

# University of Kentucky---College of Agriculture

## EXTENSION DIVISION

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### I. Care of the Cream Separator on the Farm.

#### II. Variation in Cream Tests.

##### I. CARE OF THE CREAM SEPARATOR ON THE FARM.

By J. J. HOOPER

The cream separator is designed to be of great assistance to the farmer, by quickly extracting the butterfat from the milk and making it possible to produce a rich, smooth cream and warm fresh skim-milk. The latter is more valuable for feeding when warm and fresh.

A separator should leave not more than .01 to .05 (one hundredth to five hundredths) of a per cent of fat in the skim-milk, whereas creaming by gravity in a crock, placed in the cellar or milk house, often results in a loss of .5 per cent of fat, or more. Thus a good separator will soon pay for itself in cream saved, when a few cows are kept, if cream is sold from the farm.

The following suggestions may be helpful to separator operators.

1. Set the separator level on a solid foundation and bolt it down firmly. It is well to have a piece of rubber packing or leather, under each leg of the separator to serve as a cushion for absorbing vibration.
2. See that all bearings are clean and oiled at all times. Clean the bearings occasionally with gasoline or kerosene to remove all grease that may have become gummy and which may thus prevent proper lubrication and cause hard running of separator.
3. Be sure to turn the separator at proper speed. Time speed with a watch or speed indicator. Most separators are turned too slowly and as a consequence fat is lost in the skim-milk.
5. In cold weather run a gallon of warm water thru the bowl to warm it before turning in the milk.

6. Separate the milk as soon after milking as possible, for the milk is then warm and in good condition to insure a clean separation. The separator will not skim cold milk as well as warm milk. The milk should be at least 75 degrees Fahrenheit in temperature, better still at 100 degrees Fahrenheit, or blood temperature. If the night's milk must be left over to the next morning before separating, warm it by placing the milk can in a tub of warm water for two hours. Then run the night's milk thru the separator first, followed by the morning's milk, which will flush the bowl of any cold cream. Stir the milk up once or twice during separation to keep cream from rising in separator supply can.
7. When thru skimming, flush the bowl with two quarts of the warm skim-milk. In cold weather, warm water may flush the machine more effectively. A variation in quantity of water or skim-milk used to flush out the bowl will cause a variation in the richness of cream for a proportion of the flushing water goes into the cream.
8. Wash the separator each time it is used. Wash all separator parts first with lukewarm water containing washing soda. When all parts are clean, scald with boiling water and hang the parts up to dry. Wash the rubber ring in warm water and lay it on a table so it will not stretch; do not rub it dry as the pulling will make ring larger. Allowing the separator to go unwashed not only causes bowl parts to rust but also contaminates the cream. It is a filthy practise.
9. When the separator is running, the bowl should spin smoothly like a top; with no vibration. If the bowl vibrates, examine the bearings to see if they are loose or worn; see that disks are in proper order and that the spindle is not bent or separator loose or unlevel on its base.
10. Do not interchange parts of different separators. The tinware, disk, etc., should not be changed from one machine to another.

## II. VARIATIONS IN CREAM TESTS.

Why does the test of the cream vary when the same cows and feed are being used and the separator is set to skim the same richness of cream?

The cream does vary in richness and this often leads to unnecessary misunderstandings between the farmer and the cream buyer.

The fact that the cream tests vary does not indicate that careless testing is being done, as it is practically impossible to run a separator under farm conditions without having the cream vary.

#### Speed of Separator.

A change in the speed of a separator changes the per cent of butterfat in the cream. The higher the separator is placed the greater the amount of skim-milk thrown out, and this results in giving a smaller amount of higher testing cream. A low speed of bowl gives a larger quantity of thinner cream.

#### Inflow of Milk.

Many people assume the separator is supplied milk at the same rate on account of the float governing the inflow into the bowl. This is not the case, as at times the faucet is not opened quite its full capacity, or the milk tank is allowed to run low which decreases the inflow into the bowl. Whenever the flow of milk into the bowl is increased, a larger amount of thinner cream results.

#### Flushing the Bowl.

A common cause of variations in cream tests is connected with flushing the bowl. It is a very easy matter to vary a pint or more in the amount of water or skim-milk used for flushing, and this alone may be sufficient to change the test of the cream 2 to 5 per cent, as a portion or all of the flush water may be permitted to go into the cream.

#### Variations in Milk.

Variation in richness of milk is another common cause of variations in cream tests. It is a well known fact that the milk of an entire herd may vary in per cent of butterfat from one day to another. A sudden change in the weather, or excitement of any kind may make a difference. If the milk of a herd of cows whose average test is 4 per cent, is separated so cream tests

40 per cent, and the richness of the milk suddenly rises to  $4\frac{1}{2}$  per cent, which amount of variation often occurs, the cream may rise to 42.5 per cent. In the spring when the cows are in the largest flow of milk the richness of the milk and of the cream frequently averages lower.

Warm milk and cream will flow more freely thru the separator and thus will give a cleaner skimming and thinner cream. Cold cream frequently clogs the bowl, and a bowl that is clogged with cold milk or cold cream cannot do good work.

#### **Cream Screw.**

The per cent of fat in cream is readily changed by regulating the cream screw, but this is seldom done on the farm and cannot by any means be counted the chief, or even a common cause of cream tests varying.

#### **The Feed.**

The idea that the feed of the cow regulates the test of the cream is quite common, but this opinion is entirely without foundation.