



Get Better Results using LESS Water

At best, gardening in Arizona's desert soils can often be a challenge. Most of our municipalities utilize the concept of "water harvesting" by building retention basins and collecting natural runoff. This is seen in the many neighborhood parks throughout our cities. In most cases this is an excellent method and certainly wise for water conservation. Regardless of whether or not you are able to utilize water harvesting in your landscape design, with proper water management you can realize success and conserve water by following a few simple rules.

Tip #1: Deep Water

Our soils contain high amounts of salts. Some of these salts are detrimental to native and non-native plants. Damage is normally seen as discoloration (yellowing) of foliage and the appearance of burnt edges around the leaves. With frequent watering at predetermined amounts these salts build up in the soil. By supplementing this with **infrequent deep watering** the salts are pushed down and away from the root zone. This also increases oxygen and facilitates nutrient movement in the soil. The amount of water is entirely dependent upon the soil type but in most cases you will want to saturate the soil, then when the water has drained, re-saturate and repeat several times.

Tip #2: Acidify

For highly alkaline (high pH) and high calcium soils, like ours tend to be, the soil should be acidified to increase water penetration and holding capacity and to release bound nutrients. This can be done with the addition of a water soluble sulfur, which exchanges the sodium salt with sulfur allowing salt and calcium to leach. This acidifies the soil, raises the pH and breaks up the hard caliche desert soils.

There are several brands of sulfur based soil acidifiers on the market today. Follow the application instructions on the packaging. If you want to get a better idea of what's happening in your soils, an inexpensive soil test can test for pH salt and nutrient content, or simply test your soil's pH level to verify the alkalinity level in your soil.

Tip #3: Mulch

Mulching serves several purposes and is essential to successful arid gardening. The addition of mulch as a top dressing and soil amendment reduces water loss by evaporation and helps to maintain moisture levels. The addition of mulch also prevents many types of weeds from germinating and keeps the soil cooler during our hottest months. It also provides humic acid, a bio-culture environment and holds nutrients.

Tip #4: Proper Watering System

The installation and maintenance of a proper irrigation system is extremely important. Drip systems with the proper size emitters (1 –2 gal/hr) are necessary for most shrubs and trees. Large trees and beds often need the addition of adjustable flow emitters or bubblers because of their need for extra

water and leaching. The use of a timer system establishes watering "zones", which allows plants of similar water requirements to be irrigated alike, that is: lawn areas on one zone, low water plants on another zone, and high water plants on yet another. Trees should ideally be on a separate system from bedding, shrubs and turf for proper deep watering. If you're stuck with an existing landscape with trees and shrubs on the same zone, variable flow emitters are your solution to getting a deep water on the trees without over watering the shrubs.

Another important point in drip systems is maintenance. Not only do drip emitters become clogged and need to be replaced, but the number of emitters often needs to be changed as well as moved as the plant grows larger. A few emitters may well suit a newly planted shrub, but as the shrub grows its water requirements increase and the quantity of the emitters eventually must be increased to meet this need. This is particularly important with trees. Two to three emitters are typically placed out from the trunk of a newly planted tree. For a young tree this is normally fine, but as the tree grows, the number of emitters and their location needs to be adjusted. Continue to increase the quantity of the emitters as the tree grows and move the location of the emitters to the outer skirt of the canopy.

Rule #5: Proper Watering Duration

The most elaborate and sophisticated irrigation system is worthless unless used properly. As mentioned in Tip #3, different plants have different water requirements. The duration of irrigation is also dependent upon the time of the year. With Arizona's diverse temperature ranges it is important to adjust your watering with the season. The chart below gives typical number of hours and days per week that you should be irrigating for a traditional landscape. If your soil is excessively heavy or excessively sandy, you may need to make slight adjustments to the following recommendations. And remember, if you aren't certain as to the type of soil that you have, or need any additional information, just ask. We are here to help ensure your landscape's success.

NOTE: For temps 110° & above, water 3 times per week.

Weather	Duration & Frequency of Watering	Vegetables & Flowers T-Tape or Lazar	Vines & Shrubs 1 GPH	Shrubs & Trees 4'-5' 2, 1GPH	Shrubs & Trees 5'-10' 3, 1GPH	Trees 10'-20'+ 4, 1GPH	Container Plants Drip	Lawns Sprinklers
Cool	Time (Hours)	1-2	1	1½ - 2	1½ - 2	1½ - 2	10 min	10-15 min
	Days per Week	1-2	1	1	1	1	2-3	1
Warm	Time (Hours)	2-3	2	2	2	4	20 min	15 min.
	Days per Week	2	1	1	1	1	3	1-2
Hot	Time (Hours)	2-3	2	2	2	4	30 min	10-20 min.
	Days per Week	2	2	2	2	2	3	3