

Arid Zone Times

An Arid Zone Trees Publication

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Naturalizing Desert Tree Species

Evolution has provided desert adapted trees species with the unique ability to survive on the limited rainfall found in southwestern deserts. The survival of these species in natural settings depends upon the ability to tolerate and even thrive on rainfall alone. This quality had led to these trees being able low water use, drought tolerant or desert adapted. Water conservation within such landscape can only be realized if trees receive limited irrigation.

With some species such as *Cercidium praecox*, *C. floridum*, *C. microphyllum*, *Acacia aneura* and to some extent Native mesquite, the opportunity exists to encourage trees to revert to the natural habit of growing without supplemental irrigation(s). This process, often called naturalizing, involves gradually weaning trees from a regular supplemental irrigation schedule to little or no irrigation.

Maintenance: While water conservation is the most obvious virtue of naturalized trees there are others. Limited irrigation slows trees growth and reduces the time and effort associated with trying to control tree size and shape through pruning. Trees adapted to seasonal rainfall patterns are less prone to suffer wind throw or frost injury. Understand that trees should be at or near desired height and width before attempting to naturalize, since subsequent growth will be slow and limited.

Sites: Not all landscapes sites mimic natural desert conditions. The mixture of trees, shrubs and turf, the soil type(s) present, the planting of trees near heat reflecting structures all will influence the success of efforts to naturalize desert trees. Sandy loam to sandy clay loam soils would be preferred since they allow rapid infiltration of rain water yet have sufficient water holding capacities. Non-porous (heavy clay) and highly porous (sand and sandy soil) are not conducive to naturalizing trees. Obviously, mingling trees that can be naturalized with understory plantings that require regular irrigation eliminates the opportunity to naturalize the trees. Placing trees in harsh settings, near structures (particularly on the south and southwest side of structures), in paved parking lots medians or as part of streetscapes significantly increases the heat surrounding those trees. These trees will have much higher water demand especially in the hotter months and will rarely naturalize successfully. However,, trees planted along the sides of streets that have adequate space between the street and buildings or adjacent structures, are potential areas where trees can be naturalized.

Naturalizing: Well-rooted trees are the most readily naturalized. Following installation trees should be irrigated and fertilized to promote the development of a highly dispersed well-developed root system. The gradual removal of supplemental irrigation should not begin until a tree is at or near the desired height, width and shape. Begin monitoring trees with the onset of hot weather; only apply additional water if trees begin to exhibit water stress (wilting leaves, leaf yellowing, leaf shed) and then only enough to reverse the stress symptoms. Over time, sometimes even years, the intervals between required irrigations should lengthen until (in a normal rainfall year) they are not necessary. Subtle differences in environmental conditions from one landscape to another, or even within a single large landscape, make it impossible to generate a specific timetable for naturalizing desert species. Some experimentation will be needed for every landscape setting. Be sensitive to unusual weather patterns. Uncharacteristic dry, hot or windy years will increase the water demand for all landscape plants. In such years, if naturalized trees appear stressed, moderate irrigation would be appropriate. Most desert native trees species can be conditioned to survive on rainfall alone. Benefits of controlled growth, reduced pruning and decreased risk of damage associated with wind throw and cold injury make naturalizing desert tree species a landscape management alternative worth exploring.

