

The Hand Separator Approved.

To the Editor FARMER'S ADVOCATE:

DEAR SIR,—In your 2nd of January number you ask those that use cream separators to send you an account of how they like them. In reply I would say we used shallow pans until four years ago; then we commenced using the deep-setting cans and ice, and we had a galvanized iron tank encased in a wooden box, packed in between with sawdust in summer time to keep out the heat and winter time to keep out the frost. We let the milk set in winter 36 hours and summer 24 hours; the latter way being far ahead of the shallow pans. But both of these ways caused too much work carrying the milk to and from the house and barn, and as we raise nearly all of our calves in the winter, the milk had to be all heated on the stove. Sometimes it would be too warm and sometimes too cold, and the calves did not thrive the way they should have. We purchased a Melotte separator at \$100. We have been using it a little over two months, and we consider it far ahead of either of the old ways. We have a little room built for ours off our cow stable, so that all we have to bring to the house is our cream and what milk is needed in the house. The Melotte is very easily turned; a child of twelve years of age can turn it with ease. The machine is so constructed that in cold weather we can cork both outlets in the bowl, and heat with hot water before using. We also got a contrivance made for heating the milk in tank, so that when it has gone through the separator it is warmer than when it came from the cow. I might say, in conclusion, that if I had to go back to the old ways I would sooner let the calves suck the cows. But I must admit they are doing nearly as well as if they did suck the cows. —Victoria County. G. H. PAYNE.

P. S.—We make one pound of butter out of a fraction less than 22 pounds milk, principally all from new calved cows.

The Cow and the Babcock Test.

To the Editor FARMER'S ADVOCATE:

SIR,—The word "cow" may mean, in the dictionary of the dairyman, an animal that gives \$10 of marketable product annually, or an animal that gives \$20, or one whose product sells for \$50 to \$70. The word may mean an animal that drops calves not worth the salt they eat, or it may mean one whose offspring commands \$50 to \$75 each when ready to "come in." The writer would be delighted if he could convey to the ADVOCATE'S readers the real dollar-and-cents connection that exists between the cow, the milk tester and the weigh scale. But we must make an attempt.

Not one farmer in one hundred who keeps cows has accurate knowledge of their value individually. Not one in the same number can certainly say which is his best cow, which his second best, and so on down, even in a herd of half a dozen. Where is he who knows whether or not his herd is profitable, much less the individuals of the herd? These seem strong sayings, but this is no time nor subject for platitudes.

How to do it.—Then how are we going to know? This way: Buy a weigh scale—a spring balance is cheapest and most convenient; hang it up in the milking barn, and weigh each cow's milk separately by simply hanging the pail on the balance every time she is milked for a whole year, or at least all the time she milks during the year, and record the weight of each milking on a blank prepared for the purpose, which blank is to be hung up in a convenient place in the barn. [NOTE.—To be legal, a spring scale must bear the stamp of the Dominion Weights and Measures Department, and must be inspected annually or be liable to confiscation.—ED.] A pencil hung by a string will be always ready for the purpose. At the end of the month copy the total monthly weight in pounds into a cheap book, in which to preserve it, and hang up a new blank.

The best "blank" is one made from a piece of hard maple ten inches square, smoothly planed and ruled. The names of the cows are written in ink and coated with white shellac, so that they will not wash off. The figures are washed off at the end of each month. So much for the quantity of milk. Be it noted that to weigh the milk occasionally is worse than useless, and brings no light.

Quality test.—Having the quantity (in pounds), the next thing needed is the quality. This is obtained by testing the milk for the per cent. of fat by the use of a Babcock milk-tester. This part of the work should proceed on some such plan as the following: Secure a pint glass fruit jar or a proper milk bottle for each cow, and paste a label on it on which the name of the cow is written. Next get the tinsmith to make a small tin sampling dipper, holding about a fluidounce, with a wire handle about 12 inches long. Buy of the druggist or from your nearest creamery or cheese factory about 10 cents' worth of bichromate of potash to preserve the milk. Put into each jar or bottle as much of this preservative as will lie on a five-cent piece (in winter), and about twice as much in summer. The preservative should be ground fine. Now, on the 10th day of each month throughout the year commence to sample each cow's milk at every milking for one week (7 days). This will give fourteen samples of milk, all taken as soon as milked, and carefully stirred before sampling to insure uniformity of sample. The exact day of the month on which to commence the sampling is comparatively unimportant as long as the samples are taken consecutively for a long enough period, about the middle of the month. The per cent. of fat

found in this composite sample may be taken as a fair average of the fat content for that month. When the purpose is to get knowledge of the productive capacity of a cow in butter-fat, occasional weighings of the milk and occasional tests of one or two milkings are quite valueless.

The space allowed for this article will not permit of a description of the method of testing milk, but the writer thinks it would be better to have the milk tested by the nearest creamery operator, if a capable one can be found within driving distance. The actual time consumed in the sampling and weighing need not exceed three or four hours per month. F. J. SLEIGHTHOLM.

A Milk Record.

The success of a cheese factory or creamery is to a great extent proportionate to the satisfaction which it gives the patrons. Monthly or bi-monthly, milk records sent out on neatly-printed cardboard giving the amount sent each day, together with the test, do much to promote confidence in the manufacturer and to create a desire for more painstaking effort and care in the production of the raw material.

For convenience and accuracy in factory work and to facilitate the filling out of these cards, it is desirable to have in a permanent form a detailed record of the milk supplied by each patron. For this purpose the form of milk-book illustrated on this milk-record page has been devised, and in a majority of cases will fill the requirements both as to convenience and cost.

In the weigh-room smooth maple boards, 5x12 in., are used to record the weight upon, the milk brought by each drawer being on a separate board; the weights are totalled up as fast as each load is taken in and are entered into the milk-record at the con-

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venience of the operator; the names of the patrons are written on the board with ink and covered with white shellac, in order that the soap and water used in washing off the figures will not erase the names.

A 100-page foolscap book, costing, in a good binding, about \$1, has been found to answer admirably, and will accommodate over one hundred patrons for twelve months. The size of each page is 9x15 in., and the thirty-seven lines required for the daily weights, the totals and the test should be ruled into thirteen vertical columns, each 1/2 inches wide. By putting in oblique spaces for the patrons' names, they can be read quite as readily as if written horizontally. The days of the month are filled in as required, the dates on which Sunday occurs being in red ink, that they may be easily seen and left blank. One column for dates at the extreme left serves for two pages. The month is divided into four periods, necessitating one less addition than if weekly totals were made, and is especially convenient where tests are made twice per month, as the first two totals always comprise just half the month's milk. Both totals and tests are inserted in red ink to distinguish them from the daily weights. The monthly test is put on the bottom line, and in case a bi-monthly test is made, the first test may be inserted in a space left by a Sunday near the middle of the month. If the patrons' names are written one below the other, the monthly totals must be made up by adding across the page, thus increasing the liability of error. In the system we describe, however, the daily totals are obtained from figures placed one below the other on the weigh-room boards, and each patron's monthly total by adding together the totals for the several periods. The work can be easily duplicated by totalling the daily weights.

Doubtless the busy factoryman will at first regard the adoption of such a record as another

demand upon time and strength now sufficiently employed. When, however, it is pointed out that but fifteen minutes are required to enter the day's milk for upwards of eighty patrons and wash off the boards ready for the following day, it will be readily conceded that he is well repaid for the little extra time spent, by the neatness, convenience and accuracy assured. J. E. CREALY.

Middlesex Co. (West), Ont.

A Visit to the Kingston Dairy School.

The Kingston Dairy School, under the superintendency of Prof. J. H. Hart, is being taxed to its utmost capacity by students this winter, there being at the commencement of the fourth two-week term some forty students in attendance. While a few of these are remaining only a few weeks, the great majority are taking the full twelve weeks of instruction. According to the instructors—Messrs. G. G. Pablo in cheesemaking, L. A. Zufelt in milk-testing, and J. W. Kerr in buttermaking—the class of students is improving from year to year. The classes of this session are made up of farmers' sons and cheesemakers who desire to improve in making cheese and also learn creamery buttermaking. This double knowledge is found necessary since so many of the cheese factories are putting in butter plants for winter operation.

The school is well equipped with modern machinery of various good sorts, so that students are enabled to become familiar with all such apparatus as they are likely to come in contact with in factory practice. Considerable experimental work is carried on, such as various systems of ripening cream, cheesemaking with pasteurized and unpasteurized milk, and with milk of varying richness. Different treatments of curds from overripe milk, etc., are also conducted, such as washing the curds with water while in the vat, etc.

The school finds no difficulty in securing plenty of good milk for their work; neither does the disposal of their butter and cheese at good prices in Kingston and Montreal cause them any trouble. The school is evidently doing excellent work, and deserves the patronage and support it is receiving.

Butter Failing to Come.

To the Editor FARMER'S ADVOCATE:

SIR,—I noticed in your last issue complaints of not being able to get butter; the answer does not seem to be very satisfactory. I have one cow whose milk has been that way for several years as soon as winter set in. It did not matter how we managed it, or how much other milk there was with it, could not make butter if we churned for a week. Take her's out and the other would churn in twenty minutes. All fed and managed the same. I sent a sample to the Professor of Dairying, O. A. C. He said it tested a fair per cent. of butter-fat, but gave no satisfactory explanation. This cow's milk went the same this fall. I kept the milk separate, and milked her once a day, using the milk. After a time it got better. We are now mixing it with the other, and churning all right. Would like to hear the matter discussed and some understanding arrived at if possible. J. S. COLE.

Parry Sound District, Ont.

[NOTE.—Will readers who have overcome this difficulty relate their experience, or some scientist solve the problem, so that tired churners may understand the difficulty.—ED.]

Easy Work to Turn Separator.

SIR,—Having read your article on the use of cream separators in the Jan. 2nd number of your paper, we thought we would give our experience. We bought a National hand separator last October. It skims very close. When we tested the skim milk with the Babcock tester we found there was no fat left in it. It runs so light that a child of twelve years of age could separate the milk of ten or more cows without being at all fatigued. We have twenty cows in milk, and although we were skimming close before, having a first-class cellar, we find there is quite an increase in the quantity of butter. It is very simple in construction—can be set up for work or taken apart to clean in a few minutes. It skims 330 pounds of milk an hour. We would advise your readers to try a separator. We quite agree with you in regard to the saving of labor, and the young stock thrive well on the fresh milk. THE MISSES MACDONALD.

Wellington Co., Ont.

Tuberculosis in Manitoba.

In our January 2nd issue, Dr. Torrance, of Winnipeg, called in question the high percentage of cattle reacting in Manitoba under the tuberculin test, as reported to the Dominion Department of Agriculture and summarized in one of our December number. The tests made by the Dominion veterinarians were from July, 1896, to October, 1898, and the total number tested was only 258, and the number reacting 127. It is but fair to the Province that this should be stated, and we are also advised that those tested were chiefly dairy cows about Winnipeg, which naturally showed a much larger proportion than had the tests been made generally over the Province. In fact, it would be unreasonable to draw any general inference from it as to the great mass of cattle in the country. Furthermore, coming to the past year, Dr. Torrance quotes the official record of Dr. Dunbar, the city veterinarian of Winnipeg, showing that out of 1,333 cows tested only 8.6 per cent. reacted, evidently a very much more favorable condition of affairs.