

Winter Watering in Northern Arizona*

By Hattie Braun

Horticulturalists once advised that trees and shrubs be drought-stressed in the fall to ensure dormancy and therefore decrease the chance of winter injury. Research has since shown the reverse to be true.

For plants adapted to northern Arizona's cold temperatures and sufficiently hardened off, the cause of plant winter injury and death is often dehydration of plant tissues. When the soil dries out and plants are unable to take up sufficient moisture, roots die and the plant is unable to take in enough water. This is especially true for plants with evergreen leaves and results in damage to the plant.

Plants go dormant in the winter, but they still need water. Unfortunately, it is hard to tell when plants need water in the winter, as the obvious clues to water stress, such as wilting and drooping leaves, are not present. Drought-injured plants often show few symptoms until the spring or summer. Winter-damaged plants may leaf out and flower in the spring but often lack sufficient food reserves to thrive. This results in the decline and die-back of branches the following summer. Winter drought stress also weakens a plant, making it more susceptible to some insect and disease attacks.

During dry spells, fall and winter watering is essential to maintaining healthy plants. The following are guidelines for fall and winter watering:

- Water only when the air temperature is above freezing and the soil isn't frozen.
- Water early in the day to allow water to drain into the soil.
- Monitor precipitation during extended dry periods. Water about once a month if we do not receive any measurable precipitation.
- Apply 10 gallons of water for each inch of tree diameter. For large and small shrubs, apply 15 and 5 gallons per shrub, respectively.
- Apply water within the drip-line of the tree, but keep water away from the trunk, as standing water can freeze and damage the bark.
- For newly planted woody trees, shrubs and perennials, water more frequently, making sure that water is applied to the root zone.
- For shallow-rooted shrubs and trees such as maple and spruce, and for lawns, water slowly with a sprinkler or soaker hose attached to a garden hose.
- In general, keep the soil slightly moist down to a depth of 12 inches for perennials, 18 inches for most shrubs and 18 to 24 inches for trees.

Within Flagstaff city limits, we have the dilemma of daytime watering restrictions. This helps to conserve summer water-use by limiting daytime evaporation especially from

automatic irrigation systems. But irrigation systems should have been turned off long ago because of freezing temperatures. Winter watering should be done by hand and for most plants, this only needs to happen once a month during dry spells. Altering the existing rules to allow daytime hand watering during winter months would be a wise move to ensure the health of our landscape plants.

Once watered, drain your hoses and store them in a dry place. Ideally we will receive a substantial snow fall every couple of weeks and the garden hoses can remain in the shed.

*Note from Cindy Murray: According to the National Oceanic Atmospheric Administration, there is an approximately 59% chance that the globe will experience a weak and short-lived La Nina by the end of January. La Nina is a climate pattern that forms when certain parts of the Equatorial Pacific Ocean cool more than normal, affecting circulation patterns of the atmosphere. This phenomenon may affect global weather patterns, which typically bring about drier winters in the American Southwest. The following is an article written in 2005 by Hattie Braun, when she was the Coconino Master Gardener Program Coordinator. She recently retired as the Coconino County Director for Arizona Cooperative Extension Service. Fortuitously, her advice is just as pertinent now as it was twenty years ago.