

which nearly corresponds with human milk in its solid contents.

It is also becoming widely recognized that the milk from the large and vigorous races of cattle, especially Holsteins, possesses another quality, characterized by Professor Carlyle as vitality, and that this quality is communicated to the consumer, whether man or beast. Thus we have large, strong, vigorous calves when reared upon Holstein milk, and puny, weak ones from those reared upon milk rich in fat; and human beings fed upon milk possessing the characteristics of Holstein milk are likewise healthy, strong and vigorous.

Professor Carlyle was right in affirming that "there is such a thing as vitality in milk, and that it is of equal, if not greater, importance than its chemical composition, especially for the milk supply of cities, and there can be no question but that the vitality of milk is closely associated with the vitality of the animal producing it."

A. A. CORTELYOU.

Strathroy Cheese and Butter Making.

At the factory of the Strathroy Cheese and Butter Co., Ltd., Strathroy, Ont., where both butter and cheese are being manufactured during the summer, some of the patrons are sending the night's milk for cheesemaking, and the morning's milk to be made into butter, their idea being that, as the milk for butter is paid for according to percentage of butter-fat, while that for cheesemaking is pooled according to weight, they will make more money by selling the night's milk for cheese, they thinking that the night's milk does not test so well as the sweet, fresh morning's milk on which the cream has not risen. Commenting upon it, the creameryman pointed out that any slight injustice there might be in testing the night's milk arose from the patrons' own carelessness. Many of them do not keep the night's milk well stirred, hence the cream rises; then, the morning's milking is dumped into the can, and some of the cream breaks up into little lumps. In sampling for the test, of course, the creameryman avoids taking any of these clots of cream, and thereby, perhaps, gets a slightly poorer sample than the average of the can. The remedy is to keep the evening's milk well stirred, and then in the morning stir thoroughly again before adding any more milk to the can.

At Strathroy, as elsewhere, the tendency seems to be for farmers to do their own separating and have the skim milk in good condition for feeding. To accommodate these the Company is gathering cream from those desiring to send it, and making the butter from this cream separate from the rest. About 150 to 175 pounds of butter a day is being made from gathered cream. This is sold at $\frac{1}{4}$ cent a pound less than the butter from creamery-separated milk. Sampling a fresh-made box of each kind, we were unable to notice much difference, except that the cream-gathered product had a slightly stronger grass flavor. With the cream collected every other day, as it is here, there should be no trouble with flavor if the patrons all took proper care of separators and cream. Unfortunately, they do not all do so yet, and the fact that some of the cream is hauled about all day on a collecting trip, reaching the creamery sometimes at five o'clock in the afternoon, is also against it. However, the buttermaker considers that by pasteurizing a very good product can be made from the cream, and certainly the increased feeding value of the skim milk more than compensates for a slight depreciation in the butter. Among the patrons, the cheesemaker stated, butter seems to be gaining ground, as compared with cheese, farmers wanting the skim milk to feed to stock.

Milk Standards.

To the Editor "Farmer's Advocate":

Sir,—I am inclined to agree with the statement that there is no "large quantity of milk which contains not more than three per cent. of fat and nine per cent. of solids other than fat." But I would go farther, and say that there is no large quantity of milk, comparatively speaking, which contains as little as three per cent. of fat. The important point, it seems to me, is not so much whether the standards agree with the ratio between fat and solids not fat, in milk, but whether these standards, such as they are, when put in force inflict any hardship or injustice on milk producers. I do not think that a "three per cent. fat and nine per cent. solids not fat" standard is likely to do so.

As a matter of fact, a number of the States in the Union have higher standards. For instance:

	Fat.	Solids not fat.
District of Columbia	3.5	9.
Iowa	3.	9.5
Maryland	3.5	9.
Massachusetts (April to September) ..	3.7	9.3
Michigan	3.	9.5
Minnesota	3.5	9.5
New Hampshire (April to September) ..	3.5	9.5
Vermont	3.25	9.25

The foregoing are among the principal dairy states.

J. A. RUDDICK,
Dairy Commissioner.

Relation of Fat and Other Solids.

To the Editor "Farmer's Advocate":

Sir,—Regarding article by Mr. Fuller, in your issue for June 22nd, would say that 9 per cent. solids not fat is rather higher than is usually found in milk testing 3 per cent. fat. However, we frequently find samples testing 9 per cent. solids not fat, and the fat is but 3 per cent. My own judgment is that $8\frac{1}{4}$ per cent. solids not fat is a safer standard, and more nearly in accordance with the actual composition of milk testing 3 per cent. milk fat.

H. H. DEAN.

Ontario Agricultural College.

GARDEN AND ORCHARD.

Packing and Shipping of California Fruits.

By Dr. F. Segsworth, Lodi, Cal.

The fruit industry of California may be properly divided into three classes, namely: First, the packing and shipping of fresh fruit for the Eastern markets; second, the canned fruit industry; and, third, the curing and packing of dried fruit. This article will deal mainly with the first class—picking and packing of green fruits for the Eastern markets; for, while these fruits are shipped to all points on the Pacific coast, yet the principal markets are the large cities of the Eastern States, such as Chicago, New York, Boston, Philadelphia, etc.

The southern part of the State is devoted almost exclusively to the growing of the citrus fruits, oranges and lemons, while the interior valleys of central and northern California produce most of the deciduous fruit that finds its way to the tables of the Eastern consumer.

About the center of the State, near the confluence of the Sacramento and San Joaquin rivers, lies a large body of rich alluvial land which of late years has become famous as the home of the table grape. Other fruits are also grown extensively, but nowhere else does the table grape attain such perfection as here, where soil and climate appear to be almost ideal for the production of fruit. All fruits are grown in this district without irrigation, with the exception of berries; and this, too, on land that fifteen years ago was devoted almost exclusively to the growing of wheat.

In 1904 more than four hundred cars of table grapes were shipped from the vicinity of Lodi, and there is every indication that this number will be doubled the present season.

Grape-picking commences about the middle of August, and lasts until the end of October. The principal variety of grape shipped is the Royal Flame Tokay, as it stands shipping well, and is a large and handsome fruit. The fruit is picked when fully developed as to size and color, and as the flesh is very solid, it remains firm even when transported long distances. Picking is done by men and boys, many Japanese being employed for this work. The clusters are carefully cut from the vines with shears made expressly for the purpose. The grapes are put loosely into big boxes, holding about fifty pounds, and are then hauled to the packing-sheds, either on the premises or to a central packing-house at the railroad, but nearly all the fruit is packed at the vineyard where it is grown. The grapes are allowed to remain in the lug boxes for 12 to 24 hours before being packed, in order for the

stems to wilt and soften, so they will pack better in the baskets.

Women and girls do most of the packing. The clusters of grapes are carefully taken from the boxes, and all imperfect berries are cut out with small shears. They are then placed in tin-topped baskets measuring 8 inches square and 4 inches deep. The baskets are packed four each in a crate 16 inches square and $4\frac{1}{2}$ inches deep, and a cover nailed on. They are then ready to be packed in the cars for shipment. The cars used are what are known as the refrigerator ventilator cars, and are owned and controlled by the Armour Company. The cars are iced before loading, which allows the fruit to cool while loading. A car of 24,000 pounds capacity will hold 960 crates, each crate containing about 27 pounds of grapes. The cars are iced several times before reaching destination by the car company; that is, the consignor is charged for this service whether the ice is provided or not. Charges for use of refrigerator car are \$85 to Chicago, and \$115 to New York. Besides this, the railroad company charge a regular freight rate of \$1.25 per 100 pounds to Chicago, and \$1.50 per 100 pounds to New York, making the expense per crate 40 cents to Chicago, and 50 cents to New York.

The method of selling is at fruit auction in the large cities where such auctions are established; also through brokers, at f.o.b. prices. Many growers ship directly to their agents in the East; others ship through local shipping firms, who either buy from the grower or sell on a commission of 7 per cent.

The average price on 43 cars of grapes, sold by J. A. Anderson, independent shipper, of Lodi, and sold in New York through the agency of Sgobel & Day at auction, was \$1.46 per crate. Expense of picking and packing, 20c.; freight and icing, 50c.; commission, 10c.; total, 80c., leaving a net profit of 66c. per crate.

The season for apricots begins early in June and lasts two or three weeks. Most of the apricot crop is canned or dried; in this case the fruit is allowed to become fully ripe before picking. But for shipping green, the fruit is picked when it has attained the color and size, but is still hard and green.

Apricots, plums and prunes are packed in the same kind of crates used for grapes. The fruit is packed in layers in the basket, with paper between each layer. The crates when properly packed weigh 26 pounds, and net the grower about 50 cents per crate.

Peaches are packed in crates measuring 20 inches long, 12 inches wide, and $4\frac{1}{2}$ inches deep, and holding two layers of fruit. Each peach is wrapped in paper, and the crate should net the grower 40 cents.

Pears and apples are packed in boxes holding 50 pounds. The fruit is layered, and each fruit wrapped separately in paper. Average net to the grower is 75 cents.

These prices are for fruit received in good condition in the Eastern market. None but the best grade of fruit is shipped, though, sometimes, if the market is exceptionally good, a smaller size of fruit may be sent. All grading is done by hand.

Picking in the orchards is done by hand. Ladders are used to reach the fruit, which is picked into baskets holding 15 or 20 pounds, and these, when full, are emptied into large boxes and hauled to the packing sheds.

Most of the packing is done on the fruit farms,



A Packing Shed on a Fruit Farm—Packing Tokay Grapes.