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Water for Cows

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Water is the most important nutrient that we provide to dairy cows. A water deficiency will affect a dairy cow more quickly and more severely than a deficiency in any other nutrient. No Northwest Vets clients would ever build a barn or send their cows to a housing situation without access to water, but inadequate access to water is quite common, and the negative effects on performance and health are very real. Take a moment to consider your cows' accessibility to good quality water.

A high producing cow will consume 25 to 35 gallons of water per day in order to meet her needs for maintenance bodily functions, and milk production. There are many interesting experiments that have discovered when and how cows prefer to drink and these findings should be taken into consideration when dairy farmers are looking to improve their cows' access to water. First, cows need water near their feed source in order to maximize intakes of both feed and water. The water source should be within 48 feet of the feed manger in freestalls or loose housing situations. A study by Steiger, Burgos, et al. (1999) found that restricting access to water caused a decrease in dry matter intake of 5 pounds per cow per day with a 50% reduction in access to water. This would result in a difference of about 12 pounds of milk production per cow per day.

Cows prefer to consume a lot of water immediately after being milked. Even cows in tie stalls with individual access to water 24/7 have demonstrated a propensity to drink more immediately following milking. In fact, 30 to 50% of the cow's total water consumption for the day occurs within one hour after milking. This is why having water at the exit from the parlor is very important. As the size of the dairy and the distance back to a pen increases, the importance of access to water for these cows increases. Some studies are suggesting a parlor exit water source have at least 24 inches of waterer space per parlor stall. So, a double 10 parlor would need 240 inches or 20 feet of watering space at or near the return lane. In tie stalls, it is important to check to see if several cows in a row can drink from their water bowls without waiting for enough re-filling pressure. Just because every cow has a water bowl in front of her, doesn't mean she has easy access to water.

Water trough dimensions matter. Standing cows like to drink from water that is 24 to 35 inches above the standing surface. A long, narrow waterer can accommodate more cows than a round one of the same area. Lactating cows in freestalls need at least 2.5 inches of water trough per cow and 4 to 5 inches per cow is preferable. Fifteen to 20% of the cows in a pen should be able to drink at the same time. Water troughs should be shallow so that cleaning is easy, and also so that more water turnovers occur as cows drink, keeping fresher water in the trough at all times. Still, a shallow waterer of lower total volume requires fast filling in order to keep up with thirsty cows immediately after milking or during warmer weather. A cow at the waterer should never have to be waiting for the waterer to fill in order to get what she would like. The rate of water consumption for lactating cows can vary from 1 to 4 gallons per minute. Figure out how many cows might drink from a trough at once in your facility and multiply by 4 to get the gallons per minute required to keep up.

Before hot weather arrives, and water requirements increase by 20 to 30% per day, assess water availability in your facilities and make a plan to provide your cows with the nutrient most important to their health and performance.