

# Winter Watering for Livestock

What is the most essential nutrient for livestock? Water. As the temperatures drop, we focus on our livestock getting quality stored forages/ feeds but often do not pay enough attention to water intake and making sure livestock has access to sufficient high-quality water. The potential effects of drought combined with freezing temperatures creates significant concerns for livestock producers.

## Livestock Water Requirements

Livestock don't require as much water in colder temperatures, but adequate fresh water is still critical to the health and performance of livestock. Poor quality water or lack of access to water because of frozen water sources can have a detrimental effect on animal performance. To ensure we are providing animals with adequate amounts of fresh water we need to understand how much water they need to match their stage of production.

Animals prefer their water between 40-65 degrees Fahrenheit. A rule of thumb to determine the water needs of your herd or flock is this: On average a non-lactating animal consumes one gallon of water per 100 pounds of body weight per day in winter.

There are several factors that will affect how much water animals need, including outside temperature, moisture of feedstuffs, size of the animal and whether they are lactating.

- **Temperature:** As temperatures drop, livestock need additional energy to maintain their body temperature. The energy required will likely come from additional forage consumption. The additional forage ingested will, in turn, increase their water intake.
- **Moisture of feedstuffs:** The higher the moisture content of feedstuffs, the less water livestock need. For example, cows eating dry hay drink more water than cows eating baleage or other high moisture feedstuffs.
- **Size of the animal:** Larger livestock have higher water requirements.
- **Lactating animals:** It makes sense that lactating cows, ewes, does, etc. would require more water than dry cows/ewe/does. In fact, their water intake will nearly double when they are lactating.

The following tables show the variability in water requirements for different sizes and production classes of livestock at different temperatures.

**Table 1. Daily water needs for cattle as influenced by temperature.**

Animal Class	Impact of Ambient Temperature on Water Intake (gallons/head/day)		
	40°F	70°F	90°F
<b>Beef Cattle</b>			
Growing, 600 lb	5	8	13
Finishing, 1000 lb	9	13	21
Wintering Pregnant Cow, 1000 lb	6	9	--
Lactating Cow, 900 lb	11	17	16
Bull, 1600 lb+	9	13	21
<b>Dairy Cattle</b>			
Dry Cow	6	9	9
40 lb Milk	16	22	27
80 lb Milk	26	34	45

From: <https://grazer.ca.uky.edu/winter-watering-livestock> Adapted from 1996 Beef NRC and UK Publication ASC-151 Pasture for Dairy Cattle: Challenges and Opportunities

**Table 2. Small ruminant water requirements.**

Class	Water Requirement (gallons/head/day)
<b>Goats</b>	
Mature	1-3
Lactating	3
<b>Sheep</b>	
Rams	2
5-20 lb lambs	0.1-0.3
Lactating Ewes	3
Feeder Lambs	2

From: <https://grazer.ca.uky.edu/winter-watering-livestock> Adapted from Meat Goat Nutrition, Langston University and MWPS-3 Sheep Housing and Equipment Handbook

## Winter Water Sources

Livestock can get some of their moisture needs from snow but depending on water requirements it may not be enough. Water sources, whether from creeks, ponds or troughs may freeze. In addition to frozen water not being available to drink, livestock may be able to break through thin ice and drown. Make sure they have access to the water by breaking the ice often. Livestock producers also need to ensure downstream water quality is not affected when animals have access to streams. When breaking the ice at a pond or creek do not break it too close to the bank as it will cause livestock to congregate and create mud which will affect the water quality. Breaking ice too far out will be dangerous for people and animals.

Appropriately sized stock tanks for the type of livestock being watered that hold a large volume of water are a good option to consider. To limit ice there are a few options, electrical heaters (electric needed, backup encouraged) or a continuous flow valve with an overflow to prevent excess mud accumulation. In West Virginia, most spring developments that feed into troughs are continuous flow, and don't freeze as readily. Ponds that feed into troughs usually have a float valve that prevents overflow to keep from draining ponds.

With the drought continuing in West Virginia, producers may be forced to continue hauling water to livestock and emptying the water into troughs without drainage options. For these troughs, like other troughs that don't have water flowing through them, it may be difficult to prevent freezing. Water troughs in fencerows can be winterized to reduce freezing. If your trough isn't in a fence row, you could use panels to prevent livestock from having access to the entire trough. Stack bags of wool, straw bales, or waste hay around the trough, preferably the windward side, to insulate the side livestock can't access. Or consider insulating the sides of the entire trough with used black tires. Covering one-half or more of the surface of the trough with plywood and then using foam insulation or other insulating materials, such as wool or straw, on top of the plywood will help keep the water thawed through several days of cold temperatures.

When hauling water to a temporary watering site with a trough that isn't plumbed, consider using two troughs of different sizes with the smaller trough inside the larger trough. Insulate the space between the two troughs with straw or wool. Another option is floating a rubber ball or sports ball to keep the surface of the water moving. Water freezes much more slowly when it is moving. Remember, when using portable tanks to haul water make sure they have not been used for any type of chemical, even the smallest amounts of certain chemicals can cause death.

Another option for farmers who have permanent pastures is the use of waterers that use geothermal heat. These waterers have large tubes that are buried deep in the ground that allows the heat to rise. These still need checked for frozen surfaces regularly. If the animals are not using it or with extremely cold temperatures, the floats can still freeze.

Producers that have done a good job stockpiling forages and rotating pastures or grazing crop residue during the frozen times of the year have other challenges. Without natural sources of water or permanent structures you must transport water with some creative options. Visit <https://attra.ncat.org/providing-water-to-livestock-in-frigid-weather/> for some ideas.

Regardless of situations, planning is your best bet. Consider past winters and pay attention to the weather. Rotate animals into pastures that have water sources that don't typically freeze or are easier to transport water to. Do not overgraze your rotational pastures just because they have easier access to water. Don't forget to factor in the price of time and labor when deciding whether to haul water or move animals to a location that may have easier access.

No matter the option chosen, be sure to always provide sources of liquid water. Check water sources and be prepared to break ice. Livestock can be productive during droughts and winter, but a consistent source of quality water is required to meet production goals.

<https://dairyone.com/are-your-cows-getting-enough-water-this-winter/>