



BEYOND PESTICIDES

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Least-toxic Control of Weeds

- Weeds are defined as any plant that grows where it is not wanted. There are a number of different species of “weeds.” Generally, weeds vary by region and climate. Of the weeds in the U.S., more than half fit into one of these seven plant families: daisy, grass, mustard, mint, clover, chickweed, or snapdragon.
- *Most weeds are simply a nuisance because they are considered unappealing in a lawn.* In agriculture, weeds can cause damage to food crops if not maintained. A few weeds on a lawn, park or athletic field should be tolerated, but weed infestations that overtake turfgrass are signs of unhealthy soil.
- Weeds can also be beneficial. For example, *fleabane* is a natural insect repellent, parts of the *dandelion* and *lambquarters* plants are edible, *chicory* can be used as a coffee substitute, and others provide habitats for beneficial insects and food for aquatic organisms.
- Weeds are spread or introduced by trade, traveling, animals, wind, and water. There are many variations in the methods of reproduction and growth between each weed. Some reproduce each year, others reproduce from stems, and some have seeds that can lay dormant for up to two years. Identifying the weed plant and knowing its preferred environment will help you determine the most effective method for control. Learn more about this through the [Read Your Weeds](#) fact sheet.

Prevention: The key to managing weeds

Beneficial cultural practices

- Cultural practices are the **single most effective method of weed management**. Having healthy soil, using at least two native turfgrasses, proper watering, and a sensible landscape design can all help your lawn ecosystem develop a natural resistance to weeds. Fall is a great time to prepare your lawn to go organic – see our [Organic Lawn Care 101](#) fact sheet for more information on good cultural practices, or for even more in-depth detail, read Beyond Pesticides’ documents on [Establishing](#) or [Maintaining](#) a Sustainable Lawn.

Encourage native species

- Introduce native herbs, trees, flowers, or grasses adaptable to your climate. Native species are naturally hardy and compete well with weeds.
- Select well-grown insect/disease resistant plant varieties

Suppress weeds

- Consider alternate groundcovers other than just turfgrass. Clover and wildflowers or low-maintenance native perennials, herbs, shrubs and trees are great options.
- Use mulches to suppress weeds, such as uncomposted chopped (mowed) leaves, bark, or plastic and polyethylene mulches free of PVCs (polyvinyl chloride).
- Prevent weeds in your unplanted areas with netted or plastic barriers. Several varieties are available from garden stores. Lay these sheets under mulch, stone, pebbles, or any other unplanted landscaping materials.

Pre-emergent control

- Apply corn gluten meal, a natural pre-emergent, to weed prone areas. It can work on weeds before they have sprouted. Corn-gluten is a by-product of the wet milling process of cornstarch manufacturing. It inhibits seed germination of selected weeds as well as offers fertilizing properties due to its nitrogen content. *Timing is key with corn gluten meal* – a good rule of thumb is applying it when forsythia plants bloom in the North, or when dogwoods bloom in the South – right before weed seeds germinate. It doubles as a nitrogen rich fertilizer and can be used in gardens continually. Spread the product evenly and rake the area lightly. Avoid areas that have been newly planted. Water the area and allow it to dry. Corn gluten will only be effective if good cultural practices are also being followed. Corn gluten can be found in local garden stores, online, or through mail order retailers. Product examples are [Safe N' Simple](#), [W.O.W.](#), or [Epsoma Organic Weed Preventer](#).

Weed management: Consider even least-toxic pesticides as a last resort

Mechanical

- Hand pull weeds when the ground is moist. Be sure to remove vegetative parts to prevent re-sprouting. Tools and machines are available to make pulling easier. For example a standard hoe, and a trowel can work wonders. Products like [Fiskars Uproot Weeder](#), [Garden Weasel Weed Popper Step and Twist](#), or [Grandpa's Weeder](#) can be used on a variety of weeds. Peaceful Valley Farm Supply [sells several](#).
- Flame weeding machines use a targeted flame to kill weeds (and can also be used in the winter to melt ice!). Just don't have *too* much fun. Some examples of handheld flamers include Red Dragon (Both [Mini](#), [Full Sized](#) and [Backpack Kits for Larger Areas](#)).
- Boiling water and high pressure steam both work to kill weeds as well, yet not as effectively as flame weeders. These are a better option in areas where an open

flame may be hazardous. Most steam weeders are only commercially available. But you can do it yourself in a small area by carefully pouring boiling water over selected weeds.

Biological

- Goats are herbivorous foragers that are very effective at controlling weeds since grass is their least desirable food choice. They can be especially effective for roadside management, along railroad tracks, parks, forests, etc. Many people now make a living by contracting themselves and their herd out for weed control around the nation (For example, [Ecogoats](#) on the East Coast, and [Ewe4ic Ecological Services](#) in the West). Read about this practice here: [Successfully Controlling Noxious Weeds with Goats.](#)
- A goose at 6-7 months of age can consume enough grass equal to their weight daily. One goose can adequately weed an urban garden and they can be used to control many invasive species.

Least-toxic sprays

- Horticultural vinegar, or acetic acid, is also effective at killing certain weeds. Avoid spraying other green vegetation, such as turfgrass, since this is a non-selective plant killer. Available products such as [BurnOut II](#), [Avenger](#), [Phydura](#) and or others may be found through the links provided or at your local nursery. Use these products with caution since concentrations of acetic acid greater than 5% can cause skin irritation or eye damage.
- Herbicidal soaps are highly refined soaps that can penetrate the waxy coating on plant leaves, causing them to dry out. Some of these products also contain essential oils that enhance their herbicidal properties. [Scythe](#) is a good alternative example.
- Iron-based herbicides are natural but not currently organic certified, so they may be acceptable as a last resort, least-toxic option. Example products include [Iron-X](#) and [Fiesta](#).

Where to find least-toxic solutions

Local garden stores and nurseries should carry some organic, natural products.

Additional Retailers:

- Gardens Alive —
5100 Schenley Place, Lawrenceburg, Indiana 47025
<http://www.gardensalive.com/>

- Grow Organic
PO Box 2209, 125 Clydesdale Court,
Grass Valley, CA 95945 _
<http://www.groworganic.com/>
- Seven Springs Farm
426 Jerry Lane NE
Check, VA 24072
<http://www.7springsfarm.com>
- Planet Natural
1612 Gold Ave.
Bozeman, MT 59715 _
www.planetnatural.com/
- North County Organics
OI Box 372 Depot Street
Bradford, VT 05033
<http://www.norganics.com/>
- Peaceful Valley
125 Clydesdale Court,
Grass Valley, CA 95945
<http://www.groworganic.com/>