



BELVOIR KING 40297.
Sweepstakes Jersey bull and head of first-prize herd,
Western Fair, London, 1902.
PROPERTY OF B. H. BULL & SON, BRAMPTON, ONT.

every hundred feet are known that are satisfactory, but in such instances the earthen tube formed by the tile was made very true. It is easily understood that if under such a condition a few tile in the center of a hundred-foot stretch were allowed to be two inches lower than the others that the drain would suddenly close. This is true no matter how much the fall, and only draws attention to the necessity of being careful in levelling.

In commencing to open a drain the plow may be used for a few times to remove the surface soil, but many of our best authorities on this subject claim that to do perfect work all the way through, the spade, pick and shovel must be the principal tools. Some commence at the outlet and complete fifty or a hundred feet as they go along, but it is questionable if under this method the grade can be evenly maintained. It must not be forgotten that the more main drains there are in a system and the lesser laterals, the better satisfaction is likely to be had. The manner in which these laterals join the larger drain is very important. They should discharge their water at the top of the main, and on such an angle as to retard the rapidity of flow as little as possible.

The question has been asked as to whether good tile are perfectly round and the ends formed at right angles to the body. These are comparatively small considerations. The principal necessity is that the center be free from any obstruction, and that the tile be of a uniform size inside. In laying, it is very easy to overcome the unevenness of ends by matching, and where the soil to be placed on top is sandy or very fine a layer of old sod or pea straw may be used before filling in. Where drains are very long and necessarily somewhat complicated, the danger of them clogging can be overcome by having settling basins at doubtful points. In these silt or anything likely to cause an obstruction may be collected; and if a map of the entire system be made and kept, these can be easily located and cleaned out at convenient periods.

How to Live Long.

When a man lives to be a hundred, he has the privilege of telling how he did it.

Darius Drake, of Hebron, Conn., is the latest to give testimony. "I made my dead self my stepping-stone," says he, for one thing. This means that Mr. Drake has taken care of himself. Learning from experience and example the things likely to do him no good, he has done without them. So he has never drunk liquor and he stopped using tobacco years ago. He has made his life "a ministry of love." That is, he has found it more healthful to do good and to live at peace with men—governing his temper—than to submit to the exhausting effects of selfishness and strife. This centenarian appears, then, as the embodiment of the kindly, sensible citizen, more than a little above the average in the application of his common sense. He has neither overeaten nor starved himself for a fad; he has not worn himself out with work, nor let himself degenerate through idleness. He has slept well, performed well, lived well, reasoned well and kept well, shunning worry and all phantoms. May the peace of his hundred years continue!

Appreciated.

It is to be hoped that Miss Laura Rose will favor your columns with letters on buttermaking. She was here some time ago, and her clear and able manner of dealing with the subject, coupled with her charming personality, made her coming quite a treat. People who considered themselves good buttermakers admit, after hearing Miss Rose and seeing her methods, that they are behind the age in the art of buttermaking.

Antigonishe Co., N. S.

R. McM.

DAIRY.

Shall We Pasteurize?

To the Editor "Farmer's Advocate":

Sir,—In regard to flavor and keeping qualities, it is unmistakably the only way to treat cream for buttermaking when the butter is to be held for any length of time or for the foreign markets. The flavor of pasteurized butter, when first made, would not be called perfect or as full a flavor or aroma as first-class or extra butter made from unpasteurized cream when it is fresh, but in two weeks' time or less it will be better, and under good conditions will develop a better flavor than the unpasteurized had when fresh. We have kept pasteurized butter five and six months that could not be distinguished from fresh goods.

Our customers in the local market always prefer it by two to four cents more than they will pay for unpasteurized butter, while the English market gives it next place to, and often the preference to, Danish butter, which is made entirely from pasteurized cream and leads the world in obtaining the highest prices. This is a proof that it is the proper method.

As to pasteurizing gathered cream or cream obtained from the farmers using separators or other methods, it has proved somewhat of an improvement in making a little better article than when the stuff was not pasteurized, but it is quite difficult to get it in the right condition for pasteurizing, as it will often curdle up and get doughy, which spoils it completely, and if it has too much acid or not enough it will not be a success. When the gathered cream is received at the creamery it is generally past the stage where pasteurizing fulfils its object. On the other hand, milk comes to the creamery fresh and good every day. The sediment and dirt that cannot be strained is taken out by the separator apart from the cream which is immediately pasteurized and cooled. Then science takes a part in inoculating the desired flavor called a starter that cream-gathered buttermakers have no use for, as their cream when received already has thousands of kinds of bacteria that are very undesirable and which a good starter would have no action upon.

The best method of pasteurizing is a machine that is an economical user of power and steam, easy to clean, simple in construction, durable, and will keep the cream in a thin layer around the heating surface so as to thoroughly heat it from 165° to 175° Fah. If the cream is pasteurized at a lower temperature all the undesirable bacteria are not destroyed, and if higher, it will give a cooked flavor to the cream and butter.

I believe that pasteurizing will become general among all factories that wish to be up with the times and improvements, and wish to compete in foreign markets where a uniform and mild-flavored butter is desired. It has already become general in Denmark, New Zealand and Australia, who are our greatest competitors.

The first year we were in operation, 1898, we did not pasteurize, consequently we had no end of trouble with cream coming in from the stations; the loss occasioned by overripe and curdled cream making a quality of butter often next to gathered-cream butter, with prices from three to five cents less per pound than the average of following years. The average pounds of milk to pounds of butter is greatly reduced, owing to better condition of cream that has been pasteurized; and, taking everything into consideration, a pasteurizing outfit would pay for itself in a very short time.

FRED DEAN.

Perth Co., Ont.

Monthly Creamery Statement.

MacLeod's Creamery, Middlesex Co., Ont., furnishes its patrons with a monthly statement, as follows:

GENERAL STATEMENT FOR JULY, 1902.
Pounds milk received 151,044
Pounds cream received 23,397
(which contained 10,480 lbs. butter-fat)
Pounds butter manufactured, 12,168.
From 100 lbs. butter-fat was made 116.1 lbs. butter.
Price butter sold for, 19c. per lb., which will leave for patrons, after deducting making price, 15c. per lb. for butter, or 18c. per lb. for butter-fat. —

INDIVIDUAL STATEMENT.

Name—James G.	No. 195.	Lbs. milk or cream sent.	Test.	Lbs. butter-fat.	Price/lb. butter-fat.	Amount.
2764		3.6	99.5	110.0	18c.	\$19.80
51		19.5	10.5			
4 lbs. butter at 19 cts.						\$7.76
Hauling....						2.52
						3.28
Amount due, which you will find enclosed.						\$16.52

W. K. MACLEOD.

Milk Testing.

To the Editor "Farmer's Advocate":

Dear Sir,—In your issue of October 1st, page 722, you reply to a correspondent seeking information about butter-fat test not increasing when cream is added to milk. I would suggest to this patron, or any patron of a creamery who is sending milk to a creamery and has occasion to skim milk at home, that it is a much better method to send the cream separate and have it weighed and tested separate from the milk, and amount of butter-fat for cream shown in monthly statement. The patron will then know that he is getting credit for his cream. It will also be more satisfactory for the creamery operator, because he will know that he is giving this patron full credit for all he is entitled to. The difficulty with adding cream to milk is that it may not be thoroughly mixed through the milk on account of having become thick or clotty.

I take some exception to your statement that "under the present system of paying according to the Babcock test, it is certain that justice is not done to all patrons." This throws a doubt upon the system or the persons carrying it out. I do not suppose we have arrived at perfection in this matter yet, but paying by the Babcock test for milk or cream delivered at creameries is the best known method, and when carefully conducted, I believe, justice is done to all patrons. Milk that is properly aerated and cooled and sent to a creamery on wagon is pretty well stirred up, and if sample is taken immediately after milk is poured into weigh-can it will be a fair representation of milk in can. There should be no blame attached to either the system or careful operator. I understand full well the necessity for the greatest care in all details of sampling and testing, and the creamery man who does not give these things special attention will soon find that he will lose the confidence of his patrons, and also their patronage. I would also remind patrons that the greater care there is taken of the milk or cream by themselves the more surely will the sample taken be an honest representation of the whole milk or cream.

Yours, etc.,

W. K. MACLEOD.

Middlesex Co., Ont.

Buttermaking at Cork Exhibition.

At the great International Exhibition, Cork, Ireland, this year, a dairy competition took place. The judges adopted the following standard of points in deciding as to the merits of the competitors:

	Points.
Dress of competitor and work done in preparation for churning.....	10
Time taken in work	5
Grain of butter on the worker	10
Weight of butter	5
Appearance of butter when made up.....	20
Grain of butter	10
Freedom from water	10
Conditions of utensils at close of work.....	20
General smartness and dexterity	20
Total	100

In the first competition there were twenty-three entries, and after a very keen contest the judges awarded leading honors to Miss M. Holahan, of the Munster Institute, Cork, whose work was characterized by much neatness and smartness all through. For the second place they selected the butter made by Miss Mary E. Smith, also of the Munster Institute; while their choice for third place was Miss M. O'Brien, who, like the two placed above her, received her instruction at the Munster Institute. A northern competitor, in Miss J. C. Wark, of Crindle Cottage, Myroe, Derry, was given fourth, and the reserve place was accorded to Miss R. Magan, of Cork.



MAPLE CLIFF COWRADE.

Ayrshire bull calf. First in class under 6 months at Ottawa and Toronto Exhibitions, 1902. Sire Duke of York 2nd 2301; dam Nellie of Maple Cliff, by Gold King, son of Imp. Nellie Osborne.
BRED AND EXHIBITED BY R. REID & CO., HINTONBURG, AND SOLD TO H. K. DENTON, FOXBORO.