
Acreage Living

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Protecting Water from Freezing

by Shawn Shouse, ISU Extension Field Specialist/Ag Engineering, SW Area Extension Center
Phone: 712-769-2600 - e-mail: x1shouse@exnet.iastate.edu

One of the challenges of surviving an Iowa winter is keeping the water you use from freezing. A little bit of science and a healthy dose of trial and error have yielded ideas for avoiding the hassles of unwanted ice. Let's look at some advice regarding winter protection for water pipes, tanks, and dishes.

Keeping water thawed is simply a matter of conservation of heat. You need to keep the temperature of the water above freezing. Now, HOW you do that is a more complicated issue. The three most common methods are adding heat with a heating device, insulating to conserve heat, and adding heat by bringing in warmer water.

Any water lines that can be drained for the winter (sprinkler lines, empty buildings, pasture water lines, garden hoses, etc.) should be disconnected and drained. Compressed air can help remove water from some low spots, but separating connections at the low points is the surest way to make sure water doesn't get trapped in low spots. Remember to remove garden hoses from hydrants and outside faucets on your home. Connected hoses can trap water and cause freezing even in faucets designed to be "freeze-proof."

Household water pipes in exterior walls can freeze in extreme weather. Check to see that there is sufficient insulation between the outside of the wall and the water pipes. Removing insulation between the warm room and the pipes can let more heat get to the pipes. Even leaving doors ajar on the counter under the kitchen sink can allow a little extra room heat in to keep pipes warmer. In extreme cases, letting a trickle of water run all night will constantly replace the cold water in the pipes with warmer water from the basement or well.

Water pipes in exposed locations will need extra added heat. In a small enclosed space like a well pit or pump house, you might consider a small electric heater or heat lamp. For \$30 to \$50 you can even add a thermostatic control to turn a heater or lamp off when it isn't needed. Remember to keep fire and electrical safety in mind when selecting and installing heaters or lamps. Adding insulation to the pump house or well pit cover can help conserve the heat that is already present. Many people use hay or straw bales to insulate over a well pit. This works, but hay and straw attract rodents and hold moisture. Insulating inside the pit and cover with materials like fiberglass may be a better plan.

In open areas like unheated buildings or crawl spaces, you may need to localize the heat directly to the pipes. Long strips of heating element (heat tape) may be the answer. Heat tapes can be wrapped around the pipe to add heat directly to the pipe. Some heat tapes include built-in thermostats to turn them off in warmer weather. Be careful to follow manufacturer's instructions when installing heat tape. Never apply heat tape over itself (double wrapping) or over or under pipe insulation unless specifically recommended by the manufacturer. The Consumer Product Safety Commission (CPSC) estimates 2000 fires and ten deaths every year related to malfunctioning heat tapes. The CPSC recommends using only new heat tapes certified by Underwriter's Laboratories (UL) or similar agency. They also recommend using a ground fault circuit interrupter and replacing any heat tapes more than three years old with new, certified heat tapes utilizing grounded (3-prong) plugs. Check the CPSC web page at www.cpsc.gov for more information, or call CPSC at 1-800-638-2772, or TTY for the hearing impaired 1-800-638-8270.

Even buried, underground water pipes are subject to freezing. Problems usually arise when soil in new water line trenches has not fully settled, or when earthwork or construction above the pipeline removes too much soil or replaces soil with materials like concrete that conduct heat away more easily. If you have a buried water line that is at risk because of fresh backfill or thin cover, you can add insulation on top of the ground in the form of hay, leaves, or even snow piled over the water line. In extreme cases, letting a small flow of water run continuously through the water line can supply enough warm water to keep a line open through temporary periods. With buried lines, remember that the risk period may last for days or even weeks beyond the extreme cold weather until ground heat from below can migrate back up to the water line.

Speaking as one who spent many hours trying to

keep waterers open for sheep in an unheated barn, I can attest to the challenges and frustrations of tank waterers in winter. If electricity is available, submersible electric trough, tank, and bucket heaters are available for \$20 to \$50. For safe operation, you must have a power supply with a third wire ground. If electricity is not available, liquid propane gas (LPG) stock tank heaters are available for \$300-\$500.

Energy-free waterers are available for new installations. These waterers channel heat up from the ground below and use lots of insulation to keep water warm. If properly adjusted, they seem to work very well in Iowa. Expect to pay \$450 to \$700 for energy-free waterers (about \$100 more than their electrically heated counterparts).

An inexpensive alternative for large stock tanks without access to electricity is the propane bubbler. This device is anchored to the bottom of the stock tank and releases a slow stream of bubbles from a 20-pound (5 gallon) propane tank. The bubbles, which are not harmful to livestock, carry warmer water from the bottom of the tank up to the surface where they maintain a small open hole in the ice during moderate weather. The bubbler costs less than \$100 and operates for up to three months on five gallons of propane (about \$10).

Adding insulation to the outside of a water tank and even to the water surface can help conserve heat and keep water available longer during cold weather. When adding insulation, be sure to protect the insulation from animal chewing, manure, and spilled water.

For small quantities of water, electrically heated buckets and water dishes are available for \$30-\$100 from hardware and farm supply stores. Make sure these units are properly grounded for safety.

Cold Weather Pet Tips

Reprinted with permission from *The American Society for the Prevention of Cruelty to Animals*, 424 East 92nd Street, New York, NY 10128-6804 or <http://www.asPCA.org>.

Please follow these guidelines to protect your companion animal when the temperature drops.



Keep your cat indoors when the temperatures are below freezing. Outdoors, cats can freeze, become lost or stolen, or be injured or killed. Always securely fasten an up-to-date ID tag on an outdoor cat's collar.

Outdoor cats sometimes sleep under the hoods of cars, where it is warmer. When the motor is started, the cat can be injured or killed. To prevent this, bang loudly on the hood of your car and wait a few seconds before starting the engine, to give a cat a chance to escape.

Take dogs for frequent, short walks, rather than one long walk. This will reduce the time your animal's sensitive lungs and paws are exposed to the cold.

Always keep your dog on a leash when there is snow or ice outside, especially during a snowstorm. Dogs can lose their scent in snow and ice and easily become lost. More dogs are lost during the winter season than any other.

Clean your dog's legs and paws after a walk in the rain, snow, or ice. Salt and antifreeze can accumulate on paws and make your pet very sick when licked off.

If you own a short-haired breed, consider getting a warm coat or sweater for your dog. Look for one with a high collar or turtleneck that covers your dog from the base of her tail on top and to the belly

underneath. While this may seem like a luxury, it is a necessity for many dogs.

Keep animals indoors with you as much as possible. If you must travel with your pet during cold weather, never leave your dog or cat alone in a car. Your companion animal could freeze to death.

Puppies do not tolerate the cold as well as adult dogs and may be difficult to housebreak during the winter. If necessary, paper train your puppy inside if he appears to be sensitive to the weather.

If your dog lives outdoors, make sure he has a warm, dry doghouse and increase his food supply to keep his fur thick and healthy.

Antifreeze, even in very tiny doses, is a lethal poison for dogs and cats. Because of its sweet taste, animals are attracted to it. Be sure to thoroughly clean any spills from your vehicle. To prevent accidental poisonings, more and more people are using animal-friendly products that contain propylene glycol rather than the traditional products containing ethylene glycol. Call your veterinarian or the ASPCA National Animal Poison Control Center (NAPCC) (888-426-4435) if you suspect your animal has been poisoned.



Make sure your companion animal has a warm place to sleep far away from all drafts and off the floor, such as in a dog or cat bed or basket with a warm blanket or pillow in it.

Learn how to care for your pet during a natural emergency with the ASPCA Disaster Planning Tips at <http://www.asPCA.org/disaster.htm>.



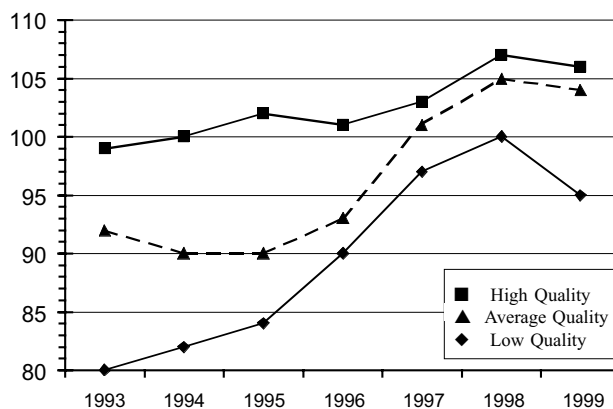
Renting Out the Rest of the Acreage?

by Tim Eggers, ISU Extension Field Specialist/Farm Management, Page County
Phone: 712-542-5171 - e-mail: x1eggers@exnet.iastate.edu

If you are like many of the earliest and new breed of acreage owners, you have farmland to rent out. It may be in pasture, crop ground, or a combination of both. A question I get from acreage owners is, "How do I rent my land to a farmer?" To be able to answer this question correctly requires a fair amount of information.

First, what do you want as an outcome? Do you want the ground to be farmed using the most current technologies and in the most efficient manner? If so, you can seek out the top farmers in your area. Are you interested in providing a way for a young farmer to add to their acreage farmed? If so, word of mouth and advertisement in local papers may work the best. Would you like to have the land farmed using older technology? In that case, you could just advertise locally and see what happens. How do you feel about the use of pesticides, GMO crops, large equipment, or other technology or conservation issues? Those feelings need to be reflected in your written lease.

What are your cash flow requirements? Do you need to know with certainty the income level? If so, you may prefer a cash lease. Cash lease rates are not very responsive to changes in the ag economy as you can see from the graph at the upper right. Are you willing to allow the rate to flex slightly with current agricultural economics? If so, a flexible cash lease may be in order. Do you want to provide the maximum flexibility for your tenant? Perhaps a traditional share lease is right for you.



Cash Rent Trend (\$/Acre) from 1993-99
for Land in SW Iowa

Source: FM-1851 Iowa Cash Rental Rates

If you have pasture, what would you like to see done? Are you interested in cash or share leasing? Is the pasture land and species mix suitable for haying? If so, would you like to do that on shares so you can provide some of the inputs and participate in the marketing? Would you like to own cattle to be pastured on your land, yet not have the management expertise? Perhaps a cow share lease would work for you.

Iowa State University Extension provides a wealth of information on leasing through your local ISU Extension office and on-line. One ISU Extension site which has farm land leasing as a focus is the Farm Economics: Current Issues site at <http://www.extension.iastate.edu/feci/>. ISU Extension specialists are available, and they can be contacted through your local ISU Extension office.

Acreage Living is published monthly. For more information, contact your local county ISU Extension office.

Editor:
Shawn Shouse
ISU Extension FS/Ag Engineering
SW Area Extension
53020 Hitchcock Avenue
Lewis, Iowa 51544
PH: 712-769-2600

Layout & Design:
Paulette Cambridge
Office Assistant
SW Area Extension
53020 Hitchcock Avenue
Lewis, Iowa 51544
PH: 712-769-2600

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