

## PASTEURIZATION.

The quality of butter produced by cream-gathering creameries would be improved by the adoption of pasteurization. This treatment, however, has proved relatively more beneficial to sweet cream than to cream which has been allowed to ripen. The pasteurization of ripe cream may be considered to be yet in an experimental stage.

The chief advantages of pasteurization are :

1. A butter of mild flavor may be produced, and food flavors largely overcome.
2. Better keeping qualities may be imparted to the butter.
3. Greater uniformity obtained in the product.

The following disadvantages are found :

1. An increase in the cost of manufacture, which may be accounted for in the cost of the outfit, labor involved and the expense of fuel.
2. The absolute necessity for good facilities for cooling. Where either water or ice is scarce, this adds considerable to the cost of manufacture. A pasteurizing plant is not complete without an effective continuous cooler.

The addition of from 10 to 20 per cent. of good culture will improve the butter made from pasteurized cream. As this increases the volume of cream for churning, it is well to have the fat content of the cream intended for pasteurization not lower than 30 per cent.

## CHURNING.

The fat content of gathered cream is usually so low that a high churning temperature is necessary. This tends to cause an undue loss of fat in the buttermilk, as well as soft butter, which is likely to retain a high percentage of caseous matter and moisture.

Other conditions causing a loss in churning are : Making a churning from lots of cream which differ in temperature and degree of acidity, and also filling the churn too full.

The buttermilk should be allowed to drain well from the churn. It is well to add a pail or two of brine at this stage. Churns should be levelled to allow a free outlet.

Wash with water at a temperature which will give the butter the proper consistency for working and expelling the surplus moisture. It is well to give butter intended for export two washings.

Salting. Salt which has been sifted and is free from foreign flavor should be used in the proper proportion to meet the requirements of the markets. Care should be taken to distribute it uniformly.

Sometimes a preservative in the form of boracic acid in the proportion of one-half per cent. is used to improve the keeping quality of saltless butter.

Working. A more uniform distribution of the salt may be obtained by giving the churn a few revolutions before placing the rollers in motion. If, after partial working, the butter can be allowed to drain a short time without undue exposure, the more complete will the process be.