

THE DAIRY.

RAISING COWS FOR THE DAIRY.

In the best dairy regions of the country but very few calves are raised. Farmers who make a business of producing milk for supplying the city market or for the manufacture of butter and cheese generally state that it is more economical to keep up the size of their herds by purchasing cows than by raising them. They want to sell all the milk they can, and if they are obliged to feed calves, a large proportion of that produced is consumed at home. Land in regions long devoted to dairying is too costly to devote to raising stock, and the majority of dairy farmers desire to sell their cows when they begin to fail in their yield of milk, and to purchase those that are young and promising. The demand for good milk cows is increasing rapidly, and the prices paid for them are higher from year to year. As a rule, a cow three or four years old, in ordinary flesh, but heavy with calf, or with a calf by her side, will sell for more than a steer of the same age that will weigh several hundred pounds more, and is in a condition of fatness to furnish mess beef. The expense of raising the latter is much less than that of the former. In a part of the country where many animals are raised for beef, female calves sell for less than males, and are in smaller demand. It will take less food to support them till a given age, owing to their smaller size. The steers must be well fed on corn in order to fit them for the market. The cows, however, if designed for the dairy, will require no more expensive food than grass and hay. Again, the market for dairy cows is nearer the homes of Western farmers than that for beef cattle. By selecting bulls of a family of Shorthorns or Ayrshires noted for their milking qualities, there is no more expense involved in breeding cattle for the dairy than for the slaughter-pen. The male can be raised for beef, and the females for producing milk. If it is the case, as it is not likely to be, that cattle bring more for slaughtering than for dairy purposes, the cows can be fattened.

SMALL PASTURES.

Major Alvord, at a recent meeting of the Orange County Farmers' Club, said: "I believe it is damaging to keep changing breed. Build up your own herd. . . . Small pastures and few cows in them are better than large ranges with a large number of cows. Next to the grasses in the pasture I believe in shade and water in as many places as possible. Mr. Lewis, of Herkimer county, acquired a large reputation for milk production, and when asked for its causes said he always endeavoured to keep his cows, when in the pasture, as comfortable as possible. He advocated small pastures, plenty of shade and water, and arranged a running stream through the pasture in such a manner as to preclude the cows from wallowing, and thus compelling them to drink muddy water. These suggestions are made, that you will see the necessity of giving your milk cows as little labour as possible. You have noticed how much more fodder your horses and cattle eat when working than when idle. Food, when given while the animal is working, is expended in supply-

ing the waste of tissue; but when at rest, in the case of the cow, this waste of tissue is not so great, and the food is tended toward the production of milk. Small pastures, ease of getting water and shade, are things which should receive your careful attention. A cow eats from 100 to 120 lbs. of green grass per day. Think how many steps she has to take in getting that supply, and the water she needs. If the water is not handy, and the range is large, something must supply them in their efforts to secure both. Exercise reduces the quality and diminishes the quantity of the milk."—*Farmer's Review*.

CHURN SLOWLY.

A little maid in the morning sun
Stood merrily singing and churning—
"Oh, how I wish this butter was done,
Then off to the fields I'd be turning!"
So she hurried the dasher up and down
Till the farmer called, with a half-made frown,
Churn slowly!

"Don't ply the dasher so fast, my dear,
It's not so good for the butter,
And will make your arms ache, too, I fear,
And put you all in a flutter—
For this is a rule, wherever we turn,
Don't be in haste whenever you churn—
Churn slowly!"

"If you'd see your butter come nice and sweet,
Don't churn with a nervous jerking,
But ply the dasher slowly and neat—
You'll hardly know that you're working;
And when the butter has come you'll say,
'Yes, this is surely the very best way'—
Churn slowly!"

Now, little folks, do you think that you
A lesson can find in butter?
Don't be in a haste, whatever you do,
Or get yourself in a flutter;
And while you stand at life's great churn,
Let the farmer's words to you return—
"Churn slowly!"

SCIENCE IN THE DAIRY.

In the course of a paper on this subject read before the recent meeting of the American Agricultural Association at New York, Mr. X. A. Willard said in substance as follows:

There are several important questions concerning the behaviour of milk which have not been solved to the satisfaction of dairymen and scientists until quite recently. He spoke of the recent investigations of M. Fjord, of Copenhagen, Denmark, who experimented with the German centrifuge of Lafelt and an improved Danish centrifuge and the common shallow pan system of setting milk for raising cream. The milk was taken from a dairy of 200 cows, and after being thoroughly mixed, 600 pounds were weighed for each experiment. This quantity was divided into three parts of 200 pounds each, one part being treated with the centrifuge, one part with the Swartz plan of setting in ice water, and the third part with the shallow pan system. M. Fjord found, he said, that during the months of October, November and December the centrifuge gave the best results, while during parts of July and August the ice method proved superior to the centrifuge.

The average for the year was that the skimmed milk, on analysis, yielded an amount of fat as follows: By centrifuge, 0.35 pound; ice method, 0.62 pound, and by shallow pans, 0.68 pound. The superiority of the ice over the pan system is not alone in yielding the greatest quantity of butter, but consists in its easier operation and more certain results in giving a first-class product. Another elaborate series of experiments was made by M. Fjord to

determine the question concerning travelled milk. As a result of these experiments, it was found that the principal cause why milk transported to butter factories gives a less quantity of butter, is due to the cooling of the milk rather than the shaking or agitation during the drive; and further, that this resistance to throwing up the cream in travelled milk can be almost wholly overcome by heating such milk to 104° Fahr.

Another point brought out by Mr. Willard was in regard to the condition and treatment of cream for churning. It was found by experiment that cream, during hot weather, raised on the pan system, is benefited by being cooled with ice to about 47° Fahr., and then raised to the churning temperature. Mr. Willard estimated the saving to butter-makers by a knowledge of these facts at \$30,000,000 annually.

SELECTING DAIRY COWS.

The *National Live Stock Journal* gives the following advice on this subject: Look first to the great characteristics of a dairy cow—a large stomach indicated by broad hips, broad and deep loin and sides, a broad or double chine—these indicate a large digestive apparatus, which is the first essential requisite to the manufacture of milk. Secondly, a good constitution, depending largely upon the lungs and heart, which should be well developed, and this is easily determined by examination; but the vigour and tone of the constitution is indicated by the lustre of the hair and brightness of the eye, and the whole make-up. Thirdly, having determined her capacity for digesting surplus food for making milk, look carefully to the receptacle for the milk—the udder—and the veins leading to it. The cow may assimilate a large amount of food which goes mostly to lay on flesh and fat; but if she has a large, broad and deep udder, with large milk veins, it is safe to conclude that her large capacity for digestion and assimilation are active in filling this receptacle. In fact, the udder is the first point to look at in a cursory examination of a cow, for nature is not apt to create in vain. If it reaches to the back line of the thighs, well up behind; reaches well forward, is broad and moderately deep, with teats well apart, and skin soft and elastic, it may be inferred that nature has provided means for filling it. If the udder be a small round cylinder, hanging down in front of the thighs, like a six-quart pail, the cow cannot be a profitable milker, whatever digestive apparatus she may have. A yellow ear (inside) is almost universally regarded as present in a cow that gives rich, yellow milk.

In order to conduct a dairy after the most approved plan, and to produce gilt-edged butter, ice is indispensable, which, with proper implements and suitable house, can be secured with small cost compared with its value on the farm, and sawdust, where it can be easily obtained, is without doubt the best material to pack it with.

Cows purchased from rich lands and carried to poor soils seldom do well. It is far better to buy a good cow from a poor farm, in which case improvement is almost certain. There is no good reason, however, why a poor animal should be kept on a poor farm. Keep better stock if you have to keep less of it.