



Tucson
Organic
Gardeners

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Conserving Water

Summer gardens require moisture to yield a crop from vegetables. The soil in garden beds should contain at least 50% compost so it will hold moisture. If the vegetables in the garden have already sprouted, it is too late to add compost to the bed. However once the plants are several inches tall, one or two inches of compost can be used on top as mulch, which will keep the roots cool and moist. Also the soil will not crack. What water enters the bed will be absorbed instead of running off, or cutting grooves.

WATER INFORMATION

Install a drip irrigation system, if one is not already in place. Water needs to go directly to the root zone of the plant. Weeds have less chance to grow when water is used only where needed. Call the Tucson Water Conservation Office, 791-4556, for a booklet named "Drip Irrigation, Be Water Smart". Also available from the water office are booklets on water harvesting and grey water use. Ask for a water auditor to come to your home for free to help determine where and how water is being used at your home.

Lists of low water use landscape plants are available from the Arizona Department of Water Resources, 770-3800. The list includes the amount of pollen activity. Books on drip irrigation and low water use plants can be found at the public library. Phone 622-7701 to reserve space in a water smart class through Pima County.

PLANNING THE BEDS

When planning a summer garden, consider visiting the Native Seeds/ S.E.A.R.C.H. store at 526 N 4th Ave. Browse through the many kinds of seeds that require little irrigation by planting with the expected summer rains. Investigate using sunken beds for native crops. Water is retained longer.

Choose seeds that mature in 65 days or less. Produce can be harvested before the plants bolt. Sometimes small varieties are needed. These are marked as compact, dwarf, baby, bush, bantam or short vined. Not only do the plants take less space, but also the water requirements are for a lesser amount of time. Many of these varieties can be grown in small plots or large pots. Place a clay pot within a plastic pot. The clay pot will not dry out as quickly, but the plant roots will not drown because the water will evaporate or drain. When using clay pots, wet the pot thoroughly before adding soil.

When purchasing potting soil, choose the best you can afford, such as Black Gold or Sunshine Soil, for plants in containers. Healthy soil and healthy plants will produce more fruit, resist pests and diseases, and survive wind and heat.

USING COMPOST

Keep adding compost as mulch every two to three weeks, as it breaks down and is used by the soil. The plants should have at least 1 inch, and 2 would be ideal, of compost as mulch. Leave several inches of space around the stems of the plants. Any mulch applied could cause rotting when placed too closely to the stem or trunk. When setting out transplants, place a handful of compost in the bottom of each hole. The roots will reach down to it.

MEASURING WATER USE

Find a method for determining the moisture around the plants. A finger inserted into the soil is too short to give an accurate reading. Moisture meters are available at garden centers. Various kinds of probes can be bought for landscape use to determine when irrigation is needed. Check with garden centers or nurseries.

How often do I water? There is no definite answer. What is the air temperature, the soil temperature, how many hours of hot dry winds, what is the location of the beds or pots, is the question about annuals or perennials: all these factors must be considered when determining how often to water. This process is a learning curve.

As a guideline, vegetable beds should be watered to the depth of two to three feet. A sprinkler will take 20 minutes in loam soil to reach 2 feet. When installing an irrigation system, ask the installer, or clerk if you do it yourself, how many gallons of water per hour the emitters will deliver.

Water only when the sun is not going to shine on the leaves. Drops of water can act as lenses that burn them. Heat-loving plants, such as eggplant and peppers, prefer lukewarm water. Never put cold water on any plant, it will be a shock to the root system. If plants have an eastern exposure, they will have shade from the afternoon sun. Create basins with ridges four to six inches high around landscape plants, the water will then drain slowly to the root system. Be sure the basin is the diameter of the canopy of the shrub or tree.

HEAT AND PLANTS

Wise gardeners check the plants frequently in the hot season. When leaves have wilted, the plant is seriously damaged. It may not produce fruit, or the yield could be small. Plant seedlings closer than the package recommends. Let the plant leaves shade the stalks. Group many pots together in one spot. Evaporation from each will supply moisture to the others. Water daily in hot weather. Provide shade after 12 noon for potted plants, and many vegetables.

Know how deeply plant roots can grow. Again books from the public library can help with this information. For instance, tomato roots can grow to 10 feet, while beets or lettuce need a foot or less of root system to produce fruit. Vining crops such as cucumbers and melons need soft soil for six feet. If shallow hand watering is provided, the roots will not go deep enough to sustain the plants.

One of the dangers of summer heat is transpiration. When hot dry winds occur, the leaves lose their moisture quickly. Low humidity and high temperatures are death to many plants. If vacations are planned during this time, provide your garden with an experienced gardener. You may come home to a sad garden.

TOO MUCH WATER

Too much water is as unhealthy to plants as too little moisture. Roots must be able to breathe. Since air doesn't reach the roots, the plant rots, or is a victim to bacteria. Some leaves on overwatered plants turn yellow or pale green and fall off. The soil should be damp, not wet. Most watering problems for plants is the result of watering too frequently, but only a little at a time. This process causes roots to crowd together near the surface. Then the plants are more susceptible to stresses associated with dryness or changes in soil temperature. Many gardening books will explain approximately how much water vegetables or flowers will need. *Sunset Western Garden Book* is a very helpful guide.

To sum up, knowledge of plants and their root systems, keeping tabs on the wind, and seeking help are some of the ways to keep your summer garden a productive place in your landscape.

Lois H Lockhart March 2002 References: 52 Weekend Garden Projects, Nancy Bubel; Gardening Hints & Tips, Pippa Greenwood; Western Garden Problem Solver, Sunset Books.