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Check Water Quality Periodically

Most dairy rations are carefully formulated mixes of grain and forage with the appropriate vitamin and mineral supplements. But the number one nutrient required by the dairy cow is water. A dairy cow requires 4.0 - 4.2 pounds of water per pound of milk produced. Water samples should be taken and tested to ensure that cows receive good quality water.

There have been few controlled studies to develop water quality standards for dairy cows, so many of the current standards are based on human drinking water standards. At a minimum, a water analysis should consider pH, nitrates, hardness, iron, manganese, chlorine, sulfates and total dissolved solids.

We assume that water with a pH of 6-8.5 is safe, but research really isn't available to describe what happens when water outside this range is provided. Water hardness has not been shown to negatively impact dairy cows. However, extremes in either water pH or hardness may cause problems with products used to clean milking equipment.

The safe level for nitrate-nitrogen for humans is less than 10 parts per million (ppm) is probably conservative for dairy cattle, but since the same well may provide water for both humans and cattle, levels above 10 ppm should be investigated.

When manganese levels exceed 0.05 ppm, iron 0.3 ppm, or chlorine 0.5ppm; some water palatability problems have been reported in the field. The resultant reduction in water intake could negatively impact production, so high manganese and iron levels should be corrected.

In general, water sulfate levels less than 1000 pm have been safe for dairy cows. When higher levels of sulfate exist, decreases in dry matter intake and milk production have been observed. Potential copper deficiencies might also result if the sulfate interferes with copper use by the cow.

Although not a problem at this time of the year, there has been some research that has shown that when total dissolved solids exceed 5000 ppm during periods of heat stress, milk production is decreased.

Because water is such an important nutrient, both it's quantity and quality should be monitored routinely. Annual testing may be adequate on some dairies, but during periods

of drought or any known disturbance to the aquifer or surface water source additional samples should be taken. In addition, if a change in odor, taste or appearance is observed, have the water tested.

Once a water analysis report is received, compare the results to water guidelines to see if the water meets quality standards. Also, monitor any changes from previous test results. Don't let poor quality water drain your profits.

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