

## SAFE WEED MANAGEMENT

By Jim Gormely

A weed is a plant growing where it is not wanted. Weeds can even be good guys. Some weeds in my rose garden have beautiful pink flowers and bees love their nectar. Only after the flowers are spent do I pull these weeds so they will reseed and come up again next year. Other weeds can aggressively displace desirable plants by competing for water and sunlight in both backyards and in the wild.

As a service project, Master Gardeners recently cleaned up unsightly weeds around the entrance to Sonora Senior Center. "Why are we doing this?" I exclaimed. "We should just spray with an herbicide." Our leader explained that Master Gardeners rarely use chemicals in their yards. I needed to understand why it is wrong to spray herbicides in the garden so I did some research.

The goal of any weed management program is to select the most efficient practice that is least harmful to people and to the environment, and to apply this practice at the proper time. Don't wait until after the weed has set its seed for, as one weed scientist has warned, "a year of seed means decades of weeds."

Herbicides, and pesticides are dangerous chemicals that can be injurious to people, leach into the ground water contaminating drinking water, streams and lakes. Besides killing targeted plants and pests, they can also kill pollinators and aquatic life. Be especially cautious with herbicides and other pesticides in the vegetable garden.

Half the chemicals used in gardens are herbicides and often inefficiently used. They may be applied in the wrong situation or wrong time of year. They may mask the real reason, such as poor drainage or depleted soil that weeds are growing in the first place. And, as soon as soil is disturbed, the newly exposed weed seeds will grow.

The two alternatives to chemical control are cultural and mechanical:

**CULTURAL:** These methods modify the immediate environment and are probably the most overlooked weed control methods. Changes in cultural strategies can increase the crop's competitive advantage. These techniques include suitable soil preparation, plant selection, irrigation management, crop rotation, mowing height and thatch control for grasses and reduction of soil compaction.

For example, keeping turf in a healthy, vigorous state helps prevent weed problems. Cuttings from lawns build up on the soil and turn into a thatch that prevents water from soaking into the soil. Dethatch the lawn if the thatch layer is more than 0.5 thick. Close mowing or scalping allows weeds to germinate and grow. Never cut lawns below 1.5 inches in height.

**MECHANICAL:** These methods of weed control are very effective, even against the most persistent weeds. This includes hoeing or cultivating, hand pulling, rototilling, discing and

mowing. Physical barriers such as mulches can do a fair job of controlling weeds. Last spring, I applied wood chips to a large area in a park that had weeds high enough to be called a fire hazard. Last week only a few weeds grew through the chips. A number of infant oak trees continued to grow in a shady area, indicating that the mulch preserved soil moisture.

Cultivate vegetable gardens shallowly to prevent injuring plant roots and beneficial soil organisms and to avoid bringing additional weed seeds to the soil surface.

In sunny areas, solarization with clear plastic placed on top of loosened, moist, leveled soil controls many weeds, plus certain soil-borne diseases like Verticillium wilt. Solarization will also control nematodes, little round worms that attack the roots of plants and vegetables.

Now that you have some knowledge, learn more about safe gardening at [www.ipm.ucdavis.edu/GENERAL/pesticides.html](http://www.ipm.ucdavis.edu/GENERAL/pesticides.html). Share your new information with a neighbor.

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