

A poor separator makes a discontented supplier, and a discontented supplier is a thorn in the flesh of the factory-manager. It is a source of continuous loss to its owner and to the factory he supplies. The patron of a whole-milk factory is credited with the whole of the fat contained in the milk, and the losses in separation are borne by the factory. With home separation the loss is borne by the supplier, and, as the latter is not generally so well equipped for getting the best results, the loss is proportionately heavier. Farrington says, "Under ordinary factory conditions few separators will deliver skim-milk containing less than one-tenth of 1 per cent. of fat when the sample is taken from the whole day's run. This must be considered a most satisfactory separation." ("Testing Milk and its Products," page 88.) This conclusion is arrived at by gravimetric analyses of samples of skim-milk. The Babcock test does not claim to show the actual fat-content of skim-milk, but, according to the same authority, 0.05 of 1 per cent. must be added to the reading contained by that method to get the correct amount (page 91). This is due to the fact that the finer fats, which are not recoverable during separation, are equally difficult to get into the neck of the bottle in testing. Allowing that 0.1 per cent. is good skimming under average factory conditions, it is probable that there is an actual loss of at least 0.15 of 1 per cent. under the varied conditions obtaining where home separation is adopted. The writer has tested samples of skim-milk showing a fat-content of 0.17 by Babcock's test, or, say, 0.22 per cent. by gravimetric analysis. How this works out in money value may be shown thus, taking 0.15 as average skimming: 1,000 lb. of milk testing 4 per cent. contains 40 lb. of butter-fat. Allowing that this produces 100 lb. of cream and 900 lb. of skim-milk containing 0.15 per cent. of fat, the loss is $\frac{900 \times 0.15}{100} = 1.35$ lb. of fat, equal to 3.375 per cent. of the total butter-fat contained in the milk—*i.e.* $\frac{1.35 \times 100}{40} = 3.375$ per cent. This in a herd of fifty cows yielding 200 lb. of fat per year each represents a loss of £16 17s. 6d., at 1s. per pound for butter-fat. A portion of this loss is, however, unavoidable. Where whole milk is delivered to a factory the loss is made by the dairy company, whereas where the farmer skims his milk it is he who suffers the loss. What the loss is when separating is carelessly done can only be guessed, but these figures will serve to show the absolute necessity of exercising the greatest care both in the selection of a machine and in the subsequent use of it. The first question asked of a separator salesman is, "Does it turn easy?" The first one should be, "Does it skim clean?" Clean skimming, accessibility for cleaning, durability, and light drive are of prime importance.