

In the fifth series, where vats of 3,000 lbs. milk were divided into four different lots during April, May, July, and August, the average percentage of fat in the milk ranged from 3.7 to 3.8. The per cent. of acidity in the milk delivered was .17, and that of cream at the time of adding culture was .09; and at the time of churning it was .55 for the lots heated from 140 degrees to 195 degrees, and .59 for the lots separated at ninety degrees. The percentage of fat in the lots of cream ranged from 27.6 to 32. The percentage of fat in the skim-milk was less than one-tenth of one per cent. for all. The fat in the buttermilk was about .15 per cent. for the pasteurized lots, and .25 for the unpasteurized samples. All the lots had the cultures added at an average temperature of 68 degrees, were ripened at 65 degrees, and were churned at 46 degrees to 47 degrees. The average time required to churn the unpasteurized lots was 47 minutes; the 140 degrees lots, 40 minutes; the 160 degrees lots, 39 minutes; the 185 degrees lots, 37 minutes; and the 195 degrees lots, 42 minutes.

Scoring of Series V.

Comparison of butter made from unpasteurized milk and butter made from milk pasteurized at 140 degrees, 160 degrees, 185 degrees, and 195 degrees.

| No. of [Samples. | Kind of Butter. | Average flavour. Max. 45. | Average grain. Max. 25 | Average color. Max. 15. | Average Total. Max. 100. |
|---------------------|---------------------------------|------------------------------|---------------------------|----------------------------|-----------------------------|
| 2 | Unpasteurized..... | 39.2 | 25 | 14.2 | 93.4 |
| 4 | Pasteurized at 140 degrees.... | 39.2 | 25 | 14.1 | 93.3 |
| 4 | Pasteurized at 160 degrees..... | 39.6 | 25 | 14.1 | 93.7 |
| 4 | Pasteurize at 185 degrees..... | 41.1 | 25 | 14.4 | 95.5 |
| 1 | Pasteurized at 195 degrees..... | 40.8 | 24.5 | 13.5 | 93.8 |

In the sixth series, during March and June, 26,600 lbs. milk, testing an average of 3.84 per cent. fat, was equally divided; and one-half was separated at about 90 degrees and the other half was pasteurized at 160 degrees. The per cent. of acidity in the milk when received was .155. The acidity of the unpasteurized cream at the time of adding the culture was .154, and that of the pasteurized cream was .131. Both lots had about the same acidity at the time of churning, viz., .5 per cent. The percentages of fat in the cream were 30 per cent. in both cases. The fat in the skim-milk in both cases was less than one-tenth of a per cent., and the buttermilk averaged .15 per cent. fat. Both lots were ripened at the same temperature (64 degrees) and were