Landscape Weed Management Principles and Tools

- Site Preparation
- Sanitation & Exclusion
- Mulches
- Preemergence Herbicides
- Postemergence Herbicides
- Hand weeding

Site Preparation

- The best time to control perennial weeds is before planting.



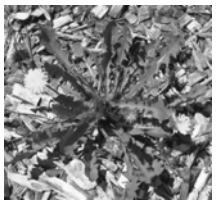
Site Preparation

- The best time to control perennial weeds is before planting.
- There are basically three options:
  - repeated cultivation,
  - glyphosate (Roundup) or
  - Fumigation
  - Solarization (rarely used)

Cultivation

- Repeated cultivation on a regular schedule will control most weeds.
- Area will have to be left fallow for at least one full year possibly two.
- Generally not an option in landscape plantings

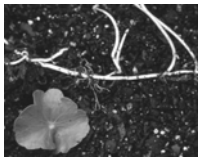
Controlled by cultivation



Dandelion

Goldenrod

Spread by cultivation


Site Preparation with Glyphosate (Roundup-Pro & Others)

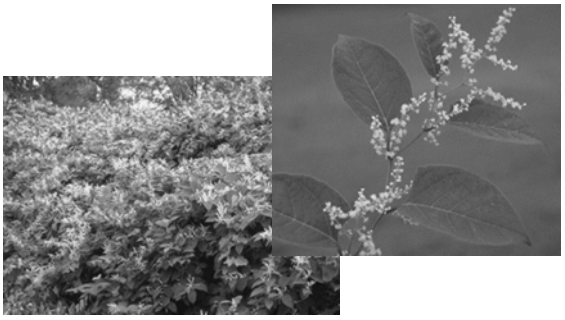
- Nonselective, systemic herbicide that kills most weeds – shoots and roots.
- The most common site preparation treatment
- Spray, cultivate no sooner than 5 days
- Will control most perennial weeds

Glyphosate in the fall, not spring

Mugwort

Goldenrod

Japanese knotweed



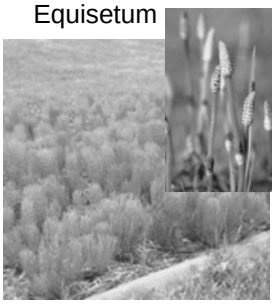
Woody Weeds -- Timing

Site Preparation with Glyphosate (Roundup-Pro & Others)

- Timing is critical for perennial weed control.
- Some species are well controlled in the fall but not in the spring; and vice versa. (We will cover this in more detail later.)
- Roundup does not control all weeds. Understand what can be controlled and what cannot.

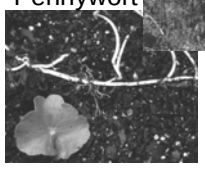
Not Well Controlled By Roundup

Equisetum



Bamboo

Pennywort



Soil Fumigation

- Chemical fumigants kill most weed seeds and vegetative propagules, and soil insects and pathogens.
- The site preparation choice of last resort!
- Fumigants are very toxic, expensive and require significant site preparation.
- If this is to be done -- DO IT RIGHT!

Solarization

- Using the sun's energy to build heat in the soil; killing weed seeds and vegetative propagules.
- Not as effective as Fumigation but simpler.
- Requires significant time (usually 4 to 6 weeks)
- Only effective in the summer.
- Many perennial weeds will not be controlled. Not widely used.

Relative Effectiveness of Site Preparation Treatments

Weed	Roundup Fall	Roundup Spring	Fumigation	Cultivation
Bindweed	Good	Poor	Fair	Poor
Japanese knotweed	Good	Poor	Fair	Good
Mugwort	Good	Poor	Good	Poor
Goldenrod	Good	Poor	Good	Good
Nutsedge	Poor	Poor	Good	Poor
Bermudagrass	Fair	Poor	Good	Poor
Bamboo	Poor	Poor	Fair	Good

Site Preparation: Amendments

- If the site is to be amended with topsoil or organic matter, inspect the sources of these materials for noxious weeds.
- Topsoil from farmland or stream banks is notorious as a source of nutsedge tubers and seeds of many annual weeds like morningglory and sicklepod.
- Most mulch and commercial compost are relatively weed free.
- Free mulch typically comes with lots of weeds
- Some species frequently found in mulch piles include mugwort, thistle, spurge, bindweed, and field horsetail. If these weeds are present, find an alternate source!

Study Questions:

1. What are the 3 main options for weed control at site preparation?
2. How do you know if fumigation is necessary?
3. If you have a landscape bed infested with crabgrass, henbit and other common annual weeds would you advise fumigation?
4. Goldenrod is well controlled by cultivation. Why is this not a feasible option in landscape bed installation?
5. Roundup (glyphosate) is non-selective. Under what situations would it not provide acceptable control for site preparation?