

## Deep Watering in Fall can Prevent Tree Death

Symptoms of winter injury appear the following spring and summer, making some think a tree is suddenly dying when actually the damage was done several months before.

Drought conditions during the fall may mean serious injury to trees if it continues into winter. Trees should be thoroughly watered in the fall to help prevent winter drying injury. Fall watering may not be necessary when soil moisture is adequate, but when soil moisture is lacking, fall watering may be critical to help a tree survive the rigors of winter.

All trees lose water during normal metabolic processes. During the growing season when trees are in full foliage, large amounts of water are lost through their leaves. Even during winter months when the leaves are gone and photosynthetic processes have stopped, trees lose water to a lesser extent from exposed bark,

twigs and buds.

However, sometimes the loss of moisture exceeds the amount of water the roots can absorb from dry, frozen soil. Tissue drying is the result of the tree being unable to replace lost water. Winter drying injury occurs most frequently during warm, dry, windy conditions. This especially is true of evergreen trees because they lose much more water through their foliage.

Damaged trees may exhibit only a few dead twigs or entire branches may die depending on severity of the injury. In very severe cases, the entire tree may die. The side of the tree facing the prevailing winds is most susceptible. Light brown, dry-appearing needles are typical of winter injury on evergreen trees. This type of injury usually is temporary, and most evergreens recover rapidly as the growing season progresses.

Usually large, well-established trees

can tolerate temporary droughts without injury, but young trees are more susceptible to drought injury. They do not have the extensive root system to draw supplemental water during dry conditions.

In some cases, relying on a lawn sprinkler is not enough. Trees should be deep watered to a depth of two or three feet before the ground freezes. A watering basin two to three inches deep and three to four feet in diameter, constructed around the base of a young tree will hold water until it can percolate into the soil.

The loss of trees from winter dying is unnecessary and costly, not only in monetary terms, but in intangible values such as shade, protection and beauty. If drought conditions continue, deep watering trees this fall may mean the difference between live and dead trees next spring.

SOURCE: Dennis Adams, forester, NU/IANR (DJ)

### WATERWHEEL

## Drinking Water: Hydrogen Sulfide



Note: This is part of a series of articles related to rural water issues.

Hydrogen sulfide is a nuisance form of sulfur found in drinking water. Sulfur reducing bacteria, which use naturally occurring sulfur as an energy source, are the primary producers of hydrogen sulfide. These bacteria live in oxygen-deficient environments such as deep wells, plumbing systems, water softeners and water heaters. They usually flourish on the hot water side of a water distribution system. Hydrogen sulfide also occurs naturally in some groundwater.

Hydrogen sulfide produces an offensive "rotten egg" or "sulfur water" odor and taste. In some cases, the odor may be noticeable only when water is initially turned on or when hot water is run.

A nuisance associated with hydrogen sulfide includes its corrosiveness to metals such as iron, steel, copper and brass. It can also tarnish silverware. Coffee, tea and other beverages made with water containing hydrogen sulfide may be discolored and the appearance and taste of cooked foods can be affected.

The offensive odor of hydrogen sulfide usually makes testing unnecessary. Hydrogen sulfide gas is one of a few water contaminants detected at low concentrations by human senses.

Hydrogen sulfide is not regulated by the EPA since a concentration high enough to be a health hazard makes water unpalatable.

If excessive hydrogen sulfide is present in your water supply, you have two basic options, obtain an alternative water supply or use some type of treatment to remove the impurity.

Hydrogen sulfide formation may be reduced in some instances by performing a shock chlorination. This procedure will reduce, but not eliminate, sulfide producing bacteria. Low levels of hydrogen sulfide may be removed with an activated carbon filter. Hydrogen sulfide concentrations up to about six parts per million can be removed using an oxidizing filter and concentrations exceeding six parts per million can be removed by injecting an oxidizing chemical and using a filter. (DJ)

## Watch for Saltcedar in Wetland Habitats

Saltcedar is an evergreen weed shrub invading wetland habitats and suppressing the growth of native species. The shrub was initially introduced as an ornamental plant in the western United States. However, saltcedar has been placed on Nebraska's watch-list for invasive species due to its highly pernicious influence on natural habitat.

Saltcedar has brown or reddish-brown bark, scale-like leaves and small pink flowers creating finger-like clusters. Saltcedar reproduces by seeds as well as taproot and stem and grows up to 20 feet tall.

The shrub establishes in wetland habitats where there soil is saturated enough for the seedlings to develop.

The worst infested states include Wyoming, Colorado and New Mexico. In Nebraska, saltcedar can be found along the Platte River, especially near Lexington in Dawson County.

The shrub suppresses the growth of native species creating a monocultural stand, which brings about negative changes in wildlife habitat. Saltcedar's long taproots interfere with the natural aquatic system, lowering the water table in streams and canals. In addition, the salt excreted from the leaves to the soil surface under the plant inhibits germination and growth of competing species. Thus the name saltcedar is derived from the salty residue that collects on the small scale-like leaves that resembles cedar



Saltcedar (also known as tamarisk) accumulates salt in its tissues, which is later released into the soil, making it unsuitable for many native species.

foliage. As a result, many wildlife species are negatively affected by habitat changes and native species displacement due to encroachment of saltcedar.

The first line of defense against the weed is to monitor wetland areas. The shrub grows in "hard to approach" habitats. Therefore, it is essential to apply control measures at an early stage so it does not expand. Individual trees (plants) can be controlled by cutting! Larger infestations can be managed by herbicide

application.

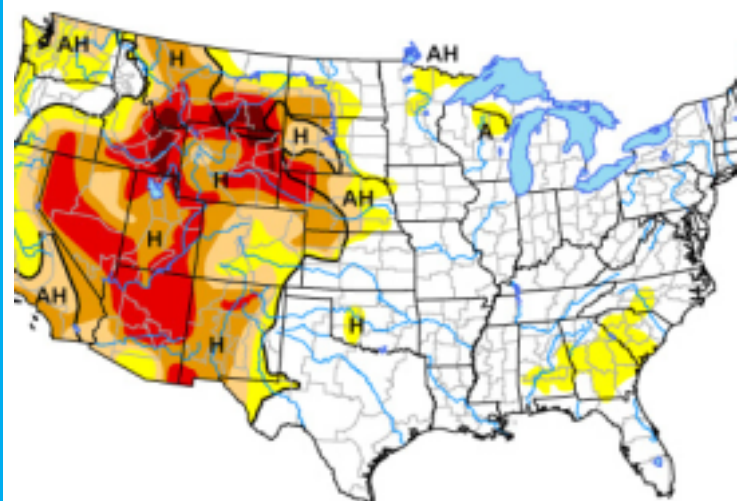
Spraying in August and September has proved to be the most effective.

If you see the saltcedar on your land area, contact a local University of Nebraska Cooperative Extension office or your county weed superintendent who will help identify the species and recommend control measures.

SOURCE: Stevan Knezevic, Ph. D., weeds specialist, NU/IANR (DJ)

## Latest U.S. Drought Monitor Map

As of August 10, Lancaster County was in abnormally dry conditions.



For the most recent map, visit [www.drought.unl.edu/dm](http://www.drought.unl.edu/dm)

Source: National Drought Mitigation Center, University of Nebraska

## Can You Guess It?



Did you guess it? Find out at [lancaster.unl.edu](http://lancaster.unl.edu)

Did you guess it from the July NEBLINE? The answer was a corn cob stuck in siding on a home.

## How Much Hay to Stock

During the winter when there is no pasture grass to eat and your livestock are getting all of their nourishment from hay, here is a good rule of thumb to figure out how much hay you'll need to have to last through the winter;

Each full grown horse or cow will need about 1 ton. (for four cows you would need to buy four tons, etc.)

For goat and sheep, you can count on 1 ton for every four full-grown animals. (Eight sheep would need two tons)

This estimate would be for good hay. Always get a little extra just-in-case. (DJ)