Water for the Cows

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If Cows Can Drink at Will, They Produce More Milk, More Fat. Experiments Reveal

Cows when watered twice a day at an outside tank drank 18 percent less water, produced 3.5 percent less milk, 10.7 percent less butterfat than when watered inside with drinking cups where they might drink any time during day or night.

Dairymen whose cows can have a drink of water whenever they want it — night or day — will get more milk and butterfat from the same amount of feed and care than the dairymen who water their cows only a couple of times a day.

This is the conclusion we have drawn here at the Iowa Station from experiments conducted several years ago. Dairymen who are "on their toes" know that the watering of cows is pretty important, for about 87 percent of the milk which a cow gives is made from water. In this war food production period when we are striving for the best possible output from our cows, we may well give watering special attention.

In our tests we used two groups of cows. Those in one group were watered twice a day from an outdoor tank, while those in the other group were getting their water from water bowls beside them in the barn where they might drink at will.

In this test we used 12 cows, divided into two lots of six each. We used the experimental plan known as the double reversal. That is, each group of cows first was watered by one method for 28 days while the other group was being watered by the other method. At the end of one of the experimental periods, the method of watering the two groups was reversed, and after a 7-day preliminary period, another 28-day period experiment was run. There were four of these 28-day periods. Thus each group of 6 cows was watered for two periods from the tank and two periods from bowls in the barn.

Results of the Tests

The cows while being watered by means of water bowls drank approximately 18 percent more water and yielded 3.5 percent more milk and 10.7 percent more butterfat than while being watered twice a day at the outdoor tank.

A man was kept on the job to find out when the cows did their drinking if they had an opportunity to drink at will. We found that the cows drank an average of about 10 times in each 24 hours. About two-thirds of the water was consumed in the daytime between 5 a.m. and 5 p.m. — and the other third during the night.

When the cows were being watered at the outside tank, they frequently drank only once a day. This refusal to drink more than once a day was distributed among all of the 12 cows, though we found that certain cows showed more of a tendency to drink but once per day than others. The inclination to drink but once per day was not consistently associated with the amount of milk produced.

One of the surprising results of these experiments was that the cows when watered by means of water bowls not only yielded more milk, but had a higher fat test. Why this was so we do not know, and we are not sure that it would be repeated in a similar trial, but a test of the data by mathematical procedure showed that there were only about 4 chances out of 100 that it was by accident alone.

In our tests we came to the conclusion that the temperature of the water was not nearly so important as the temperature of the air. In other words, if the cow had to stand outside in near zero weather, she was likely to drink relatively less regardless of the temperature of the water. As one might expect, the cows drank more as the weather became warmer.

Although the cows drank more from water bowls than when they were allowed to drink twice a day at an outside tank, there was less difference in milk production than in water consumption. The amount of water drunk from the bowls was 18 percent more than from the outside tanks, but the milk yield was only 3.5 percent more.

The fact that our experiments were made with water bowls doesn't mean we recommend that every dairyman supply his cows with water bowls. It is almost impossible during the war to obtain water bowls unless they are purchased secondhand.

This doesn't mean that better watering is not possible on many farms. Some farmers have tanks inside their barns where they might be able to water more than twice daily. Our experiments indicate that it is pretty important that the cow have a comfortable atmosphere where she drinks.
When cold wintry winds are wheezing around her, the cow is not likely to drink as much as she will if she can drink in a comfortable place. Though the air temperature in which the cow stands is important, she will drink more if she doesn’t have to sip her needed water out of an icy tank.

The Iowa Station has shown that the type of ration which the cow is fed greatly influences the amount of water which she drinks. This same result has been shown in other experiments also. If the cow is getting silage or green feed with a lot of moisture in it, the cow will drink proportionately less than she will if she is entirely on dry feed. There is a tendency to balance up the total amount of water in the feed and that drunk. If the feed has more moisture in it, then the cow drinks that much less.

Do Calves Need Water?

Do young calves on skim milk need water? Some light on the answer to this question is given by an experiment conducted by the Idaho Station. There, a record was kept of the amount of water 26 Holstein calves drank, in addition to that which was in the milk they were fed. The amount of free water consumed weekly per calf was 1.3 pounds at 6 weeks of age, 29 pounds at 9 weeks, 43 pounds at 12 weeks, 62 pounds at 15 weeks, 88 pounds at 18 weeks, 146 pounds at 21 weeks and 234 pounds at 26 weeks of age.

These figures indicate that the very young calf does not need water in addition to the milk which it drinks. When the calf reaches the age of about 6 weeks, providing it with water then becomes essential. The amount which is needed increases rapidly as the calf gets older. Unless water is provided then and in amounts needed, the calves will not grow properly, nor will they maintain their best health.

Adequate watering of our dairy herds is just as important as the feeding. We need to make sure that it is properly done.

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**You Don’t Like MOLES?**

...Then Kill Them With Gas or Traps....

**B**ECAUSE OF ITS food habits, the common mole is actually an extremely beneficial animal, but the average gardener is hard to convince of this after his lawn has been wrecked, his flower beds disrupted and his potatoes disturbed by one of these burrowing animals.

Moles feed primarily on earthworms, insects and insect larvae such as white grubs, wireworms, cutworms and other soil-infesting forms. The mole daily eats his own weight in insects. From this standpoint the animal is beneficial, but in its search for food, a single mole may construct as much as 75 yards of tunnel in a single night.

The raised runways and occasional mounds of earth are unsightly in lawns and detrimental to flower beds and vegetable gardens. Frequently a mole will burrow right down a row of flowers or vegetables, disturbing the roots and opening cracks in the soil which cause the plants to dry out and die.

Moles are sometimes accused of eating flower bulbs and tubers, but in most cases they are not responsible for this damage. Their runways are used by pocket gophers, mice, shrews, rats and other animals. These trespassers feed on the roots and are usually responsible for injuries to cultivated plants.

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**By HAROLD GUNDERSON**

Raised runways and occasional mounds of earth are unsightly in lawns and detrimental to gardens and flower beds.

Moles can be controlled, although perseverance, close observation and skill are needed to eradicate them from a lawn or garden. Only the most important control measures will be discussed here, although other methods have proved effective under certain conditions.

**How to Use Traps**

A number of different mole traps are available. Since they all differ in design, it is best to follow the manufacturer’s directions closely in using any trap. The following procedure may be used successfully with most mole traps:

1. Locate the main runway by rolling or trampling down all of the raised runways. Watch carefully at hourly intervals to determine which one is raised first. This is probably the main runway and is the one over which the trap should be set.

2. The trap may be placed anywhere along the runway, but a straight section of burrow is preferable. For most mole traps, loosen the soil with a fork or trowel where the trap will be set. The action of the trap will be easier and faster. Tramp down the main runway again before setting the trap. If only the short section of runway where the trap is set is tramped down, the mole may go around it; if the entire runway is flattened, he will be less cautious.

3. If the mole is not caught in 24 hours, he has probably abandoned that runway. Tramp down all the runways again, and reset the trap on another which is being used.

4. In many cases, moles use their own and other burrows interchange-