

Non-Toxic Weed Control



weed control

Weed control can be achieved through a combination of planting techniques, mulching, hand pulling, hoeing and prevention. Unfortunately, there are no environmentally safe miracle products that come in bottles. Weeds can be beneficial, and they can be controlled with the tried and true suggestions below.

Beneficial Uses of Weeds

- **Improve your soil.** You can use deep-rooted weeds to improve your soil. Some deep divers open up the subsoil to water and to the roots of more delicate plants. (Try lambsquarter, sowthistle, vetch, wild chicory, plantain, purslane, nightshade.)
- **Attract beneficial insects.** Many weeds also provide pollen for bees and serve as a refuge for certain beneficial insects. (Try mustard, wild radish, pigweed, white sweet clover.)
- **Compost them.** Most weeds can be used to make compost, or they can be dug into the soil as a green manure. Many weeds can be left on the soil surface after cutting, to serve as mulch and to feed earthworms and other soil organisms. (Try chickweed especially.)
- **Eat them.** Some weeds are edible, and are great in salads or as greens. Learn to recognize them. (Try dandelions, chickweed, dock, epazote, Himalayan blackberry, lambsquarters, miner's lettuce, mint, mustard, nasturtium, New Zealand spinach, onion lily, purslane, shepherds-purse, sorrel, wild radish.)

Organic Weed Control

- **Mulch.** To get weeds under control, try *sheet mulching*. Put down newspaper or corrugated cardboard one or two inches thick. Cover with two to four inches of straw, leaves, or wood chips. Keep the mulched area moderately moist. Sheet mulching can be especially effective against hard-to-control weeds because it robs them of light and doesn't allow them to grow past the barrier. (Mulching also holds in soil moisture, reducing the need for watering.) Avoid using plastic sheeting, because it blocks out air and kills the beneficial organisms in your soil that keep it healthy. After a plot has been weeded, a four-inch-thick organic mulch helps control weeds by inhibiting the germination of weed seeds beneath the mulch. Any weeds that root in the loose mulching material are also easier to pull. Prunings, leaves and other green waste can be used as mulch. Bark, straw, wood chips, and sawdust make good mulch as well.
- **Hoe and hand-pull.** It is most important to weed an area during the first six weeks after you plant so that your young crops don't have to compete with the weeds. Hand-pulling will become easier as you learn the habits of various weeds and how to pull them. Be especially sure to cut weeds down before they go to seed. Perennial weeds store their energy in their roots. A tactic for dealing with them is to cut down the tops of the weeds, let them grow back until

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they begin to sprout, then cut them back again. Repeat this until all of the energy is drawn out of the roots.

- **Plant densely.** Space your plants close enough together so that the leaves of adjoining plants touch at maturity. Try competitive planting: Quick-growing annuals, vigorous ground covers, and plants with dense foliage can shade the ground enough that weed seeds have difficulty germinating. Also, trees and shrubs can be used for shade so that weeds will not grow.
- **Replant with native plants.** Natives are very hardy, are usually naturally pest resistant, are suited for the climate, and compete well with weeds. Many are also drought tolerant. A good choice all around.
- **Provide excellent growing conditions.** Provide your crop with loose and fertile soil, adequate water, and proper sunlight so that it can outmatch the weeds.
- **Monitor inputs.** Avoid new infestations by watching what you introduce into your garden. Some compost and dirt contains weed seeds.
- **Use allelopathic cover crops and companion planting.** As some plants grow, they release biochemicals that either suppress or encourage the plants growing around them. Good allelopathic crops to suppress weeds are rye, buckwheat, black mustard, and sorghum-sudangrass hybrids. Companion planting in your vegetable garden can also be used to control weeds. For example, growing squash with corn helps suppress weeds.
- **Pre-sprout.** To get rid of annual weeds, try presprouting: dig, amend, and rake your soil. Water as if you had sown crop seeds. After the weeds start to sprout, hoe, just scraping the soil surface. Don't dig further because this will stimulate seeds that are deeper in the soil to sprout. If the plot is particularly weedy, repeat this process.

Herbicidal Products

Weeds develop resistance to herbicides over time. Herbicides kill beneficial organisms and pollinators in your garden as well as contaminate our waterways, soil and food. For these reasons, synthetic herbicides should be completely avoided and least-toxic herbicides should be used only on rare occasions. Herbicidal soaps are the least-toxic form of herbicide, and they are sometimes effective on some annual weeds.

More Resources

Pam Peirce, [Golden Gate Gardening, 3rd ed.](#) (Sasquatch Books, 2010). This is a great book for Bay Area gardening with an extensive chapter on dealing with weeds.

Barbara Pleasant, [The Gardener's Weed Book: Earth-Safe Controls](#) (Storey, 1996)

The Ecology Center's information program, library, and bookstore have more weed control resources to share. Visit us online or in person or call to find out more!