

of her life. She gives a little more than half as much milk as the five-year-old Holstein grades, and her milk will show only  $\frac{1}{3}$  of an inch more cream on a Cooley can than the average of the dairy. She eats as much as any of them, and can be bought for much less than the others. The truth is, not all Jerseys are great butter producers, and some families of Holsteins are excellent for that purpose. The dam of the first Holstein bull that I bought weighed 1,100 lbs., and had a record of  $87\frac{1}{2}$  lbs. of milk in a day, and her daughters a record of from 18 to 20  $1\frac{1}{2}$  16 lbs. of butter in a week, and the dam of the second bull recently purchased a record of 10 15 16 lbs. in a week when two years and one month old. The first cross with the Holstein added fifty per cent, to the value of my dairy for butter production. What the second will do remains to be tested.

I have no confidence in the argument based on the cost of keeping a large cow above that of a small one. When cows of the same weight not giving milk are fed alike, some will gain while others lose flesh. Of two pigs of like weight but of different breeding, one will thrive and the other eat and grow thin with the same amount of feed. Of two horses standing idle in winter and fed alike, one will gain and the other lose, although of the same weight. The doctrine is no more true in relation to cows than to men. Some small men require much more food than larger one. So much depends on constitution and disposition that the argument based on size alone is of little value. The largest ration on record I believe is charged to a Jersey cow. If any Holstein, large or small, has eaten as much I have not seen the account of it. I am satisfied with the Holstein cow, as her "flexibility" is such that she can be very profitably used for the "special purpose" of butter dairying, but I have no reason to receive unkindly any criticisms that may be made by those who prefer the Jersey.

C. S. RICE. *Lewis County, N. Y.*

#### Salt in Milk Production.

**EDS. COUNTRY GENTLEMAN**—Being interested in the articles in the dairy papers of late, relating to salting cattle and its effect on quality and quantity of milk, I should like to have from you and your readers experience in the matter—how much and how often it is advisable to give them, different modes of salting, and any arrangement or device in practical use.

*Lake Mills, Wis.*

#### SUBSCRIBER.

The cow is supposed to know how much salt she wants, and it is generally considered the best way to place salt within her reach in stable or field. For this purpose rock salt is best, as a lump of it may be placed in the manger where she can reach and lick it at will. When salt is thus placed within reach of the cow, she does not usually consume a large quantity—not more than two to four ounces a day. Some dairymen believe it profitable to give an extra amount of salt to their cows to induce them to drink a larger quantity of water.

Some experimenters have concluded that the quantity of water drunk by a cow was an indication of her yield of milk. M. Dancel's experiments, report to the French Academy of Sciences, showed that cows giving only from nine to twelve quarts of milk per day, on dry food, and what water they would naturally take, when their dry food was moistened with 18 to 23 quarts of water per day, gave from 12 to 14 quarts of milk, and he was accustomed to salt their food to induce thirst for water. He reported that cows which habitually

drank less than 27 quarts of water were poor milkers, giving only six to seven quarts per day, but those that drank as much as 50 quarts gave from 18 to 23 quarts of milk daily. But the experiments did not determine the real quality of the milk.

Prof. Horsfall, one of the most careful dairy experimenters in England, found that cows of the same weight drank much more water than fattening cattle, and he was curious to know what became of the extra water drank by the cows. He found that cows giving 20 lbs. of milk per day, drank 40 lbs. of water more than fattening cattle of the same weight, and on examining the manure from the cattle and the cows, he found the moisture the same in the both cases. So he inferred that the extra water drank by the cows was given off from the pores of the skin and the lungs.

Some dairymen have reported an increase in milk when the water was pumped into a trough and three ounces of salt per cow were dissolved in the water. The cows would go to the trough often and drink a few quarts, and the increase was said to have been five lbs. of milk per day. One party reported the use of four ounces of salt per day, but thought that was rather excessive, yet it is injurious, and two pounds of oil meal would be better.

An additional amount of water upon dry feed would probably produce more gain in quantity of milk than upon grass.

From our own experience, we think it better that the cows should have what salt and water they naturally desire. Any attempt to produce artificial thirst, to cause a larger consumption of water, will only act favorably for a short time, and it is profitable that an excess of water can add anything but quantity to the milk, and that the increased quantity of milk yielded would not be likely to produce any more cheese or butter. The quality of the milk is determined by the food.

E. W. S.

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