

WATER WISE: Trees and turf have different water needs

University of Nebraska Extension, the Nebraska Forest Service and the Cities of Gering, Scottsbluff and Terrytown are working together to provide information on how to conserve water by using it wisely and the benefits that come from doing so.

Trees and turf often share space in home landscapes, but they have different water needs. Understanding this can help conserve water and save money, according to Amy Seiler, community forestry specialist with the Nebraska Forest Service.

Bluegrass turf requires about 1 inch of moisture per week during the spring and fall and about 1 1/2 inches in summer, depending on temperatures and winds.

Water should be applied once or twice a week on heavier soils in spring and fall and potentially two to three times during the heat of the summer. For lighter, sandy soils watering may be needed more often.

This frequent irrigation is good for the turf, but not so for the trees that live within the turf.

“This frequent, shallow watering encourages trees living within the turfgrass to develop shallow roots,” Seiler said. “When periods of drought occur these trees do not have a deep root system that would allow them to pull water from deeper in the soil profile and that’s when we see them become drought stressed.”

One other problem that trees encounter while living in the over-irrigated turfgrass environment is that daily watering of turf also prevents the soil from drying out, and Seiler says this also is harmful to trees.

“Tree roots need oxygen to develop correctly. Soil that is constantly saturated with water will prevent oxygen from being present in the soil. This will prevent proper root growth and this will lead to drought like symptoms.”

Furthermore, trees planted in ir-



rigated turf must try to compete with turf to capture moisture and nutrients within that top 12 inches of soil. Inevitably the turf will win every time, Seiler explained.

Homeowners will find it more practical to meet the differing needs of trees and turf if they group trees within large mulched beds, Seiler said.

Trees would prefer to be watered deeply and less frequently than lawns, according to Seiler. They should be given 1 to 2 inches per application.

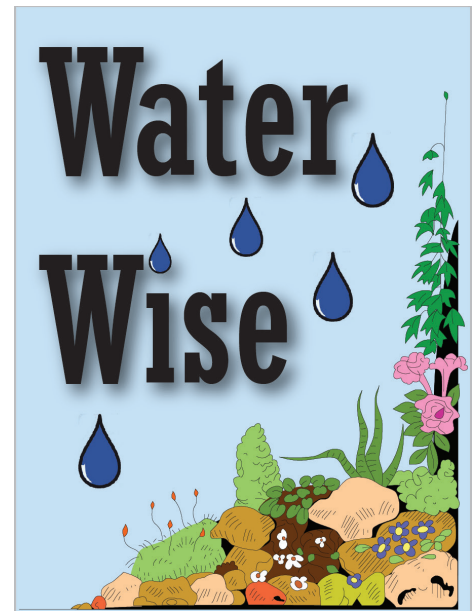
“We encourage watering trees deeply and infrequently to encourage them to develop a deeper rooting system, which makes them structurally stronger and more resilient to years of drought because they can capture water deeper in the soil profile.”

A typical tree has most of its water absorbing roots in the top 12 to 24 inches of soil. Those roots also expand out more than one and a half times further than the drip line of the tree. These massive root systems allow trees to draw moisture from a larger area.

The objective to watering trees should be to irrigate to the depth of the root zone and provide adequate water to the area under the dripline and beyond.

Trees would prefer to receive moisture every seven to 10 days, possibly even 14 days, depending on species, Seiler said. The best way to know if a tree needs to be watered is to insert a soil probe or a 12-inch-long flat-head screwdriver into the ground. If it goes in easily there is no need to water; if it is difficult to insert into the ground, it is time to apply some moisture.

It’s also important not to apply too much water or fertilizer around the trees near the end of the growing season, prior to first frost, according to Seiler. That would stimulate tender



new growth that could be damaged by the freeze. However, after the leaves have dropped, if winter is dry, water should be added once a month.

Other factors to consider when trying to figure out a watering routine and amount to apply are:

Soil: Heavy soils require more water less often. Sandy soils require more applications, but in smaller amounts.

Time of year: Trees need to be irrigated less often in the spring and fall, because temperatures are lower and less evaporation is occurring.

Location in the landscape: Trees placed on south and west sides of buildings and homes require more frequent watering than trees on the north and east.

Species of tree: Some trees species require more water than others.

Knowing trees’ water requirements is more than a good way to conserve water; during a drought, it might be the key to saving valuable trees. If water restrictions are enacted in some cities, as they were in dozens of Nebraska cities and towns in 2012, homeowners should give trees higher priority than turf, Seiler recommended.

“A tree is a thirty-year investment,” she said. “Turf can be replaced in a year.”