



Weeds, Weeds, Weeds!

Palo Alto Demonstration Garden
Master Gardener Program of Santa Clara County
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Key ideas

- *Cultural methods of weed control are best suited to vegetable gardens. Controlling weed seed production, mulching, and doing minimal tilling are most effective.*
- *Mulch contributes to sustainability by conserving water, protecting the soil, supporting the soil ecosystem, and smothering weeds. A plant-based, locally available mulch is a sustainable choice.*
- *Weed regularly! Never let weeds go to seed!*

1. Weeds

Weeds are plants growing where you don't want them.

- Weeds compete with your plants for water, nutrients, light.
- Weeds provide habitat and food for insect pests and rodents.
- Weeds may also provide habitat for beneficial insects.

2. Methods of weed control

- Annual and perennial weeds require different control methods.
 - Annuals grow each year from seed. Control should focus on preventing new seeds from being produced or sprouting.
 - Perennials re-grow from creeping roots or bits of broken root and also produce seed that may sprout and create new plants. Control should focus on destroying the existing plant, as well as preventing seed formation.
 - Soil contains a life-time supply of unspouted weed seeds at different levels. Recognize that weed control is a permanent activity in the garden.
- Cultural methods
 - Promote vigorous crop plant growth.
 - Plant well adapted crop varieties.
 - Use transplants, to give crops a head start.
 - Mulch to exclude light: the coarser the mulch, the deeper the layer has to be.
 - Plant crop plants closely to form living mulch.
 - Water only where necessary to avoid encouraging weeds in paths.
 - Disturb soil as little as possible to avoid bringing new seeds to surface.
- Mechanical methods
 - Hoe out or pull sprouting weeds.
 - Flame or mow the plants before bloom and before planting vegetables. Note: propane flamers work by dehydrating the weed plants, not by setting them afire. Flamers should not be used on dry weeds.

- Biological methods: not practical in most vegetable gardens.
- Chemical methods: herbicides
 - Most weed problems in gardens can be managed by cultural methods. However, gardeners sometimes choose to use an herbicide (a chemical that kills plants) to control weeds before planting. If using herbicides, follow label precisely.
 - An herbicide will kill all susceptible plants, not just weeds. Be sure the label says it is safe to use on or around the plants in your garden.
 - Pre-emergent herbicides prevent seed germination. Post-emergent herbicides kill plants by contact or by being absorbed into their tissues.
 - For more information on using herbicides to control weeds: <http://ipm.ucanr.edu/QT/weedcontrolcard.html>

Common Annual Weeds		Common Perennial Weeds	
Summer	Winter	Simple	Creeping/spreading
Pigweed	Common chickweed	Dandelion	Bermuda grass
Lambsquarters	Mustard	Curly dock	Bermuda buttercup
Purslane	Shepherd's purse	Plaintain	(Oxalis pes-caprae)
Prostrate spurge	Blue grass		Canada thistle
Crab grass	Filaree		Field bindweed
Knotweed	Little mallow		Johnsongrass
Burclover	Bittercress		Yellow nutsedge
	Common groundsel		Wood sorrel

For a photo gallery of California weeds: http://ipm.ucanr.edu/PMG/weeds_intro.html

3. Mulch in the vegetable garden

Definition: mulch is material used to cover bare soil. It is spread on the soil surface, not mixed in to the soil.

Benefits of mulch

- Reduces water evaporation, keeps surface moist
- Suppresses weeds by excluding sunlight from soil surface
- Moderates soil temperature
- Protects soil from wind, sun, rain
- Improves garden appearance

Application

- Apply liberally to cover ground
- Coarser material, e.g. straw, requires a thicker layer than a finer mulch, e.g. compost, in order to exclude light.

Mulch materials for vegetable gardens

- Plant-based, biodegradable mulches
 - Compost, straw (not hay), yard & garden waste (leaves, prunings, grass clippings, etc.), shredded newspaper, used coffee grounds (best mixed with something coarser)
 - Advantages
 - Decomposes over time to add nutrients and organic matter to soil
 - Allows water & air through
 - Disadvantages
 - Needs to be replaced regularly
 - Some weeds may still grow
 - Check the Composting Education/Master Composter website for info on compost classes, compost bins, free compost, and compost for purchase: <http://cesantaclara.ucanr.edu/>

- Non-biodegradable mulches
 - Plastic sheets, landscaping cloth
 - Advantages
 - Degrades slowly, if at all
 - May provide thorough weed blockage
 - Black plastic will increase soil temperature for heat-loving crops
 - Disadvantages
 - May not allow water through (place drip lines under)
 - May not allow gas exchange at soil surface
 - Doesn't feed soil
 - Is petrochemical based, less sustainable