

# THE TESTING OF MILK, CREAM AND DAIRY BY-PRODUCTS

## BY MEANS OF THE BABCOCK TEST

### INTRODUCTORY.

The Babcock test derived its name from the originator, Dr. S. M. Babcock, of the University of Wisconsin. This was the first satisfactory short method for determining the percentage of fat in milk, and since it was made public in 1890 it has been widely adopted, particularly in the United States, Canada, Australia and New Zealand. It has since, with slight modification, been successfully applied in the testing of cream, skim-milk, buttermilk, whey and cheese. This test has been of immense value to the dairy industry, since it has provided a practical means of:—

- (a) determining the fat production of individual cows;
- (b) making a more equitable division of cheese factory and creamery proceeds;
- (c) detecting abnormal losses of fat in such by-products as skim-milk, buttermilk and whey;
- (d) detecting adulterations such as watering and skimming.

The test is quite easy to operate as no extensive training on the part of the operator is necessary. The simplicity of the test has probably been over-emphasized, producing a corresponding carelessness on the part of some operators, resulting in inaccurate tests and subsequent criticism of the method. While the test is simple to operate, *great care and accuracy must be exercised in all details of the work*, or the results will be inaccurate and misleading. The necessity of care and accuracy in operating the test cannot be over-emphasized. It has been truly said that "operating the Babcock test there is more to learn in care than in principle."

### THE TESTING OF MILK.

The apparatus employed in making a test of a sample of milk consists of four pieces:—

- (a) pipette;
- (b) test bottle;
- (c) acid measure or acid burette;
- (d) centrifuge.

#### THE PIPETTE.

The pipette is a glass instrument used to measure the sample of milk required for testing. Two different forms of pipette are in use which are usually designated as the "ordinary pipette" and the "automatic pipette."