
Fall and Winter Irrigation

During fall and winter, north central Arizona often experience dry air, low precipitation, and wide daily temperature fluctuations. This is made worse when the weather is drier and colder than normal. Trees, shrubs, and turf may be damaged if not given supplemental irrigation. As a rule of thumb, evergreen plants need more supplemental water during winter than do deciduous plants.

Long, dry fall and winter periods can result in death or injury to plant root systems. Affected plants may appear perfectly normal and resume growth in the spring utilizing stored energy reserves, only to weaken and die in late spring or early summer when the stored energy runs out. Weakened plants are also more susceptible to insect and disease problems.

Plants take water into their roots from the soil through osmosis: the concentration of dissolved materials is greater inside the plant root than in the soil causing water to move into the plant. Once inside the plant, water is pulled by capillary action up the stem and to the leaves before the excess is released to the atmosphere. In general, the plants use about 10% of this water for photosynthesis, cellular metabolism and cell growth. The remaining 90% is simply passed through during the process which is called transpiration.

Recently planted trees and shrubs are especially susceptible to damage from lack of adequate soil moisture. Once a healthy root system has been reestablished, plants have increased tolerance to drought, but few evergreen landscape plants can endure extended drought periods. Even drought-tolerant plants will benefit from infrequent irrigation during dry winter months. Shallow-rooted, evergreen plants require more frequent winter irrigation. Some of these are pine, spruce, juniper (non-native types), Photinia, Euonymus, and Oregon grape.

My recommended method of watering where no irrigation system exists is the soaker hose: the black, rubber, porous type. These are relatively inexpensive and can be placed semi-permanently or moved from place to place depending on individual circumstances and needs. They emit water slowly and deposit it onto the soil to minimize evaporative losses. Drip irrigation can also be effective, but these systems are often inadequate to irrigate a tree beyond the first three years.

Apply irrigation early in the day so it can soak in before possible freezing occurs during the night. For established landscape trees and shrubs, four to six weeks should be the maximum amount of time between irrigations. Of course this varies with soil texture and species.

On established trees and shrubs, place the soaker hoses in a circle starting about four or five feet from the trunk and coil the soaker hose around the tree, leaving about two feet between each coil. Leave the hose running until water soaks in to a depth of about two feet. This can be checked with a metal probe or long screwdriver. To encourage newly planted trees to develop more extensive root systems, irrigate from the trunk to at least one foot beyond the drip line of the canopy.

If significant winter precipitation occurs at two to three week intervals, then irrigation of evergreens may not be necessary. Monitor precipitation, soil moisture and irrigation systems in the winter to maintain evergreens during dry winter periods. We should all seek a balance between our landscapes and the quantity of irrigation water required to support them. Well-placed evergreen trees can offer privacy and wind protection, but too many trees can be overly consumptive of our precious water resources.

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