Identifying & Managing Weeds in Gardens

Todd Mervosh
Valley Laboratory - Windsor
The Connecticut Agricultural Experiment Station
Definitions of WEED

- ‘Plant out of Place’ - any plant growing where it is not wanted.
- Plant with generally undesirable properties.
- Plant that spreads rapidly and competitively.
- “Plant that has mastered every survival skill except for learning how to grow in rows.”
  
  Doug Larson

- “A plant whose virtues have not yet been discovered.” Ralph Waldo Emerson

“Is this a wildflower or a weed?”
Field Violet / Field Pansy (Viola arvensis)
Beetle Bailey / By MORT WALKER

LOOK AT THE PRETTY FLOWER

THAT'S JUST A WEED SIR

THAT'S A WEED?!

WHY CAN'T YOU GUYS CONTROL THE WEEDS AROUND HERE?!

5-28
WEEDS: NEGATIVES

1) Compete with crops / desirable plants for:
   • WATER, NUTRIENTS, SPACE, LIGHT

2) Reduce air flow in garden, keeping plants wetter & more prone to pathogens.

3) Can be alternate hosts for fungal diseases, or harbor insect pests.

4) Health Problems:
   Hay fever (ragweed), skin rashes (poison ivy).

5) Unattractive: Detract from beauty of garden or landscape planting.
WEEDS: POSITIVES

1) Help protect soil from erosion.

2) Legumes (clovers, vetch) release nitrogen from root nodules into soil – add fertilizer.

3) Some weeds harbor beneficial insects.

4) Food sources for many animals.

5) Many weeds are edible for humans (purslane, lambsquarters, dandelion, etc.)

6) Some “weeds” are beautiful!
Photo Credits

- Randy Prostak, Univ. of Massachusetts, UMass Extension
- Weed Science Society of America website (www.wssa.net)
- Todd Mervosh
Weeds with Annual Life Cycle

- Winter Annuals
- Summer Annuals
ANNUAL BLUEGRASS *(Poa annua)*
COMMON CHICKWEED  (*Stellaria media*)
HORSEWEED / MARESTAIL  (*Conyza canadensis*)
LARGE CRABGRASS (*Digitaria sanguinalis*)
FALL PANICUM (*Panicum dichotomiflorum*)
YELLOW FOXTAIL  (*Setaria glauca*)

**Giant Foxtail**  (*S. faberii*)

CAES- Spring Open House 2009
COMMON PURSLANE (Portulaca oleracea)
LAMBSQUARTERS (Chenopodium album)
REDROOT PIGWEED  (*Amaranthus retroflexus*)
HAIRY GALINSGOA (*Galinsoga ciliata*)
COMMON RAGWEED *(Ambrosia artemisiifolia)*
SPOTTED SPURGE (Euphorbia maculata)
E. BLACK NIGHTSHADE  (*Solanum ptycanthum*)
VELVETLEAF *(Abutilon theophrasti)*
Weeds with Biennial Life Cycle
QUEEN ANNE’S LACE / WILD CARROT (*Daucus carota*)
BULL THISTLE (*Cirsium vulgare*)
Weeds with Perennial Life Cycle

- Simple Perennials
- Spreading Perennials
COMMON DANDELION  (*Taraxacum officinale*)
QUACKGRASS (*Erytrigia repens*)
YELLOW NUTSEDGE (Cyperus esculentus)
GROUND-IVY / CREEPING CHARLIE (*Glechoma hederacea*)
MUGWORT (Artemisia vulgaris)
FIELD HORSETAIL  (*Equisetum arvense*)
Weed Management Principles

- **Prevention / Sanitation**
  - Avoid input of weed seeds or perennial propagules into garden: use weed-free mulch and compost.
  - If possible, control perennial weeds before planting & before patches begin to spread.
  - Remove weeds when small, before seeds begin to form.
  - Try not to water or fertilize the weeds!
  - Mulch: Use effectively!
Weed Management in Gardens

- Hoes & other weed removal tools:
  - Keep blades sharp.
  - Don’t disturb soil too deeply (brings buried weed seeds close to surface, stimulates germination).
  - Weed seedlings: Cut by scraping hoe blade just slightly below soil surface.
  - Have to dig deeper to remove perennial weeds.
  - Remove weeds from garden that can re-root after being cut (especially purslane).
Weed Management in Gardens

- Herbicides:
  - Very few herbicides are registered for use in home gardens (especially for edible crops).
  - Before using any herbicide, read the product label instructions, and follow all directions carefully. Don’t exceed recommended doses of chemical. *(The Label is the Law!)*
  - If herbicides are used to control weeds in lawn, do **not** use grass clippings as mulch in garden. Also, do **not** add grass or leaves from herbicide-treated lawn to compost pile if to be used in garden.
Weed Management in Gardens

- **Pre-emergence Herbicides:**
  - Prevent germinating weed seeds.
  - Do not control existing weeds, or re-sprouting perennial weeds.
  - Organic option: Corn Gluten Meal
    - Suppresses crabgrass & some other weeds.
    - Contains ~10% nitrogen
  - Trifluralin granules (‘Preen’, ‘Garden Weed Preventer’, etc.)
    - Check label for list of tolerant vegetables & ornamentals.
    - Prevents annual grasses & many broadleaf weeds.
Weed Management in Gardens

- Post-emergence Herbicides:
  - Few options; Directed sprays only.
  - Organic options: Vinegar (acetic acid), Fatty acid solutions, Clove oil sprays
    - Contact herbicides (kill annual weeds, but only the topgrowth of established perennial weeds).
  - Glyphosate (‘Roundup’ or equivalent product) or Glufosinate (‘Finale’ or equivalent)
    - Not recommended for use in vegetable gardens.
    - Non-selective / Systemic herbicides (will kill or injure nearly all plants via foliar uptake). Must be careful!!!.
    - No residual activity in soil.
POISON-IVY (Toxicodendron radicans)