

Weed control

The old saying, ‘One year’s weed - seven years’ seed,’ contains more truth than myth, as most gardeners soon learn. Weeds (some native and some introduced) are remarkably adapted to conditions in the area where they grow, usually much more so than the imported, cultured vegetables we prize so highly for food. Weed seeds may remain viable for those seven (or more) years when conditions are not right for their growth. Then, brought to the surface by tilling and uninhibited by sod, shade, or other factors, they germinate and become pests that take water, nutrients, sunlight, and space from vegetable plants.

Beneficial weeds

Many plants considered to be weeds in the garden have positive attributes. Some weeds are edible, providing nutritious variety to the regular diet - purslane, chickweed, cress, mustard, and lamb’s quarter all offer examples of edible greens. Another common example is dandelions, which have become naturalized weeds, first introduced by the European settlers. The entire plant is edible and because of the culinary and medicinal properties of this plant, it is cultivated as a commercial crop or harvested wild in parts of North America. However, before attempting to eat wild plants, be sure that you have properly identified them.

Weeds are often a habitat for insects, some of which are beneficial to the garden. They provide shelter, pollen, and nectar for bees and for predators of garden pests, such as flower flies and wasp species.

Weeds can be a source of nutrients. If pulled before flowering, they can be a source of nitrogen-rich materials for the compost pile. Many have long roots that bring elements from the subsoil into their above-ground tissues, and when the weeds are pulled or tilled and allowed to decay in the garden, these elements are made available to other plants. Finally, the presence of some weeds can indicate certain soil problems (e.g., deficiencies, pH changes, soil compaction, etc.). A small number of books are available with detailed information on this subject.

Despite all this goodness, most gardeners won’t tolerate weeds in their vegetable plots. Remember that weeds compete with garden plants for space, light, water and nutrients.



Start weed control early in the season. The weeds have gotten ahead of this gardener in an early spring!
© R. Campbell,
Dalhousie.

Cultivation

There are several ways to rid the garden of most problem plants. Since mature weeds extract large quantities of moisture and nutrients from the soil, it is more beneficial (and easier) to remove weeds when they are young and tender.

Hand pulling and digging are okay for small gardens and raised beds. Those with larger spaces usually prefer a hoe. There are also manual-powered rotary cultivators that do a good job on long rows and pathways as long as the soil is not too wet or dry and the weeds are small. In large gardens, a rotary tiller



of appropriate size makes the work easy and fast. However, manual and powered rotary cultivators are usually unable to turn under the weeds that are close to the vegetable plants without damaging the vegetables. Hand pulling or hoeing with a light touch is best for removing weeds near vegetable plants. And deep cultivation with any instrument is likely to damage roots or stems of crop plants.

Turning under weeds, especially before they flower, provides organic matter to the soil. Hand-pulled weeds, except for rhizomatous grasses, may be laid on top of the soil to dry out and will eventually achieve the same effect. However, if rain is predicted in the area within a day or two, it's best to collect the weeds and add them to the compost pile. Rain will wash soil around the roots and some weeds will survive.

If weeds have started to go to seed, leaving them in the garden is not a good idea. Also, composting may not destroy weed seeds if the pile doesn't heat up enough after the weeds are added. Grasses that spread by underground rhizomes or stolons also present a problem if not dried out completely. In these cases, despite their potential value as organic material, it is better to place them in the green bin for recycling. Reducing weed growth around the garden by mowing or other means will also help prevent the spread of weeds and seeds to the garden area.



These weeds have been left to die in the sun. Remember that they can quickly re-grow in the right conditions!
© R. Campbell, Dalhousie.

Cultivation is best done when the soil is somewhat moist, but not wet. Working wet soil will change the structure, especially with heavy soils. When it is too dry, weeds are difficult to pull and hoeing is also hard. A day or two after a rain or irrigation is probably the best time to cultivate.

Mulching

Mulching can be an alternative to weeding if you have a reliable source of mulching materials. Thick layers of organic mulch will block most annual weeds, although weeds with runners are often not so easily controlled. Black plastic may be a better choice where these prevail. For pathways, newspaper, cardboard or other such materials, covered with sawdust or wood chips, will provide excellent weed suppression. However, sawdust or wood chips are not recommended for use right around plants. (For more information see the section on 'Mulching' on this web site.)



Straw is an effective mulch for annual weed control. © Tracy Kittilsen, Dalhousie.

Other options

CLOSE SPACING: If vegetables have been planted close enough to each other, they will shade the soil and prevent the growth of many weed seedlings. This is the effect achieved by a well-planned raised bed in which plants are spaced so that the foliage of adjacent plants touches and forms a closed canopy once plants are mature.

NO-TILL: Gardeners are also exploring 'no till' vegetable growing – a sort of 'everything old is new again' phenomena. Perennial weeds are removed and the area amended as required, and then that's it for cultivation. Vegetables are planted and a thick layer of mulch is put down, leaving just the transplants and seed rows exposed. Additional mulch is added as the current material decomposes.

COVER CROPS: The use of cover crops over several seasons or years in a particularly weedy section can also reduce weed problems. However, this method requires leaving that part uncultivated, reducing the available gardening space. Cover crops must also be



mown, harvested regularly, or ploughed under, all of which can be time-consuming and/or difficult without appropriate equipment. Investigate crop rotations thoroughly before using cover crops to control weeds. Also, try them in small sections of the garden to determine their effectiveness.

HERBICIDES: Herbicides may be used in and around the home garden, but it can be a risky business. They should always be used according to label instructions and only for crops listed on the label, as the wrong

herbicide can destroy a garden's productivity for years. Even when used properly, drift from herbicide sprays used on lawns or areas surrounding the garden can cause damage to vegetable plants, so take care to spray on windless days and erect barriers to protect plants if necessary. Also, be aware that treatment with a herbicide for one type of weed may result in the area being colonized by other weeds that are tolerant to the chemical. Finally, never use a herbicide in the same sprayer used for insect and disease control. Keep a separate sprayer for plant killers only.

Activity

Get to know some common weeds.

Weed control is easier if you know the weeds you are dealing with, as well as their characteristics. What is their life cycle? Are they annuals or perennials? Do they propagate by seed or by underground parts? In this activity, you'll get to know the common weeds that you might encounter in your vegetable garden.

Access one or the other of these on-line references:

www.weedinfo.ca

www.omafra.gov.on.ca/english/crops/facts/ontweeds/weedgal.htm

Then, search for the following weeds. Have a look at the pictures and note life cycle, propagation, and description.

- Dandelion
- Evening Primrose
- Purslane
- Barnyard Grass
- Lamb's Quarters
- Annual Bluegrass
- Common Chickweed
- Mouse-eared Hawkweed
- Tansy Ragwort
- Sheep Sorrel
- Field Bindweed
- Creeping Charlie
- Heal All
- Creeping Buttercup
- Broadleaf Plantain
- Canada Goldenrod
- Curled Dock
- Annual Sow Thistle
- Groundsel
- Common Horsetail

