



## What can you do to help your roses through the drought?

by Anne Skinner, UC Master Gardener

Rose gardens all over town are in their showy spring bloom. The big question is how to keep those bushes looking good in spite of water restrictions related to the drought?

The water needs of plants are determined by the sum of evaporation from the soil and plant surfaces and transpiration. Transpiration is the evaporative loss of water vapor from pores (stomata) on the leaves. Evapotranspiration is affected by the temperature, humidity, wind and solar radiation and is highest in summer months in the San Joaquin Valley and foothills.

If plants don't get enough water, then they show signs of stress. How can you recognize water stress in roses? Roses react to drought by dropping leaves, decreasing flower size or showing signs of early dormancy. In a water stressed state, roses are more susceptible to pests and diseases. A rose bush with a 3 foot canopy diameter needs approximately 3 gallons of water per week.

How plants are watered is key to their survival during water restrictions. If plants are watered with an overhead sprinkler, there is more potential for evaporation, as well as the foliage blocking the uniformity of water application. Drip irrigation at the base of the bush provides water to the root zone and decreases weed growth and weed competition for water. Watering early in the morning reduces evaporation and avoids wet foliage during warm nights, which promotes some diseases.

Water deeply at 3 to 7 day intervals (depending on weather and your particular site) during summer months. Shallow watering leads to an increase in surface roots and more rapid evaporation. When the temperature is less than 90 degrees, watering intervals can be increased. Use a moisture meter to monitor soil moisture in the root zone and determine watering frequency.

Another key is to apply a thick layer of mulch around the base of the plants to cover the soil surface. Mulch reduces soil surface evaporation and keeps the roots cool, which reduces plant respiration and stress. Two to three inches of medium sized mulch is optimal. If larger mulch is used, it may require a 4 inch layer to keep sunlight from penetrating between mulch pieces and provide an insulation layer. Keep mulch a few inches away from the base of the plant.

Keep foliage on the rose bush to shade the ground and avoid severe pruning. Sucker removal, clearing excessive leafy growth in the center of the plant, and shaping shoots is okay. Deadhead (remove spent blooms) regularly to reduce the energy the plant would use to set seeds. Weed the rose garden frequently to avoid weeds taking up your precious water.



A single rose bush this size needs about 2-3 gallons of water per week to survive.

It is usually recommended to fertilize roses every 4-6 weeks during the blooming season. Fertilizer encourages plant growth and increases water needed by the plant. If fertilizer salts build up in the soil as a result of not being leached out by rain or irrigation, they can burn the plant roots. During times of drought, fertilizing only in the early spring and early fall is recommended.

Avoid pesticide application on a drought stressed plant, as it can injure the plant. Most pesticides do not recommend application during extremes of temperature and most rose bushes don't need any pesticides anyway. As always, read the manufacturer's directions.

Planting new rose bushes or transplanting existing bushes is best left until fall or winter during dormancy. Any newly planted shrub will require regular watering to compensate for roots cut during the planting process.

Roses in pots should be located where they will be protected from the hot afternoon sun. Especially in hot weather, monitor soil moisture with a moisture meter on a daily basis. Light colored pots help to keep the roots cooler, as does a layer of mulch on the soil surface.

With some extra care, roses will survive periods of drought. The foliage and blooms may not look as grand as previous years and they may begin winter dormancy earlier than usual. In our hot summer climate, roses normally bloom most abundantly in spring and fall. Roses generally are very resilient plants.

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Roses in bloom at Tulare County Courthouse. Note the thick layer of mulch that hides the drip irrigation system.