

### A New Frozen Milk Product.

A new frozen dairy product, named "Lacto," has just been brought out by the Dairy Section of the Experiment Station at Ames, Iowa. It is made of loppered whole or skim milk, with the addition of eggs, sugar, lemons and flavoring materials. Lacto has a more pleasing flavor than sherbets and ices, and contains considerably more nutriment. It contains as much protein as ice-cream, less fat, and more acid. In an experiment, in which 179 persons sampled lacto, 128 pronounced it very good, 37 good, 6 fair, and 8 poor. Comparing it with common vanilla ice-cream, 111 reported that they preferred lacto, 9 considered it equal to ice-cream, and 59 preferred the ice-cream. Comparing lacto to sherbet, 123 preferred lacto, 30 preferred sherbet, and 26 considered lacto equal to sherbet. Scientists have found that there are large numbers of putrefactive bacteria in the intestines, which are very injurious, or even poisonous, and may even shorten life. Drinking sour milk is recommended so as to replace the harmful putrefactive bacteria by lactic-acid bacteria, which are harmless, but few people like sour milk. To provide these lactic-acid bacteria in a more palatable form, was one of the reasons for introducing lacto. The lactic-acid bacteria are not killed by freezing, and if lacto is eaten frequently enough, there is every reason to believe that these bacteria will replace the more harmful ones in the intestines. This will result in improving the health and prolonging life.

The milk to be used in the manufacture of lacto is prepared in a similar manner to the starter which is used for cream-ripening. A commercial lactic-acid culture is used. This is added to a pint of skim milk which has been pasteurized at a temperature of 85 degrees C. (185 F.) for 20 minutes, and, after pasteurization, cooled to from 20 to 22 degrees C. (68-71 F.). The lactic-acid culture is thoroughly mixed with the milk, and left at 20 degrees C. (68 F.) until the milk has coagulated. Then another bottle of skim milk is pasteurized and cooled in the same manner, but, instead of the commercial culture, a part of the coagulated milk is added to insure the souring of the milk inside of eighteen hours. This operation is repeated until the final batch of soured milk obtained has lost the undesirable flavor due to the substance in which the commercial culture was preserved. After this point has been reached, which requires from four to six days, the last sample of soured milk obtained is added to a larger amount of pasteurized skimmed milk. This is then treated the same as the former lots. In this way, an amount of milk sufficient to work with is obtained.

Lacto can be made in the household on a small scale, without buying a commercial starter. Take a bottle of good clean, fresh milk which has not been heated, and set it away at a temperature of from 68 to 70 degrees F. until it coagulates. If it coagulates as a smooth, solid curd, without pinholes; if the aroma is clean and pleasant, and the flavor nice and creamy, it can be used as a starter for a larger amount of whole or skimmed milk.

The milk, when ready to be used for lacto, has a mild, clean, acid flavor. The curd must be thoroughly broken up. This is accomplished by pouring it from one pail to another until it is as smooth and velvety as rich cream. From this "lacto milk," the various lactos are prepared. One of the most popular kinds of lacto is cherry lacto. This is prepared from the following formula, which is sufficient for five gallons of the finished product: 3 gallons lacto milk, 9 pounds sugar, 12 eggs, 1 quart of cherry juice or concentrated cherry syrup, 1½ pints lemon juice. The sugar is first dissolved in the lacto milk. The eggs are then prepared. The whites and yolks are kept in separate containers, and each lot is beaten with an egg-beater. Both the yolks and whites are then added to the milk. The mixture is thoroughly stirred and strained through a fine-wire gauze. The fruit juices are added last. If there is any indication of the juices precipitating the casein, they should be left out until the mixture has begun to freeze. The freezer is run until it turns with difficulty, when the paddle is removed. The brine is removed, and the freezer repacked with ice and salt, and left for an hour before the contents are served. Additional details regarding lacto, and other recipes for its manufacture, are given in Bulletin 118 of the Iowa Experiment Station, which may be obtained free by writing to the Director, at Ames.

Records of good herds make statistical averages seem small. For example, how does the reported average of some 3,000 pounds milk per cow for the cheese-factory season in Eastern Ontario look in comparison with the following extract from a recent letter to hand: "During the factory season of 1910, the herd of eleven grade Holstein cows owned by Howard Walker, of Dundas Co., Ont., gave 7,717 pounds of milk per cow, an average of \$72 per cow."

### Records a Guide to More Profitable Feeding.

Editor "The Farmer's Advocate":

The keeping of milk records should be both interesting and profitable to every dairy farmer. The benefit derived will depend somewhat on the interest and intelligence that is put into the business. The man who has good cows will know how good they are and how profitable they are for him to keep, and the records will help to sell his stock. The man with the poor cows should get the most benefit, by being able to detect the cows that are making no profit, and upon which he is wasting his time and feed. I have derived benefit from the daily records by being able to detect the fluctuations in the milk flow and in looking for the cause and remedy; also in being able to notice the effect of different kinds of feed given to the cows. This winter I have been able to get five or six pounds more milk per day per cow by giving a little extra feed, mostly cottonseed and oil meal. The records have shown me the difference between the persistent milker and the cow that gives a big flow for a few weeks, and then slackens up and goes dry in six or seven months. I think the effect of knowing exactly what their cows are doing, with most farmers will be an inducement to better feeding, and their standards of performance will gradually be raised until every cow will produce a good profit. The matter of expense and time is very small if the scales and record sheet are conveniently arranged. I think it need not take more than half a minute per cow per day, and consider the time well spent.

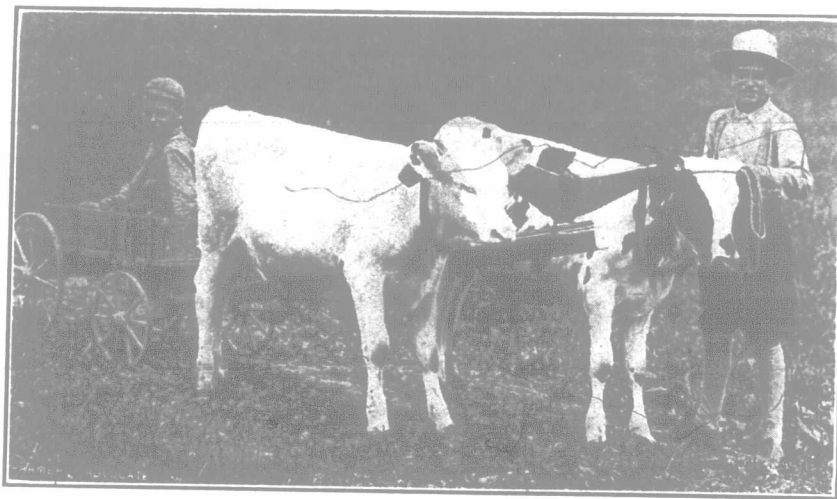
Oxford Co., Ont.

M. HARTLEY.

### Where to Get Milk-record Forms.

Editor "The Farmer's Advocate":

Any dairyman, large or small, cannot make the best success unless he uses the scales. I find, by so doing, that I am enabled to tell just exactly the cows that pay, the feed it pays to feed for milk, and also the profit derived from such feed—which we cannot do unless we use the scale. Some people have it in their heads that it is an awful bother. I thought the same until I re-



Commencing Young.

ceived a letter from Ottawa, asking me to try it, stating that I could get all the necessary papers free of charge. So I went at it, and would not pretend to milk a herd without the use of the scale. Now, that is one drawback; people think they have to go to a lot of expense and trouble to get things ready for it; they are ignorant of the fact that the papers are free for the asking. Tell them so in your paper, and tell them where to get them at Ottawa. P. S. ADLINGTON, Elgin Co., Ont.

[Note.—Forms for the keeping of individual daily milk records of cows, also other forms for keeping track of feed, may be obtained upon application to J. H. Grisdale, Dominion Agriculturist, Central Experimental Farm, Ottawa. If we are not mistaken, such forms may now be obtained, also, from the Dairy Commissioner's Branch, Department of Agriculture, Ottawa. One thing certain, no dairyman should think of keeping cows without daily individual cow records. Weighing three days a month is not nearly so good as weighing every day.—Editor.]

### Cow-testing in France.

France has had in operation since 1908 an official milk-testing society, in order to improve the milk flow and get rid of unprofitable animals in the Norman breed. Calves are registered provisionally in the herdbook at birth, subject to confirmation in case of females, only after they have reached a prescribed standard of milk and butter production during ten months after calving. An assistant is employed by the society, who visits the farm of each member once a month. Arriving in the morning, he weighs and samples the milk of each cow at mid-day, evening and next

morning. The samples are sent by post in boxes containing 50 samples to the Agricultural Experiment Station of the Department of Agriculture, and tested for butter-fat, the results being forwarded to the society for entry in its herdbook.

## POULTRY.

How doth the little busy pullet improve each shining minute—if well fed and given plenty of chance for exercise and fresh air!

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The wonder is not that so few people get plenty of winter eggs, but that many of us get any at all. When we think of the unnatural conditions under which many flocks of poultry are kept, ill-nourished, and cursed with idleness, we pity both hens and owners.

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One dollar and twenty-five cents a year profit, over and above cost of feed, is a moderate performance for a Canadian barnyard hen maintained under proper conditions. Do your hens do it?

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Make a special effort this spring to hatch out some eggs in April or early May. Try a good incubator. Don't buy a poor one for cheapness sake. It is false economy.

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The much-lauded Philo system seems to have given fair results in some cases, though disappointing in many others. It may be all right as a city back-yard proposition, but for farmers it is the opposite to what is to be recommended. The movable colony house is the rational idea for farm poultry-keeping, especially for the rearing of the chicks.

### Likes the Philo System.

Editor "The Farmer's Advocate":

It is altogether probable that a good many people in Canada have tried the Philo system of raising chickens during the past two years, and it would be interesting to get the experiences of those who have tried the system outside of our experimental stations.

An occasional short article appears condemning the system as unsuited for our Canadian climate, or entailing too much labor, or failing in some very essential point, such as the chicks refusing to go into a fireless brooder.

My first experience with the system started in May, 1909, when I put a batch of incubator chicks into a double-deck Philo coop. These chicks were hatched in a hatcher, with a small brooder underneath, the whole thing being only 18 inches in diameter, and 10 inches deep. The chicks were kept in this brooder about a week, with a small space boxed off in front for them to run out into, and in a short time they learned to go in and out of the hole in the brooder; and when they were put into the coop, with a similar brooder, they at once made themselves at home, without any further trouble. It was a pleasure to watch those chickens grow, and I had Dorking cockerels two pounds in weight in eight weeks. They were kept in this coop, 3 x 6 feet, till they were nearly three months old—24 of them—and then I gave them a small run, but they roosted in the coop all summer.

The pullets began to lay the latter part of October, and I put five in the coop and set it out in the garden, where it was exposed to all the winter winds and storms, and with only a cotton door at the west end; and by the end of February those five pullets had laid 285 eggs. On January 19th I put five other pullets in a similar coop, but only 2 feet high, and they laid just as well as the others in the double-deck coop.

I was told that the eggs from pullets would not hatch, but I put a batch into the incubator on February 21st, and I got over 60 per cent. healthy chickens from my pullets' eggs. These chicks were taught to go into the brooder, and were kept in the house less than a week; then they were taken into the stable loft, where I had put in a large window in the south end. They at once took to the brooder, and in nine weeks I sold them for broilers at 35 cent per pound, averaging two pounds each. March and April last year were comparatively warm months, and the chicks did remarkably well. There were a few cold days, however, but the little fellows never seemed to mind the cold at all, and in less than two weeks they were well covered with feathers. I brought out two more hatches from my little