

about 30 per cent. more to haul the milk when the whey has to be returned, other conditions being equal. Consequently, it seems clear that returning the sour whey in the milk-cans is not only a hindrance to the making of the finest flavored cheese, but also not the most profitable system that cheese factories can adopt.

How Much Water Does a Cow Require?

The answer, "As much as she can drink," might be considered the proper reply to such a question. Many dairymen, however, fail to realize the importance of giving their cows all the water they require. In fact, some do not know how much water a cow needs. During the summer a cow is usually allowed to get all she wants, either from the spring creek in the pasture field or from a well-filled trough. Not so during the winter. Very often cows are only allowed out once a day to get a drink, or perhaps the water is carried to them in the stable. In this way it is impossible for the cow at one drinking to take in enough to do during the day. Sometimes, if the water has to be carried very far, the cow can only get one or two pails per day. This is not sufficient to allow the cow to assimilate and digest her food properly. Though roots form a large part of the cow's ration, she will require considerable water and that oftener than once a day.

Last winter Mr. George Rice, a prominent dairyman near Woodstock, made a test of the cows in his herd in this particular. He found that while a heifer not in milk drank only two or three pails daily, his cows drank as high as ten pails daily. Two cows, fresh in milk, drank from eight to ten pails daily, while some others longer in milk, and consequently not giving so much, only drank from four to six pails daily. He also found that one heifer when dry, in August, only drank from two to three pails daily, but, after she had calved in December, required from six to eight pails daily.

These figures will, no doubt, be surprising to many. It is hard to realize that one cow, in a day, can drink eight pails of water. If a milk cow requires that amount, one thing is certain, she cannot take it into her body at one drinking, and, therefore, should have access to water at least twice a day. We also learn from this experience of Mr. Rice that a

cow giving milk requires considerably more water than a dry cow. Water is very cheap in this country, and if a cow requires more of it in order to assimilate her food and convert it into milk, she should have it. If by giving the milk cow a pail or two more water, and at more frequent intervals than is done by many dairymen, she will increase five or six pounds in her flow of milk, it seems to be a profitable way of converting nothing into something, and of getting well paid for the labor attached to it.

Undoubtedly, the best way of watering cows during the winter is in the stables. Of course, if the water has to be carried very far, the cows are not likely to get all they want. There should be, however, in every well-regulated dairy stable, a trough running in front of the cows, filled with water, so that the cows can drink whenever they wish. It will not be very difficult to do this if there is a pump near the stable. A good plan is to pump the water up into some elevated tank in the stable and have pipes connecting this tank with the watering trough. By keeping this tank filled with water, the chill will be taken off before the water reaches the cows. A cow let out of the stable, on a cold, bleak day to get a drink will become chilled after drinking the cold water, and some of the food she gets after being put in the stable again will, instead of producing milk, go towards bringing the temperature of her body back to its normal condition. It is not, therefore, an economical way of caring for cows to allow them to become chilled unnecessarily.

This subject of the amount of water a cow needs requires more attention than we can give it just now. We would, therefore, like to have the experience of other dairymen in this particular. If you have no experience to give, make an experiment during the winter, and let us have it for publication in this department.

The experience of practical men upon this, or any other line of dairy practice, will be given due prominence in these columns.

More Co-operation Needed Among Cheese Factories.

The success of the cheese industry of Canada depends upon co-operation. It was because, in 1863, a number of farmers in Oxford County agreed to supply their milk and have it manufactured after one system that Harvey Farrington was able to start the first co opera-