



## HOW-TO BOOKLET #3149

# WATER-WISE GARDENING



### TOOL & MATERIAL CHECKLIST

- Organic Mulch
- Compost or Chopped Leaves
- Drought-tolerant Plants
- Irrigation System

*Read This Entire How-To Booklet For Specific Tools and Materials Not Noted in The Basics Listed Above*

No matter where you live, chances are that you've had to cope with drought conditions at some time or another. Maybe you remember the hassle of hauling hoses around to keep your lawn and garden alive until the rains returned. Or maybe your area restricted water use and you were confronted with a dreary brown lawn and drooping, withered flowers that you weren't allowed to water. Whether drought is a yearly occurrence in your area or just an occasional annoyance, there are lots of tricks you can use to keep your yard looking good and reduce your water bill at the same time.

### PLANNING A WATER-SAVING LANDSCAPE

The first step to saving water is figuring out where you use it the most. If you live in an arid climate, your lawn may be the most water-hungry part of the landscape. In cool, humid climates, you may use most of your watering time on the flower garden. Once you know where the water is going, you can take the right steps to minimize water needs.

**Reducing Lawn Area.** For many homeowners, minimizing lawn area is one of the most effective ways to reduce water use. Decide how much lawn you really need for recreation or entertaining, then replace the rest with groundcovers or decorative mulches. Long, narrow strips of turf, like those along driveways and walkways, are natural choices for replacement—they're difficult to water effectively and they're hard to mow, as well! Also consider replacing areas of grass that aren't growing well anyway, like under trees or on slopes. If you have a small yard, you may even want to remove all of the grass. Mulches and established, drought-tolerant ground-covers will look good all summer without extra water, and they'll reduce your mowing chores, too.



**Planting Wisely.** If you routinely water other parts of your yard, you may have noticed that some plants will wilt after only a week or so without rain, while other plants never seem to need extra water at all. When both kinds of plants are growing side-by-side, both can suffer: If you water the quick-to-wilt plants, the drought-tolerant ones may produce lush, sprawling growth that needs staking and is more prone to pest and disease problems. If you wait until the drought-tolerant plants need water, the thirsty kinds may be stunted, seriously wilted, or even dead. You can avoid these problems and use your water most effectively if you group plants with similar needs together. Keep high-water-use plants like vegetables and many flowers in one area, and more drought-tolerant flowers, shrubs, trees, and groundcovers in other beds. That way, you can concentrate on watering just certain areas, and all your plants will get the right conditions for their particular needs.

Whether you're planting a new water-saving landscape from scratch or moving existing plants around in your yard, keep in mind that even drought-tolerant plants need extra water until they are established. Whenever you install or move plants, you'll need to water them regularly for the first year or two until their roots spread enough to find their own water. But by the third year after planting, you'll notice dramatic savings in the amount of water and time you use to keep your garden looking great. If you're making major landscape changes, you may want to phase them in over a period of several years. That way, you won't be faced with large numbers of new plants that all need extra watering at the same time.

As you choose or reorganize planting areas, take advantage of features like low spots or downspouts to provide extra moisture for more water-thirsty plants. Or consider diverting rainwater collected by your gutters into plastic, metal, or wooden barrels, where it can be saved for later use.

## PLANTS THAT GROW WELL IN MOST CLIMATES

### Annuals

Bachelor's-buttons  
(*Centaurea cyanus*)  
California poppy  
(*Eschscholzia californica*)  
Cockscomb/plumed celosia  
(*Celosia spp.*)  
Globe amaranth  
(*Gomphrena globosa*)  
Narrow-leaved zinnia  
(*Zinnia angustifolia*)  
Rose moss (*Portulaca grandiflora*)  
Scarlet sage (*Salvia splendens*)  
Verbenas (*Verbena spp.*)

### Perennials

Blanket flowers (*Gaillardia spp.*)  
Coreopsis (*Coreopsis spp.*)  
Evening primroses (*Oenothera spp.*)

Penstemons (*Penstemon spp.*)  
Purple coneflower  
(*Echinacea purpurea*)  
Purple ice plant (*Delosperma cooperi*)  
Sages (*Salvia spp.*)  
Statice (*Limonium spp.*)  
Yarrows (*Achillea spp.*)

### Groundcovers

Bearberry (*Arctostaphylos uva-ursi*)  
Creeping junipers  
(*Juniperus horizontalis*)  
Hens and chicks  
(*Sempervivum tectorum*)  
Lamb's-ears (*Stachys byzantina*)  
Lavender (*Lavandula spp.*)  
Lavender cotton  
(*Santolina chamaecyparissus*)  
Sedums (*Sedum spp.*)

Snow-in-summer  
(*Cerastium tomentosum*)  
Wormwoods (*Artemisia spp.*)

### Shrubs

Barberries (*Berberis spp.*)  
Cinquefoils (*Potentilla spp.*)  
Cotoneasters (*Cotoneaster spp.*)  
Dwarf mugo pine  
(*Pinus mugo var. mugo*)  
Yews (*Taxus spp.*)

### Trees

Atlas cedar (*Cedrus atlantica*)  
Catalpas (*Catalpa spp.*)  
Junipers (*Juniperus spp.*)  
Oaks (*Quercus spp.*)  
Pines (*Pinus spp.*)  
Smoke trees (*Cotinus spp.*)

## PICKING WATER-WISE PLANTS

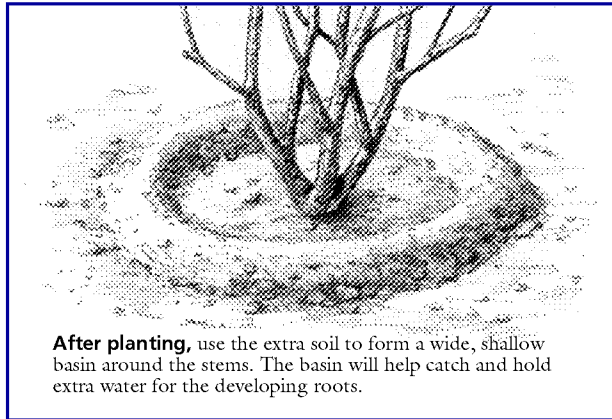
Choosing and using drought-tolerant plants is another key part of creating a water-saving landscape. Plants that are native to your area are naturally well adapted to survive on the normal rainfall in your region. Visit local natural areas, wildflower preserves, and even cemeteries to see which plants are thriving there without extra water.

If there's a plant you like but you're not sure about its water needs, there are a few clues that can help you make an educated guess. Plants with large, thin leaves tend to need more water than those with smaller or thicker leaves. Fuzzy, gray or silvery, or finely cut leaves often indicate that a plant is drought-tolerant. Low-growing plants also tend to use less water than tall plants since their compact stems are less exposed to drying winds. Many aromatic herbs, like rosemary, lavender, and thyme, are also quite drought-tolerant; their oils protect them from drying out.

While the best plants for your landscape will vary depending on your region and needs, the box (above) suggests some plants that grow well in a wide range of climates. (The common name is followed by the botanical name in parenthesis. "Spp." indicates that more than one species of the plant is suitable.) Your local Cooperative Extension Service, botanical gardens, and garden centers can give you other ideas on water-thrifty plants that are well adapted to your area.

## SAVING WATER AROUND THE YARD

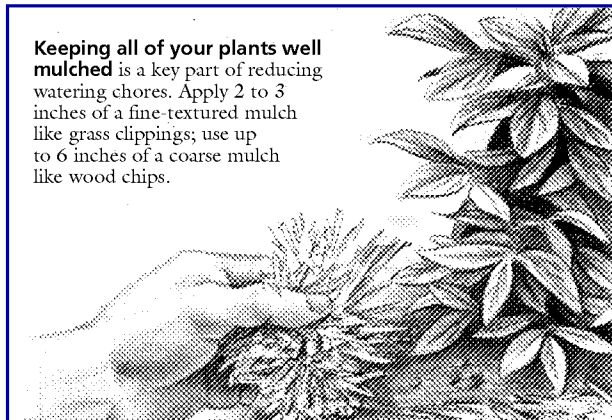
One of the most important steps to ensuring a healthy, great-looking water-wise landscape is good plant care. It starts at planting time with thorough soil preparation. Loose soil that's rich in organic matter will provide ideal conditions for root growth so plants will be able to send more roots out in search of water. (The organic matter itself will hold extra water in the soil, leading to less frequent watering.)



**After planting,** use the extra soil to form a wide, shallow basin around the stems. The basin will help catch and hold extra water for the developing roots.

**Preparing Beds.** When preparing beds for flowers or vegetables, work a 1- to 2-inch layer of organic matter (like compost or chopped leaves) into the top 6 to 8 inches of soil. When installing trees or shrubs, dig a planting area that's as big and about twice as wide as the root ball, and work in about an inch of organic matter over the planting area. Also, shape the soil into wide, shallow basins around each plant to help hold water near the roots.

**Choosing a Mulch.** After planting, mulching will help new plants get off to a good start and promote healthy, water-thrifty growth in established plants. You may choose an inorganic mulch, like



**Keeping all of your plants well mulched** is a key part of reducing watering chores. Apply 2 to 3 inches of a fine-textured mulch like grass clippings; use up to 6 inches of a coarse mulch like wood chips.

gravel or black plastic, or an organic mulch, such as compost, wood chips, or shredded leaves. Both kinds of mulch can keep the soil cool and protect it from sun and wind, minimizing the amount of water lost to evaporation. Mulch also prevents weed seeds in the soil from sprouting, so your plants won't have to compete with weeds for water.

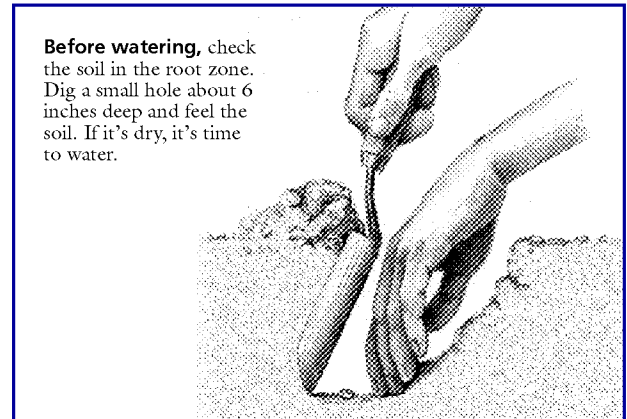
For good plant growth, organic mulches are the better choice. As they break down they add organic matter to the soil, improving the water-holding capacity and providing extra nutrients for your plants. Apply a 2- to 3-inch layer of fine-textured organic mulch—like compost or grass clippings—or up to 6 inches of coarse mulches—like wood chips or bark chunks. (Keep a 3- to 6-inch mulch-free zone around each plant to avoid holding too much moisture right around the base of the stems, which can lead to crown rot.) Mulch as soon as possible after you water new plantings. For established plantings, wait until late spring—after the spring rains but before the summer heat arrives.

Gravel and rock mulches are best for unplanted areas, such as paths and edgings; they'll look good and last for years without using any water. One to two inches of a gravel mulch is usually adequate. A plastic mulch underneath will help prevent weeds from sprouting up through the gravel or rock.

### **SENSIBLE WATERING: WHEN AND HOW**

The last step to water-wise landscaping is knowing when and how to water your plants. Ideally, you should water your plants before they wilt. Even a short-term wilt can stress plant growth, reducing vegetable yields, causing flower buds to drop, and stunting growth.

**Wilting Plants.** During dry periods, watch your plants for wilting—a reliable sign that they are in distress. Heat-sensitive plants sometimes wilt in the midday sun but snap back quickly toward evening. If plants wilt and haven't recovered by the next morning, you've got about 24 hours to provide water before severe plant damage occurs.



**Before watering,** check the soil in the root zone. Dig a small hole about 6 inches deep and feel the soil. If it's dry, it's time to water.

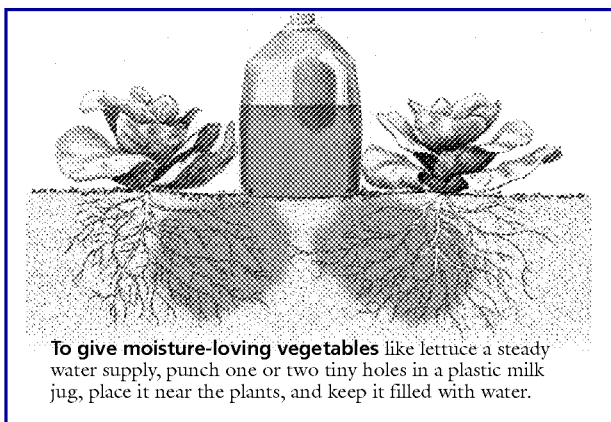
Dull or curling leaves are pre-wilting symptoms. In the lawn, you may notice that the blades don't spring back when you walk across the grass. Sometimes, though, it can be difficult to notice these symptoms.

**Dry Soil.** A more reliable way to judge water needs is to look at the soil. Most plant roots grow in the top 6 to 9 inches of soil. If this root zone is dry, your plants will suffer. If rainfall is lacking for a week or two, dig a small hole in the garden and feel the soil about 6 inches down. If the soil feels moist there, wait a few days and check again. If the soil is dry, it's time to water.

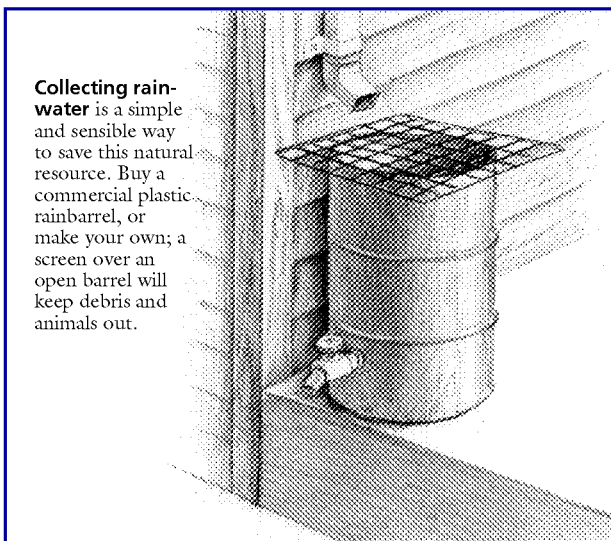
**Watering Methods.** For most uses, a sprinkler is the least efficient way to irrigate. Sprinklers can lose as much as 50 percent of the water they release to evaporation and runoff. For many homeowners, though, sprinklers are the most affordable type of lawn irrigation system. If you must use a sprinkler, try to limit your watering to early mornings, when it's not hot or windy. Check the sprinkler frequently, and turn it off or move it if water starts to run off of the site.

For garden areas—groundcovers, flower beds, vegetable gardens, and tree and shrub plantings—a drip irrigation system is really the way to go. Drip irrigation delivers water right to the soil, so plants

stay dry (minimizing disease problems) and little water is lost to evaporation or runoff. It can be as simple as a rubber or plastic hose with small holes or pores that ooze water onto the soil. These pipes are easy to use: Just hook one end up to the outside faucet, lay the hose among the plants you want to irrigate, and let the water run as long as necessary. You can move the hose to different areas as needed, or leave it in place all season and buy separate hoses for each area. Applying mulch over the hoses will help keep even more water in the soil.



To give moisture-loving vegetables like lettuce a steady water supply, punch one or two tiny holes in a plastic milk jug, place it near the plants, and keep it filled with water.



Collecting rainwater is a simple and sensible way to save this natural resource. Buy a commercial plastic rainbarrel, or make your own; a screen over an open barrel will keep debris and animals out.

More involved irrigation systems have tiny tubes that drip water around the base of each plant. These permanent systems are more expensive and more complicated to install, but they're a snap to use; it usually just takes a flip of a switch to take care of watering chores. You can learn more about planning and using a drip irrigation system in How-To Booklet #3123: Drip Irrigation.

No matter what system you use, let the water run until the top 6 inches of soil is moist. Exactly how long this will take can vary widely, depending on what kind of irrigation you're using and what kind of soil you have. Loose, sandy soil may absorb enough water to wet the top 6 inches in about two hours. It can take twice as long to thoroughly water a heavier clay soil. Plus, clay soil absorbs water much more slowly, so you'd probably have to water in shorter cycles (30 to 60 minutes on, and the same period off) so the water soaks in instead of running off. Take some time to watch your irrigation system and record how long it takes to water your lawn, flower beds, and other planting areas. In the future, you can use this information to estimate watering time without constantly checking the soil.

Once they're thoroughly moist, clay soils dry out much more slowly than sandy soils. In fact, clay soils can hold twice as much water as sandy ones, so you may have to water sandy soils up to twice as often. Remember to check the soil in the root zone to see if and when you really need to water.

## TOP TIPS FOR SAVING WATER

Here are more tips you can try for saving water in all parts of your yard.

### Lawn

- 🏠 Let your lawn go dormant during summer droughts. It will green up when cooler temperatures arrive.
- 🏠 Mow at a higher setting during dry spells, and leave the clippings on the lawn to act as a mulch.
- 🏠 Remove turf from slopes, curbside strips, and other hard-to-water areas; replant with drought-tolerant groundcovers.

### Vegetable Garden

- 🏠 Look for early-maturing vegetable cultivars that will ripen before the summer heat.
- 🏠 Plant seeds and seedlings into well-prepared soil as soon as possible in spring so they'll be established while the weather is still moist and cool.
- 🏠 Shade new transplants with newspaper, cardboard, or screening for the first week or two to prevent wilting.

### Flowers, Shrubs, and Trees

- 🏠 Plant perennials and woody plants in fall if possible (early spring in cold winter areas) to take advantage of natural rainfall.
- 🏠 When shopping, keep in mind that smaller plants adapt faster to the garden and need less water than larger ones.
- 🏠 Use plastic pots instead of porous clay for container plantings; plastic pots dry out more slowly.
- 🏠 Keep container plants from drying out so quickly by putting them—container and all—into a larger pot. Fill the space in between the pots with peat moss to keep roots cool and moist, as shown at right.

