

The Dairy.

Drought and the Dairy.

BY L. B. ARNOLD.

One who has sense enough to learn from the experience of others is, by common consent, accounted a wise man. He who can only learn by his own experience is rated as a fool. What appellation then will befit those who gather no wisdom even from the dear school of experience? There are lots of dairymen who must be counted in this third and unnamed class as they jog along year after year, and even through a whole life without profiting anything from the repeated events of the recurring years. There never was a more suggestive lesson put before a farmer than that which the loss by repeated droughts offers to dairymen; but, alas! how few heed it. More than three quarters of the dairymen in the United States and Canada fail to appreciate that droughts are frequent and never ceasing, and that heavy losses are involved unless provision is made against them. Will the lesson taught by the extensive drought of the present season be heeded by the owners of starved herds?

When I commenced dairying on my own account I was young and inexperienced, and made the mistake common to the calling, and paid the full price of a fool's tuition. I provided grazing enough for my herd if the season should prove favorable, but made no provision in case it should not. The first season everything went along smoothly. The weather was favorable, and showers enough fell to keep the grass growing, except a short time in August, and the supply on the ground tided the flock over this spell and kept up the flow of milk. My cows made 400 lbs. of cheese apiece within a small fraction, which was considered a goodly yield in those days. The next year fortune frowned. Six weeks of dry weather left my stock on barren and bare pastures with not half enough to eat, and their milk ran down to about one-third of what it was at same date the year before, and the return for the season fell a little below 300 lbs. of cheese to the cow—a loss of over 100 lbs. of cheese to the cow. Cheese was then worth \$7 per 100, and this on a dairy of 30 cows depleted my pocket to the tune of \$210, which \$25 expended in raising fodder corn would have saved and left my herd in better condition for the next year. But the lesson was not lost. It counted as so much paid for tuition. I never was caught so again. I never failed to provide some soiling crop to bridge over the space from fresh grass in early summer to fresh grass in the fall. By this means the flow of milk was kept continuous, and the yearly product went up from 300 lbs. of cheese per cow, for the season, to 480 lbs., which at the time was considered a large product, but it would not be satisfactory now. My experience was not a singular one. A few others took a similar course, and all who did made similar advances in the yield of their herds, but the great mass of dairymen paid no heed to our example, though we talked and published widely for the benefit of our brothers of the pail.

The immediate loss of milk by not supplying full rations of milk-producing food the whole of the milking season is not the end of the misfortune. It affects the flow of milk in after years, and counteracts all efforts at improving the milking capacity of the cows and their descendants. When the udders of the cows are limp or empty

one half of the year, this condition becomes a fixed and hereditary quality which may be looked for in the future heifers with as much certainty as like may be expected to produce like in any other particular.

On the other hand, if cows are kept up to their best efforts they will gradually make their condition a permanent and fixed tendency in their nature, and will transmit it to their descendants the same as every other quality they possess.

The difference between so treating them as to depress the milking tendency in the cows of the country and elevating it is simply immense. The native stock of the country is naturally strongly favorable to a good milking habit, but bad treatment has sunk it sadly in that respect, and a continuance of the starvation policy will keep it there.

After studying the effects of the customary treatment of dairy stock for over thirty years, I am confident that scanty feed in summer droughts and pinching with needless exposure to cold in winter, keep the annual product of the cows of the country forty percent below what it would be with fair and constant rations the year round and comfortable housing.

How long must such a ruinous loss continue, which a little brain power could easily avert? When will dairymen all learn to profit by their own hard experience? It is gratifying to know that some of them are doing so, and that the number is steadily increasing.

Testing Milk at Cheese Factories.

In response to an article on this subject published in our July issue, our special dairy expert visited a large number of cheese factories between Elgin county in the west and Peterboro in the east, and tested the milk while it was being delivered from the cans of the patrons. We are pleased to say that the results were eminently satisfactory, but we regret that a large number of invitations had to be refused for want of time. The cheese-makers especially, as well as many of the presidents and directors of the factories, took great interest in the tests, and were all anxious to learn how they were conducted. Our expert readily explained, and it was a source of great satisfaction for them to know that milk could be tested as fast as delivered and accurate results obtained, two tests being made of each patron's milk, so that determinations were made as to whether the milk was watered or skimmed, or both. The tests were quite conclusive when the evening's and morning's messes were kept in separate cans, but when the milk was mixed, some latitude had to be allowed.

The methods of adulteration are numerous, but those usually practiced are skimming the evening's milk and watering the morning's—sometimes the one, sometimes the other, and sometimes both. Sometimes the strippings are withheld, which form of adulteration is exactly equivalent to skimming. Many farmers may regard themselves innocent when, in taking a lunch before going to bed, they dip the milk from the top of the can; but this is skimming, pure and simple, and a bowl full of milk, or rather the cream, removed in this way, will be detected by the testing instruments. Another criminal practice is found in rinsing out the milk pails with water and pouring the rinsings into the cans. Slight adulterations of this kind can usually be detected. It is a striking coincidence

that the older the factory the greater the adulterations practiced. In the east the cows give poorer milk than in the west, but adulterations are not practiced on so large a scale. In some of the factories, nearly all the patrons do a little tampering with their milk, while in others the tampering is practiced only by a few, but usually on a large scale. It is impossible for all the patrons to do much tampering, for it would require such an unusually large quantity of milk to make a pound of cheese that an investigation would be the result. In some cases 25 to 30 percent of water was found in the milk, and the percentage of fat was reduced to 1½, whereas not less than 3 percent has ever been obtained from the milk of a herd of cows. On the other hand, the milk from some herds in the west analyzed nearly 4 percent of fat, proving that there are some excellent feeders and breeders amongst our farmers, who are honest men as well. We believe the time will soon come when each patron will be paid according to the quality of his milk, in which case the losses sustained by adulterations will fall upon the perpetrators, and progressive farmers would be encouraged in their efforts to produce good, honest milk.

Nearly all the cheese-factories have some instruments for testing milk, but the objections against them are so serious as to render testing almost impracticable and worthless. Our expert found many of the thermometers and lactometers several degrees astray. The cheese-makers have rarely time enough to spare to make even these inaccurate tests. An example will illustrate: At one factory our expert made over 30 tests while the cheese-maker was cooling one sample of milk for the purpose of taking the specific gravity with his lactometer. The sample of milk was pure, but his lactometer indicated that 15 percent of water had been added. At some factories tubes or cremometers are used for the purpose of testing the volume of cream raised from the milk. We warn cheese-makers against these tests for they are not reliable, although by operating upon the skim-milk comparative results of a satisfactory character are often obtained. The small tubes used in some factories for raising the cream and allowing the casein to coagulate are utterly worthless, the results being extremely unreliable.

It must not be supposed that the science of milk-testing can be learned in a day, although very little skill is required in operating the instruments. We believe it would pay every cheese-maker to become an expert milk-tester; his services would be in much greater demand, and the study of the subject is a pleasant occupation. It is surprising to find the difference in the various operations of cheese-making as practiced by cheese-makers. We should be highly pleased to see an organization of cheese-makers through which they could compare notes both in the manufacture of cheese and in the testing of milk. Their voices are rarely heard at our great dairy conventions. Such an organization will receive the enthusiastic support of the ADVOCATE. Who will be the organizer? It will also receive the sympathy of our farmers. We are pleased to find that the invitations for making milk-tests have come from the farmers and cheese-makers, whose organ the FARMER'S ADVOCATE has always been and always will be.

What the protection of a cool porch is to the haymaker during the brief rest after a hearty dinner, such, says the Prairie Farmer, is the clump of shade trees on the breezy knoll to the cows while digesting the large bulk of grass they must eat to make a liberal portion of rich milk.