Most Important Nutrient - Water

Earl Ward

The comedian W.C. Fields said, “I never drank water because of the disgusting things that fish do in it.” As horrific as this sounds, water is the most essential nutrient required by all animals. Energy and protein are very important but without water neither one can be utilized.

Water constitutes about 98% of all molecules in the body. It is required for the body to regulate its temperature as well as for growth; reproduction; lactation; digestion; metabolism; excretion; hydrolysis of protein, fats, and carbohydrates; regulation of mineral homeostasis; lubrication of joints; nervous system cushioning; transporting sound; and eyesight. Water is also a solvent for glucose, amino acids, mineral ions, water-soluble vitamins, and metabolic waste transported in the body. With an inadequate supply of good quality water an animal’s entire body is affected and will not run up to its full potential. Any reduction in water intake will also decrease the animal’s performance.

Animals lose water from the body through urine, feces, sweat, and water vapor from skin and lungs. If the animal is restricted from water, its body will begin to resorb more water than normal, in turn concentrating the urine. Even though this function is limited, it can reduce water requirements. Water lost through skin and lungs can be very significant, particularly as the animal’s temperature and physical activity increases and could be as much as water lost in the urine.

Several factors affect the animal’s water requirements: rate of gain, composition of gain, pregnancy, lactation, activity, type of diet, feed intake, and environmental temperature. At

40°F a 1,000 pound finishing steer requires 8.7 gallons of water. However as the temperature rises to 90°F his water requirement jumps to 20.6 gallons (see graph). That is a 2.37 fold increase for the same animal.

Since livestock drink mainly from surface water sources such as ponds, lakes, and creeks, the quantity of water is important but the quality of water available is also extremely important to maintain water consumption.

Monitor your animal’s water sources and have them tested if you suspect any reduction in performance due to poor water quality.

Factsheet: L-256 - Livestock and Poultry Drunking Water Quality: Understanding Your Water Test Report

![Daily Water Intake of Finishing Cattle Graph]