

HOW TO CONTROL WEEDS

It is unrealistic to think that we can have a garden or a lawn that is entirely weed-free. We need to manage weeds so they don't become an overwhelming problem. This means tolerating some weeds in some situations. If you really want to solve your weed problem, you will need to spend some time, have some patience, and expend some effort.

WHAT IS A WEED?

A weed in the garden is usually a plant growing in the wrong place. This includes not only plants we normally think of as weeds, such as the dandelion, but also the tens of tomato seedlings coming up in the worm compost we've spread on a flower bed.

INVASIVES

There are, however, a number of non-native plants that are very serious pests. When these plants are introduced into natural areas, they overwhelm native vegetation and degrade the environment for wildlife and humans alike. The worst of these invasive plants are classified as noxious weeds, and the

government spends millions of dollars every year to remove them.

Some commonly available garden plants are actually invasive weeds that can "escape" from our gardens into wildlands. Don't use these plants and remove any from your yard (see "Don't Plant a Pest!" brochure from Cal-IPC; www.cal-ipc.org).

WEEDS CAN BE BENEFICIAL, TOO

Deep-rooted weeds such as thistles, pigweeds, and nightshades can bring up minerals from the subsoil that are then deposited in the topsoil when the plants die and decompose. Deep roots can open pathways for water and for roots of less aggressive plants. Weeds in the sunflower (Asteraceae), parsley (Apiaceae), and mustard (Cruciferae) families produce flowers that feed beneficial insects with their nectar and pollen.

NON-CHEMICAL STRATEGIES FOR CONTROLLING WEEDS

To solve your weed problems in the long run, you must make the habitat in which weeds are growing inhospitable to them. In general, weeds prefer bare soil with lots of light; therefore, keep the soil in between your plants covered with mulch that excludes light from

the soil. Patch cracks in paving, or fill cracks with special caulking compounds designed for asphalt or concrete.

It is very important to prevent weeds from going to seed. If you can reduce the number of weed seeds in and around your garden, you have won half the battle.

HAND WEEDING

Weeds are easiest to pull when they are fairly small and when the soil is moist, but not wet. There are a number of useful weeding tools for sale, and gloves will protect your hands. Any weeds you pull up (or cut off) can be used as mulch around desired plants or can be composted, *as long as they have not yet flowered and are not the kind that reproduce from plant fragments, tubers, or bulbs*. Once weeds flower, there is a danger that seeds will mature on the plants even after they are pulled.

With established perennial weeds, concentrate on digging up the roots or depriving them of energy. If you cannot dig up the roots, cut the plant down to the ground. Cover the area with thick mulch, and if plants send up new shoots, cut them down again. Don't allow the plants to flower, produce new leaves, or go to seed. With no leaves to produce energy, the roots will eventually use up their reserves and be unable to produce new shoots.



Choose less toxic products for your home and garden. Look for this symbol before you buy.



WATER MANAGEMENT

Prevent weeds from growing by keeping the soil too dry to support plants. Drip irrigation systems with drip emitters deliver water only to desirable plants.

MULCHING

A thick layer of mulch deprives weeds and their seeds of light. Organic mulches, such as compost, leaves, sawdust, straw, newspapers, and cardboard, have the added benefit of providing organic matter for soil organisms to feed on. Weed control fabric and black plastic will also exclude light from weeds and their seeds. It is important to understand that mulches only prevent weeds that are under them from growing. Most organic mulches provide a good growing medium for weed seeds that blow in on top of the mulch, but you can more easily pull weeds growing in mulch than in soil. Weeds will also grow on top of weed fabric or plastic once enough soil or organic matter has accumulated.

The particle size of the mulch will determine the depth of the application. Apply coarse-textured mulches, such as bark and wood chips, 4" deep for weed control. Apply fine-textured mulches, such as shredded leaves or dry grass clippings, about 2" deep. Keep all mulches several inches away from the stems of plants or the trunks of trees and shrubs to prevent disease.

Weed control fabric, black plastic, or layers of cardboard and newspapers are excellent for large areas with very vigorous weeds. Place drip emitters in a 12" grid on the soil under newspaper and cardboard mulch to provide water to the roots of any desirable plants in the area and to hasten the decomposition of the weeds under the mulch. Cover these "sheet" mulches with wood chips or another organic mulch.

Use sawdust mulch only where you don't want anything to grow (e.g., in a pathway) because decomposing

sawdust temporarily depletes nitrogen from the soil surface and makes it hard for plants to survive.

All organic mulches deteriorate over time, some more rapidly than others. Be sure to replenish them as they decompose.

COMPETITIVE PLANTING

Vigorous ground covers and plants with dense foliage can shade the ground enough that weed seeds have difficulty germinating. Lawns that are cut high will be able to shade out most weeds. When you remove weeds from a lawn, sprinkle some grass seed in the spot so that lawn rather than weeds will fill the hole.

CULTIVATION

Cultivation is using a tool, like a shovel, hoe, or rototiller, to turn the soil or remove weeds. Cultivation can bring new weed seeds to the surface, disrupt the food web of soil organisms, and ruin soil structure, so use this technique sparingly.

MOWING

Mow weeds or cut them with a weed-whacker before they produce flowers or go to seed.

LESS-TOXIC HERBICIDES

Products containing clove oil (Burn Out II, Eco Smart Organic Weed and Grass Killer) or soap (Safer Fast Acting Weed and Grass Killer) will kill the above ground portions of weeds, but will leave roots that may resprout. Plants will be most susceptible when they are young. To kill older annual weeds or tough perennials, you will most likely have to repeat the herbicide application a number of times.

Caution: When spraying any kind of herbicide, protect desired plants from coming into contact with the spray. Do not spray on windy days. Prevent people and pets from having access to the area until the material has dried.

PESTICIDES AND WATER POLLUTION

Common household pesticides show up in treated wastewater and in local waterways, sometimes at levels that can harm sensitive aquatic life. So, water pollution prevention agencies have teamed up with participating retail stores, pesticide distributors, and manufacturers to reduce the risks associated with pesticide use. This fact sheet is part of a series of fact sheets and store displays aimed at educating residents about less-toxic pest management. For the rest of the series of fact sheets, visit www.ourwaterourworld.org. Also, look for the "Our Water Our World" logo next to products in participating stores and nurseries. See the Pesticides and Water Pollution fact sheet for information on active ingredients in common pesticides that may cause water quality problems.

Pest control strategies and methods described in this publication are consistent with integrated pest management (IPM) concepts, and are based on scientific studies and tests in actual home and garden settings. Use **suggested products according to label directions and dispose of unwanted or leftover pesticides at a household hazardous waste collection facility or event**. For more information on pesticide disposal, call 1-800-CLEANUP or visit: www.1800CLEANUP.org. No endorsement of specific brand name products is intended, nor is criticism implied of similar products that are not mentioned.

ACKNOWLEDGMENT

The Central Contra Costa Sanitary District originally developed this IPM outreach program.

FOR MORE INFORMATION

For more information, contact:

Common Ground Organic Garden Supply and Education Center
(650) 493-6072
www.commongroundinpaloalto.org

Bio-Integral Resource Center (BIRC)
(510) 524-2567; www.birc.org

University of California Cooperative Extension Master Gardeners in your area
(in the phone book)

University of California IPM website
www.ipm.ucdavis.edu

California Invasive Plant Council (Cal-IPC)
www.cal-ipc.org

