The New York State IPM Program

We encourage people to adopt a sustainable approach to managing pests, using methods that minimize environmental, health, and economic risks. For more information: NYS Integrated Pest Management Program, 800.635.8356; www.nysipm.cornell.edu. See pp. 194 and 200 for pest control methods.

The dreaded weed...
A weed is any plant you don’t want in your garden or landscape. It might be welcomed by another gardener, but to you it’s a pest.

You can learn to recognize weeds that thrive under many conditions and compete with neighboring plants. Managing weeds in your garden or landscape does not have to be back-breaking and tedious. Start by removing as many weeds as possible, prevent new weeds from getting established in your garden, and, when weeds arrive, dig in!

Prepare garden beds carefully
Prepare your garden or landscape beds in ways that prevent weed growth.

New beds
If you’re creating a new bed on top of established turf, try a method that is easy but requires patience. Lay down two or more thicknesses of landscape fabric or 10-20 thicknesses of newspaper. The paper will block most weeds from emerging through the bed; those that do will be weakened by the effort. (Alternatively, you can yank up the turf, shake out and reserve the soil, and compost the grass.) Now pile organic matter onto the paper. Put the coarsest on the bottom. For the top few inches, use compost mixed with topsoil. In weedy areas, the deeper the better! You can plant into this bed, or better yet, sow a cover crop and use the bed next year.

Established beds
If you’re preparing an established bed for planting—decide if more than 30 percent of the garden is covered with weeds. If so, your best bet might be to remove perennials and prepare the bed like a new one. If weeds are scattered, dig out the toughest root systems by loosening and removing the entire root ball. Pull by hand the medium-sized weeds that will cooperate. Then till.

Start with tidy garden beds, prevent new arrivals, and when weeds happen, dig in!

Prepare your garden or landscape beds in ways that prevent weed growth.

Perennial Ground Covers

Weeds

and your garden

Resources


http://www.hort.cornell.edu/department/horticulture/ weeding/factsheets/estmgp.html

Non-Toxic Weed Control, 1999. Common Sense Pest Control Quarterly. XV:3 (Summer). BIRC, PO Box 7414, Berkeley, CA 94707.


Cornell Resource Center, resctr@cornell.edu; 607.255.2080.


Mugwort—a perennial with foliage that resembles a chrysanthemum. Rhizomes can grow by tillage and topical disturbance. A major problem in nurseries.

Tilling: a mixed blessing
Tilling the soil—either mechanically or by hand—destroys some weeds, but also allows some weed seeds to germinate. The timing and depth of tillage determines how many weed seeds are exposed to light, air, and water. Many gardeners recommend only light tillage (2 inches deep), to bring fewer weed seeds to the surface. Two weeks before planting an established bed, loosen the top 3 inches of soil to be planted. A day (or less) before you plant, till the top 3 inches again to prevent weeds from getting ahead of new plantings. Mulch after planting to further reduce potential weed problems.

When working around existing perennials or shrubs, the rules are the same: don’t loosen any soil areas you aren’t planting; keep the soil layers intact where possible; and, if the soil is worked, rake shallowly to disturb emerging weed seedlings.

Chickweed—a winter annual that thrives in cool weather. It is often introduced to the landscape in container-grown ornamentals.

Quackgrass—a perennial grass that reproduces by seed or underground rhizomes. Can establish in dense matted turf and is often introduced to the garden by vandals or soil movement.
Fall renovation
In the fall, till or loosen the top 7 inches of beds with a shovel. Incorporate soil amendments, such as compost. Two weeks later, rake the surface to defeat any weed seedlings.

Watch out for weed sources
Weed seeds drift in on breezes or are transferred by animals from nearby weedy areas. Keeping sites adjacent to your landscape fairly tidy will reduce the number of weed arrivals.

Advantages of living plants and mulches
The leaves of living plants prevent light from reaching the soil. Try wide-canopy plants—such as closely planted broccoli—or dense ground covers (for example, woodruff or drifts of daylilies or hostas).

Cover crops or “living mulches,” such as clover, have many benefits. Some interfere chemically with weed growth; sorghum sudangrass, winter rye, and fescues, for example, extract substances from their roots and shoots that suppress weeds. Many gardeners recommend a season or more of cover crops to minimize weeds in newly planted sites. A dense canopy of buckwheat blocks weeds and is pretty, too. Tilling under cover crops also increases the organic matter content of the soil.

One-year weeds? Or two? What to do.
The life cycles of weeds differ, and you should tailor your weed-management strategies to fit.

Annuals complete their life cycles in a year and reproduce by seed. Summer annuals, such as redroot pigweed and ragweed, complete their life cycles during the growing season. Winter annuals, such as shepherd’s purse, can overwinter as seedlings and flower the following spring. To decrease these weeds: pull them (it’s okay if some roots stay in the soil); apply a 4-inch thick layer of shredded bark, straw, wood chips, or other organic material. Some gardeners place chopped leaves or other organic material under the plastic. Once the plastic is removed, the soil generally has better tilth, or crumbly structure. Watering. Deep roots are easier to remove, especially with nonselective herbicides. If you do decide to use herbicides, consult the Cornell Guidelines for the section and consider the following:

• Effectiveness: Are weeds at the right growth stage? Most herbicides are designed to work within a specific time frame. For example, preemergence products are effective only before germination, not on established weeds. Do you have the proper equipment, and if so, is it properly calibrated? Is the product appropriate for your weeds? Check the label.

• Environment. Valuable plants can be harmed or killed if they come into contact with nonselective herbicides. Water and wind carry herbicides, reducing their effectiveness in your garden and polluting the environment. Avoid applying herbicides when it’s windy or just before a heavy rain. Reduce the risk of exposure by wearing protective equipment, as indicated on the label.

• Economics. What is the cost? Number of applications? Many persistent weed problems can be solved by using alternative strategies.

Balanced weed management
IPM—or integrated pest management—means balancing your hopes for a weed-free garden with society’s need for a healthy environment. People who practice IPM consider many sustainable strategies that work together to keep pests in check. Once you’ve educated yourself about the options, the standards you set and the methods you use are your choice.

A word about herbicides
As shown in this brochure, it’s possible to manage weeds without herbicides. If you do decide to use herbicides, consult the Cornell Guidelines for the section and consider the following:

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Common groundsel—an annual with deeply lobed leaves and small yellow flowers—contains alkaloids that make it poisonous to birds and cattle.

Weeds from emerging near them. Alternatively, lay down the sheeting on newly prepared beds and poke holes which you’ll plant. Try to prevent weeds from emerging from the edges of those holes. When planting shrubs or trees with root systems that will expand outward, beneath the sheeting (versus straight down), use landscape fabric that allows water—but not light—to penetrate. Some synthetic fabrics can be expensive and difficult to install and remove, especially once weeds have rooted into them or sunlight has degraded them. They also separate the decomposing mulch from the soil organisms.

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