The Babcock Test.

While the Babcock test has other equally important fields of usefulness, there are two that we would make special reference to at the outset, as their importance is so frequently overlooked or underestimated.

One use is on the farm. Every dairy farmer should use the test in weeding out and raising the standard of his herd. If our farmers would only make free use of the test, many of them would be greatly surprised to find how many profitless, or worse than profitless, cows they are keeping.

A second use of the test is to ascertain the loss of fat in skim-milk, buttermilk and whey. Where no test of these bye-products is made, there is frequently a great and *unsuspected* loss of butter-fat, which could and would be avoided, were the maker only aware of the loss by his present careless and faulty methods.

The following is a brief explanation and outline of the Babcock test:

The scale on the neck of the ordinary test bottle is graduated to give a reading of the percentage of fat only when eighteen grams are used in a test, i.e., the fat extending over one of the larger divisions of the scale weighs *one per cent*, or the hundredth part, of eighteen grams. This fact borne carefully in mind will explain the various rules for determining the per cent. of fat when eighteen grams cannot be taken in a test—as in the case of cream or cheese, in which the percentage of fat is high.

Note.—The capacity of that part of the neck over which the scale extends is two cubic centimetres (c. c.), and of that of one of the larger divisions of the scale is .2 ($\frac{2}{10}$) c. c. As the specific gravity of the fat at the high temperature of reading is .9 ($\frac{9}{10}$), the weight of the fat extending over one of the larger divisions of the scale is .9 x .2 = .18 of a gram, which weight is the hundredth part, or one per cent. of 18 grams.

To Test Milk.

1. By means of a 17.6 c. c. pipette take 18 grams of milk. Have the milk at a temperature of sixty to seventy degrees.

2. To this add 17.5 c. c. of commercial sulphuric acid with a specific gravity of 1.82 to 1.83, and thoroughly mix the acid and milk by giving the bottles a gentle rotary motion.

3. Place the bottles in the tester and turn for from four to five minutes, at a speed varying from 700 to 1,200 revolutions per minute, according to the diameter of the machine (700 revolutions per minute with a machine twenty inches in diameter).

4. Add hot water at a temperature not lower than 140 degrees F. to float the fat into the neck of the bottle.

5. Turn the machine again for about two minutes and take the reading before the fat cools. If troubled with burnt readings add the water twice instead of all at once, filling the bottle just to the neck the first time, then turning the machine about a minute, filling to about the eight per cent. mark the second time, and turning for another minute.

Notes.

1. Be sure that the scale on the bottle is properly graduated. The most convenient way of knowing this is to test the same milk in the different test