

VARIATION OF MILK CONSTITUENTS.

The fat is the most variable portion of milk. It may vary from two to ten per cent. with individual cows. Herd milk will seldom vary more than one-half of one per cent. from day to day. The chief causes of variation in the percentages of fat in cows' milk are: the individuality, breed, frequency of milking, night's or morning's milk, period of lactation, care and comfort of the cow, and to a very slight extent, possibly, the feed of the cow.

The more frequently cows are milked the higher will be the percentage of fat in their milk. As the period of lactation advances, the milk usually becomes richer in fat and total solids. The better care the cows receive, and the more comfortable they are made, the more favorable are the conditions for secreting rich milk. Whether cows are "stripped" or not will also make a difference in the fat content of milk. Manipulation of the udder will also increase the percentage of fat in the milk.

Feed, however, has very little, if any, influence on the percentage of fat in milk. Feed influences the quantity, but not the quality, except in rare cases. The cow governs the richness of the milk, hence rich milk must be got by breeding and selecting the cows, rather than by depending upon feed for this purpose.

The solids not fat are fairly constant in all samples of milk, tending to increase slightly with, but not in the same proportion as, an increase in the percentage of fat.

Casein is similar to albumen in chemical composi-