Loss of fat in separation: In some cases this loss is considerable, and in all cases there is some. I would suggest to all farmers the advisability of having separated milk tested at intervals during the year.

Loss of fat in transit of cream: In some cases this also is considerable, especially where the cream supplied is of a thin consistency and churns in transit to the factory.

Cream used for buttermaking on the farm: Where this is the practice a considerable difference is made between the two returns—to the credit of the association and debit of the factory return.

Carelessness in sampling: Care in this direction is very important if the work is to be well done, and the milk must be thoroughly stirred before sampling. Discrepancies also occur in connection with damage received by samples in transit to the factory. Occasionally farmers check or think they are checking this class of testing by placing the milk from one cow in two or more bottles, again showing how little farmers in general know of the damage samples may receive in transit, the necessity for careful sampling, and the consistency of milk and its relation to testing. The butterfat in milk is suspended in the serum in the shape of small globules, and this suspension is often broken by the shaking samples receive in transit, especially in hot weather, when milk expands. Once this happens the fat floats on the top of the serum as an oil, and usually it is difficult to make a correct test. Other variations in the test of two samples of the same milk may occur in the leakage of fat in transit, the absorption of fat in corks, the churning of samples on their way to the factory, and irregular and careless sampling on the farm.

Variations in general conditions: Factory returns embody all variations in weather conditions, feeding-conditions, and weights of milk and tests, while the association records as a rule are not so handicapped. This is usually the main cause of the difference between the two returns. The factory has to take all these variations as they come, while, generally speaking, the association records are affected by only a comparatively small proportion, owing to the latter samples being taken on only two days in the month, as compared with thirty in the case of the factory. It is well known that cows (especially those of a nervous temperament) will rise and fall in their tests from day to day to a very great extent. This also applies to the milk-flow—in some cases a change of milker or feed or weather conditions being sufficient to cause a large variation in production. This being the case, it is not surprising that in some periods the figures may be very much in favour of the association. This is the more likely seeing that most farmers appear to wait for good weather and feeding conditions before taking their two days' samples for the association.

Sampling not representative: A fully representative sample can only be obtained when the weights of milk are the same for each sampling, unless the size of the sample is varied according to the variation in the weight of milk. This, again, is usually in favour of the association. The milking-hours on most farms are so arranged that cows produce more milk at the morning than at the evening milking, and most cows show a greater percentage of butterfat at the evening milking than in the morning. This means that where