

Weed Control Without Poison

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For Print May 4, 2011

Within every square foot of soil there are hundreds and even thousands of seeds. Each particular plant species is waiting for the right set of conditions to germinate and become a plant. There are many of these conditions, some of them very specialized, such as a recently burned area. But the most common factors may be levels of moisture, nutrients, oxygen, carbon dioxide and pH, type and density of other growth in the vicinity, and soil temperature.

When the right conditions are met and a plant succeeds in germinating and growing, it may compete with our interests and thus be categorized as a weed. Weeds can and do provide some positive benefits. They provide cover and forage for wildlife and desirable insects such as bees and butterflies. Some weeds are herbs such as Saint John's Wort and Maywood Chamomille. Others can be a tasty ingredient for a salad like Miner's Lettuce, Purslane, and Lamb's Quarters. Broadleaf weeds such as Pigweed, a member of the amaranth family, and Lamb's Quarters are good indicators that the soil is rich in available nutrients for growing crops.

The presence of certain weeds tells a lot about the soil. Bindweed and Field Mustard indicate "poverty pasture conditions." The soil may be acidic, salty, or hardpan. Some weeds such as Hemlock, Jimson Weed, and Nightshade can be toxic and even fatal to grazing animals. Weeds are no different than any other plant in terms of being able to modify soil conditions, take up nutrients from deeper areas, and absorb carbon dioxide. Invasive weeds, notably Star Thistle and Scotch Broom, will choke out everything if left uncontrolled. Certain exotic aquatics are a tremendous problem in our waterways.

As vegetable gardeners we need to be aware of what we put on our edible crops. Herbicides are not acceptable for use on something that will be eaten. How then to control weeds? If one has the luxury of being able to plan ahead, fall tillage is the best option. This is also the best time to amend soil with composted material, manure, and material to adjust the pH. Good soil is the best way to assure a high yield even in the presence of a few weeds.

Solarization is a method used to rid soil of nematode infestation and soil borne diseases but it also works to kill weed seeds. Cover moist soil with clear plastic (1 to 2 mils) for two months in midsummer. However, the fact that this approach conflicts with the growing season may make it an unlikely choice.

Mulching is a more practical and common approach. Spread plastic, organic material, or a combination of both on the surface of the growing bed but not in contact with the plants. The recommended depth is 1-3 inches for the fine materials such as sawdust or

grass clippings and 3-6 inches for bark, straw, or other plant materials. This layer has the effect of blocking sunlight necessary for weed seed germination and photosynthesis. Mulching has the added benefit of reducing water usage and if organic materials are used they can just be tilled under at the end of the season.

Flamers are used extensively by commercial growers and are also available to the home gardener. The principle is to scorch the small weeds just as they emerge. Another approach is - "water, wait, and cultivate." Water your patch and when the weeds immerge, hoe them. Repeat this process twice and you will be rid of most of the annuals in the top ½ inch of the ground.

Lastly, there is the core of any discussion of weed control - pull and cut. Cutting below the crown or soil line will control annuals, provided they have not set seed. Unless completely uprooted, perennials will survive cutting and will grow back. However, repeated removal at the soil line will eventually kill the root. Star Thistle can be prevented from reaching its mature stage by crowning or mowing while it is the floret stage.

If you have weeds with extensive seed heads, use care when removing them to avoid recycling the seeds back into your garden and making more work for yourself in the future. If composting the weeds, make sure that the temperature of the pile is hot enough to degrade weed seeds. Or, keep the weeds separate from other composting yard waste. Always remember that cultivating the soil, whether in pursuit of weeds or not, will only improve the health of your soil. Healthy and vigorous growth is the best defense against weeds and other potential pests.

No class is scheduled this Saturday due to the Mother's Day holiday. Our next class will be Saturday, May 14. UCCE Master Gardeners will be presenting "Salsa Gardening." The class starts at 9 a.m. and will be held in the Veterans Memorial Building at 130 Placerville Dr. in Placerville. The Master Gardeners are available to answer home gardening questions Tuesday through Friday, 9 a.m. to noon, by calling (530) 621-5512. The office is located at 311 Fair Lane in Placerville. Walk-ins are welcome. For more information about our public education classes and activities, go to our Master Gardener website at http://ceeldorado.ucdavis.edu/Master_Gardener/.