



Winning the War on Weeds

University of California Statewide IPM Program
Presented by Rebecca Schoenenberger
UCCE Master Gardener Santa Clara County



Master Gardener Program

Master Gardener program volunteers are trained by the University of California Cooperative Extension. Our mission is to develop, adapt and extend research-based horticultural information and educational programs to the residents of Santa Clara County.

Master Gardener Help Desk

- E-mail questions using our website: <http://mgsantaclara.ucanr.edu/contact-us/ask-a-gardening-question/>
- Call: 408-282-3105 (9:30 a.m. – 12:30 p.m. Monday through Friday)
- Bring specimens during Help Desk hours: 1553 Berger Drive, Building 1, 2nd Floor, San Jose. Please call before coming.
- Call or bring specimens to the Master Gardeners at the Gamble Garden library in Palo Alto: 650-329-1356 Fridays only, 1-4 p.m. Please call before coming.

Why use IPM - Integrated Pest Management?

- Interdependency: Everything is connected - Web of Life (Air, Water, and Soil)
- Provides long-term solutions
- Manages potential problems before they get out of hand
- Eliminates unnecessary herbicide use
- Good for health and the environment
- Gives you choices that rarely require herbicides

What is a weed (Pest)?

- A weed by any other name...
- Any plant you don't want is a weed

Annuals & Perennial Weeds:

- Annuals grow each year from seed = control needs to focus on preventing NEW seeds from production (Stop the weed to seed cycle)
- Germination of seeds ALREADY in soil.
- Perennials re-grow from rootstock & often rhizomes, bulbs or nutlets

Warning from Weeds to You:

- Controlling us is an ongoing gardening activity (pencil us in on your calendar)
- A single weed produces 223,200 to 250 seeds per plant each season
- We have uneven germination of our seeds = we will not ALL germinate when conditions are favorable (some will remain dormant until the NEXT season).

IPM Tools & Techniques

- Combine practices for long-term management
- Prevention
- Cultural Methods
- Physical or Mechanical Methods
- Biological Methods
- Lastly - Pesticide Use

IPM for Weeds:

- Pull, Remove, Destroy Weeds (Stop the seed cycle)
- Do not import weed seeds (unknown soil sources)
- Plant densely to suppress weeds
- Use mulch to suppress and prevent weed growth.
- Water appropriately
- Select competitive plants

Cultural Methods

- For Veggie Gardens
 - Promote vigorous growth, use plants suited to your area
 - Use transplants to give plants a head start
 - Plant veggies closely to form 'living mulch' to exclude light from weeds
 - Water only where needed
 - Disturb soil as little as possible to avoid bringing new seeds to the surface.

Cultural Methods: Mulch

- Organic or non-organic?
- Compost as mulch
- Types of mulch:
 - Fir bark, shredded redwood, recycled bark, playground fiber, arbor mulch, etc.
 - Choose mulch according to preference, texture, size & purpose.

Mechanical Methods

- Hoe or pull sprouting weeds
- Flame or mow plants before flowering

- No seed production allowed
- Sheet Mulching

Chemical Control

- Chemical control using herbicides
- Pre-emergent herbicides prevent seed germination
- Post-emergent herbicides kill weeds by contact or absorption into plant tissues

What materials are best?

- Least Toxic
- Pest Specific
- Apply to reduce exposure

When are Herbicides needed?

- When damage is intolerable
- Other methods are ineffective

IF you use Herbicides:

- Choose the least toxic effective material
- Use in combination with other IPM methods (Cultural, Biological & Mechanical)
- Follow instructions on labels very carefully!
- Consult UC IPM Pest Notes

Examples:

1. Purslane - *Portulaca oleracea* (Summer annual broadleaf)
2. Burclover - *Medicago polymorpha* (annual broadleaf)
3. Cheeseweed (Mallow) - *Malva parviflora* (Winter annual broadleaf)
4. Fillaree - *Erodium spp.* (Winter annual & sometimes Biennial)
5. Crabgrass - *Digitaria spp.* (annual grass)
6. Bluegrass - *Poa annua* (Winter annual grass)
7. Dandelion - *Taraxacum officinale* (simple perennial)

8. Bermudagrass - *Cynodon dactylon* (creeping perennial)
9. Bermuda Buttercup - *Oxalis pes-caprae* (bulbing perennial)
10. Wood Sorrel - *Oxalis corniculata* (creeping perennial)
11. Nutsedge - *Cyperus* spp. (bulbing perennial)
12. Burning Nettle - *Urtica urens* (annual broadleaf)
- Stinging Nettle - *Urtica dioica* (annual broadleaf)
13. Scarlet Pimpernel - *Anagallis arvensis* (Winter or Summer annual)
14. Puncturevine - *Tribulus terrestris* (Summer annual)
15. Field Bindweed - *Convolvulus arvensis* (perennial broadleaf)

Resources and references

- Santa Clara Master Gardeners: <http://mgsantaclara.ucanr.edu>
- California Native Plant Society (CNPS): <http://www.cnps-sev.org/>
- University of California Integrated Pest Management (UC IPM) <http://www.ipm.ucdavis.edu>
- Weeds of California, and other Western States. DiTomaso, Joseph M. & Evelyn A. Healy. UCANR Publication 3488.
- Weeds of the West. Whitson, Tom D., Larry C. Burrill, Steven A. Dewey, David W. Cudney, B. E. Nelson, Richard D. Lee, Robert Parker. 9th Edition. 2004
- The Weed Workers' Handbook. The Watershed Project. California Invasive Plant Council. 2004.

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