

Controlling Weeds

In most of our gardens, there is a war going on between those plants which we have introduced and those that came uninvited. The uninvited guests are referred to as weeds. They are pushy, aggressive and in-your-face. The goal is to reclaim the turf, or at least limit the hostile takeovers.

Before looking at controls, it is important to identify whether the weed is annual or perennial. Annual weeds go from seed to seed in less than one year. After the plant seeds, it will die. It is therefore important to control the seeding process. With perennial weeds, control is more difficult because they go dormant in the winter and begin growth in early spring. Many grow from seed, while others grow from roots, tubers, bulbs and rhizomes.

There are four basic control strategies: mechanical, cultural, chemical and biological.

Mechanical

As stated above, annual weeds complete their life cycles in one growing season. They create the most seeds, and don't regrow if top growth is killed. The object here is to keep the plant from going to seed. Hoeing, mowing or digging out these weeds can be an effective control.

Perennial weeds set fewer seeds, but can sustain or propagate themselves in other ways, such as creeping stems, rhizomes, or bulbs. Eliminating them from your garden may call for several treatments. When they are young seedlings, they can usually be pulled up by hand with ease, especially when the soil is moist. If they don't come up easily, or break off when you pull, use a trowel or dandelion weeder and dig or pry them out.

When you start a new planting bed, one way to control weeds is to first till up the area. This will not only loosen up the soil, but will disturb the weed seeds lying within. As they begin to grow in the next week or so, weed them out by hand as much as is possible. Then, after another week, till up the soil again, being sure not to go deeper than you did the first time. Follow this with another hand weeding, and you should be ready to plant.

Additional effective mechanical controls include the use of boiling water to kill weeds growing along driveways or between the cracks in sidewalks. Also, flame weeders, or "flamers" do an excellent job of weeding along fences, and even in turf. Most flame weeders on the market are similar to those used by fire fighters to set backfires and may be too big for garden use. One, called the Spot Singafier, produces a small, easily controlled flame about one-half inch in diameter, making it energy efficient. It's important that it isn't necessary to completely burn a weed to kill it. In fact, too much heat can actually stimulate the roots and cause further top growth. Passing the flame over the weeds to be eradicated for three seconds will be sufficient to heat the sap, bursting the cell walls. The leaves will be immediately discolored, turning dull green. It may take a day or two to look dead.

Cultural

Rotating the vegetable garden can reduce weed infestations. Using cover crops after harvesting can help reduce weed problems for the next season.

Using mulches is another effective means to control weeds. Mulch materials may be organic (such as shredded bark or leaves, compost, or newspapers) or synthetic (such as plastic or landscape fabrics). They can be applied in both summer and winter for year-round weed control. When bare soil is covered, many weed seeds either won't germinate or cannot grow through mulch.

Chemical

Herbicides are another tool for controlling weeds. Herbicides control weeds by interfering with critical plant functions, thus resulting in the death of the plant. All herbicides have detailed label instructions on mixing, application timing, weeds controlled, plants around which they can be used, and safety issues. It is crucial that the label be read before the product is purchased and that you follow the instructions as you mix and apply it.

A *selective* herbicide controls certain plants and not others. For example, most lawn herbicides control broadleaf plants, such as dandelions, without damaging the lawn grasses. The label will tell you which plants it is safe to use around and which weeds and plants it is likely to affect. It will also tell you when to use the herbicide to get the desired results, and how to avoid problems.

Nonselective herbicides can potentially damage any type of plant. Some have a residual effect (last a long time) while others do not. Again, reading the label is important to ascertain how the product acts.

Most herbicides are systemic which means that they move through the plant from the point of absorption to other parts, usually the roots. These products circulate through the plant to achieve the desired effect. Herbicides are also classified by the way they move into the plants. Many common products such as Roundup are foliar-active, meaning that they enter through leaves. If this product is applied to bare soil, it will have no effect on germinating seeds. Soil-active products, on the other hand, are absorbed through roots or the growing tips of germinating seeds. The label of the product will describe how to apply the herbicide.

A *preemergent* herbicide is put on before weeds sprout. Desirable plants such as trees, shrubs, vegetables, flowers, bulbs, etc. may or may not be present. Products such as Preen and corn gluten meal are in this category of herbicide. They kill seeds as they germinate. Again, it is important to read the label of whichever product you choose.

A *postemergent* herbicide is applied after weeds are up. Selecting this type of herbicide may depend on crop age, the presence of bark, or other factors. Read and follow all label instructions.

Biological

Biological control refers to the use of natural enemies (insects or pathogens) to control weeds. While not often used by the average homeowner, biological control is important in the management of certain perennial weeds in non-cropland situations. For example, in its native habitat, tansy ragwort (which is toxic to livestock) is controlled by over 60 species of natural enemies that feed on it. The ragwort flea beetle (*Longitarsus jacobaeae*), the ragwort seed fly (*Pegohylemyia seneciello*), and the cinnabar moth (*Tyria jacobaeae*) are biological agents

effectively used to control tansy ragwort in Oregon, California and Washington. The larva of the cinnabar moth may also be found on other weeds in rural settings.

With some weeds you may have to use all of the above "tools" in your arsenal to effectively manage them.

Resources

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