

FORM IN MILK.

The fat and a portion of the casein are held in suspension, and the remainder of the solids are dissolved in the water. The fat is in the form of tiny globules, which vary in size. Guernsey and Jersey cows give milk containing large-sized fat globules, while Ayrshires and Holsteins give milk with small fat globules. The size of the fat globules decreases with a diminished flow of milk, and the number increases. Whether these globules are surrounded with a membrane or not has been the subject of considerable controversy, but the question has little practical significance. The chief milk fats are olein (soft), palmitin and stearin (hard), and butyric (volatile).

SOURCES OF CONSTITUENTS.

The sources of the different milk constituents are probably somewhat as follows:

The water is derived from the food and drink of the cow by transudation from the blood, hence the importance of clean food and pure water for the cow.

The fat comes from the albuminous portions of the food, and also in all probability, to some extent at least, from the carbohydrates and fat of the food.

The casein, albumen, and sugar of the milk are probably derived from the nitrogenous parts of the food, through a special cell activity.

The ash or mineral matter comes partly from the mineral matter in the food by transudation, and partly as a result of cell activity in the gland.