



Linking Edible Arizona Forests

Growing Edible Arizona Forests, An Illustrated Guide

Excerpt from *leafnetworkaz.org*

Edible Tree Guide

LEARN Values, Characteristics of Edible Trees

♦ Tree Water Needs

Tree Water Needs

The amount of water a tree needs to grow, produce and stay cool depends on weather, location, tree size, species, time of year and many other factors. Trees can generally be grouped into *low*, *medium* or *high water-use* categories to estimate their water needs. General water needs of different types of trees are indicated by the number of water drops shown below the photos at *leafnetworkaz.org*

LEARN: Selected Edible Trees that Grow in Arizona. Check the health of trees and soil moisture conditions at your site to determine each tree's specific water needs.



Low water-use trees. Water needs range from around 12 to 20 inches per year for native desert trees and nonnative trees from other dryland environments that are growing in Arizona's urban environments. Native desert trees will typically need less water while nonnative trees may need amounts at the higher end of the water range.



Medium water-use trees: Water needs range from around 20 to 40 inches per year for moderate water-use native trees, such as those naturally found along washes, and for many nonnative trees. Medium water-use trees may need more water in lower desert elevations.



High water-use trees: Water needs range from about 30 to 50 inches per year for high water-use native trees—typically found along flowing streams or in areas with shallow groundwater, and for nonnative trees introduced to Arizona from cooler/wetter climates.

It is useful to compare average monthly water needs for trees to average monthly rainfall in different parts of Arizona. This information is illustrated on the average rainfall and water needs graphs for selected Arizona locations shown on the following pages. Notice the difference between the water needed by high (dark green line), medium (light green line) and low water-use (yellow line) trees in different months of the year compared to how much rain is received in the same time period.

In general, the higher the elevation in Arizona, the higher the rainfall and the lower the tree water needs. Water needs are highest in the hot dry months of April - June. Water needs go down in the humid monsoon months of July - September, then fall further in fall and winter—especially for trees that stop producing a harvest and drop their leaves. In contrast, water needs for nonnative, fully leafed trees producing a harvest may stay high, especially for citrus and other trees that do not drop their leaves in winter. Even at higher elevations, rainfall is not sufficient to support medium and high water-use trees all year long. Only native edible trees have a good chance to thrive on rainfall alone, and they will need several years of supplemental water to become established.

Because of the large differences between rainfall and tree water needs, plan ahead to provide enough water to support edible trees at your site. See *leafnetworkaz.org* **CHOOSE: Water Supplies** to learn how to harvest rainfall, stormwater runoff, graywater and air conditioning condensate to help grow healthy, productive edible trees, rather than relying solely on valuable drinking water.



