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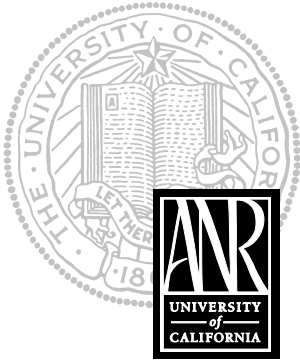
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Water Conservation Tips for the Home Lawn and Garden

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Water is a precious commodity in California gardens. It may be limited in supply, restricted in use, or very expensive to purchase. However, it is not necessary to sacrifice beauty and color in order to emphasize water conservation in the planning, planting, and maintenance of your garden. Here are some tips to reducing water use as you create a lovely and enjoyable garden.

ANALYZE YOUR DESIGN AND AVAILABLE SPACE

- Become familiar with your garden's microclimates—areas of sun, shade, wind exposure, heat, and cold—as well as its soil type, drainage patterns, slopes, high and low spots, and moisture sources. Remember that these areas may change with each season.
- Consider how your garden will be used: entertainment, children's play, vegetable gardening, wildlife habitat, erosion control, meditation and contemplation, enjoyment of a beautiful view, elimination of an unsightly view, and so on.

PREPARE YOUR SOIL

- Determine your soil texture. The texture of the soil has a direct influence on water retention, drainage, and aeration. Sandy soil is made up of relatively large soil particles with large pore spaces between them. It usually provides good aeration but allows water to drain rapidly. Clay soil, with small soil particles and correspondingly small pore spaces, retains more water, sometimes resulting in poor drainage and insufficient oxygen for plant roots. Loam soils are a mixture of sand, clay, and silt particles and provide the best balance between water retention and adequate aeration.
- Extremes in soil pH can be neutralized somewhat by the incorporation of generous quantities of organic matter like humus or compost, which also improve soil structure and water retention. In some cases, additions of sulfur or lime may be required to adjust the pH of the soil to an appropriate level.
- Before planting, remove existing weeds: they compete with desired plants for soil moisture, sunlight, and nutrients.
- To improve soil drainage, break up compaction layers and areas with hardpan prior to planting.

LIMIT TURF AREAS

- A lawn is almost always the single largest user of water in the home landscape. Many gardens have large expanses of turf that are never used but require considerable time, effort, and resources to maintain.
- Use turf only where it serves a purpose, such as in play or entertainment areas. Select water-efficient grass varieties suited to your local climate.

- Replace nonessential turf with ground covers, mulches, or hardscapes such as decks, walkways, patios, or dry creeks.

PUT PLANTS IN THE RIGHT PLACES

- Select low water use plants that are appropriate to your climate. Consider the use of California natives from your climate zone. Most need regular watering until they are established, but will require less water thereafter.
- For ease of irrigation, group plants with similar microclimatic needs in the same watering zone. Lawns, water-loving plants, and container plants require frequent irrigation while many trees, shrubs, perennials, bulbs, and ground covers need less frequent irrigation. Established trees and plants may need just a little more water than they receive in rainfall, and some established, drought-tolerant trees, shrubs, and ground covers may survive with average rainfall alone.
- Limit the use of ornamentals that require frequent irrigation and group them in areas where they can be watered together. Productive garden areas, such as a vegetable bed, may also require larger amounts of water than the surrounding landscape. Plant low water users farther away from the house or where irrigation may not be as readily available.

IRRIGATE EFFICIENTLY

- Water only as much as is necessary and adjust your irrigation schedule periodically—each month, ideally—to reflect seasonal changes in temperature, wind, humidity, and rainfall. Your irrigation system should be customized to provide only as much water as is needed for each grouping of plants.
- Extreme differences in microclimate areas require distinctly different irrigation regimens and should be irrigated with separate valves or systems.
- Use an efficient watering system such as drip or soaker hoses to minimize water loss through evaporation or runoff. Turf is best irrigated with sprinklers.
- To further reduce evaporation, operate your irrigation system during the cooler hours of the early morning rather than during the heat of the day or in windy weather.
- Infrequent, deep watering encourages deeper root growth and results in plants with greater tolerance of fluctuations in soil moisture.
- Check your irrigation system regularly for leaks, broken heads, faulty valves, and other malfunctions. Be sure that misdirected water is not running off onto driveways, sidewalks, or streets.

MULCH, MULCH, MULCH!

- A thick layer (3 inches or more) of coarse mulch acts as insulation for your soil and significantly reduces evaporation of soil moisture. Mulching helps maintain a consistent soil temperature and protects roots from the heat and drying effects of summer weather.
- Keep mulch several inches away from the trunks of trees or shrubs as it may harbor insects or pathogens that promote root and crown diseases such as Phytophthora root rot (*Phytophthora* spp.).
- Mulch can effectively reduce weed growth by blocking the sunlight needed for weed seeds to germinate. This reduces competition for soil moisture and reduces the time needed for garden maintenance.

- Organic mulches such as bark products, humus, and leaves break down over time, resulting in improved soil structure and the slow release of small amounts of nutrients.
- The soil under the mulch should be checked periodically to be sure that irrigation water is reaching the soil and the root zone of desired plants.

APPROPRIATE MAINTENANCE

- Heavy pruning can lead to excessive plant growth and increased demand for water. To shape and direct plant growth, prune lightly during the winter dormant season or very early spring.
- The overuse of fertilizers results in rank growth and heavy water consumption. Apply nutrients only when plants need them and use low concentrations or slow-release formulations.
- Reduce weeding chores by pulling unwanted plants before they mature and produce seeds. Weed growth can be kept in check with the use of mulches and dense ground covers to block sunlight from reaching weed seeds.
- Mow lawns somewhat higher during very warm weather. This reduces the growth rate and the demand for water, promotes deeper root growth, and lessens the likelihood of sunburn injury. Taller turf shades the soil and reduces weed seed germination.

FOR MORE INFORMATION

You'll find detailed information on many aspects of managing the home landscape in these titles and in other publications, slide sets, and videos from UC ANR:

Turfgrass Water Conservation, Publication 21405

Drip Irrigation in the Home Landscape, Publication 21579

Pests of Landscape Trees and Shrubs: An Integrated Pest Management Guide,
Publication 3359

The UC Guide to Solving Garden and Landscape Problems, CD-ROM ANR3400

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