

ing. The *proportions* in which different varieties of food are mixed, and the *period* of the fattening at which a given weight of any food is consumed, also affect the increase of the animal's weight. Both in sheep and pigs, less is laid on, from the same weight of food, the fatter the animal becomes. Such things as these the teacher may advert to, by way of explaining how it so often happens that the same kind and quantity of food produces upon different animals results so unlike.

SECT. XXI.—OF MILK AND DAIRY PRODUCE, AND THE FEEDING OF MILCH COWS.

397. *What does milk consist of?*

Milk consists of water, curd, butter or fat, and a peculiar kind of sugar called milk-sugar.

A hundred lb. (or 10 gallons) of cows' milk contain about $4\frac{1}{2}$ lb. of pure curd, 3 of fat or butter, and $4\frac{1}{2}$ of milk-sugar—nearly all the rest is water. When new milk is set aside, the fat rises in the form of cream, and can be skimmed off; a little vinegar or rennet separates the curd, and the sugar is obtained by evaporating the whey. This sugar has the same composition as cane-sugar, but is harder and not so sweet. (See Q. 78, note.)

398. *What does common butter consist of?*

It consists of fat, water, and a very little curd.

A hundred lb. of fresh butter contain 10 or 12 lb. of water, and about 1 of curd. The rest is fat.

399. *What does cheese consist of?*

Cheese consists of pure curd, butter or fat, and water.

A hundred lb. of cheese contain from 30 to 45 lb. of water. Skim-milk cheese contains from 6 to 10 lb. of butter in the hundred; full-milk cheese from 20 to 30 lb. of butter, and about as much pure curd, in the hundred. About ninety thousand tons of cheese are made yearly in England, eight thousand in Scotland, and four thousand in Ireland.

400. *Are the quantity and quality of the milk affected by the kind of food given to the cow?*

Yes; both are affected by the way in which the cow is fed.

401. *If you wished to make a cow give you the largest possible quantity of milk, how would you feed her?*

I would give her rich juicy grass or clover, turnips with their tops, green rye, brewers' grains, warm mash, or other food containing much water, and I would supply her with whey or water to drink when she would take it.

It is said that if a cow be liberally supplied with whey, a very copious yield of milk is obtained. Sour drinks are also very grateful to milch cows.

402. *But to obtain milk of the best possible quality, would you do so?*

No. I would then give her drier food—such as oats, beans, bran, oil-cake, and clover hay, along with her turnips or boiled food.

403. *If you wanted milk particularly rich in butter, what would you give?*

I would give her the same kind of food as I would to a fattening animal—oil-cake, oats, barley, Indian-corn meal, and some turnips.