



JUNE 2024 DAIRY NEWSLETTER

WATER – A CHEAP WAY TO MAKE A HUGE IMPACT ON YOUR FARM

Water is the cheapest and most vital nutrient for dairy cattle. The daily water requirement of cattle varies significantly depending on the animal's size and growth stage. Consumption rates can also be affected by environmental and management factors. Air temperature, relative humidity and the level of animal exertion or production level are examples of these factors. The quality of the water, which includes temperature, salinity and impurities affecting taste and odour, will also have an effect. The water content of the animal's diet will influence its drinking habits. Feed with a relatively high moisture content decreases the quantity of drinking water required.

Milk is composed of nearly 87% water. The cow's peak water intake generally occurs during the hours of greatest feed intake, with cows drinking 30-50% of their daily water intake within an hour or so after milking. Water intakes are variable and typically average around 76-114 liters (20-30 gallons) per cow per day. However, heat stress may increase water intake to 189-227 liters (50-60 gallons) per cow per day.

WATER CONSUMPTION BY DAIRY MILKING CATTLE*		
	Level of Milk Production (kg milk/day)	Water Requirement (l/day)
Milking cows	13.6	68 - 83
	22.7	87 - 102
	36.3	114 - 136
	45.5	132 - 155
Dry cows	—	34 - 49

Dairy cows typically spend around 10 minutes a day drinking and around 30 minutes a day close to the waterers in the alleys and crossovers. These areas are therefore prone to congestion and competition between cattle. Access to water in freestall pens is challenging as cows tend to drink at the same time, especially after milking, so it is essential that enough space is provided, and the water supply rate is *at least 23-26.5 liters (6-7 gallons) per minute*.

Current recommendations suggest providing 3.5 linear inches of accessible waterer perimeter per cow with at least **two** watering locations **per group**. For groups less than 10 cows, a single water source *may* be acceptable. For heifers, 4-5 linear inches is recommended.

An ideal location for the waterer is on the outside of each end of the pen as it allows both sides of the waterer to be utilized, and one waterer can be shared by cows from two adjacent pens provided that the waterer is at least 24 inches wide. Cow flow around the waterer is very important, and there should be a minimum of 12 feet of clear alley around the waterer for good cow flow.

The upper edge of the waterer should be located 24-32 inches above the cow standing surface for mature Holstein cows (21-29 inches for Jerseys) and the water level should be within 2-4 inches of the upper edge. Cows should not have to step up on a platform with their front legs to access the waterer, so any raised platform should not extend more than 6 inches from the perimeter of the waterer. A guard rail may be placed around the waterer at least 24 inches above the outside upper edge to prevent the cows stepping in the water. However, this dominance behavior can be reduced by providing adequate watering space.

WATER QUALITY

Water quality is also important to consider, as it has an impact on the volume of water consumed. Foul odours or tastes, for example, may discourage animals from drinking. Depending on the cause, poor water quality can affect herd health, possibly leading to animal death and economic loss to the producer. Assess water quality at both the drinking spot and the source. The contamination of watering devices by dust, spilled feed and fecal matter can lead to the growth of slime. Eventually slime organisms die and decay, creating foul odour and/or tastes. When you walk by a waterer, scoop some up from the bottom and smell it. If it smells like sewage, you can guarantee your cows are not drinking as much as they could be/should be. The same applies for water bowls in tie stalls.

Water troughs can also become havens for rats underneath, as well as insects and worms under the lids. Baits, replacing missing plugs to restrict access and cleaning inside are essential to keep everything clean!

Cisterns in barns are often a source of contamination and overgrowth of bacteria. Water lines themselves can become overgrown, seeding water troughs. There are good, economical water treatment options for improving on farm water quality.

One of the most underrealized area of potential impact on most farms is the quality of water being offered to **dry cows and fresh cows**. For dry cows, clean, fresh water will increase their daily consumption, which will increase their daily DMI and put them in a healthier position for when they calve. Fresh water in the fresh cow pen will also increase their DMI and promote healthy rumens, which decreases their chances of becoming sick. You should be cleaning your waterers in pre-fresh and fresh pens **DAILY**.

HEIFERS

During the liquid feeding stage, calves receive most of their water as milk or milk replacer. However, studies show that calves offered water by free choice in addition to a liquid diet **gain faster and consume dry feed earlier** than calves provided water only in their liquid diet. Therefore, it is recommended to provide water by free choice to calves receiving liquid diets to enhance growth and dry matter intake. Weaned dairy heifers consume approximately 1.0 to 1.5 gallons of water per 100 pounds of body weight. As with all livestock, water should be fresh, clean and always available. Care should be taken to ensure adequate water supplies during periods of heat stress.