

THE SAMPLE.

The use of a pipette for measuring cream samples into the test-bottles is absolutely unreliable. The Babcock test is based on a sample weighing 18 grammes. An 18 c.c. pipette will deliver 18 gr. of water, but cream being lighter it will deliver proportionately less. Further, the richer the cream to be sampled the less weight will the pipette deliver, and the test will be lower in proportion.

To get over this, a table is sometimes used to add a percentage to the results obtained when testing rich cream. This might be possible if all the samples were taken at the same temperature and were in perfect condition, but with sour or gassy cream this is also quite unreliable. To illustrate, four samples of fresh morning's cream were tested by weighing and by 9 c.c. pipette, the average by the scales being 0.75 of 1 per cent. higher than by pipette, the scales used being a sensitive chemical balance.

Scales :	51, 45, 31, 27	..	38.50	} 0.75 higher average by scales.
9 c.c. pipette :	50, 44, 31, 26	..	37.75	

Four samples of sour cream, on the other hand, averaged 1.5 per cent. higher by the scales than by the pipette.

Scales :	39, 39, 44, 38	} 1.5 higher average by scales.
9 c.c. pipette :	38, 38, 42, 36	

These figures serve to show that instead of sour cream testing higher, as some claim, it is considerably lower if the sample is measured with a pipette.

Another point is that the more vigorously the sample is shaken when mixing the lower will be the resulting test. This is due to the aeration of the cream. One has only to note the weight of a quantity of whipped cream to see what effect this will have.

THE 18 C.C. PIPETTE.

It naturally follows that if the 9 c.c. pipette is wrong the 18 c.c. will be further out. When using the 9 an equal quantity of water can be used for rinsing, but with the 18 the size of the cream-bottle will not allow of this. I have found the 18 c.c. pipette to be about 1 per cent. lower than the 9 c.c.

9 c.c. :	36, 43, 31	} Average, 1 per cent. higher by 9 c.c. pipette.
18 c.c. :	35, 42, 30	

WEIGHING THE SAMPLE.

In justice to both factory and supplier the sample should be weighed, and the scales used must be in perfect order. A chemical balance is the most reliable, but is usually regarded as too slow for factory use. The twelve-bottle scales more commonly used are accurate