

Drought Tolerant Plant Traits

Drought resistant plants possess some of these traits:

- Gray or white leaves which reflect heat
- White or light gray stems or bark which reflect heat
- Wax-coated leaves which minimize water loss
- Thick leaves which minimize water loss
- Narrow/curled leaves which minimize exposure to heat and water loss
- Early blooming and seed setting cycle which occurs when roots are still getting water
- Early leaf drop to minimize photosynthesis in dry, hot conditions
- Underground bulb or enlarged root which provides nutrition during dry months

Wise use of water for garden and lawn watering helps protect the environment, saves money and provides optimum growing conditions. Growing xeriphytic species (plants adapted to dry conditions), mulching, adding compost to the soil, installing windbreaks and fences to slow winds and reduce evaporation are simple ways to reduce water usage.

Plants Water Needs

Water is a critical component of **photosynthesis**, the process by which plants manufacture food from carbon dioxide and water in the presence of light. Nutrients, temperature, the amount and duration of light and water are factors that can limit plant growth.

The microscopic opening on the undersides of leaves called **stomata** are where the plants take in carbon dioxide. Water is lost through the stomata in a process called **transpiration**. Transpiration, along with evaporation from the surface of the soil, accounts for the moisture lost from the soil.

The stomata closes to try to limit water loss when there is a lack of water in the plant tissue. If the plant tissues lose too much water, wilting occurs. Plants have developed various ways to reduce water loss to adapt to dry conditions. These include narrow leaves, hairy leaves and thick fleshy stems and leaves.



Conservation Gardening

Water is the earth's most precious resource. Conserving water in your home and garden has always been a good idea, but in California today, conservation is more than just a good idea—it is essential to insure that there is a high-quality water supply both now and in the future. With California's Mediterranean climate, unpredictable rainfall and growing population, we cannot take our water supply for granted. Your conservation efforts help save this precious resource and also help reduce your water bills.

One of the best places to make significant reductions in water usage is in the garden. Fortunately, you can save water without sacrificing the beauty of your landscaping. You can enjoy a beautiful landscape that requires significantly less water and maintenance by taking advantage of efficient irrigation techniques and using plants and ground covers suitable for long, dry summers.

Water Conserving Plants

Choose "Mediterranean zone" plants that are adapted to long, dry summers and short, rainy winters. Plants that are native to California as well as those that originated in Southern Europe, South America and other "Mediterranean" climates do not need much water in the summer and have thrived in water-scarce conditions for thousands of years.

Planting Hints

Limit the amount of area devoted to lawn. Lawns need great quantities of water especially in the summer.

Wait until fall or winter to install a new garden. New plantings require more water.

Keep low-water plants away from "thirsty" ones. Mediterranean zone plants will suffer if over-watered.

Keep shade loving plants in the shade to prevent them from drying out.

Place water-loving plants at the bottom of slopes to benefit from runoff.



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Save Your Shade

Maintaining your valuable trees and shrubs during extreme heat, drought and water restrictions can be a challenge.

Some tips to help your trees and shrubs:

- Hand-water or use drip irrigation on shade trees and shrubs that are stressed, especially if they were recently planted.
- For newly planted trees, apply water to the root ball. For mature trees, target the drip line.
- Water trees only when needed. Young trees and shrubs may need watering once a week.
- Use compost or mulch over the root system to help conserve water.



Much Ado About Mulching

Think of mulch as a sun block for plant roots. Two to four inches of mulch can substantially help retain soil moisture, slow evaporation and protect plant roots from overheating. This is especially important for ornamentals and vegetables. Mulch can also reduce or eliminate weeds which compete with landscape plants for moisture. Organic mulches, such as pine straw, bark and shredded hardwood, are a good choice because they retain moisture and add nutrients to the soil as they decompose.

How to Mulch

- Before mulching, remove weeds.
- Work a thin layer of mulch into the soil and then add two to four inches on top. Avoid making mounds of mulch—spread it evenly.
- Mulch the entire root zone of the plant out to the drip line.
- Keep the mulch away from the trunks of shrubs and small trees to avoid rotting the trunks. Shallow rooted plants, such as azaleas, rhododendrons and dogwoods, need the most mulching.



A garden hose can use 10 gallons of water per minute!

Efficient Irrigation

Sprinkler systems can cover large areas. Automatic sprinklers need to be set correctly and adjusted to meet changing conditions. Water early in the morning to reduce the evaporation rate.

Drip irrigation is good for a small yard or individual plants. One to four gallons of water can be delivered per hour directly to the soil. There is little loss due to evaporation or runoff. Use in areas that are mulched to avoid disturbing the mulch.

Hand watering is the most common using a hose or portable sprinkler. A hose nozzle should be used to control the flow and avoid overwatering.

A good way to check if your lawn needs watering is to step on the grass. If it springs back up, you do not need to water.



Keep Your Landscape Growing Strong

Follow these simple guidelines to keep your water-wise landscape growing strong:

Mow -- Never cut more than one-third of the height of your grass during the summer. Set your mower to its highest setting. Taller grass cools the soil, encourages deep roots and reduces stress.

Weed Control -- Weeds are thieves that steal nutrients from your grass and other plants. Weed early in the year and consistently throughout the growing season.

Fertilize -- A light top dressing of compost or organic fertilizer can do wonders. It improves soil texture and increases root mass and surface area.

Test Your Soil -- The proper balance of plant nutrients and pH is important for a healthy soil.

Prune -- Pruning stimulates growth causing plants to need more water. It is best to prune trees and shrubs in the dormant season before the weather gets hot and dry.