should be encouraged to use these brushes before milking, and if such milkers are naturally cleanly, they should also be encouraged to dampen the udders before beginning to milk. If the milkers are not naturally orderly, systematic and cleanly, discharge them and either get clean milkers or quit the business. It is impossible to make a filthy man clean by any set of rules or by any amount of possible supervision."

"Do not stir up unnecessary dust before milking. Each minute particle of dust settling on the milk means that much dirt and consequent germination of bacteria. All strainers should be kept scrupulously clean. Sanitary wire gauze strainers are foreign to be preferred to the common cloth strainers so much in vogue. All foreign stuffs should be abolished from the premises, as milk, cream and butter have a natural tendency to absorb them."

"The milk, received in pails, may be washed in this way: They are first rinsed in tepid water, then washed in water too hot for the hands containing some cleansing powder or soda, the washing being done with brushes rather than cloths. They are then rinsed with boiling water and steamed if possible; otherwise they are taken from the rinsing water, and loose drops shaken off and allowed to dry without wiping. The milk is then strained through wire strainers or two or three thicknesses of cheesecloth, which pieces are washed and scalded or boiled between successive hours of milking. After straining the milk is either aerated, cooled and sent to the factory, or it is run through the separator at home."

At the close of the address Dr. Jindra conducted a question box discussion and explained various questions of interest to the local dairy farmers. He said he and those among whom he is working are on the most amicable terms, the dairymen and dealers cheerfully responding to any suggestions for improvement that the inspector may see fit to make. To give the people of Edmonton a clean milk supply.

AGENTS We will pay you well to hustle in your district for new subscriptions to this practical journal.
FARM AND DAIRY, Peterboro, Ont.

WANTED
Competent Cheese Maker to make by cut and furnish staples for seasons of 1913. Maker to guarantee his make. Apply Box 1. FARM AND DAIRY, PETERBORO, ONT.

REGISTERED AND HIGH GRADE
60 HOLSTEINS

At Auction

Wednesday, March 12th, at 10 a.m.

14 Head Registered 2 Cows Fresh and 7 young Cows to fresh in March and April 13 young Heifers Stock Bull, Hillview Sir Cornelia (1253), whose 6 nearest dams average 27.92 butter in 7 days. 3 of the females are sired by Brookbank Butter Baron, 2653, who has 30 A.R.O. daughters.



40 Grade Cows and Heifers to calve in early spring. 7 Yearling Heifers. Pedigrees printed on bills.
Sale of Farm, 5 miles from Woodstock 1/4 from Eastwood G.T.R.
TERMS: 6 months credit or 5% for cash.

CHAS. CANFIELD, Prop., Lot 6, Con. 4, E. Oxford Centre P.O.

Auctioneers: Walter Ainslie, Bradford, A. Siple, Woodstock

Will meet morning trains at Eastwood



FOR YOUR FIELD IN THE
GOVERNMENT FIELD CROP COMPETITION
YOU CANNOT DO BETTER THAN SEND FOR OUR CATALOGUE AND SEE WHAT WE HAVE TO OFFER IN

— SEED OATS —

We have a Splendid Stock and will be pleased to send Samples

GEO. KEITH & SONS, Seed Merchants since 1866 124 King St. East, TORONTO

GOOD PRICES FOR AYRSHIRES

The sale of Ayrshire cattle, horses, sheep, etc., on the farm of E. D. Hilliker, Burgessville, on February 18th, was very successful. About 300 people were present, and good prices realized. The cattle totalled \$3,629, ten of general purpose horses and mares brought \$545; last spring's colts, 57, \$1,000, \$84, while the entire sale amounted to \$4,303. The following is a list of the cattle, prices and buyers:

Jimmie of Menie, J. L. Stannell, Tillsonburg, 865; Scotland Princess, J. L. Stannell, 525; Scotland's Select, P. D. McArthur, North Georgetown, Que., 1365; Star's Dorset, E. B. Palmer & Son, Norwich, 5180; Ethel of Fairfield, Thos. Chambers Currie, 454; Lady Jane, A. S. Turner & Son, Ryckman's Corners, 825; Jessie, A. S. Turner & Son, 820; Betty Brown, A. S. Turner & Son, 530; Minnie, J. L. Stannell, 5130; Clara, P. D. McArthur, 5145; Princess Belle, B. Pierce, New Durham, 850; Sunnybrook's White Queen, P. D. McArthur, 5160; White Princess, W. B. Collier, Wellandport, 5130; Lucy of Fairfield, A. J. Armour, Dorchester, 5120; Jean Besse, E. B. Palmer & Son, 5130; Bonnie of Sunnybrook, P. D. McArthur, 5130; Bonnie of Sunnybrook, P. D. McArthur, 550; Jessie of Sunnybrook, W. J. Millington, Ingersoll, 82; Bura of Sunnybrook, A. S. Turner & Son, 860; Pride of Sunnybrook, P. D. McArthur, 550; Princess Bell's bull calf, W. H. Greenhouse, Hickson, 450; Minnie's bull calf, B. Pierce, Elmira; Sunnybrook, Collier Bros., Roschville, 851; grade cow, Frain, 869. Average for females over two years old, \$56.67. Average for heifer calves, \$76.67.

AYRSHIRE BREEDERS DINE

Following their recent convention in Montreal, the members of the Canadian Ayrshire Breeder's Association held an elaborate banquet in the Queen's Hotel, the tickets for which cost \$2.00 each. It was their third annual banquet. There were about sixty present. An elaborate menu was provided and the occasion proved a most enjoyable one. The newly elected President, Mr. Wm. Stewart, introduced the toast-master, Mr. John McKee, of Norwich, which was added to the enjoyment of the occasion.

The toast to "Our Association" was responded by Messrs. Robert Nose, of Howick, Que.; Alex. Hume, of Monie, Ont.; Jas. Bryson, of Brantville, Que.; and Hector Gordon, of Howick, Que. In reply to a toast, Mr. D. Drummond, of the Dominion Department of Agriculture, advised for the support of the breeders for the Dominion Record of Performance. He showed that the most notable result that

had attended the introduction of this test had not been the very large records that have been made by some cows and heifers. Instead, it has been the astonishing increase of production that has been shown. Herd production in these herds where the test had been introduced. The object of the test, he stated, is not to enable some breeders to make larger records with their cows. It is to obtain facts relating to the quantities of milk production and to lay these facts before the public.

Prof. Barton, of Macdonald College, furnished some interesting figures giving the results of measurements that had been taken by four year students at the College, of dairy cows. These measurements went to show that in the majority of cases good producers have much the same conformation, and therefore that conformation is a fairly accurate indication of milk producing tendencess.

The toast to the Agricultural Press was responded to by Mr. H. B. Cowan, Editor-in-Chief of Farm and Dairy, and by Mr. T. Swift, of the Ottawa Valley Journal.

A speaker who was much enjoyed was Mrs. W. F. Stephen, formerly Miss Laura Ross, of Ganagh. Other speakers included Mr. W. E. Tummis, Mr. Stannell, of Stratfordville; Mr. Philp and Mr. Gilbert McMillan, of Huntingdon, Que.

AYRSHIRE INTERESTS DEFENDED

At the recent meeting in Montreal of the Canadian Ayrshire Breeders' Association, Mr. J. T. Stannell, of Stratfordville, Ont. drew attention to the remarks that had been made in Farm and Dairy by a Holstein cattle breeder, who stated that after trying several breeds of dairy cattle, he had finally settled on the Holsteins as the most profitable. Mr. Stannell stated that nothing was said about the fact that Mr. Chaleroft, who for some time was inspector in the Dominion Record of Performance, had worked as a hired man for this Holstein breeder before accepting his government position. He therefore had seen what this Holstein breeder's cows did for him, and also what the cattle of Ayrshire breeders were doing for them, as it was his duty as an inspector to gather information relating to the cost of producing milk in the different herds he inspected. As a result of the information thus gained, he recently, after retiring from the Government service, bought a farm and bred Ayrshire cattle, because he believed the latter to be the most profitable.

Mr. Stannell said that this demonstrated what Ayrshire breeders have always claimed, that Ayrshire cattle give a larger net profit on the average than other dairy breeds.

BREEDERS' DIRECTORY

Cards under this head inserted at the rate of \$4.00 a line per year. No card accepted under two lines nor for less than six months, or 26 insertions during the year.

YORKSHIRE PIGS, all ages, either sex. Choice young Boars. Fit for service Also Sows of all ages, bred and heavy with pig—H. C. Benfield, Woodstock, Ontario.

FOR SALE—2 Some of King Farm Segs Clothide, R. O. P. cows Also three Clyde Pillies and 3 Stallions, Yearlings.—R. M. Holby, Manchester, Ont.

FOR TAMWORTH SWINE—Write John W. Todd, Corvath, Ont., R.F.D. No. 1.

ELMDALE DAIRY HOLSTEINS

A few Females for sale. Calves, Yearlings or Cows 50 head to select from. Most of the young stock sired by Paisdin Ormsby (7515) Service bulls, Paisdin Ormsby and Highland Galamity Colantha 15,250.

FRED CARR, BOX 113, ST. THOMAS, ONT.

The Granddams of King Louis Hengerveld

Graceland farm of King Louis Hengerveld. Average nearly 54 lbs. Their best daughters average 32 lbs. R. H. (7516) at the head 1911 and 1912 His 3 grand sires have 30 lb. daughters. R. O. P. cows a specialty. ELIAS RUBY, Tavistock, Ont.

Avondale Stock Farm

A. C. HARDY, PROPRIETOR. HERD SIRES Prince Hengerveld Pledge, 829 (59,387) Sire, Pledge 2nd Woodcrest Lad. Dam, Princess Hengerveld De Kol, A. R. O. 35,8. Highest record daughter of Hengerveld 15,420. King Pontiac Arlis Canada, 15,421 (72,394) Sire, King of the Pontiacs. Dam, Pontiac Arlis, 31,7 lbs. butter 7 days, 187 lbs. 363 days. Daughters of Hengerveld De Kol.

We are offering bulls from the most great sires and high record dams, and also a limited number of cows in calf to them. No buller calf will be sold at any price. Address all correspondence to H. LORNE LOGAN, Mgr., BROCKVILLE

Holsteins Over 4% Fat

I have established on my farm at Oshawa, Ont., a herd of Holstein Cattle of the richest blood obtainable. My object is to breed a strain of Holsteins, which shall be unobtainable and all shall give milk 4 per cent or over in fat content. Present offering for sale Ball Calf, grandson of King Segs and Pontiac Pet, the World's Champion Butter Cow.

A. A. FAREWELL : : : OSHAWA, ONT.

THE EATON CO. GENERAL PURPOSE PLOW

YOUR CHOICE OF THESE PLOWS 1090 95 STEEL SECTION HARROW AN EXTRA SPECIAL VALUE

Image of a steel section harrow with descriptive text and pricing. Includes 'FREIGHT PAID' and 'DON'T MISS THIS BIG OFFER'.

GET OUR PRICES . . . ON . . . WIRE FENCE THE EATON CO. LIMITED TORONTO CANADA SATISFACTION OR YOUR MONEY REFUNDED IN FULL

MARKET REVIEW AND FORECAST

Toronto, Monday, Feb. 24.—Present trade is moving in good volume, but dealers state that they are just beginning to get an appreciation of the trade that has been lost through the unreasonable weather of the early winter season. People have not used as much of any line of goods as they would have used had they been colder. While dealers are bawling this state of affairs it may be that it is to the advantage of the general public.

Call money is very scarce and at a high rate of interest. Private loans are made at 6 to 7 per cent instead of 5 to 6 per cent as was the case a year ago. Cases are on record where even 7 per cent has been secured on a safe proposition. Many reasons are advanced for this scarcity of money, but we believe that the main reason is that too much of it is going to unproductive sources, principally real estate.

A review of the Farmers' Market for the past week shows very few changes. Hogs have declined somewhat from the high level of last week, but are not in as strong demand, wheat and coarse grains are stronger, and poultry and dairy produce firm.

WHEAT

Strong foreign enquiry for Manitoba wheat has caused an advance of 1c to 1 1/2c during the past week. Most of this is being sold through American firms and shipped from United States points. Ontario wheat also is in good demand and prices firm at present. No. 1 Northern, 97c; No. 2, 94 1/2c; No. 3, 92c; feed wheat, 65 1/2c; Ontario No. 2, 90c to 96c; and down to 78c for grades.

COARSE GRAINS

A braker trade is moving on the grain exchange, the strongest demand being for American corn and Ontario oats. Corn prices have advanced half a cent, and an advance is looked for in Ontario wheat: Oats, C.W. No. 2, 46c; No. 3, 39 1/2c; No. 1 feed, 39 1/2c; Ontario No. 2, 36c to 38c; side; 37c to 38c on track; corn, 55 1/2c; barley, malling, 56c to 60c; rye, 63c to 66c; buckwheat, 53c to 55c; peas, 45c to 47 1/2c. No Montreal quotations are. Oats, C.W. No. 2, 41 3/4c; extra No. 1 feed, 41 1/2c; No. 1 feed, 39 1/4c; corn, 59 3/4c to 61 1/2c; peas, No. 2, 43 1/2c; barley, malling, 75c to 78c; feed, 55c to 56c; rye, 65c to 66c; buckwheat, 55c to 56c.

HAY AND STRAW

The consumption of hay is below normal. Receipts are now coming in more liberally as farmers who held expecting the high prices of last year are now willing to market at a lower level. Wholesale quotations are: No. 1 hay, 81c to 83c; No. 2, 89c to 81c; No. 3, 83c to 85c; baled straw, 89c to 95 1/2c. Hay is in large supply, selling on the Farmers' Market at 84c to 85c for No. 1 timothy; clover and mixed hay, 81c to 83c, and straw in bundles, 84c to 85c. At Montreal also the market is over supplied. No. 1, 81 1/2c; No. 2, 81 1/2c to 82 1/2c; No. 3, 89 1/2c to 91c.

EGGS AND POULTRY

Wholesale dealers quote the same prices for eggs that were mentioned last week. Retail prices, however, have dropped about 5c. This is as it should be, as the recent drop in wholesale quotations was not accompanied by any relief to the consumer. Wholesale quotations: Cold storage, 15c to 20c; fresh eggs, 25c to 28c; new laid, 25c to 30c; fresh eggs retail at 30c to 35c. The Montreal market is easier, with appreciable declines in price. New laid, 25c to 30c; straight receipts, 25c to 27c; select, 30c; No. 1 storage, 17c to 18c. Dressed poultry is a scarce commodity. Quotations are: Live chickens, 12c to 15c; fowl, 10c to 11c; ducks, 15c to 14c; geese, 10c to 15c; live turkeys, 15c to 17c; and poultry, 2c to 1c higher excepting dressed turkeys at 30c to 32c.

DAIRY PRODUCE

Gold storage stocks of butter, aided by New Zealand importations and an increasing home make, will be sufficient to carry the country over until the new make comes in more freely. It was estimated by a leading produce dealer in the latter part of last year that there was only enough butter in Canada to meet the demand until February let. It is fortunate that his prediction was not correct. Dairy prices, 25c to 27c; creamery prime, 35c to 38c; butter, 25c to 28c; milk, 25c to 28c; choice dairy butter retail at 30c to 35c. Cheese quotations are: Twina, new, 34 3/4c to 35c; large, 41 1/2c;

old twina, 35c to 35 1/2c; large, 45c.

LIVE STOCK

The high level of prices for cattle noted last week prevailed in the week following. Towards the end of the week, however, there was a noticeable weakening of the market. Few changes are to be noted, but trade was not as brisk, and packers were slow to move up supplies at ruling prices. Drivers believe that cattle have reached a high water mark for some time to come, but with cattle as scarce as they are such prophecies are not safe.

Latest quotations are: Export cattle, choice, 66 1/2c to 87c; medium, 56c to 65c; choice butcher cattle, 56 1/2c to 64c; common to good, 54c to 62 1/2c; choice cows, 85c to 95c; common to good, 65c to 80c; bulls, 83c to 85c; feeders, 40c to 48c; steers, 83 1/2c to 85c; cullers, 82 1/2c to 87 1/2c.

Milk cows are in better demand, choice animals going at 50c to 87c; common to medium, 35c to 80c and springers, 85c to 17c. Cullers are 45c to 51c each.

Mutton continues to lambs going at 87 1/2c to 89 1/2c; light ewes, 86c to 86 1/2c; heavy, 84 1/2c to 85 1/2c and bucks and cullers, 84 1/2c to 85 1/2c.

Hogs have weakened slightly, packers now quoting 58 1/2c f.o.b. and 59 1/2c for heavy. At Montreal, as at Toronto, quotations remained firm at a high level, and the undertone of the market was stronger owing to a smaller receipts. No really choice steers but there was a fair supply of good cattle, which brought around 65c to 86 1/2c; fair qualities, 46c to 82 1/2c, down to 45c for common steers. Choice butchers cows brought 86c to 88 1/2c, and from that down to 82 1/2c; bulls, 87 1/2c to 85 1/2c. There were small offerings in small meats, lambs ruling firm at 85c to 87 1/2c and sheep, 44 1/2c to 52 1/2c. Calves were 85c to 82 1/2c each.

HOG MARKET

Montreal, Saturday, Feb. 22.—The receipts of live hogs this week have been light, and in consequence the market has been stronger. Prices are advanced over those paid last week, as high as 81c and 82c, being paid for selected lots, weighed off cars. Dressed hogs are also firmer in sympathy with the advance in the case of live stock, and fresh-killed abattoir light weights are quoted at 81c to 84 1/2c.

MONTREAL BUTTER AND CHEESE

Montreal, Saturday, Feb. 22.—The market for butter is practically all sided by unchanged, a few thousand boxes going forward every week, most of which consists of stored cheese. The market on the other side is firmer and there is now every prospect of all the Canadian cheese available being required for the trade in England. The New Zealand make is not as large as it was estimated to be at the beginning of the season, and consequently the trade in Canadian cheese will win up more satisfactorily than was generally expected. Finest Septembers are quoted at 12c to 12 1/2c.

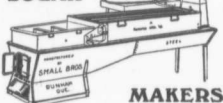
The market for butter is firmer, with a better demand from the local trade and from the West. The supply of fresh made is now practically exhausted, and the dealers are having stored goods and New Zealand almost exclusively. Stored butter is quoted at 30c to 32c and a pound and New Zealand at 30c to 32c.

COMING HOLSTEIN SALE AT BELLEVILLE

The Belleville Holstein Club are again seeking the purchase of good live stock men for their third annual sale to be held in Belleville April 2nd. The pleasant relations which have existed between the club and ever since the past two Belleville sales have inspired the Belleville breeders with confidence, and they hope to further cement the bond of the front rank as a good quality business club by making their third sale even better than the two which have preceded.

The market for the cattle will be offered without reserve. The Belleville Club absolutely prohibits buying in. They will not allow their cattle to be sold or otherwise in any way to animals to be sold, unless distinctly catalogued to the fullest of their defects. They will have no delay about the purchase of transfers. The sales manager is this year handling all of the best and collecting same previous to time of auction.

MAPLE SUGAR



The Lightning Evaporator is not only the fastest one made in the world, but it holds more prizes, medals and diplomas for quality of output than all the other makes put together. Write for catalogue. It is free and gives lots of information.

SMALL BROS. DUNHAM, QUE.



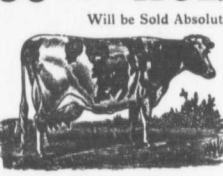
Royal Dublin Society Spring Show

Ball's Bridge, Dublin
April 15th to 18th, 1913
The largest collection of Pure Breb Bulls at any Show in the United Kingdom.

Auction Sales of Cattle

For particulars apply to the
AGRICULTURAL SUPERINTENDENT
Leinster House
DUBLIN IRELAND

MY ENTIRE HERD OF 50 Richly Bred HOLSTEIN STEERS 50 Bred



Will be Sold Absolutely Without Reserve, at
Public Auction
At my farm at
Curries Crossing Oxford Co., Ont.
March 11th, 1913

For 14 years I have been breeding Pure Breb Holsteins of large production. I have recently sold my farm and therefore will sell absolutely without reserve my entire stock.

Including in the offering are 23 Cows with records ranging from 16,800 lbs. for mature cows, down to 6,200 lbs. of milk a year for two-year-old heifers. This stock is deep-bodied, strongly constituted—the very best kind of producers.

Also 9 two-year-old Heifers, yet to freshen
15 Yearling Heifers and Heifer Calves
9 Young Bulls, and my 9 Stock Bulls

The young stock is practically all sided by King Fayne Begis Cloth-year-old heifers. His seven nearest dams have an average production in 7-day official records of 72 lbs. butter.

His granddam Grace Fayne 2nd Homestead, 35 1/2 lbs. the butter in 7 days was in her day champion butter cow of the world. About half of the cows to be sold are successfully bred to this bull. Balance of cows bred to Prince Abbecker Morema, bred by Jas. Pettie; his dam, Tidy Abbecker. This bull was first prize animal at Toronto. Three of his calves went to British Columbia for \$1,800. This bull will also be in the sale.

TERMS—Cash or time up to 9 mos. on approved notes, with interest at 5%.

Farm is three miles from Woodstock. Send for Catalogue giving full particulars of breeding, terms, etc.
A. H. TEEPLE, CURRIES, Ont.
AUCTIONEERS | Col. Welby Alma, Cranford, Ont.
Col. A. S. Ayle and Wm. Pullin, Woodstock.

AYRSHIRES



G.R. STAMARD, PHILLIPSBURG, QUEBEC

AYRSHIRE BULLS

Of choicest individual merit, bred by Duke of Arr, the particularly good son (one of the best bulls living) of the champion of P. cow (15 1/2 lbs. milk and 7 1/2 lbs. butter) and from dams of heavy milking strains. All ages. State about what age you want and all information as to breeding and records will be gladly given. Can spare a few fallers of fat of 1912 birth.
W. W. BALLANTYNE & SON,
R. R. No. 3, STRATFORD, ONT.

Burnside Ayrshires

Winners in the show ring and dairy tests. Animals of both sexes, imported or Canadian bred, for sale.
Long distance 'Phone in house.
R. R. NESS, HOWICK, QUEB.

TANGLEWYD AYRSHIRES

Special offering. Yearling Bull; dam, Primrose of Tanglewyld 2nd. R. of P. 22 1/2 lbs. milk and 2 1/2 lbs. butter. Fat, average test 44; grand-dam, Primrose of Tanglewyld 1st. R. of P. 19 1/2 lbs. milk, 62 1/2 lbs. fat; sire, Royal Star of Bonnie Brae, son of Elben. R. of P. 33 1/2 lbs. milk and 1 1/2 lbs. fat.
WOODSIDE BROS., NOTHWAY, ONT.

AYRSHIRE CATTLE AND YORKSHIRE PIGS

For Sale. Ayrshire and British fat for service. Yorkshire Pigs, 85 00 each or, if registered, 86.00. All the above are from first prize stock. Send in orders now, with instructions to ship to the address of the buyer.
W. W. GAVENS, Prop., at ROBERT STON, Mas. Riverside Farm, Meigs Bells, Que.

Bull Calf—KING PONTIAC SYLVIA—For Sale

PEDIGREE. H. B. No. 15,010, Male, Born September 20th, 1912, a son of Inka Sylvia DeKoi and Prince Hengerveld of the Pontiacs, who is the King of the Pontiacs, the greatest living sire of the breed, and Grandson of Pontiac Korndyke, who has more 34th daughters than any other two sires. His dam a 25th cow whose best days milking is 89 lbs., this record being made on three quarters only.



Prince Hengerveld of the Pontiacs

A son of King of the Pontiacs and Pieterje Hengerveld Fraulien, who is the noted Pieterje Hengerveld Count De Koi and from a cow strongly bred in the blood of De Koi 2nd. King of the Pontiacs is proving himself to be one of the very best sires of the breed. His daughters have broken eleven world's records and one as a junior 2 1/2-year-old has produced over 1,000 lbs. of butter in semi-official test.

Prince Hengerveld of the Pontiacs first daughter to freshen so far made the following records: Lady Carman Sylvia at 2 yrs. Milk 15.84
Butter 62.01

King of the Pontiacs

70 A.R.O. daughters
K. P. Metis, 3 yrs., 31.
K. P. Alcantara, 2 yrs., 30.87.
K. P. Manor Katie, 22 mths., 28.10.
K. P. Korndyke, 27.71.
K. P. Lidith, 2 yrs., 27.56.
15 others with records of 20 to 26.60 lbs.
13 A.R.O. sons.

Pieterje Hengerveld Fraulien

Sister to the dam of Nudine Lyons De Koi, 30.72.
Sara Jewel Hengerveld 3rd, 30.40.
By a brother to the sires of Prince Hengerveld De Koi, 33.62
Rivers De Koi Sude, 32.20
22 others above 29 lbs.

Gem Pieterje Hengerveld Paul De Koi

13 A.R.O. daughters
Inka Sylvia De Koi, 26.
Dutchess Ormsby 2nd Hengerveld De Koi, 25.49
13 A.R.O. sons who are the sires of 127 A.R.O. daughters.

Inka Sylvia, 3 yrs.

Butter 21.95
Dam of Inka Sylvia De Koi, 26.04 lbs.
Inka Sylvia 5th, 15.92.
A champion Toronto test winner.

Manor Farm Holsteins

Gordon S. Gooderham
Bedford Park - Ont.

Inka Sylvia De Koi 24.04
Milk 665.10
Dam of Inka Sylvia De Koi Poseh, but-
ter at 2 yrs., 15.42.
She also has one son, who is the sire of
May Echo Sylvia, butter at 4 yrs. 11
mths., 21 lbs.

First Cheque for \$100 gets him!

TEEPLE'S HOLSTEIN SALE

A choice lot of working Holsteins is the 50 head that Mr. Teeple, Curries Crossing, Ont., is offering for sale in his advertisement in this issue. This herd, which will be sold absolutely without reserve on March 11th, is a result of over 14 years of selection and breeding. It would not be sold at all were it not that Mr. Teeple has sold his farm and must dispose of his stock, as there is not suitable stable accommodation for them on the new farm near Woodstock that he has purchased.

Mr. Teeple's Holsteins are a milky looking lot, with records running all the way from 4,200 lbs. of milk from a two-year-old heifer to 16,000 lbs. in a year. We were particularly pleased with the yearling heifers that Mr. Teeple is offering. They are all straight line animals, with lots of size, and every indication of constitution. They were particularly long and straight in the hindquarters, a quality that their sire, King Payne Segis Corlidge, has strongly developed in himself.

This sire has been at the head of the Teeple herd for some time, and most

A Dandy Calf For You

The pure-bred Holstein bull calf, a grandson of King Segis, which, in the December 20th issue, *Farm and Dairy*, we offered to give away to the first person sending us 25 new yearly subscriptions to *Farm and Dairy* at \$4 a year was won by Mr. Arthur McTatchie, of Huntingdon, Que., who sent us his list of new subscribers within a few days after the first issue of the paper containing the announcement was published.

We are now able to make another similar offer. To the person first sending us only 30 new, full year subscriptions at \$1.00 each we will send a beautiful pure-bred Holstein bull calf, mostly white in color, and also a grandson of King Segis, it being a son of Sir Anglie Beets Segis, a son of King Segis. King Segis is one of the greatest Holstein sires of the breed. The dam of Sir Anglie Beets Segis was a 7th, four-year-old daughter of Paul Beets. The dam of this calf we offer is new entered in the Record of Performance, and promises to make a big record. She is a grand large cow, weighing 1,200 to 1,500 lbs. One of Sir Anglie Beets Segis' daughters recently finished a seven-day record as a two-year-old of 28.43 lbs. of butter.

This is a wonderful opportunity for some of our subscribers to obtain a great bull as a herd header that is easily worth from \$75.00 to \$100.00. This bull will increase the value of all the progeny in the herd and will be furnished to the first person sending us the 30 new subscriptions. Should more than a list of our subscribers send one of the subscriptions we will then refund the later ones their money or endeavor to fill their order from, if possible, equally well-bred stock.

to the young stock offered are from him, and he has been successfully bred to about half of the cows. His seven nearest dams have an average producing of 27.35 lbs. of butter in 7 days. His sire is King Payne Segis, who has several A.R.O. daughters, and his grandson is King Segis, with 70 tested daughters. The grand-dam of Mr. Teeple's herd bull is Grace Payne's 2nd Homestead, once champion cow of the world with 35.15 lbs. of butter in 7 days. His dam is Belle Aargie Clothilde, 11,570, 19.48 lbs. butter in 7 days. In addition to rich breeding this three-year-old bull is a strong individual, straight as a die, deep, and most masculine in appearance. He too will be sold, and should be an excellent buy for some lucky one.

Mr. Teeple's offering consists of 23 cows, three to seven years old, and averaging five years; nine heifers, two years old, to freshen; 15 heifers, nine young bulls, and two stock bulls. These animals have been practically all bred by Mr. Teeple and rigorously selected with an eye to profit at the pen. Holstein fanciers should bear the date in mind, March 11, and plan to attend this sale. Watch for additional notice re this herd in *Farm and Dairy* next week. And look up their advertisement elsewhere in this issue.

Opportunity of a Life-Time

To Get

Sir
Lyons
Henger-
Veld
Segis

Bought
as a
Calf
for
\$1,500



His
Dam
Made
33.5 lbs.
Butter
in 7 days

(See
reading
matter
for full
particulars
of breeding.)

Holstein Heifers from this Great Bull

At my great Dispersion Sale

40 WEDNESDAY, MARCH 12th 40

When I will sell absolutely without reserve 40 Registered
Holsteins, including

Nine of his Heifers and five of his Bull Calves

(All cows but 4 in calf to him)

Two years ago four of my neighbors and I went over to New York State and bought, paying \$1,500, a bull calf, Sir Lyons Hengerveld Segis—the best that was available and which money could buy. This animal has since developed into the splendid individual as shown in the Illustration above.

His dam, Blanch Lyons De Koi, and her full sister, each have records over 35 lbs. butter in 7 days; his dam, 154 lbs. butter in 30 days.

The stock from this great bull is turning out to be even much better than we had anticipated. It is of great utility, large size, deep and wonderfully thrifty as you will see it at the sale.

The nine heifers and the five of his bull calves (two months up to one year) in the sale are out of good dams. Any one of them will make most excellent buying for you.

Nearly 30 head of the Holsteins of producing age—all fine individuals—in my herd are

All in Calf to this great Imported Bull

Note the Holstein reading columns of *Farm and Dairy* this week for particulars of breeding, records, etc.

Tamworths My entire herd of Registered Tamworth swine, brood sows, young-bred sows, stock boars, etc., will also be sold on day of sale.

Send now for your catalogue giving full particulars of breeding, etc., and plan to be at my sale and secure what you want of this great stock.

The Metropolitan Electric Cars from North Toronto (14c fare) and have conductor put you off at Willowdale, stop 34.

John McKenzie - Willowdale, Ont.

OUR FARMERS' CLUB
Correspondence Invited

PRINCE EDWARD ISLAND

RINGS CO., P. E. I.
LOWER MONTAGEL, Feb. 12.—The short agricultural course held in Charlottetown was a decided success in every way. About 500 students attended, and it was one of the best of its kind in Canada. A large number of teachers from the different colleges were on hand, and gave some very able advice. Mr. Archibald, on the dairy cow; Mr. McLean, hog raising and horses; Mr. Robertson, the Olvide horse; Mr. Benson, poultry; Mr. Telfer, sheep; Messrs. McCarty and Williams on apple packing. Those gentlemen were well worth hearing. The weather has been very cold of late, is below zero, but no sleighing yet. Butter, 27c; pork, 15c to 16c; eggs, 15c.—G. A.

QUEBEC

MISSISQUOI CO., QTE.
FLEIGHISHUB, Feb. 17.—There has been quite a snowstorm during the 15th and 16th inst., which will make good sleighing if the wind does not blow it off the roads before they have been well tracked. Good sleighing will be welcome to many farmers who have large quantities of wood, lumber, and straw to move. A cold snap during the second week of this month thickened the ice in rivers and ponds, and the ice harvest is now in full swing, but owing to the thaw in January flooding the ice it is not very clean. All classes of live stock seem to be wintering well, and there is an abundant supply of fodder on hand.—C. A. W.

ONTARIO

HALIBURTON CO., ONT.
KINMOUNT, Feb. 14.—February so far has been cold and stormy, no thaws. A large quantity of pulp, cord and stove wood, also tan-bark and lumber, has been sold. We are keeping the railroad very busy moving it south. Cattle are wintering well. No sales are reported as yet. The exit to the west has almost stopped. Hay, \$10 a ton; oats, 50c; wheat, 80c; potatoes, \$1 a bag; beef, 7c and 6c; pork, 10c; chickens, 14c; honey, 15c. Mill feed lower in price than for some years.—J. A. S. T.

HASTINGS CO., ONT.

CHAPMAN, Feb. 20.—We have had very little snow this winter, and only a couple of weeks sleighing in early January. The fields are now nearly bare, and there is no sleighing. The weather continues cold and bright, with the roads smooth and in good condition. The absence of snow is hindering lumbering operations, and prevents farmers from getting out their supplies of wood. Auction sales are quite numerous, and farm stock is bringing good prices.—H. S. T.

WELLINGTON CO., ONT.

QUELPH, Feb. 13.—The present winter has been favorable for doing outside work on the farm, such as drawing out and spreading manure on the fields, cutting wood and sawlogs, etc., as there has been little snow to bother. Quite a number have drawn gravel, in readiness for silo building next summer. Considerable frozen corn was put in the silos last fall, owing to delayed maturity, but this corn is coming out in good shape. Late corn evidently is not injured by freezing.—C. S. N.

OXFORD CO., ONT.

WOODSTOCK, Feb. 24.—We are having fine winter weather, with no sleighing, but very good wheeing. Cattle are doing well this winter. Quite a number of the farmers in this section are winter dairying. Toronto City Dairy paying \$1.66 a cwt. for milk. Hogs are \$9. Cattle are very high, and hard to get. Cows at sales are almost out of the question, as common run to \$50 and \$60, and real good from \$75 to \$100.—A. M. McD.

NORFOLK CO., ONT.

ERIE VIEW, Feb. 17.—The bitter cold weather has been succeeded by fine mild weather; wheeing is excellent and business brisk. Hogs are shipped at \$8 a cwt. Farmers who own a wood lot are preparing their spring and summer wood. Butter, 25c; eggs, 25c. Egg fruit is plentiful. Poultry is doing well. All stock continues in good condition as feed is plentiful. Dairy cows still continue to give a good flow of milk, where conditions are favorable and they are well cared for. The dairy industry is certainly a paying one if good management is used.—P. B.

BRUCE CO., ONT.

WALKERTON, Feb. 12.—We are having very severe and stormy weather. Sleighing is not good on the commons, the high winds drifting all the snow off the road and into the hollows and the side-roads, which were badly blocked. Cattle are a good price at present, from 6c to 7c being paid for from 1,100 to 1,500 lbs. weight. Hogs were \$8.50; eggs had dropped to 25c, but have advanced to 26c again; butter has dropped to 20c; potatoes, \$1 a bag; bran, 23c; shorts, 24c; middlings, 25c; wheat, 50c; barley, 50c to 55c; buckwheat, 60c to 65c; oats, 35c; cottonmeal, 35c; hay, \$10 to \$12. People are still working at the power house on the Langren river. The foundation is about done, but the wall of the dam could not be altogether finished last fall before the high water, so will have to be left till next spring. This is to supply the town with electric light and also with power for running machinery.—E. F.

BRITISH COLUMBIA

NEW WESTMINSTER DIST., B. C.
CHILLIWACK, Feb. 12.—We are having rather slushy weather now the snow is melting. The frosts at night hinder the snow from going very fast. Pork is 15c live weight; butter, 45c; chickens, \$14 a dozen; eggs, 40c; hay, \$12 a ton loose. Many farmers are getting their summer's supply of wood cut during this bad weather.—J. C.

Look! What A Saving!!
YOU BUY DIRECT
No. 9 HIGH GRADE STEEL WIRE
10 Wire only 30 Cents a Rod
South

Freight paid in Old Ontario south of North Bay. Tenthers points 284 Cents per Rod, Freight Not Paid. The Old Reliable HIGH GRADE STEEL WIRE. The quality that made LONDON COILED WIRE famous. Write for special Price List A, which gives about 40 styles of Fence and Gates.

THE LONDON FENCE MACHINE CO., Ltd., LONDON, ONT.

FAIRVIEW FARMS HERD

Offers a splendid son of Rag Apple Korndrke, the young bull we recently sold for \$5,000.00, and out of a 24-pound daughter of Fontosa Korndrke (record made at 4 years).

Calf is five months old, nicely marked and straight as a string, and I will sell him. Well worth the money. WRITE ME FOR PRICE, ETC.

E. H. DOLLAR, Heuvelton, New York (Near PRESCOTT)

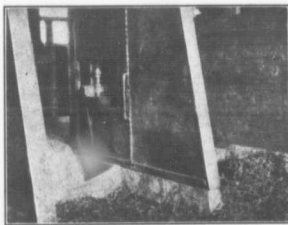


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HOLSTEIN CATTLE
The Greatest Dairy Breed
See the FREE ILLUSTRATED BOOKLET
Holstein Friesian Assoc., Box 145, Bensenville, Ill.



CATTLE LABELS. Metal ear tags for cattle, sheep and hogs—with name and address of owner and numbers. Don't be without them. Send a post card for free sample and circular. F. G. James, Howmanville, Ont.

What F. R. Mallory says:



Looking Into Stall From Rear

More and Better Milk

On Page 165 of the February 13th issue of "Farm and Dairy," was an article dealing with the Barn and Farm of F. R. Mallory, of Frankford.

We reproduce here two cuts from this article showing the "Acorn" Cow Bowl installed, and here is what Mr. Mallory says about them—

What He Says

Dec. 12th, 1912

The M. S. & S. Co.
Preston, Ont.

Dear Sirs:—

"We find that "Acorn" Water Bowls if properly installed give excellent satisfaction. They come the nearest to perfection of any bowl which I have yet seen upon the market."

F. R. Mallory



Front of Stall

COUPON

Use This Coupon

THE METAL SHINGLE & SIDING CO., Ltd.
PRESTON, ONTARIO

Please send me Free Information in regard to the "Acorn" Cow Bowl.

I want to water.....Cows.

Name.....

Address.....

Paper "Farm and Dairy"

Give Sketch of Stables so we can show how to arrange the system.

The Call of The North

Do you know of the many advantages that New Ontario, with its Millions of Fertile Acres, offers to the prospective settler? Do you know that these rich agricultural lands, obtainable free and at a nominal cost, are already producing grain and vegetable second to none in the world?

For literature descriptive of this great territory, and for information as to terms, homestead regulations, settlers' rates, etc. write to

H. A. MACDONELL,
Director of Colonization,
Parliament Buildings,
Toronto, Ontario

Edward Charles Ryott
AUCTIONEER AND VALUATOR

Pedigre Stock Sales are my specialty. Many years successful experience out from Woodstock, Oxford Co. Ont., qualify me to get you satisfaction. Correspondence solicited. 171 Carlaw Avenue, Toronto, Ont.

Seed Grain

There is an unusually big demand for good seed grains this season.

Oats as you know were badly sprouted and are quite unfit for seed in many sections.

If you have good seed there are thousands of farmers who will buy it. Tell them about it through a small advertisement in Farm and Dairy. They will pay you a good big price for good seed.

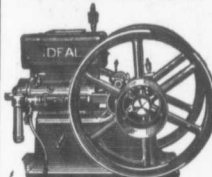
Fit up your ad. to-night and mail it to us for Farm and Dairy say four lines. Costs you only \$1.00 per inch each issue to tell over 10,000 possible buyers of what you have for sale.

It will pay you handsomely to advertise your good seed in

Farm and Dairy

GASOLINE ENGINES

11 to 50 H.P.
Stationary Mounted and Traction



WINDMILLS

Grain Grinders, Water Boxes, Steel Saw Frames, Pumps, Tanks, Etc.

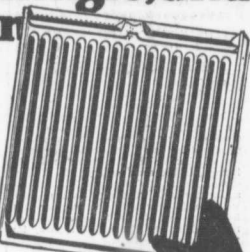
GOOLD, SHAPLEY & MUIR CO., LTD.
Branches Winnipeg Calgary

"Use My New Big Shingle, and My Corrugated Iron to Make Your Barn Cost You Less than Wood"



"I MEAN what I say by the words 'cost you less than wood.' Labor for putting barns up and the cost of lumber and wood shingle is very high now. Wood used the way your father followed, puts wooden barns tremendously high in cost to-day. I have a new and better way that avoids repairs too."

"To put it in simple words, I give you a manufactured metal roof and manufactured metal walls for your barn. This roof and wall comes in big units. It takes about the same labor to set a 4 square foot size metal 'George' Shingle as to nail 5 or 6 wood shingles on a barn roof. So much labor is saved, and the cost of my metal shingle is so comparatively low, that my shingle works out as costing you less than a cedar shingle roof. The same thing applies to your barn walls. My big sheets of corrugated iron beat out boards. A single sheet is like nailing a dozen boards at a time. The saved labor offsets the margin of cost. You save money. Use my metal shingle, and my corrugated iron for barn walls. It lasts, repairs free, and safe for years to come."



"HERE is my 'George' Shingle, just placed on the market. My son, the late Geo. H. Pedlar, Jr., invented it. It is 2 feet by 2 feet in size. This is bigger than my famous 'Oshawa' Shingle, which is 16 x 20 inches in size, and is sold all over the world."

"These shingles are made in 100-year metal. This is a special metal that will not corrode like iron, tin or steel. In addition, I galvanize each shingle with zinc. Once you lay a roof, it needs no paint, no repairs, and no attention. It is good for 100 years, and weighs just one-fourth of cedar. Get full details in my book."

G. W. Pedlar

Get my Book on Barns At Low Cost—FREE

"I have a book showing a fire-proof, lightning-proof barn, warm, dry, clean, wind-braced, and strong. It costs less than wood. Every stage of building is shown in pictures. I want all my friends to have a copy. Write nearest branch for yours, to-day."

Send to My Nearest Branch for 'George' Shingle, Book No. 152



Address nearest Branch

Established 1861

The PEDLAR PEOPLE LIMITED

MONTREAL TORONTO OTTAWA WINNIPEG

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334 Head Office and Works, OSHAWA, CANADA

Corn That Will Grow

Money back if not satisfied
Send for Price List

J. O. DUKE, RUTHVEN, Ont.

Next Special

will be out March 6th. It will meet the great thirst for the very latest information about Orchards, as this Special meets and supplies up-to-the-minute knowledge of Poultry. Arrange now for your service in the issue. Get in early! Think it over and you'll act to-day.

Advertising Department, FARM AND DAIRY, Peterboro, Ont.

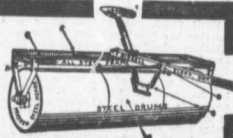
"Bissell" is a 3-drum roller

3 DRUMS make the best Land Roller. It is easy to understand how the "Bissell" Roller with 3 drums and supported by 6 heads is a STRONGER IMPLEMENT than any 2 drum Roller on the market. With 3 drums the centre bearing is not needed. When the "Bissell" Roller is at work, the axle turns with the drums.

It costs more to manufacture the 3 drum Roller than the 2 drum, but you pay no more for the "Bissell" 3 drum and get BETTER VALUE FOR YOUR MONEY. You get heavier weight in the "Bissell" drums too.

The good points cannot all be told here. Ask your dealer about the "Bissell" Roller and do not be put off

with a Roller unless the name "Bissell" is plainly stencilled thereon.



Grass Seed or Attachment furnished if required. Write Dept. B for free catalogue.