



Linking Edible Arizona Forests

Growing Edible Arizona Forests, An Illustrated Guide

Excerpt from *leafnetworkaz.org*

Edible Tree Guide

PLANT Your Trees

- Prepare Your Watering System

Prepare Your Watering System

Before trees are planted, shape the earth for passive water harvesting and install any piping, tanks, pumps or other equipment needed to implement your water resources strategy.

Use passive water harvesting structures to capture runoff from direct rainfall, adjacent land areas, roofs, driveways and other impermeable surfaces. Make sure basins will infiltrate water quickly to avoid mosquito breeding. Construct overflow routes for large basins and swales that intercept water from slopes to direct excess rainwater safely to lower elevation depressions. Avoid digging into and around the roots of existing trees. Trees planted inside basins should be placed on a small mound or terrace to keep water and mulch away from the tree trunk.

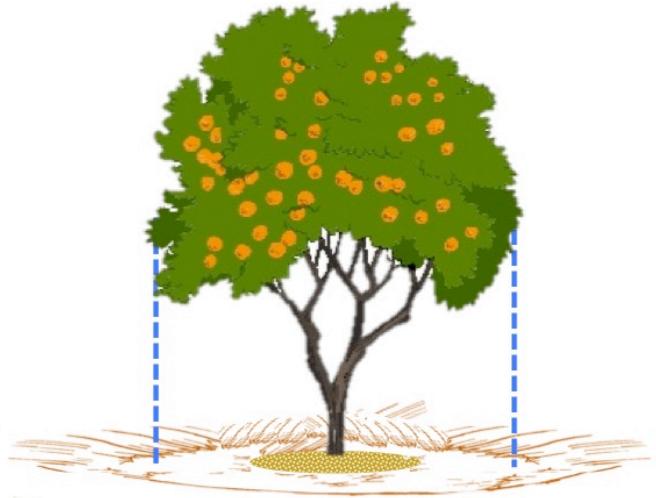
You can size passive water harvesting depressions for the eventual mature size of trees or begin with a basin that is sized for the smaller trees you plant. Keep in mind the *drip line* of trees—the outer perimeter of the tree canopy where raindrops “drip” down from the leaves. The roots of trees generally extend horizontally to a distance wider than the tree’s drip line. Think ahead about how you will supply water at or beyond the drip line when trees reach their mature sizes. As you expand basins outward, be careful not to disturb tree roots. You may need to add a raised berm at the mature drip line to harvest more water rather than digging a basin deeper

Before planting, install any pipelines needed to distribute graywater and AC condensate to trees. If you will be using a rainwater tank, install the tank, piping, hose bibs, and distribution lines. Be sure the tank has an overflow pipe to route surplus water away, and fine-mesh screens on inlets and outlets to keep out mosquitos and other critters. Gravity-fed delivery is simple and saves energy. Rainwater tanks with pumps can deliver rainwater through drip irrigation systems and to higher elevation trees.

Be prepared to use potable water when on-site rainwater, graywater and AC condensate are not available or are not sufficient to meet tree needs.

Drip irrigation systems can be designed to switch between rainwater tanks and potable water supplies when tank water is low. Switching systems must be reliable and have automatic *backflow prevention devices* or *air gap systems* built into the design to keep rainwater from backing up into potable water supply pipes. Ask local zoning and/or water utility officials for requirements regarding backflow prevention in your area.

Ask for advice from local Cooperative Extension Service personnel, irrigation designers or nurseries to determine the number, size, location and timing for water delivery through drip irrigation emitters. Irrigation systems can be designed to provide maximum tree water needs during hot months, but it is important to adjust drip system application rates seasonally to conserve water. Adjust emitters and sprinkler patterns so they cover soils to just beyond the drip line of the planted trees, and expand these watering areas out as trees grow.



A large water harvesting basin sized to supply water at the drip line of a mature tree. The young tree can be planted with a smaller internal water harvesting basin to supply it as it grows toward this mature size. Plant the tree on a small mound.

ADDITIONAL RESOURCES

- AZ Master Gardener Manual: Irrigation - University of Arizona: <https://cals.arizona.edu/pubs/garden/mg/fruit/irrigation.html>
- Tree Selection and Care, Arizona Department of Forestry and Fire Management: <https://dffm.az.gov/forestry-community-forestry/urban-community-forestry/tree-care>