

meal alone was fed; and 4.1° on the cottonseed meal ration." If it is possible to feed something which will produce firmer butter, a butter that will "stand up" better in hot weather, the question becomes of much practical importance.

There appears to be little difference in the average composition of the butter produced by the two rations. I repeat what was stated in the last College Report, p. 169: "That the varying per cent. of fat, water and other substances found in butter, is likely due more to the method of manufacture than to the influence of food."

#### *Practical Points for Farmers.*

1. For practical use I would not recommend either of the rations used in this experiment. No. 1 I consider deficient in milk producing substances, and No. 2 is too rich for our ordinary cows, as they did not appear to be able to digest and assimilate so much meal. I would also warn against feeding much more than 50 lb. ensilage per day to cows weighing under 1,000 lb. We have found the following ration to give good results: 50 lb. of corn ensilage, 6 lb. of hay, 4 lb. of bran, and 2 lb. of pea and oatmeal mixed in equal proportions. If these latter become too high priced, I would recommend the use of 2 lb. of cottonseed meal (in place of the bran or meals) per day to each cow, when it can be bought for about \$30 per ton.

Feed *liberally*, though not wastefully, bearing in mind that although the *per cent.* of fat may not be increased by liberal feeding, the total amount of fat or butter may be largely increased by causing the cow to give a larger *quantity of milk*. Three things determine the value of a cow: *the quality of her milk, the quantity she gives, and the economical use she makes of her food.*

2. During the hot weather buttermakers are frequently troubled with soft butter. This is largely due, in most cases, to improper handling of the milk, cream and butter, but there is a tendency during hot spells for the butter to be soft no matter what the care taken. From the experiments here reported I am led to believe that the addition of a small quantity of meal, especially cottonseed meal, has a tendency to make the butter firmer, or as we say, raise the melting point from one to four degrees Centigrade. Last summer we fed about 1 lb. per day to each cow, while at pasture, and our buttermaker informs me that he did not have a churning of soft butter during the whole season. Whether this was due altogether to the cottonseed meal, I am not prepared to say, but I think it had something to do with it. In feeding cottonseed meal it should be mixed with bran, cut hay, or some grain meal.